GRAIN SIZE DISTRIBUTION TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2335
Depth: 4.0-8.0 **Sample Number:** Bulk 2
Material Description: Pale Yellow Sandy Lean CLAY
Date: 1/20/08 **Natural Moisture:** 11.2
Liquid Limit: 37 **Plastic Limit:** 14 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.674 (ASTM D854-06)
Organic content = 3.9% (ASTM D2974-07)
Natural Moisture and Organic Content were obtained from Jar Sample S-3,6'
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
391.95	0.00	0.00	#4	0.00	100.0
			#10	0.01	100.0
48.99	0.00	0.00	#20	0.03	99.9
			#40	0.25	99.5
			#60	2.16	95.6
			#100	9.17	81.3
			#140	16.62	66.1
			#200	22.74	53.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.99
Hygroscopic moisture correction:
Moist weight and tare = 29.23
Dry weight and tare = 28.95
Tare weight = 15.88
Hygroscopic moisture = 2.1%
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 = 2.674
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	21.3	25.0	20.0	0.0133	26.0	12.0	0.0327	41.4
5.00	21.3	24.0	19.0	0.0133	25.0	12.2	0.0208	39.3
15.00	21.4	23.0	18.0	0.0133	24.0	12.4	0.0121	37.3
30.00	21.4	22.0	17.0	0.0133	23.0	12.5	0.0086	35.3
60.00	21.4	21.0	16.0	0.0133	22.0	12.7	0.0061	33.2
249.00	21.4	20.0	15.0	0.0133	21.0	12.9	0.0030	31.1
1440.00	20.9	19.0	13.8	0.0134	20.0	13.0	0.0013	28.7

MACTEC, Inc.

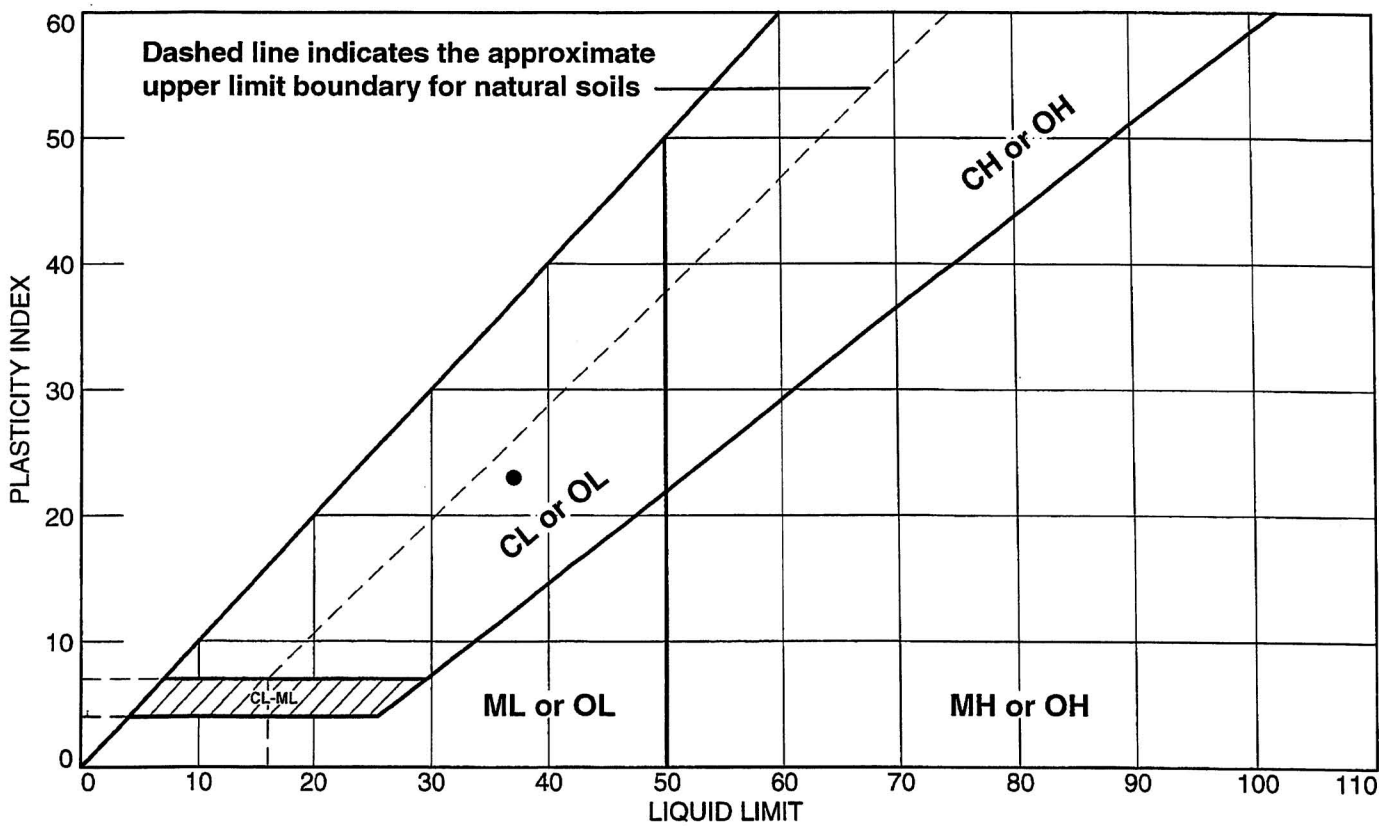
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.5	45.9	46.4	21.3	32.3	53.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0020	0.0652	0.0911	0.1454	0.1655	0.1938	0.2414

Fineness Modulus
0.21

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA

	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	TP-2335	Bulk 2	4.0-8.0	11.2	14	37	23	CL

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 3-4-08

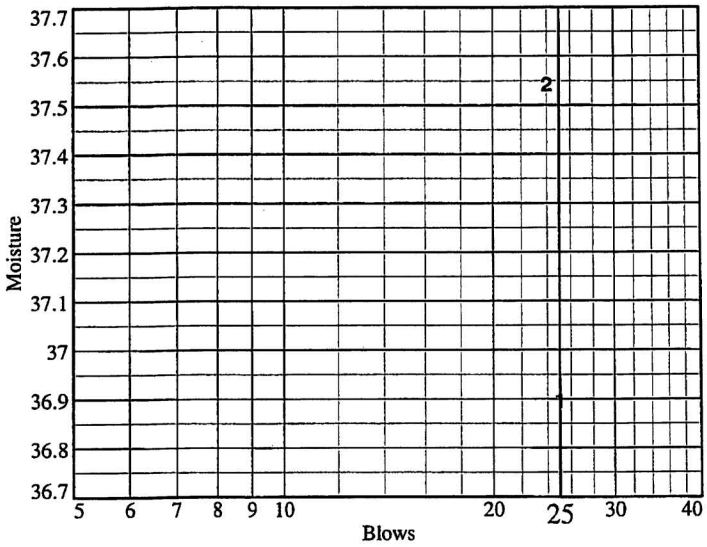
LIQUID AND PLASTIC LIMIT TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2335
Depth: 4.0-8.0 **Sample Number:** Bulk 2
Material Description: Pale Yellow 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	33.64	35.16				
Dry+Tare	28.74	29.78				
Tare	15.46	15.45				
# Blows	25	24				
Moisture	36.9	37.5				



Liquid Limit= 37
Plastic Limit= 14
Plasticity Index= 23
Natural Moisture= 11.2
Liquidity Index= -0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	24.04	18.47			
Dry+Tare	23.02	17.54			
Tare	15.59	11.13			
Moisture	13.7	14.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
240.99	217.68	9.16	11.2

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME:EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/24/08

SAMPLE IDENTIFICATION: TP-2335 BULK 2,4-8'

(A) Mass of oven-dried soil, grams:		50.23
(B) Mass of pycnometer filled with water at test temperature (T), grams:		655.70
(C) Mass of pycnometer, water and soil, grams:		687.15
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.675
(F)	***Correction factor:***	0.99972
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.674

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

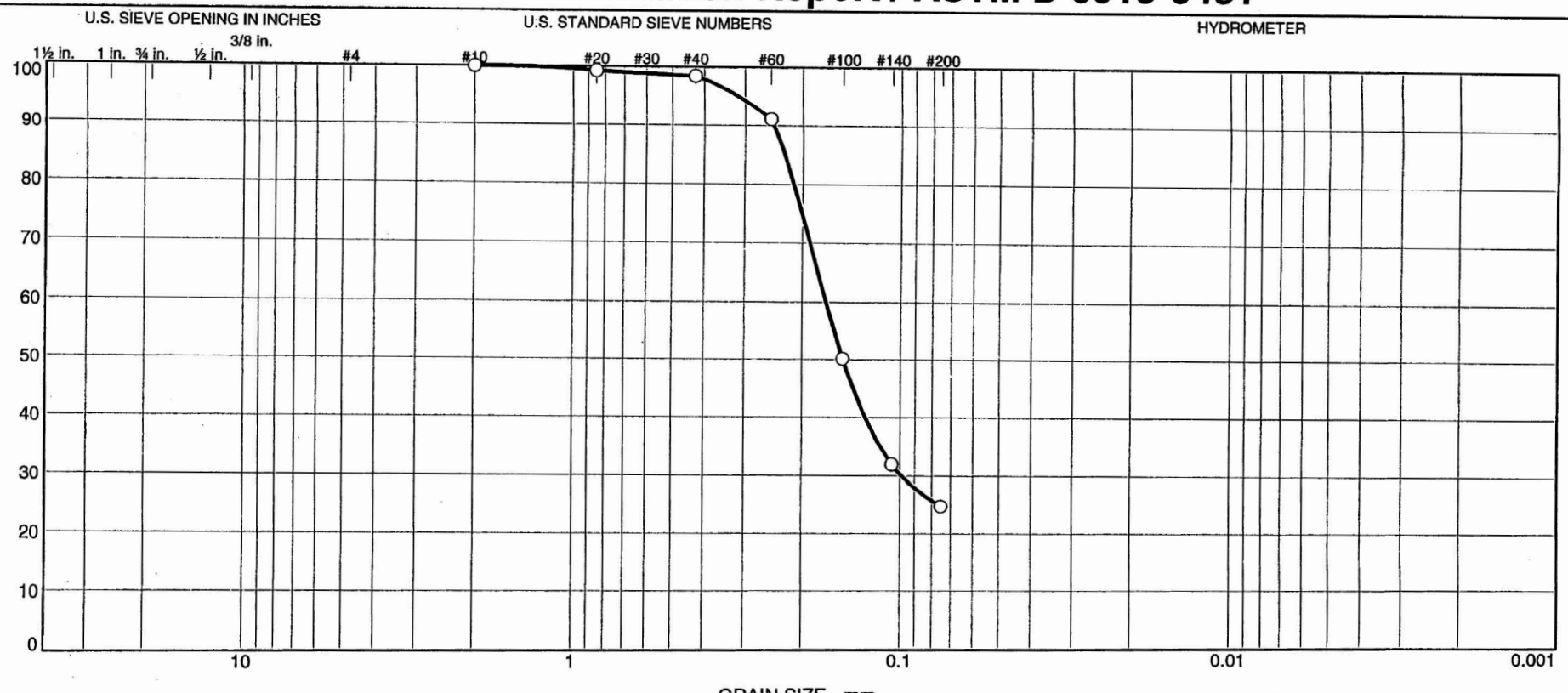
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

Particle Size Distribution Report / ASTM D 6913-04e1



	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	1.5	73.7	24.8	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	TP-2335	Bulk 3	8.0-10.0	1/20/08	SM	Pale Yellow Silty SAND(Visual)	7.3	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ SIEVE ANALYSIS ONLY
Specific Gravity = 2.656 (ASTM D854-06)
ND = Not Determined
Natural Moisture was obtained from Jar Sample S-4,10'

Tested By: CS **Checked By:** LBJ DSC 4-2-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: TP-2335
Depth: 8.0-10.0 **Sample Number:** Bulk 3
Material Description: Pale Yellow Silty SAND(Visual)
Date: 1/20/08 **Natural Moisture:** 7.3
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SM
Testing Remarks: SIEVE ANALYSIS ONLY
Specific Gravity = 2.656 (ASTM D854-06)
ND = Not Determined
Natural Moisture was obtained from Jar Sample S-4,10'
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
342.27	0.00	0.00	#10	0.00	100.0
101.08	0.00	0.00	#20	0.72	99.3
			#40	1.55	98.5
			#60	8.96	91.1
			#100	50.36	50.2
			#140	68.71	32.0
			#200	76.04	24.8

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =101.09
Hygroscopic moisture correction:
Moist weight and tare = 28.27
Dry weight and tare = 28.12
Tare weight = 15.53
Hygroscopic moisture = 1.2%
Table of composite correction values:

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

Meniscus correction only = 1.0
Specific gravity of solids = 2.656
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

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	1.5	73.7	75.2			24.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0989	0.1496	0.1691	0.2126	0.2269	0.2449	0.3141

Fineness Modulus
0.57

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: 2/25/08

SAMPLE IDENTIFICATION: TP-2335 BULK 3,8-10'

(A) Mass of oven-dried soil, grams:		75.03
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.53
(C) Mass of pycnometer, water and soil, grams:		703.32
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.657
(F)	***Correction factor:***	0.99972
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.656

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

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

REMARKS: Estimated % Passing # 4 : 100

Silty SAND(SM)-Visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

PYCNOMETER : P-6

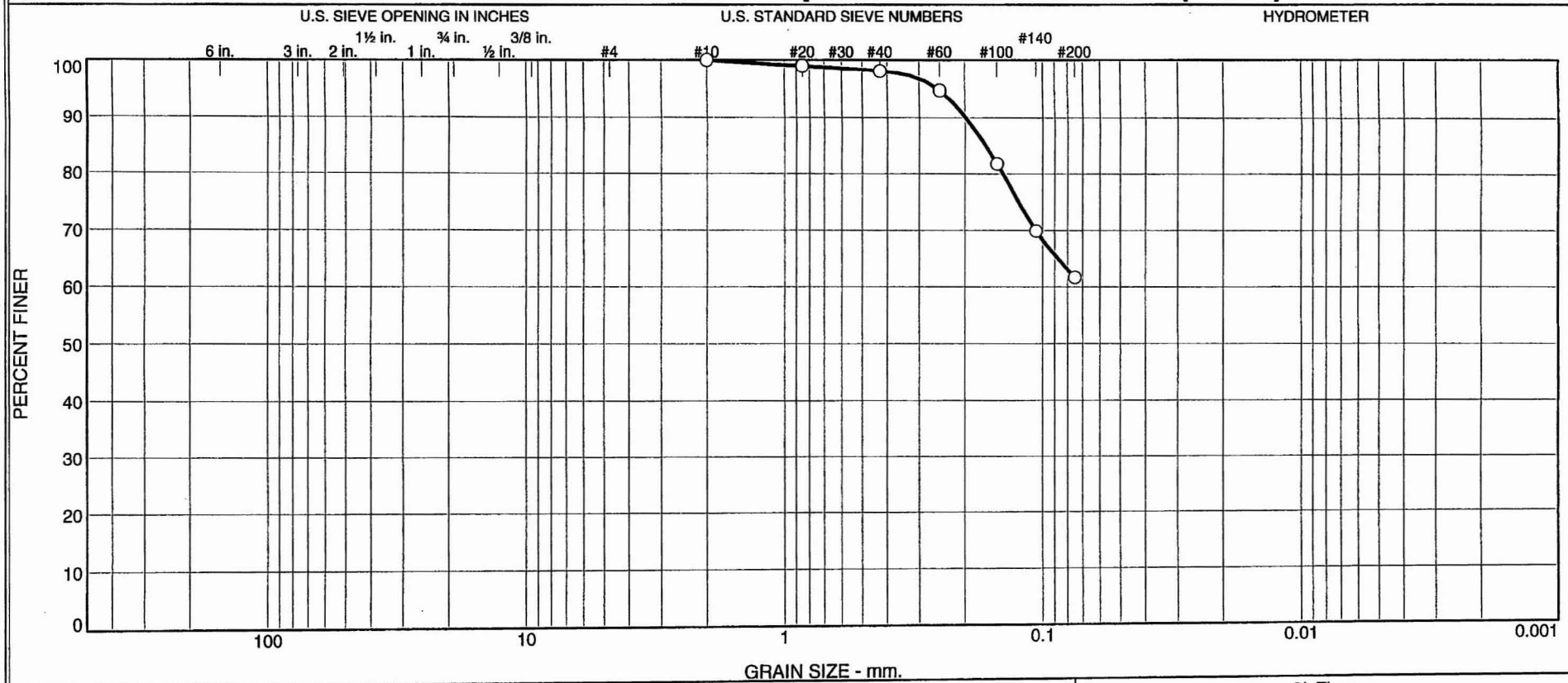
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	1.9	36.4	61.7	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	TP-2337	Bulk 1	4.0-5.0	1/20/08	CL	Gray Sandy Lean CLAY (Visual)	18.7	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ SIEVE ANALYSIS ONLY
Specific Gravity = 2.663 (ASTM D854-06)
Organic Content = 3.1 % (ASTM D2974-07), 4'
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4'

Tested By: CS **Checked By:** LBJ DSC 3-4-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2337
Depth: 4.0-5.0 **Sample Number:** Bulk 1
Material Description: Gray Sandy Lean CLAY (Visual)
Date: 1/20/08 **Natural Moisture:** 18.7
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** CL
Testing Remarks: SIEVE ANALYSIS ONLY
Specific Gravity = 2.663 (ASTM D854-06)
Organic Content = 3.1 % (ASTM D2974-07), 4'
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4'
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
269.49	0.00	0.00	#10	0.00	100.0
99.91	0.00	0.00	#20	1.03	99.0
			#40	1.89	98.1
			#60	5.25	94.7
			#100	18.26	81.7
			#140	30.02	70.0
			#200	38.27	61.7

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	1.9	36.4	38.3			61.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.1427	0.1659	0.1980	0.2544

Fineness Modulus
0.24

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME:EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/13/08

SAMPLE IDENTIFICATION: TP-2337 BULK 1,4-5'

(A) Mass of oven-dried soil, grams:	51.46
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.50
(C) Mass of pycnometer, water and soil, grams:	688.64
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	21.6
(G) Specific Gravity at observed temperature: A / [B - (C - A)]	2.664
(F) ***Correction factor:***	0.99966
(G x F) **SPECIFIC GRAVITY @ 20°C:**	2.663

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

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

REMARKS: Estimated % Passing # 4 : 100

Sandy Lean CLAY (CL)-Visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

PYCNOMETER : P-6

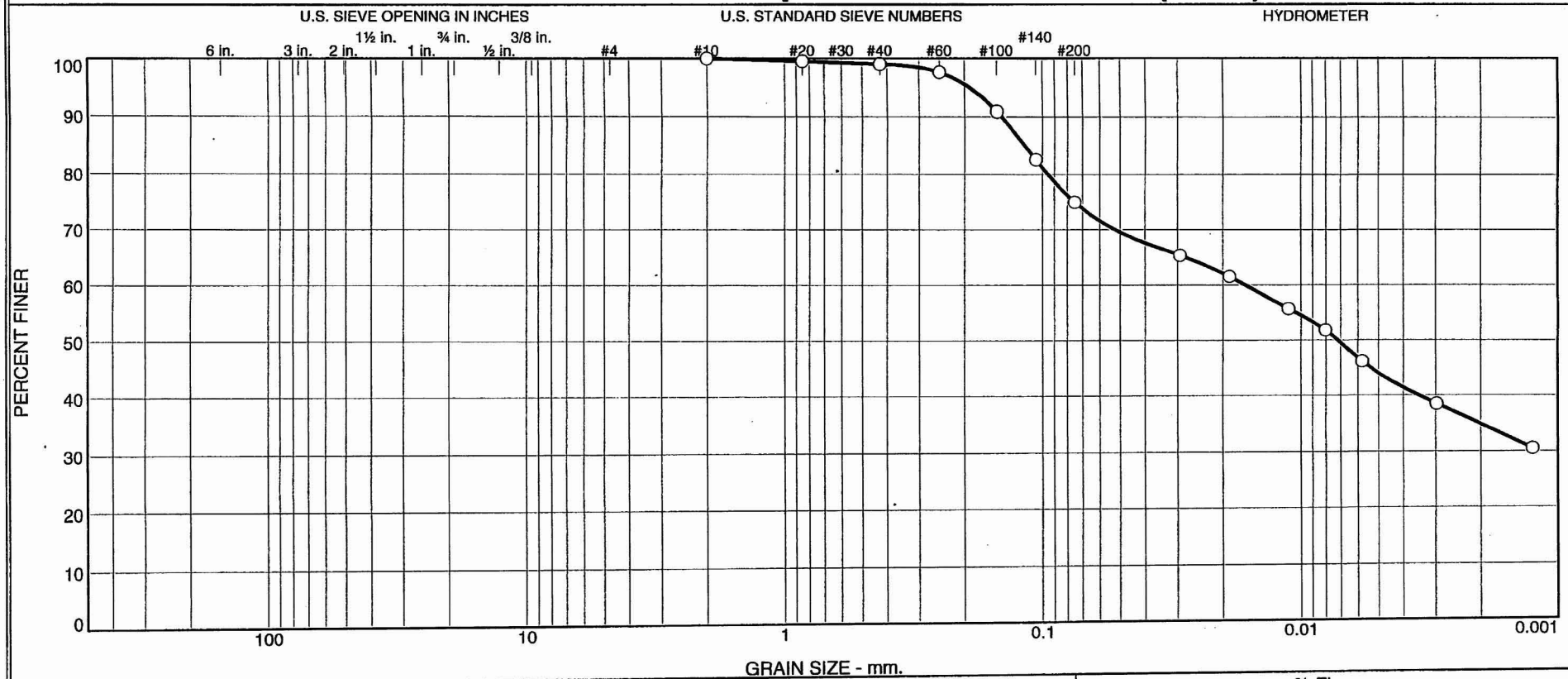
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

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	1.0	24.0	31.0	44.0

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	TP-2337	Bulk 2	10.0'	1/20/08	CL	Light Gray with Brownish Yellow Lean CLAY with sand	17.2	41	16

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.686 (ASTM D854-06)
Natural Moisture was obtained from Jar Sample S-4,10'

Tested By: CS **Checked By:** LBJ DSC 3-4-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2337
Depth: 10.0' **Sample Number:** Bulk 2
Material Description: Light Gray with Brownish Yellow Lean CLAY with sand
Date: 1/20/08 **Natural Moisture:** 17.2
Liquid Limit: 41 **Plastic Limit:** 16 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.686 (ASTM D854-06)
Natural Moisture was obtained from Jar Sample S-4,10'
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
278.54	0.00	0.00	#10	0.00	100.0
53.00	0.00	0.00	#20	0.27	99.5
			#40	0.54	99.0
			#60	1.28	97.6
			#100	4.84	90.9
			#140	9.25	82.5
			#200	13.25	75.0

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =53.00
Hygroscopic moisture correction:
Moist weight and tare = 28.16
Dry weight and tare = 27.81
Tare weight = 15.53
Hygroscopic moisture = 2.9%
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 = 2.686
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	21.3	39.0	34.0	0.0133	40.0	9.7	0.0293	65.4
5.00	21.3	37.0	32.0	0.0133	38.0	10.1	0.0188	61.5
15.00	21.2	34.0	28.9	0.0133	35.0	10.6	0.0112	55.7
30.00	21.2	32.0	26.9	0.0133	33.0	10.9	0.0080	51.8
60.00	21.4	29.0	24.0	0.0133	30.0	11.4	0.0058	46.2
240.00	21.4	25.0	20.0	0.0133	26.0	12.0	0.0030	38.5
1440.00	21.0	21.0	15.9	0.0133	22.0	12.7	0.0013	30.5

MACTEC, Inc.

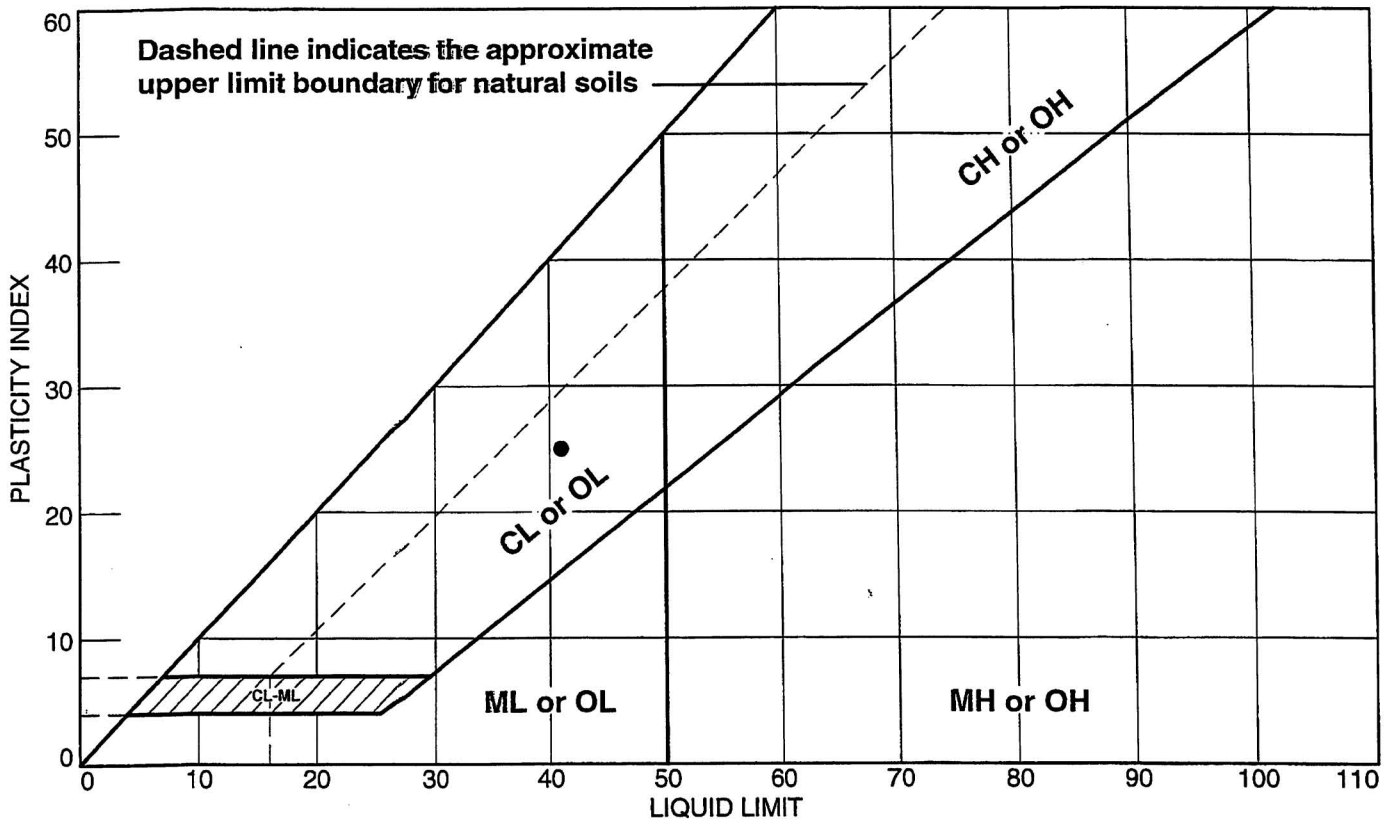
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.0	24.0	25.0	31.0	44.0	75.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0072	0.0164	0.0953	0.1169	0.1440	0.1917

Fineness Modulus
0.12

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA

	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	TP-2337	Bulk 2	10.0'	17.2	16	41	25	CL

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 3-4-08

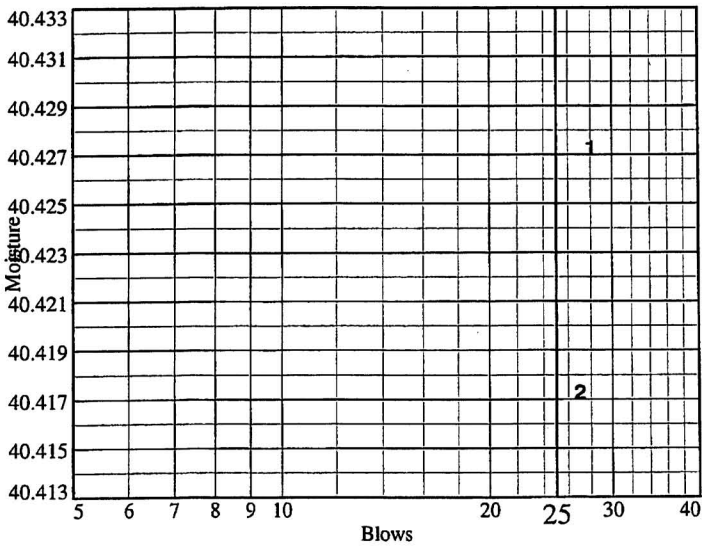
LIQUID AND PLASTIC LIMIT TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2337
Depth: 10.0' **Sample Number:** Bulk 2
Material Description: Light Gray with Brownish Yellow Lean CLAY with sand
USCS: CL **AASHTO:** A-7-6(17)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.59	33.63				
Dry+Tare	27.67	28.40				
Tare	15.50	15.46				
# Blows	28	27				
Moisture	40.4	40.4				



Liquid Limit= 41
Plastic Limit= 16
Plasticity Index= 25
Natural Moisture= 17.2
Liquidity Index= 0.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.82	21.93			
Dry+Tare	21.82	21.07			
Tare	15.48	15.59			
Moisture	15.8	15.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
231.07	198.53	9.66	17.2

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: 2/27/08

SAMPLE IDENTIFICATION: TP-2337 BULK 2,10'

(A) Mass of oven-dried soil, grams:		49.36
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.43
(C) Mass of pycnometer, water and soil, grams:		687.42
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		22.2
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.687
(F)	***Correction factor:***	0.99952
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.686

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

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

REMARKS: Estimated % Passing # 4 : 100

Lean CLAY with sand (CL)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

PYCNOMETER : P-6

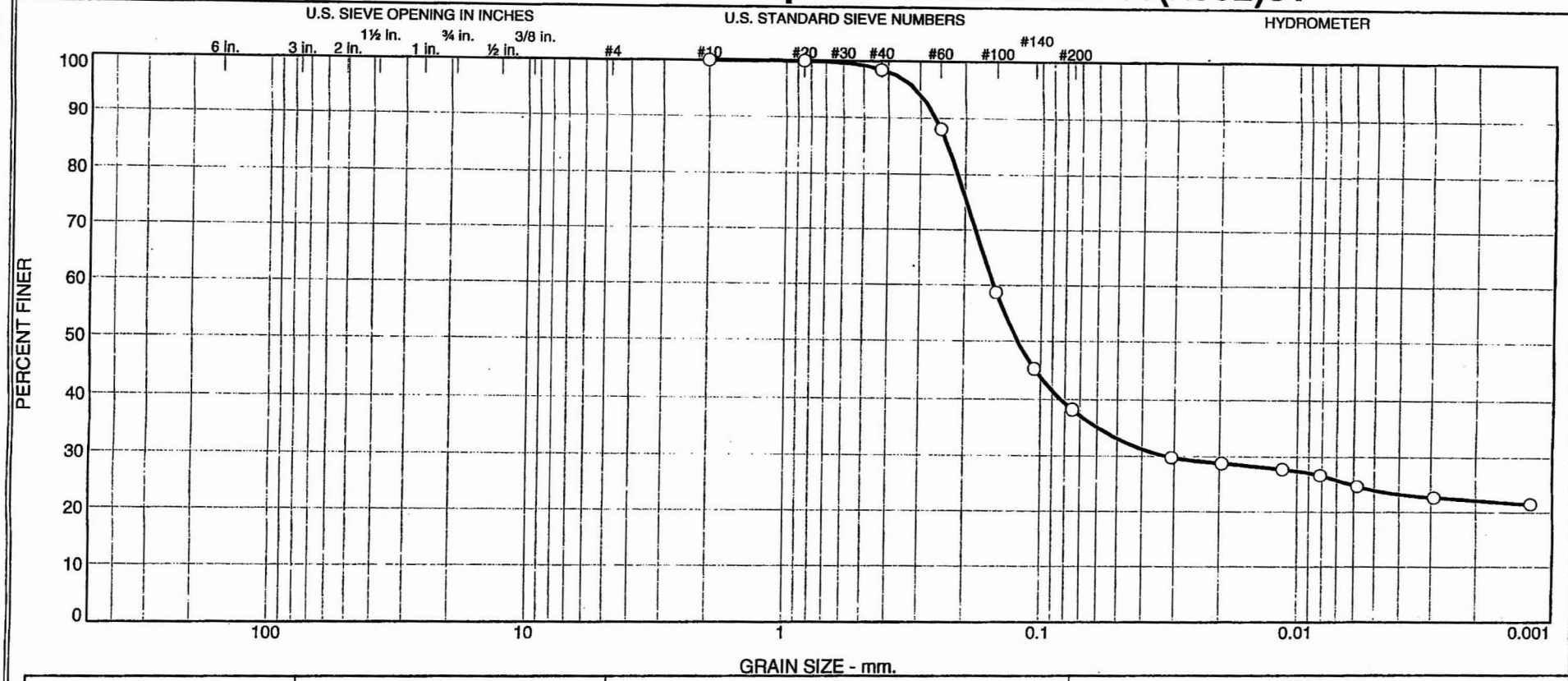
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

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	1.5	60.3	14.3	23.9

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	TP-2351	Bulk 2	3.5-10.0	1/21/08	SC	Pale Yellow Clayey SAND	13.0	29	13

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific gravity = 2.664 (ASTM D854-06)
Organic Content = 1.1% (ASTM D2974-07)
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4'

Checked By: LBL DSC 3-4-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2351
Depth: 3.5-10.0 **Sample Number:** Bulk 2
Material Description: Pale Yellow Clayey SAND
Date: 1/21/08 **Natural Moisture:** 13.0
Liquid Limit: 29 **Plastic Limit:** 13 **USCS Class.:** SC
Testing Remarks: Specific gravity = 2.664 (ASTM D854-06)
Organic Content = 1.1% (ASTM D2974-07)
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4'
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
315.72	0.00	0.00	#10	0.00	100.0
98.01	0.00	0.00	#20	0.06	99.9
			#40	1.48	98.5
			#60	11.73	88.0
			#100	40.48	58.7
			#140	53.73	45.2
			#200	60.53	38.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =98.01
Hygroscopic moisture correction:
Moist weight and tare = 29.42
Dry weight and tare = 29.24
Tare weight = 15.59
Hygroscopic moisture = 1.3%
Table of composite correction values:

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

Meniscus correction only = 1.0
Specific gravity of solids = 2.664
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	21.3	34.0	29.0	0.0134	35.0	10.6	0.0307	29.8
5.00	21.3	33.0	28.0	0.0134	34.0	10.7	0.0196	28.8
15.00	21.3	32.0	27.0	0.0134	33.0	10.9	0.0114	27.8
30.00	21.3	31.0	26.0	0.0134	32.0	11.0	0.0081	26.8
60.00	21.3	29.0	24.0	0.0134	30.0	11.4	0.0058	24.7
245.00	21.4	27.0	22.0	0.0134	28.0	11.7	0.0029	22.7
1440.00	21.0	26.0	20.9	0.0134	27.0	11.9	0.0012	21.5

MACTEC, Inc.

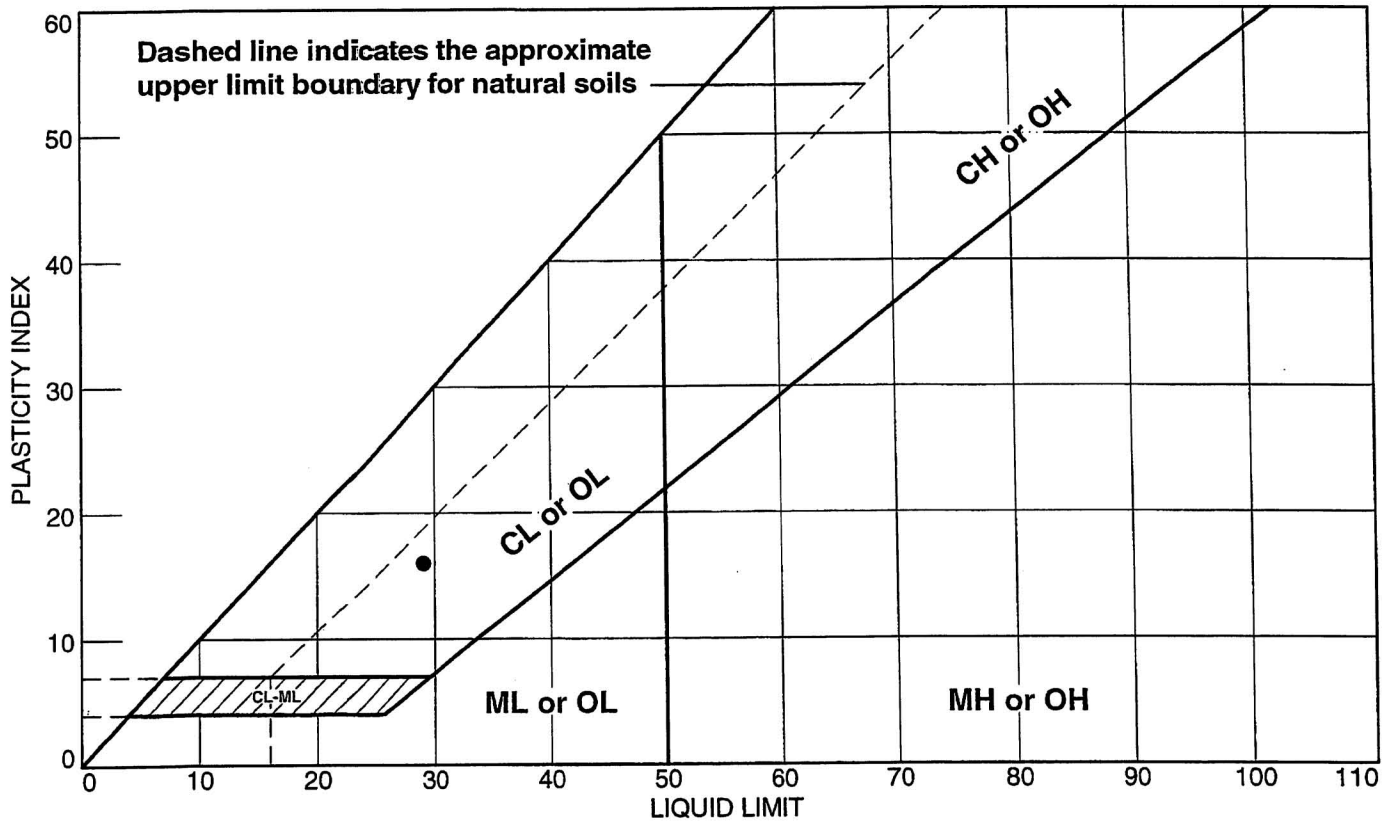
Percentage Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.5	60.3	61.8	14.3	23.9	38.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0319	0.1233	0.1537	0.2140	0.2345	0.2624	0.3129

Fineness Modulus
0.48

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA

	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	TP-2351	Bulk 2	3.5-10.0	13.0	13	29	16	SC

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ DSC 3-4-08

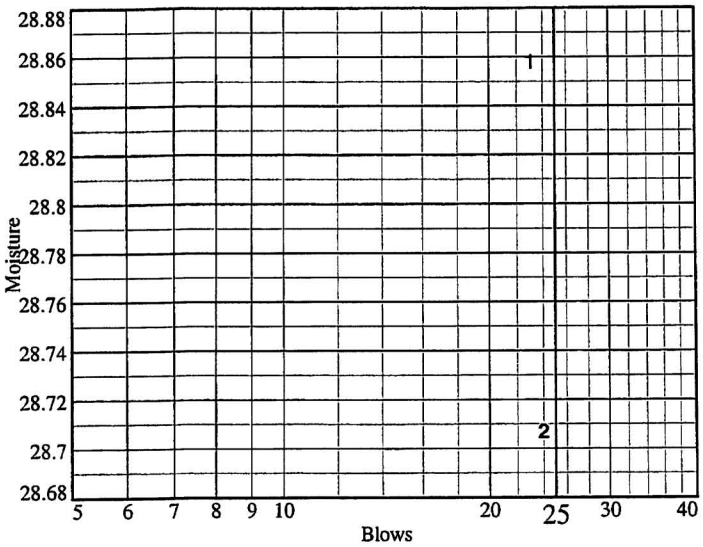
LIQUID AND PLASTIC LIMIT TEST DATA

3/4/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: TP-2351
Depth: 3.5-10.0 **Sample Number:** Bulk 2
Material Description: Pale Yellow Clayey SAND
USCS: SC **AASHTO:** A-6(2)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	36.01	35.75				
Dry+Tare	31.41	31.22				
Tare	15.47	15.44				
# Blows	23	24				
Moisture	28.9	28.7				



Liquid Limit= 29
Plastic Limit= 13
Plasticity Index= 16
Natural Moisture= 13.0
Liquidity Index= 0.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.95	22.62			
Dry+Tare	22.09	21.75			
Tare	15.46	15.45			
Moisture	13.0	13.8			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
253.80	225.76	9.31	13.0

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME:EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/27/08

SAMPLE IDENTIFICATION: TP-2351 BULK 2, 3.5-10'

(A) Mass of oven-dried soil, grams:		75.13
(B) Mass of pycnometer filled with water at test temperature (T), grams:		655.70
(C) Mass of pycnometer, water and soil, grams:		702.64
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.665
(F)	***Correction factor:***	0.99972
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.664

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

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

REMARKS: Estimated % Passing # 4 : 100

Clayey SAND (SC)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

PYCNOMETER : P-3

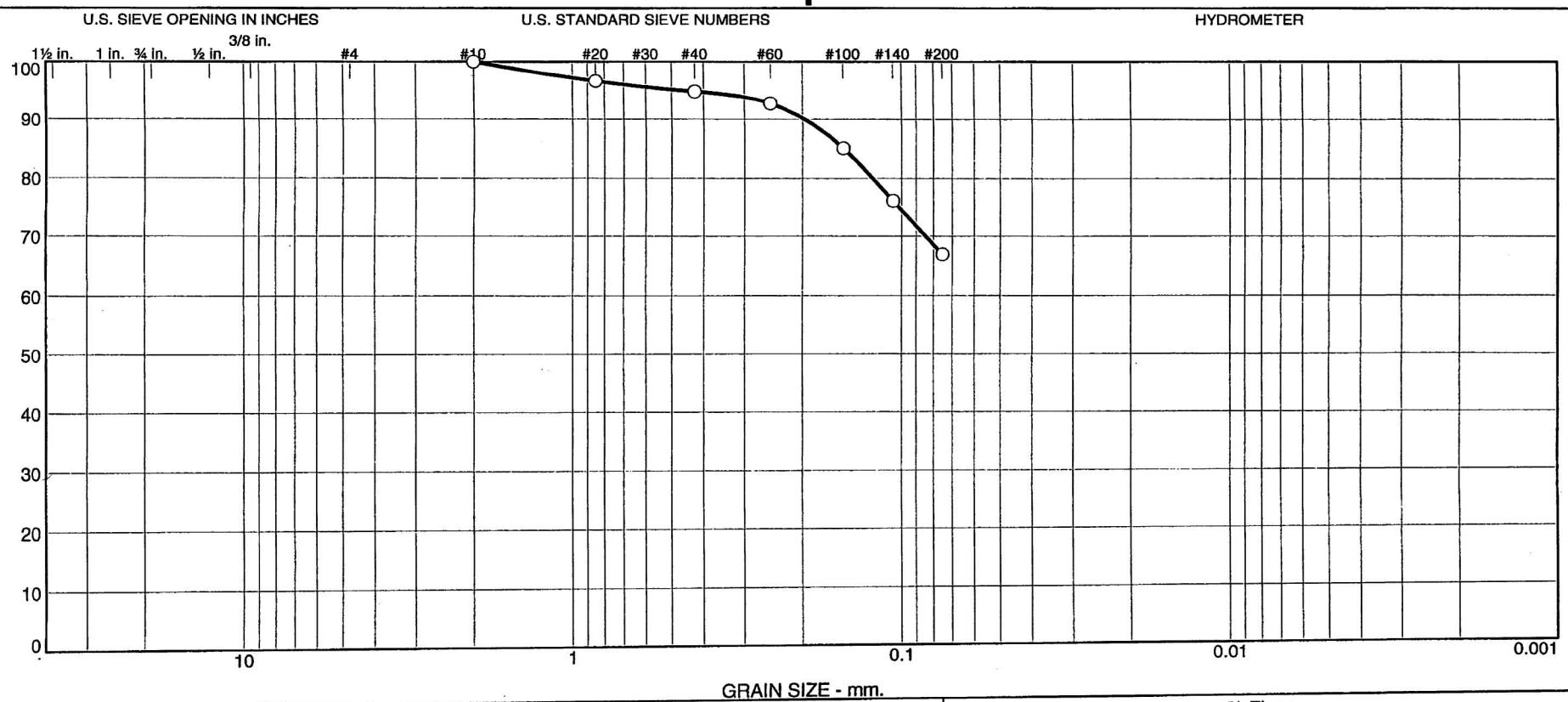
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

Particle Size Distribution Report / ASTM D 6913-04e1



	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	5.2	27.9	66.9	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	TP-2352	Bulk 1	4.0-5.0	1/31/08	CL	Dark Gray with Brownish Yellow Sandy Lean CLAY (Visual)	17.0	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ SIEVE ANALYSIS ONLY
Specific Gravity = 2.664 (ASTM D854-06)
Organic Content = 1.4% (ASTM D2974-07)
ND = Not Determined
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4-5'

Tested By: CS **Checked By:** LBJ DSC 4-2-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: TP-2352
Depth: 4.0-5.0 **Sample Number:** Bulk 1
Material Description: Dark Gray with Brownish Yellow Sandy Lean CLAY (Visual)
Date: 1/31/08 **Natural Moisture:** 17.0
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** CL
Testing Remarks: SIEVE ANALYSIS ONLY
Specific Gravity = 2.664 (ASTM D854-06)
Organic Content = 1.4% (ASTM D2974-07)
ND = Not Determined
Natural Moisture and Organic Content were obtained from Jar Sample S-2,4-5'
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
457.77	0.00	0.00	#10	0.00	100.0
101.34	0.00	0.00	#20	3.42	96.6
			#40	5.29	94.8
			#60	7.37	92.7
			#100	15.12	85.1
			#140	24.16	76.2
			#200	33.54	66.9

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	5.2	27.9	33.1			66.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.1222	0.1495	0.1962	0.4722

Fineness Modulus
0.28

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: 2/26/08

SAMPLE IDENTIFICATION: TP-2352 BULK 1,4-5'

(A) Mass of oven-dried soil, grams:		50.29
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.53
(C) Mass of pycnometer, water and soil, grams:		687.95
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.665
(F)	***Correction factor:***	0.99972
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.664

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

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

REMARKS: Estimated % Passing # 4 : 100

Sandy Lean CLAY (CL) - Visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

PYCNOMETER : P-6

TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-4-08

Organic Content – Test Pits

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 2/29/2008 3-4-08

Boring No.	TP-2310	TP-2310	TP-2310	TP-2310
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	0.0-1.0	5	7.5	10.0
A) Tare No.	SS	F-1	80	JJ
B) Tare Weight, grams	6.88	9.21	6.67	6.78
C) Wet Soil + Tare, grams	237.96	232.61	157.75	254.28
D) Dry Soil + Tare, grams	204.16	205.69	137.87	235.23
E) Weight of Dry Soil, grams [D - B]	197.28	196.48	131.20	228.45
F) Weight of Moisture, grams [C - D]	33.80	26.92	19.88	19.05
G) Moisture Content, % [F * 100 / E]	17.1	13.7	15.2	8.3
(based on oven-dried weight)				
H) Tare No.	9	H		
I) Weight of Tare, grams	53.88	52.09		
J) Weight of Over-Dried Soil + Tare, grams	174.25	172.53		
K) Weight of Oven- Dried Soil, grams [J - I]	120.37	120.44		
L) Weight of Ignited Soil + Tare, grams	172.26	171.52		
M) Ash, grams [L - I]	118.38	119.43		
N) Ash Content, % [M *100 / K]	98.3	99.2		
O) Organic Matter, % [100 - N]	**1.7**	**0.8**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777 **Project Name** Exelon COL

Tested By CS **Reviewed By** LBJ DSC

Test Date 2/19/2008 **Review Date** 2/29/2008 3-4-08

Boring No.	TP-2314	TP-2314	TP-2314	TP-2314
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	0.0-1.0	5.0	7.0	10.0
A) Tare No.	511	JP-16	305	317
B) Tare Weight, grams	9.51	6.80	9.51	9.34
C) Wet Soil + Tare, grams	205.77	183.25	242.76	207.10
D) Dry Soil + Tare, grams	177.40	153.77	205.35	170.49
E) Weight of Dry Soil, grams [D - B]	167.89	146.97	195.84	161.15
F) Weight of Moisture, grams [C - D]	28.37	29.48	37.41	36.61
G) Moisture Content, % [F * 100 / E]	16.9	20.1	19.1	22.7
(based on oven-dried weight)				
H) Tare No.	S	Q		
I) Weight of Tare, grams	53.45	51.15		
J) Weight of Over-Dried Soil + Tare, grams	167.45	158.35		
K) Weight of Oven- Dried Soil, grams [J - I]	114.00	107.20		
L) Weight of Ignited Soil + Tare, grams	165.92	151.18		
M) Ash, grams [L - I]	112.47	100.03		
N) Ash Content, % [M *100 / K]	98.7	93.3		
O) Organic Matter, % [100 - N]	**1.3**	**6.7**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17

scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 2/29/2008 3-4-08

Boring No.	TP-2317	TP-2317	TP-2317	TP-2317
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	3.5-5.0	5.0-8.0	8.0-10.0
A) Tare No.	84	H	81	519
B) Tare Weight, grams	6.63	6.54	6.68	9.16
C) Wet Soil + Tare, grams	182.39	208.21	151.37	202.36
D) Dry Soil + Tare, grams	156.17	175.89	131.00	178.74
E) Weight of Dry Soil, grams [D - B]	149.54	169.35	124.32	169.58
F) Weight of Moisture, grams [C - D]	26.22	32.32	20.37	23.62
G) Moisture Content, % [F * 100 / E]	17.5	19.1	16.4	13.9
(based on oven-dried weight)				
H) Tare No.	H	S		
I) Weight of Tare, grams	52.13	53.41		
J) Weight of Over-Dried Soil + Tare, grams	146.31	162.46		
K) Weight of Oven- Dried Soil, grams [J - I]	94.18	109.05		
L) Weight of Ignited Soil + Tare, grams	142.61	160.13		
M) Ash, grams [L - I]	90.48	106.72		
N) Ash Content, % [M *100 / K]	96.1	97.9		
O) Organic Matter, % [100 - N]	**3.9**	**2.1**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 2/29/2008 3-4-08

Boring No.	TP-2319	TP-2319	TP-2319	TP-2319
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	3.5-5.0	6.5	10.0
A) Tare No.	Orange	T	LL	JP-23
B) Tare Weight, grams	9.19	6.74	6.80	6.74
C) Wet Soil + Tare, grams	257.13	207.41	174.25	188.03
D) Dry Soil + Tare, grams	228.50	184.24	154.95	171.87
E) Weight of Dry Soil, grams [D - B]	219.31	177.50	148.15	165.13
F) Weight of Moisture, grams [C - D]	28.63	23.17	19.30	16.16
G) Moisture Content, % [F * 100 / E]	13.1	13.1	13.0	9.8
(based on oven-dried weight)				
H) Tare No.	S	Q		
I) Weight of Tare, grams	53.46	51.18		
J) Weight of Over-Dried Soil + Tare, grams	148.70	157.62		
K) Weight of Oven- Dried Soil, grams [J - I]	95.24	106.44		
L) Weight of Ignited Soil + Tare, grams	147.70	154.75		
M) Ash, grams [L - I]	94.24	103.57		
N) Ash Content, % [M *100 / K]	99.0	97.3		
O) Organic Matter, % [100 - N]	**1.0**	**2.7**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

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ORGANIC CONTENT TEST REPORT
(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2320	TP-2320	TP-2320	TP-2320
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	4.0	5.0-10.0	10.0
A) Tare No.	B	2B	B-1	319
B) Tare Weight, grams	6.67	9.39	9.24	9.26
C) Wet Soil + Tare, grams	214.17	114.37	183.27	160.85
D) Dry Soil + Tare, grams	177.86	100.53	164.63	148.00
E) Weight of Dry Soil, grams [D - B]	171.19	91.14	155.39	138.74
F) Weight of Moisture, grams [C - D]	36.31	13.84	18.64	12.85
G) Moisture Content, % [F * 100 / E]	21.2	15.2	12.0	9.3
(based on oven-dried weight)				
H) Tare No.	9	H	N	
I) Weight of Tare, grams	53.89	52.07	55.58	
J) Weight of Over-Dried Soil + Tare, grams	146.58	138.74	143.91	
K) Weight of Oven- Dried Soil, grams [J - I]	92.69	86.67	88.33	
L) Weight of Ignited Soil + Tare, grams	144.03	137.13	141.58	
M) Ash, grams [L - I]	90.14	85.06	86.00	
N) Ash Content, % [M *100 / K]	97.2	98.1	97.4	
O) Organic Matter, % [100 - N]	**2.8**	**1.9**	**2.6**	

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2321	TP-2321	TP-2321	TP-2321
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	4.0	7.0	10.0
A) Tare No.	DIP	HH	JP-12	VV
B) Tare Weight, grams	9.17	6.82	6.73	6.77
C) Wet Soil + Tare, grams	208.49	202.51	176.61	166.84
D) Dry Soil + Tare, grams	162.25	176.58	153.15	146.99
E) Weight of Dry Soil, grams [D - B]	153.08	169.76	146.42	140.22
F) Weight of Moisture, grams [C - D]	46.24	25.93	23.46	19.85
G) Moisture Content, % [F * 100 / E]	30.2	15.3	16.0	14.2
(based on oven-dried weight)				
H) Tare No.	G	L		
I) Weight of Tare, grams	53.10	51.53		
J) Weight of Over-Dried Soil + Tare, grams	153.41	167.36		
K) Weight of Oven- Dried Soil, grams [J - I]	100.31	115.83		
L) Weight of Ignited Soil + Tare, grams	146.52	163.20		
M) Ash, grams [L - I]	93.42	111.67		
N) Ash Content, % [M *100 / K]	93.1	96.4		
O) Organic Matter, % [100 - N]	**6.9**	**3.6**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT
(ASTM D2974-07)

Project No. 6468071777 **Project Name** Exelon COL
Tested By CS **Reviewed By** LBJ DSC
Test Date 2/19/2008 **Review Date** 3/1/2008 3-4-08

Boring No.	TP-2332	TP-2332	TP-2332	TP-2332	TP-2332
Sample No.	S-1	S-5	S-2	S-3	S-4
Sample Depth, Ft.	2.0	2.5	5.0	7.0	10.0
A) Tare No.	SS	BB	JP-11	L	P
B) Tare Weight, grams	6.90	9.47	6.95	9.17	6.85
C) Wet Soil + Tare, grams	244.81	135.37	133.40	171.92	159.85
D) Dry Soil + Tare, grams	216.65	115.35	119.37	155.92	148.94
E) Weight of Dry Soil, grams [D - B	209.75	105.88	112.42	146.75	142.09
F) Weight of Moisture, grams [C - D	28.16	20.02	14.03	16.00	10.91
G) Moisture Content, % [F * 100 / E	13.4	18.9	12.5	10.9	7.7
(based on oven-dried weight)					

H) Tare No.	R	N	R		
I) Weight of Tare, grams	52.49	55.59	52.49		
J) Weight of Over-Dried Soil + Tare	154.09	162.21	155.94		
K) Weight of Oven- Dried Soil, gran	101.60	106.62	103.45		
L) Weight of Ignited Soil + Tare, gra	153.10	158.60	154.00		
M) Ash, grams [L - I]	100.61	103.01	101.51		
N) Ash Content, % [M *100 / K]	99.0	96.6	98.1		
O) Organic Matter, % [100 - N]	**1.0**	**3.4**	**1.9**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furna 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2334	TP-2334	TP-2334	TP-2334
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	2.0-5.0	7.0	10.0
A) Tare No.	Purple	516	I	JP-15
B) Tare Weight, grams	9.33	9.44	9.10	6.87
C) Wet Soil + Tare, grams	198.96	174.67	138.32	188.22
D) Dry Soil + Tare, grams	171.81	153.34	121.28	167.39
E) Weight of Dry Soil, grams [D - B	162.48	143.90	112.18	160.52
F) Weight of Moisture, grams [C - D	27.15	21.33	17.04	20.83
G) Moisture Content, % [F * 100 / E	16.7	14.8	15.2	13.0
(based on oven-dried weight)				
H) Tare No.	H	Q		
I) Weight of Tare, grams	52.08	51.14		
J) Weight of Over-Dried Soil + Tare	148.71	147.42		
K) Weight of Oven- Dried Soil, gran	96.63	96.28		
L) Weight of Ignited Soil + Tare, gra	146.80	143.27		
M) Ash, grams [L - I]	94.72	92.13		
N) Ash Content, % [M *100 / K]	98.0	95.7		
O) Organic Matter, % [100 - N]	**2.0**	**4.3**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furna 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777 **Project Name** Exelon COL

Tested By CS **Reviewed By** LBJ DSC

Test Date 2/19/2008 **Review Date** 3/1/2008 3-4-08

Boring No.	TP-2335	TP-2335	TP-2335	TP-2335
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	2.0	4.0	6.0	10.0
A) Tare No.	81	514	DIP	2B
B) Tare Weight, grams	6.67	9.18	9.16	9.38
C) Wet Soil + Tare, grams	212.94	186.25	240.99	225.48
D) Dry Soil + Tare, grams	174.66	163.34	217.68	210.80
E) Weight of Dry Soil, grams [D - B	167.99	154.16	208.52	201.42
F) Weight of Moisture, grams [C - D	38.28	22.91	23.31	14.68
G) Moisture Content, % [F * 100 / E	22.8	14.9	11.2	7.3
(based on oven-dried weight)				
H) Tare No.	S	9	9	
I) Weight of Tare, grams	53.43	53.88	53.88	
J) Weight of Over-Dried Soil + Tare	154.32	154.87	157.70	
K) Weight of Oven- Dried Soil, gran	100.89	100.99	103.82	
L) Weight of Ignited Soil + Tare, gra	152.11	152.78	153.67	
M) Ash, grams [L - I]	98.68	98.90	99.79	
N) Ash Content, % [M *100 / K]	97.8	97.9	96.1	
O) Organic Matter, % [100 - N]	**2.2**	**2.1**	**3.9**	

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furna 5.1.17

scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2337	TP-2337	TP-2337	TP-2337
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	4.0	7.0	10.0
A) Tare No.	P	JP-11	JP-15	BB
B) Tare Weight, grams	6.83	6.88	6.88	9.66
C) Wet Soil + Tare, grams	234.57	235.03	214.28	231.07
D) Dry Soil + Tare, grams	194.36	199.09	182.92	198.53
E) Weight of Dry Soil, grams [D - B]	187.53	192.21	176.04	188.87
F) Weight of Moisture, grams [C - D]	40.21	35.94	31.36	32.54
G) Moisture Content, % [F * 100 / E]	21.4	18.7	17.8	17.2
(based on oven-dried weight)				
H) Tare No.	Q	S	Q	
I) Weight of Tare, grams	51.15	53.42	51.15	
J) Weight of Over-Dried Soil + Tare, grams	150.55	142.39	151.55	
K) Weight of Oven- Dried Soil, grams [J - I]	99.40	88.97	100.40	
L) Weight of Ignited Soil + Tare, grams	147.54	139.60	147.22	
M) Ash, grams [L - I]	96.39	86.18	96.07	
N) Ash Content, % [M *100 / K]	97.0	96.9	95.7	
O) Organic Matter, % [100 - N]	**3.0**	**3.1**	**4.3**	

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2351	TP-2351	TP-2351	TP-2351
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	4.0	6.0	3.5-10.0
A) Tare No.	305	CHIP	VV	JJ
B) Tare Weight, grams	9.66	9.31	6.75	6.80
C) Wet Soil + Tare, grams	239.30	253.80	214.64	239.74
D) Dry Soil + Tare, grams	184.74	225.76	199.86	224.63
E) Weight of Dry Soil, grams [D - B]	175.08	216.45	193.11	217.83
F) Weight of Moisture, grams [C - D]	54.56	28.04	14.78	15.11
G) Moisture Content, % [F * 100 / E]	31.2	13.0	7.7	6.9
(based on oven-dried weight)				
H) Tare No.	H	9		
I) Weight of Tare, grams	52.10	53.86		
J) Weight of Over-Dried Soil + Tare, grams	145.13	148.73		
K) Weight of Oven- Dried Soil, grams [J - I]	93.03	94.87		
L) Weight of Ignited Soil + Tare, grams	139.84	147.72		
M) Ash, grams [L - I]	87.74	93.86		
N) Ash Content, % [M *100 / K]	94.3	98.9		
O) Organic Matter, % [100 - N]	**5.7**	**1.1**		

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 2/19/2008

Project Name Exelon COL
Reviewed By LBJ DSC
Review Date 3/1/2008 3-4-08

Boring No.	TP-2352	TP-2352	TP-2352	TP-2352
Sample No.	S-1	S-2	S-3	S-4
Sample Depth, Ft.	1.0	4.0-5.0	7.0	10.0
A) Tare No.	JP-23	80	LL	BB
B) Tare Weight, grams	6.74	6.66	6.78	9.66
C) Wet Soil + Tare, grams	159.46	181.11	232.78	231.07
D) Dry Soil + Tare, grams	131.45	155.72	155.28	198.53
E) Weight of Dry Soil, grams [D - B]	124.71	149.06	148.50	188.87
F) Weight of Moisture, grams [C - D]	28.01	25.39	77.50	32.54
G) Moisture Content, % [F * 100 / E]	22.5	17.0	21.9	17.2
(based on oven-dried weight)				
H) Tare No.	Q	S	H	
I) Weight of Tare, grams	51.16	53.42	52.04	
J) Weight of Over-Dried Soil + Tare, grams	125.52	161.26	151.63	
K) Weight of Oven- Dried Soil, grams [J - I]	74.36	107.84	99.59	
L) Weight of Ignited Soil + Tare, grams	123.79	159.77	148.26	
M) Ash, grams [L - I]	72.63	106.35	96.22	
N) Ash Content, % [M *100 / K]	97.7	98.6	96.6	
O) Organic Matter, % [100 - N]	**2.3**	**1.4**	**3.4**	

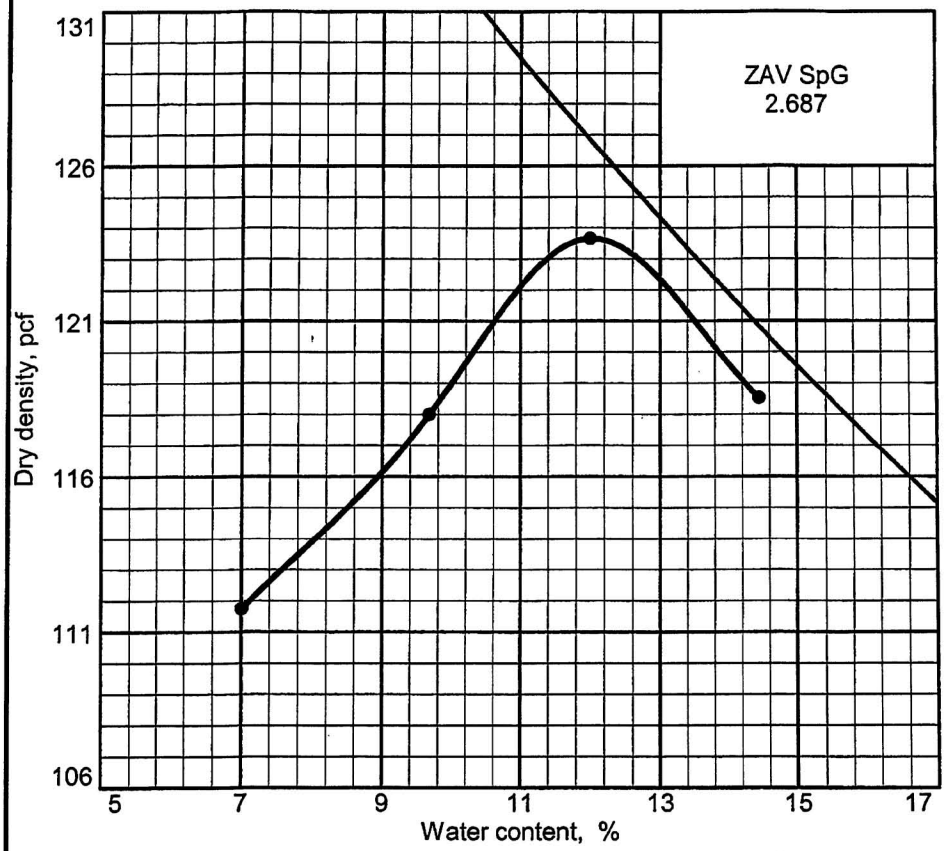
Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

Modified Proctor Compaction Tests – Test Pits

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP- 2310 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method	Dry
Hammer Wt.	10 lb.
Hammer Drop	18 in.(mechanical)
Number of Layers	five
Blows per Layer	25
Mold Size	.03317 cu.ft.
Test Performed on Material Passing	No.4 **Sieve**

NM 13.7 **LL** 33 **PI** 18
Sp.G. (ASTM D 854) 2.687
%>No.4 0.0 **%<No.200** 57.6
USCS CL **AASHTO** A-6(7)
Date Sampled 1/23/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6006.7	6154.7	6291.6	6248.6		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	545.30	556.60	617.90	690.40		
WD + T #1	510.00	508.10	552.40	604.10		
TARE #1	6.60	6.90	6.70	7.00		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	7.0	9.7	12.0	14.5		
DRY DENSITY	111.7	118.0	123.7	118.5		

TEST RESULTS

Maximum dry density = 123.5 pcf

Optimum moisture = 12.0 %

Material Description

Pale Yellow Sandy Lean CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-2,5'

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

● **Source:** TP-2310 **Sample No.:** Bulk-1 **Elev./Depth:** 5.0'

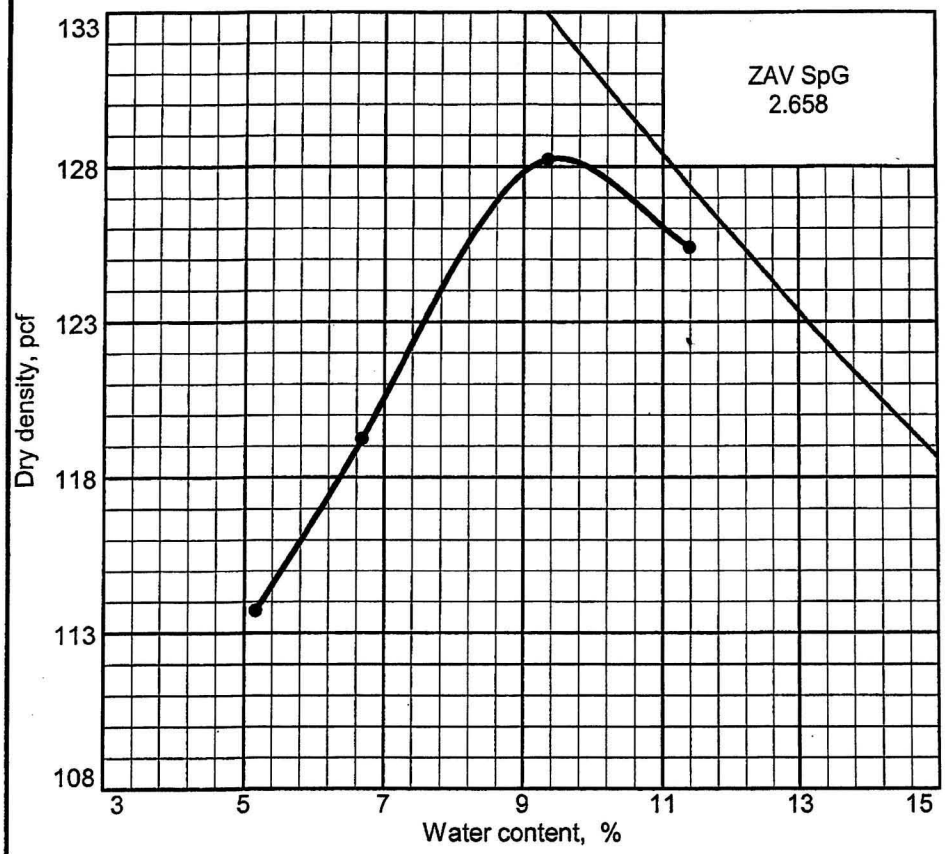
Checked by: LBJ
Title: LAB MANAGER

DSC
4-2-08

MACTEC, Inc.
Raleigh, North Carolina

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2310 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 8.3 **LL** 24 **PI** 7
Sp.G. (ASTM D 854) 2.658
%>No.4 0.0 **%<No.200** 28.9
USCS SC-SM **AASHTO** A-2-4(0)
Date Sampled 1/23/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6005.2	6119.7	6315.7	6307.3		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	547.60	530.50	557.70	701.20		
WD + T #1	521.00	497.70	510.60	630.20		
TARE #1	6.30	6.80	7.10	6.90		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	5.2	6.7	9.4	11.4		
DRY DENSITY	113.7	119.2	128.2	125.4		

TEST RESULTS

Maximum dry density = 128.5 pcf

Optimum moisture = 9.5 %

Material Description

Olive Yellow Silty, Clayey SAND

Remarks:
Natural Moisture obtained from Jar Sample S-4, 10'

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

● **Source:** TP-2310 **Sample No.:** Bulk-2 **Elev./Depth:** 10.0'

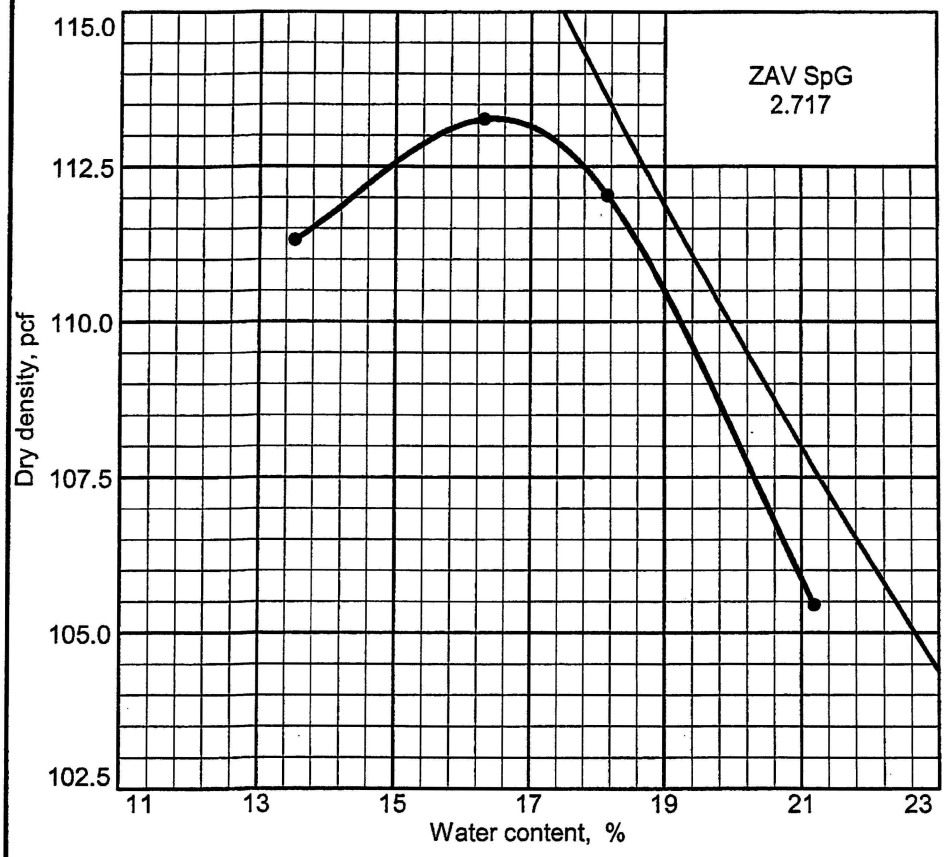
Checked by: LBJ
Title: LAB MANAGER

DSC
4-2-08

MACTEC, Inc.
Raleigh, North Carolina

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2314 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 22.7 **LL** 54 **PI** 31
Sp.G. (ASTM D 854) 2.717
%>No.4 0.0 **%<No.200** 95.7
USCS CH **AASHTO** A-7-6(33)
Date Sampled 1/22/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6107.3	6187.8	6197.4	6128.7		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	543.80	577.10	760.70	604.70		
WD + T #1	479.80	497.20	644.90	500.10		
TARE #1	6.80	6.90	6.70	6.60		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	13.5	16.3	18.1	21.2		
DRY DENSITY	111.3	113.3	112.0	105.4		

TEST RESULTS

Maximum dry density = 113.5 pcf

Optimum moisture = 16.5 %

Material Description

Light Yellowish Brown Fat CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-4,10'

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

● **Source:** TP-2314 **Sample No.:** Bulk-2 **Elev./Depth:** 5.0-10.0'

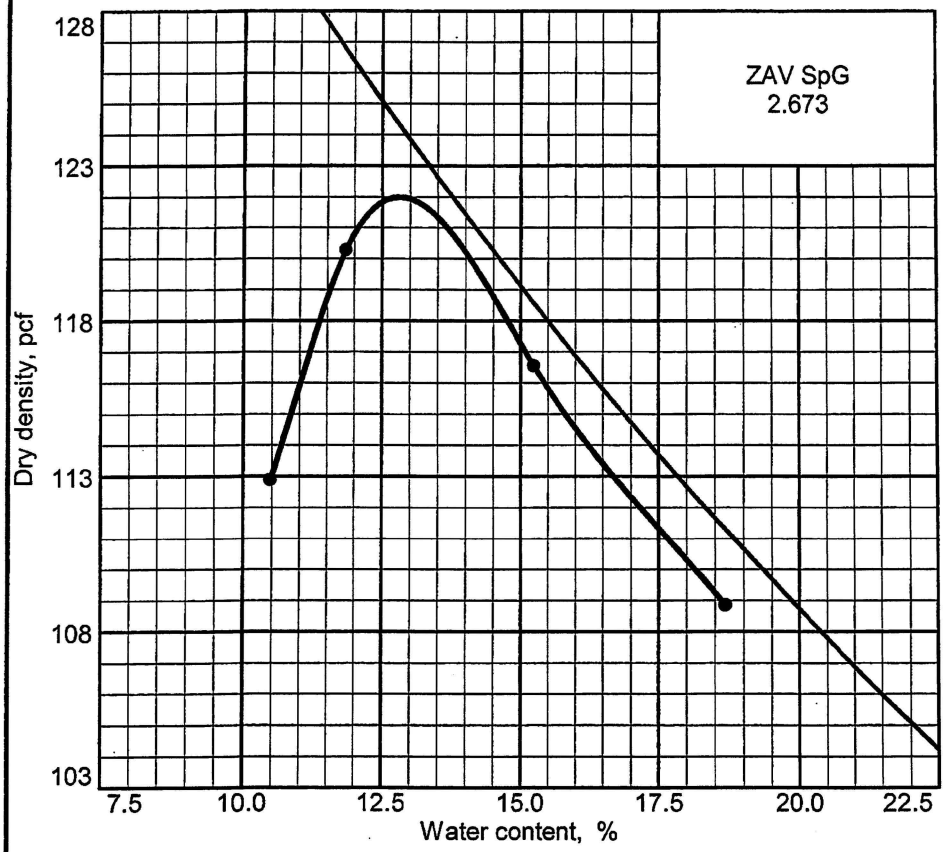
MACTEC, Inc.
Raleigh, North Carolina

Checked by: LBJ
Title: LAB MANAGER

DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2317 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method DRY
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 19.1 **LL** 48 **PI** 24
Sp.G. (ASTM D 854) 2.673
%>No.4 0.0 **%<No.200** 69.0
USCS CL **AASHTO** A-7-6(16)
Date Sampled 1/22/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6082.4	6229.8	6226.8	6149.7		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	685.80	829.40	695.10	631.90		
WD + T #1	621.40	742.30	604.10	533.50		
TARE #1	6.70	6.80	6.90	6.80		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	10.5	11.8	15.2	18.7		
DRY DENSITY	112.9	120.3	116.6	108.9		

TEST RESULTS

Maximum dry density = 122.0 pcf

Optimum moisture = 13.0 %

Material Description

Gray Sandy Lean CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-2,3.5-5.0'

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

● **Source:** TP-2317 **Sample No.:** Bulk-1 **Elev./Depth:** 3.0-5.0'

MACTEC, Inc.
Raleigh, North Carolina

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02

Curve No.
TP 2317 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.

Test Performed on Material Passing No.4 **Sieve**

NM 16.4 **LL** 45 **PI** 28
Sp.G. (ASTM D 854) 2.698
%>No.4 0.0 **%<No.200** 79.5
USCS CL **AASHTO** A-7-6(22)
Date Sampled 1/22/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6124.6	6271.8	6257.4	6188.5		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	572.80	822.50	685.40	680.50		
WD + T #1	522.90	736.80	598.90	580.60		
TARE #1	6.20	6.70	7.00	7.30		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	9.7	11.7	14.6	17.4		
DRY DENSITY	116.3	122.9	119.0	112.2		

TEST RESULTS

Maximum dry density = 123.5 pcf

Optimum moisture = 12.5 %

Material Description

Pale Yellow Lean CLAY with sand

Remarks:
Natural Moisture obtained from Jar Sample S-3 5.0-8.0'

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

● **Source:** TP-2317 **Sample No.:** Bulk-2 **Elev./Depth:** 5.0-10.0

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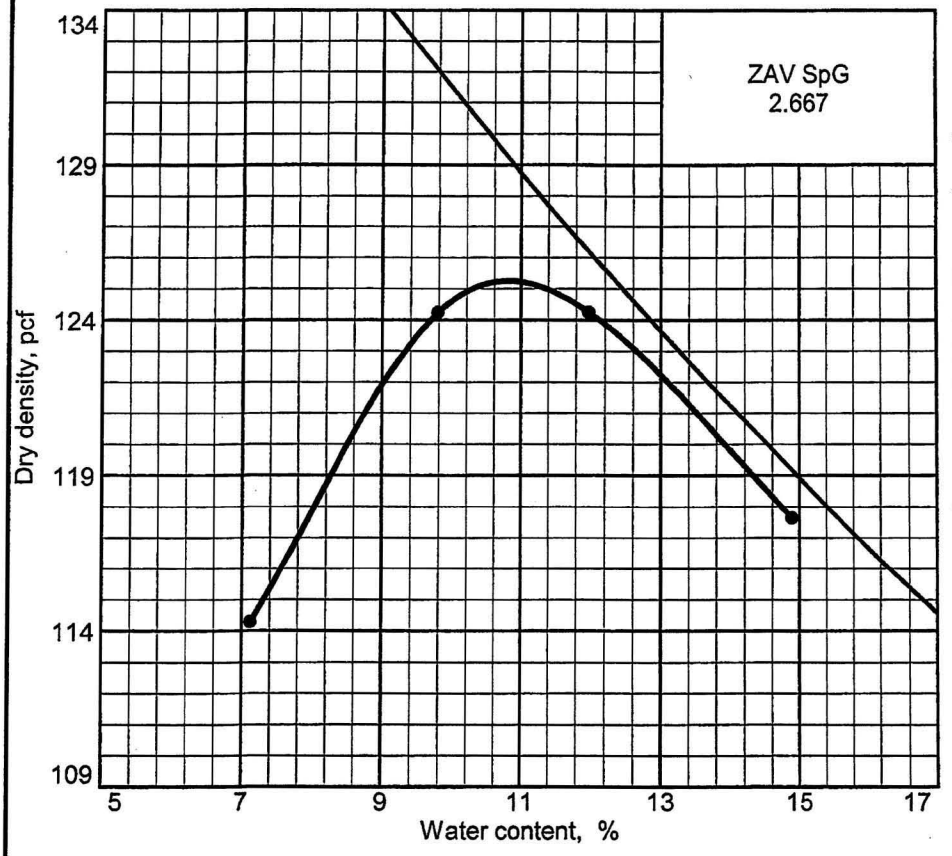
Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2319 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 13.0 **LL** 32 **PI** 10
Sp.G. (ASTM D 854) 2.667
%>No.4 0.0 **%<No.200** 47.3
USCS SC **AASHTO** A-4(2)
Date Sampled 1/20/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6047.8	6257.9	6299.1	6239.5		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	683.90	579.90	767.00	731.90		
WD + T #1	638.90	528.80	685.70	637.90		
TARE #1	7.10	6.70	7.00	6.70		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	7.1	9.8	12.0	14.9		
DRY DENSITY	114.3	124.2	124.2	117.6		

TEST RESULTS

Maximum dry density = 125.0 pcf

Optimum moisture = 11.0 %

Material Description

Light Brownish Gray Clayey SAND

Remarks:
Natural Moisture obtained from Jar Sample S-3,6.5'

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

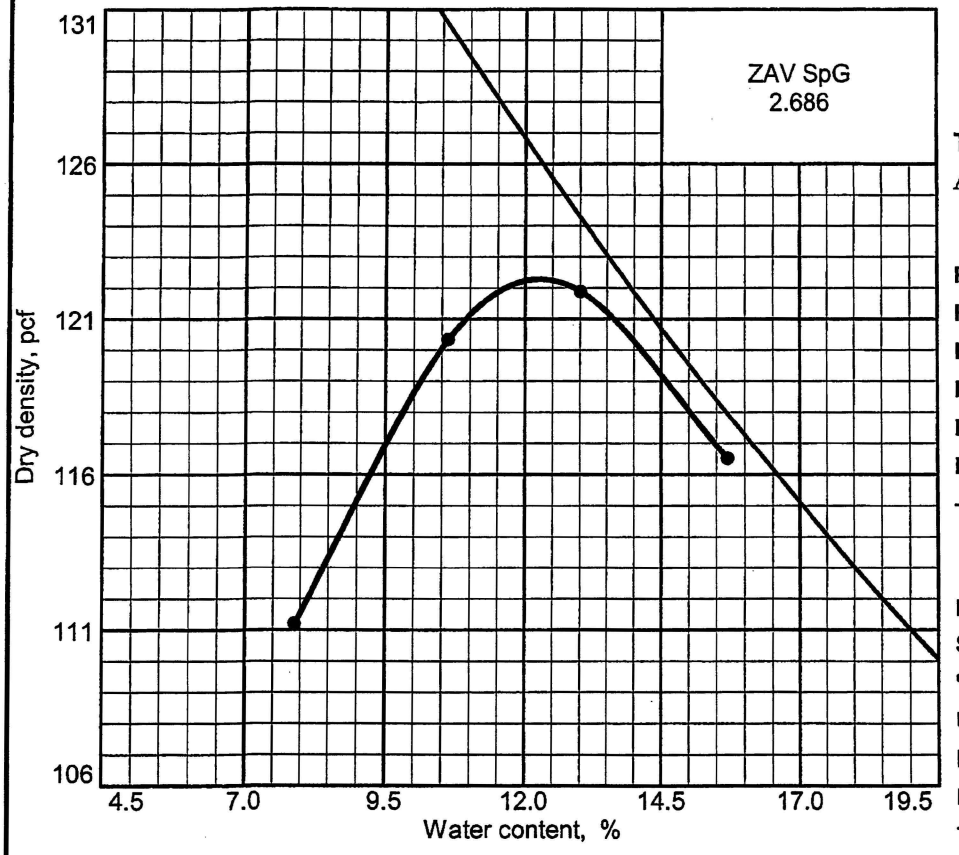
● **Source:** TP-2319 **Sample No.:** Bulk-2 **Elev./Depth:** 3.0-10'

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

MACTEC, Inc.
Raleigh, North Carolina

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2320 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 12.0 **LL** 42 **PI** 25
Sp.G. (ASTM D 854) 2.686
%>No.4 0.0 **%<No.200** 61.8
USCS CL **AASHTO** A-7-6(13)
Date Sampled 1/19/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6011.2	6208.6	6278.3	6234.2		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	534.10	637.90	656.80	686.10		
WD + T #1	495.50	577.30	581.90	593.90		
TARE #1	7.00	6.50	6.40	6.70		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	7.9	10.6	13.0	15.7		
DRY DENSITY	111.2	120.3	121.9	116.5		

TEST RESULTS

Maximum dry density = 122.5 pcf

Optimum moisture = 12.5 %

Material Description

Light Brownish Gray Sandy Lean CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-3,5-10'

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

● **Source:** TP-2320 **Sample No.:** Bulk 1 **Elev./Depth:** 5.0'

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

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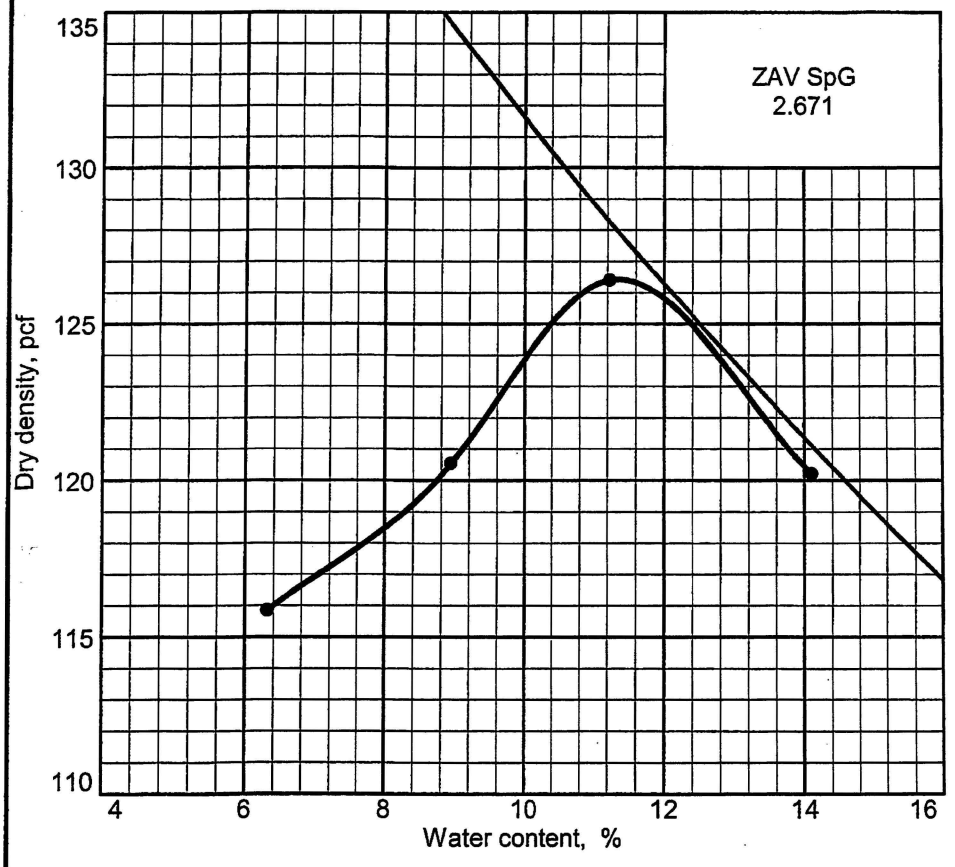
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2320 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 9.3 **LL** 41 **PI** 25
Sp.G. (ASTM D 854) 2.671
%>No.4 0.0 **%<No.200** 70.4
USCS CL **AASHTO** A-7-6(15)
Date Sampled 1/19/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6058.9	6181.7	6321.4	6269.7		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	744.50	642.70	846.30	613.90		
WD + T #1	700.70	590.50	761.50	538.90		
TARE #1	6.90	6.80	6.80	7.20		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	6.3	8.9	11.2	14.1		
DRY DENSITY	115.8	120.5	126.4	120.2		

TEST RESULTS

Maximum dry density = 126.5 pcf

Optimum moisture = 11.5 %

Material Description

Olive Yellow Sandy Lean CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-4,10'

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

● **Source:** TP-2320 **Sample No.:** Bulk 2 **Elev./Depth:** 5.0-10.0'

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Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02

Curve No.
TP 2321 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 15.3 **LL** 51 **PI** 31
Sp.G. (ASTM D 854) 2.696
%>No.4 0.0 **%<No.200** 72.0
USCS CH **AASHTO** A-7-6(21)
Date Sampled 1/30/08
Date Tested 2/28/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6171.6	6205.7	6211.9	6177.7		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	806.30	649.90	698.50	623.70		
WD + T #1	713.40	568.10	600.70	526.50		
TARE #1	6.90	7.10	6.70	6.90		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	13.1	14.6	16.5	18.7		
DRY DENSITY	115.5	116.0	114.5	110.4		

TEST RESULTS

Maximum dry density = 116.0 pcf

Optimum moisture = 14.5 %

Material Description

Dark Gray Fat CLAY with sand

Remarks:
Natural Moisture obtained from Jar Sample S-2,4'

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

● **Source:** TP-2321 **Sample No.:** Bulk 1 **Elev./Depth:** 4.0-5.0'

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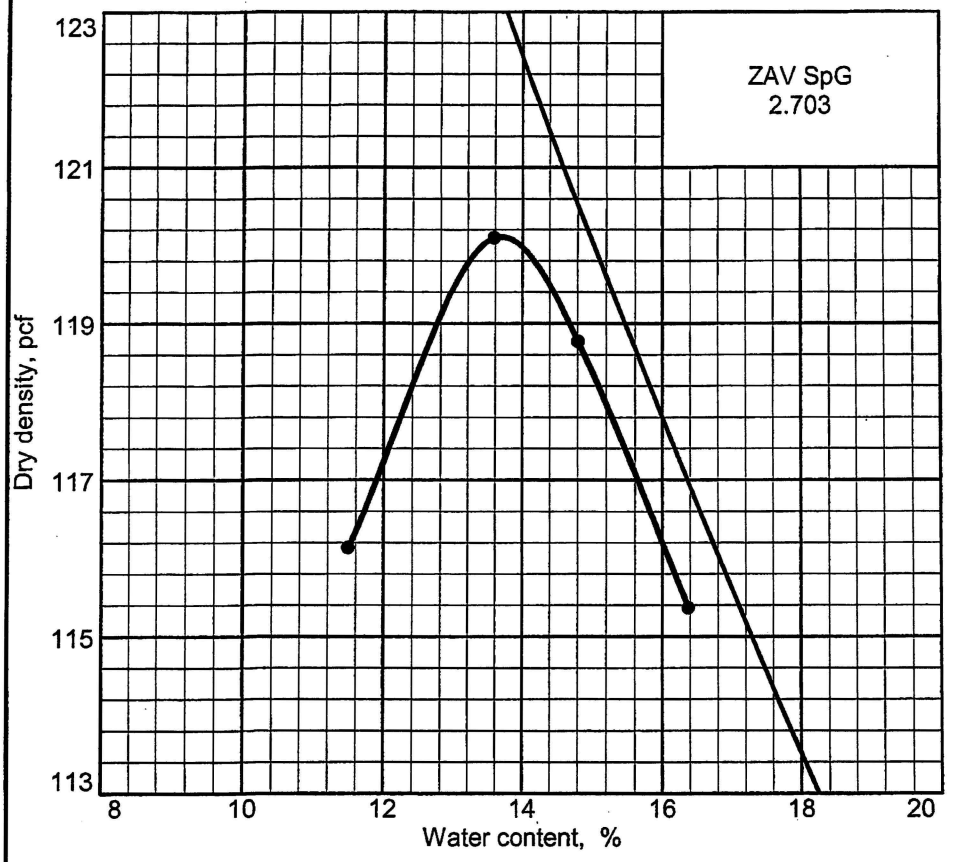
Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2321 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 16.0 **LL** 49 **PI** 30
Sp.G. (ASTM D 854) 2.703
%>No.4 0.0 **%<No.200** 81.0
USCS CL **AASHTO** A-7-6(24)
Date Sampled 1/30/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6154.1	6258.3	6257.5	6225.9		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	662.10	885.40	516.20	582.40		
WD + T #1	594.80	780.60	450.50	501.40		
TARE #1	9.40	9.20	6.90	6.80		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	11.5	13.6	14.8	16.4		
DRY DENSITY	116.1	120.1	118.8	115.4		

TEST RESULTS

Maximum dry density = 120.0 pcf

Optimum moisture = 13.5 %

Material Description

Yellow Lean CLAY with sand

Remarks:
Natural Moisture obtained from Jar Sample S-3,7'

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

● **Source:** TP-2321 **Sample No.:** Bulk 2 **Elev./Depth:** 6.5-10.0

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

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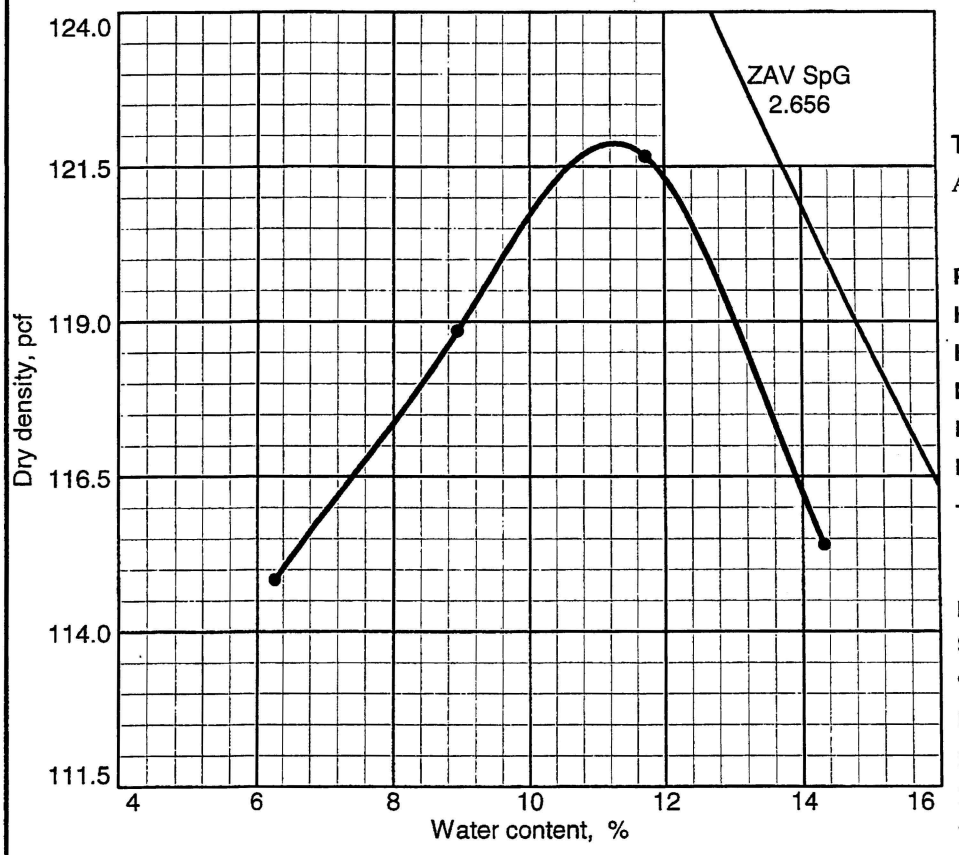
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02e1



Curve No.
TP 2332 B2

Test Specification:
ASTM D 1557-02e1 Method A Modified

Preparation Method	Dry
Hammer Wt.	10 lb.
Hammer Drop	18 in.
Number of Layers	five
Blows per Layer	25
Mold Size	.03333 cu.ft.
Test Performed on Material Passing	No.4 **Sieve**
NM 10.9 **LL** ND **PI** ND	
Sp.G. (ASTM D 854)	2.656
%>No.4 0.0 **%<No.200** 20.0	
USCS SM **AASHTO** ND	
Date Sampled	1/22/08
Date Tested	2/27/08
Tested By	AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6042.0	6153.7	6251.0	6190.9		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	518.40	768.40	763.40	693.10		
WD + T #1	488.20	706.00	684.00	607.10		
TARE #1	6.70	7.00	6.70	6.70		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	6.3	8.9	11.7	14.3		
DRY DENSITY	114.8	118.8	121.7	115.4		

TEST RESULTS

Maximum dry density = 122 pcf

Optimum moisture = 11 %

Material Description

Very Pale Brown Silty SAND (Visual)

Remarks:
ND = Not Determined
Natural Moisture was obtained from Jar Sample S-3,7'

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

● **Source:** TP-2332 **Sample No.:** Bulk 2 **Elev./Depth:** 3.0-10.0

Checked by: LBJ
Title: LAB MANAGER ZHU

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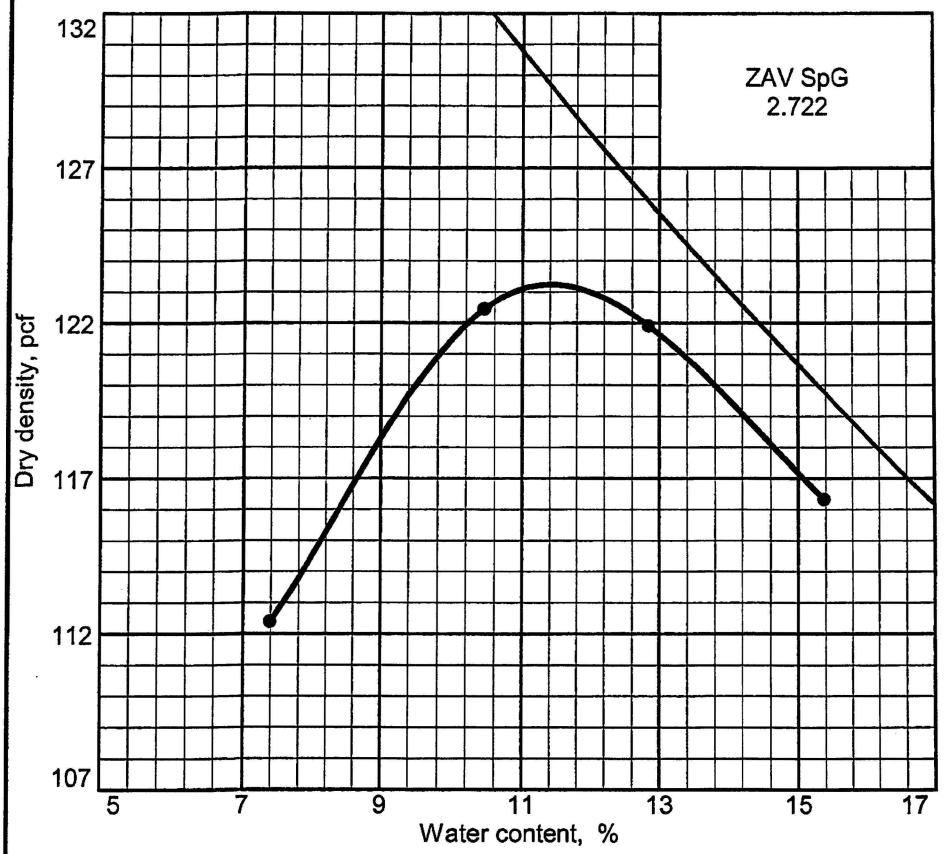
Figure NA 4-12-08

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2334 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 14.8 **LL** 44 **PI** 31
Sp.G. (ASTM D 854) 2.722
%>No.4 0.0 **%<No.200** 68.0
USCS CL **AASHTO** A-7-6(18)
Date Sampled 1/20/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6021.8	6240.7	6275.6	6225.2		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	578.90	606.80	827.30	701.20		
WD + T #1	539.50	550.00	733.90	608.60		
TARE #1	6.60	6.60	6.60	6.40		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	7.4	10.5	12.8	15.4		
DRY DENSITY	112.4	122.4	121.9	116.3		

TEST RESULTS

Maximum dry density = 123.0 pcf

Optimum moisture = 11.5 %

Material Description

Light Brownish Gray Sandy Lean CLAY

Remarks:
Natural Moisture obtained from Jar Sample S-2, 2-5'

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

● **Source:** TP-2334 **Sample No.:** Bulk 1 **Elev./Depth:** 2.0-5.0

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

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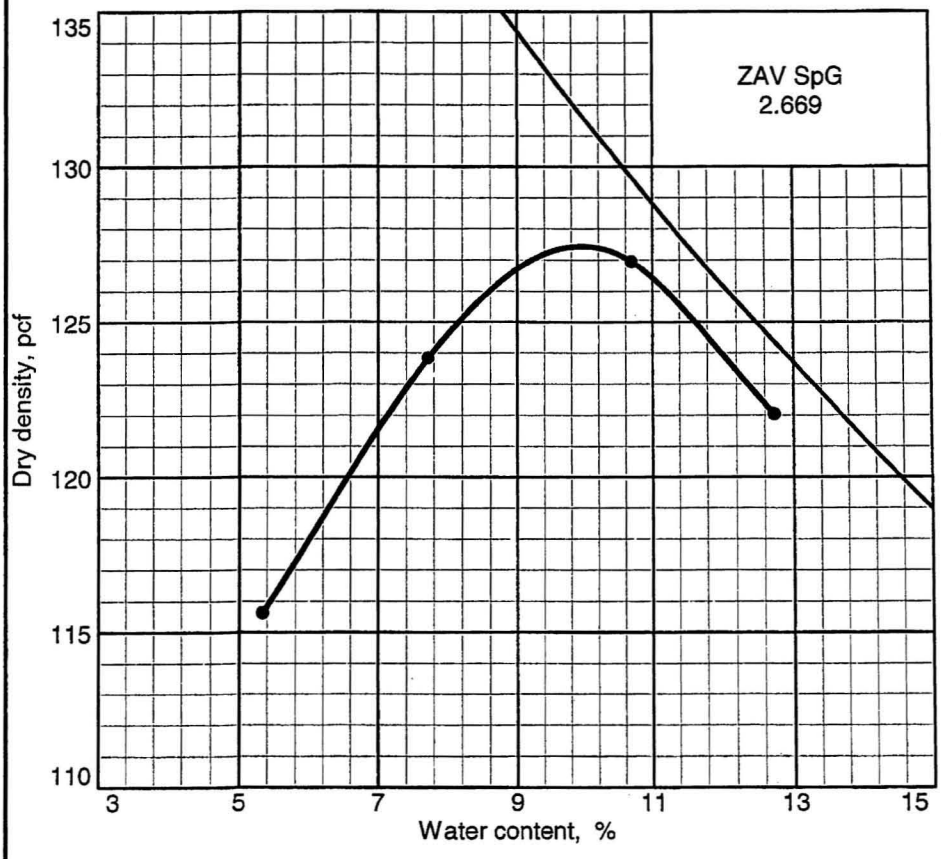
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2334 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 15.2 **LL** 31 **PI** 19
Sp.G. (ASTM D 854) 2.669
%>No.4 0.0 **%<No.200** 47.4
USCS SC **AASHTO** A-6(5)
Date Sampled 1/20/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6038.3	6212.7	6320.0	6275.7		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	686.00	533.20	855.70	864.50		
WD + T #1	651.60	495.50	773.70	767.60		
TARE #1	6.50	6.80	6.50	6.60		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	5.3	7.7	10.7	12.7		
DRY DENSITY	115.6	123.8	126.9	122.0		

TEST RESULTS

Maximum dry density = 127.5 pcf

Optimum moisture = 10.0 %

Material Description

Light Pale Brown Clayey SAND

Remarks:
Natural Moisture was obtained from Jar Sample S-3,7'

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

• **Source:** TP-2334 **Sample No.:** Bulk 2 **Elev./Depth:** 5.0-10.0

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

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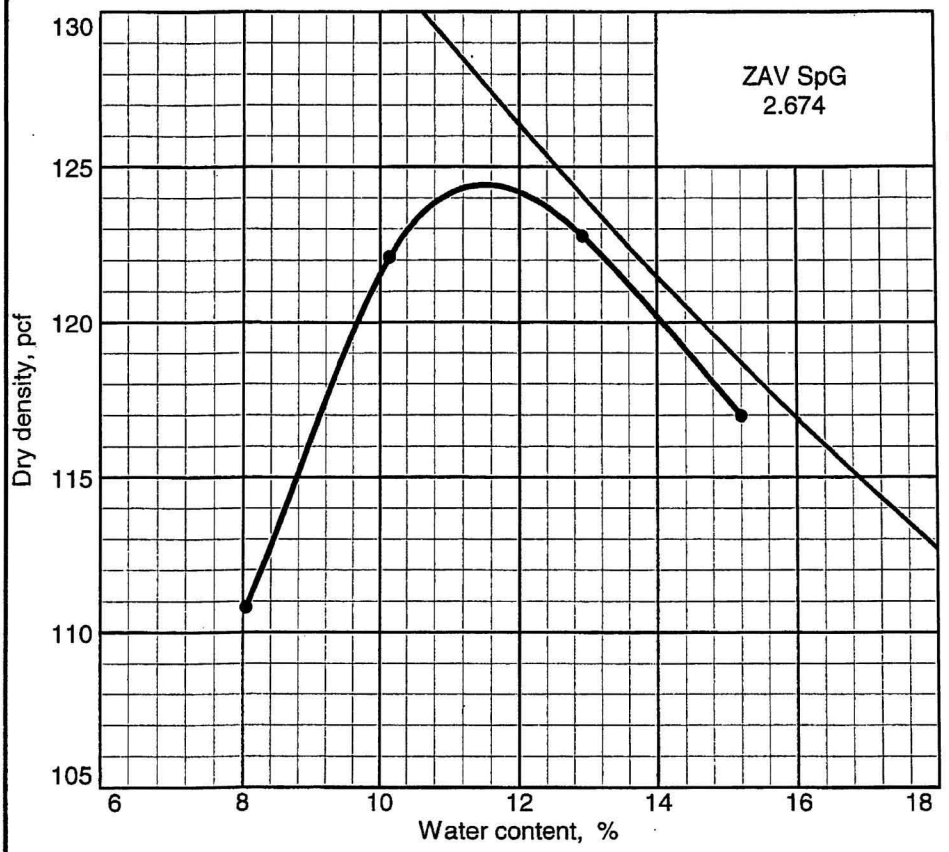
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2335 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.

Test Performed on Material Passing No.4 **Sieve**

NM 11.2 **LL** 37 **PI** 23
Sp.G. (ASTM D 854) 2.674
%>No.4 0.0 **%<No.200** 53.6
USCS CL **AASHTO** A-6(9)
Date Sampled 1/20/08
Date Tested 2/26/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6007.3	6229.1	6291.6	6233.5		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	558.70	670.40	554.70	530.40		
WD + T #1	517.60	609.30	492.00	461.30		
TARE #1	6.80	6.80	6.80	6.80		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	8.0	10.1	12.9	15.2		
DRY DENSITY	110.8	122.1	122.8	117.0		

TEST RESULTS

Maximum dry density = 124.5 pcf

Optimum moisture = 11.5 %

Material Description

Pale Yellow Sandy Lean CLAY

Remarks:
Natural Moisture was obtained from Jar Sample S-3,6'

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

● **Source:** TP-2335 **Sample No.:** Bulk 2 **Elev./Depth:** 4.0-8.0

Checked by: LBJ
Title: LAB MANAGER

DJC 4-2-08

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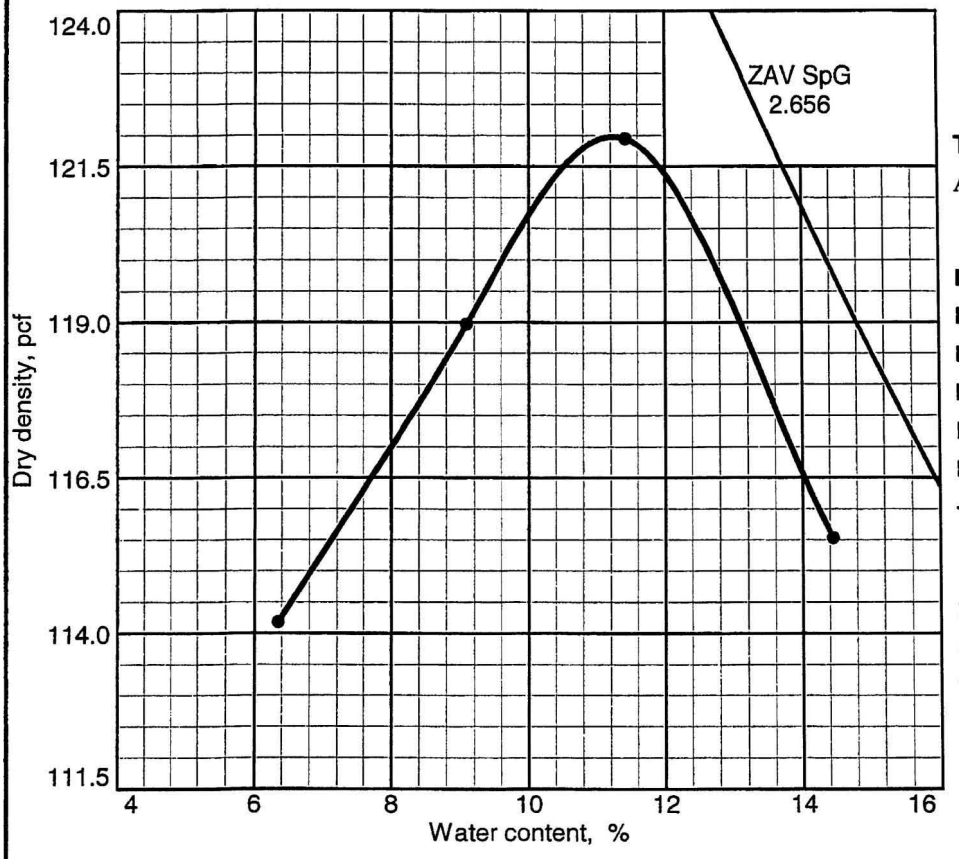
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2335 B3

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 7.3 **LL** ND **PI** ND
Sp.G. (ASTM D 854) 2.656
%>No.4 0.0 **%<No.200** 24.8
USCS SM **AASHTO**
Date Sampled 1/20/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6032.8	6158.5	6250.3	6195.3		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	740.90	936.10	837.90	842.60		
WD + T #1	697.10	858.70	752.70	737.10		
TARE #1	6.90	7.00	6.80	7.00		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	6.3	9.1	11.4	14.5		
DRY DENSITY	114.2	119.0	122.0	115.5		

TEST RESULTS

Maximum dry density = 122.0 pcf

Optimum moisture = 11.0 %

Material Description

Pale Yellow Silty SAND(Visual)

Remarks:
Natural Moisture was obtained from Jar Sample S-4,10'

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

● **Source:** TP-2335 **Sample No.:** Bulk 3 **Elev./Depth:** 8.0-10.0

Checked by: LBJ
Title: LAB MANAGER DSC 4-2-08

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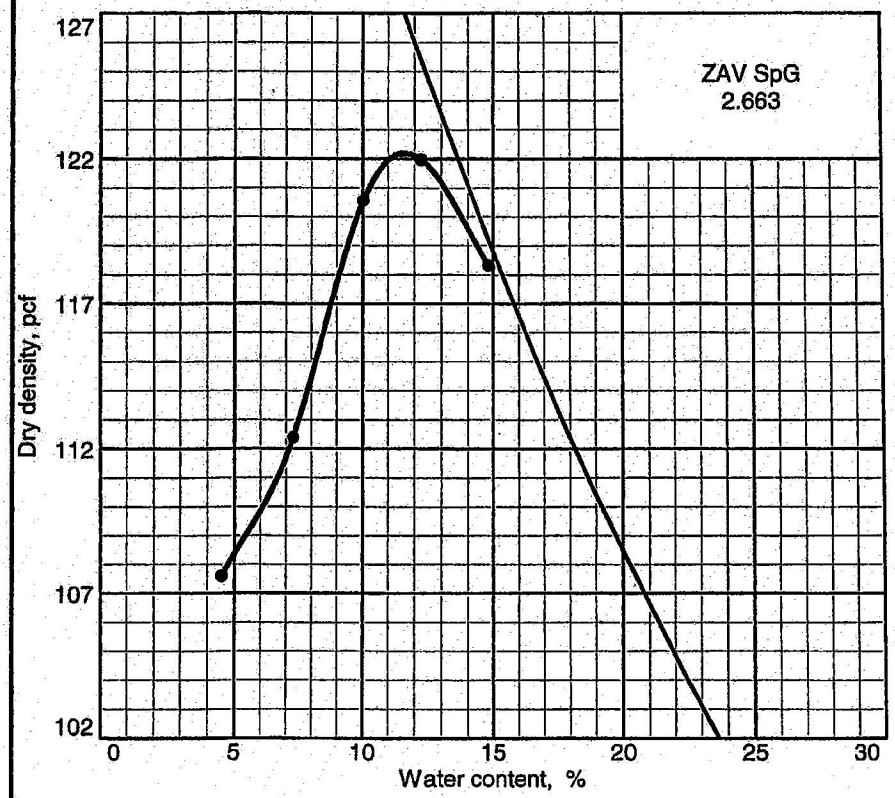
Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2337 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.
Test Performed on Material Passing No.4 **Sieve**

NM 18.7 **LL** ND **PI** ND
Sp.G. (ASTM D 854) 2.663
%>No.4 0.0 **%<No.200** 61.7
USCS CL **AASHTO** ND
Date Sampled 1/20/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	5898.3	6019.9	6201.7	6265.6	6249.8	
WM	4205.9	4205.9	4205.9	4205.9	4205.9	
WW + T #1	580.70	577.00	531.10	688.00	638.80	
WD + T #1	555.80	538.30	483.30	613.70	557.40	
TARE #1	6.60	6.80	6.60	6.80	8.30	
WW + T #2	N/A	N/A	N/A	N/A	N/A	
WD + T #2	N/A	N/A	N/A	N/A	N/A	
TARE #2	N/A	N/A	N/A	N/A	N/A	
MOISTURE	4.5	7.3	10.0	12.2	14.8	
DRY DENSITY	107.6	112.4	120.6	122.0	118.3	

TEST RESULTS

Maximum dry density = 122.0 pcf

Optimum moisture = 11.5 %

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

● **Source:** TP-2337 **Sample No.:** Bulk 1 **Elev./Depth:** 4.0-5.0

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Material Description

Gray Sandy Lean CLAY (Visual)

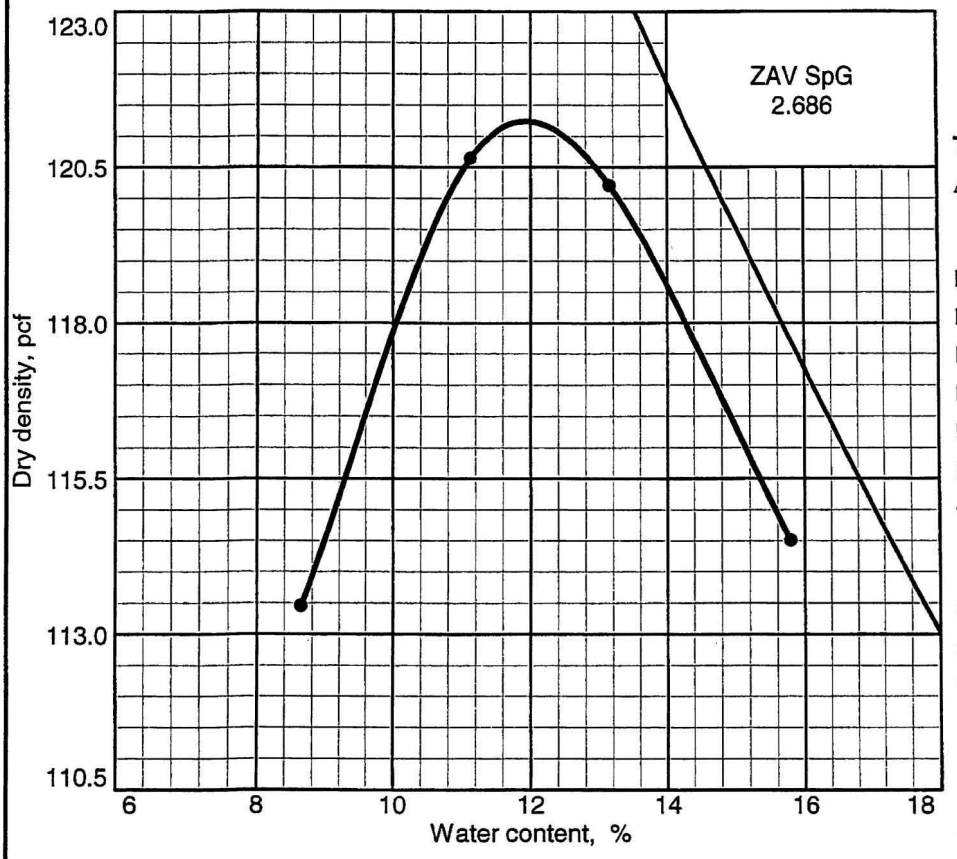
Remarks:
ND = Not Determined
Natural Moisture was obtained from Jar Sample S-2,4'

Checked by: LBJ
Title: LAB MANAGER

DSC 4-2-08

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2337 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.

Test Performed on Material Passing No.4 **Sieve**

NM 17.2 **LL** 41 **PI** 25
Sp.G. (ASTM D 854) 2.686
%>No.4 0.0 **%<No.200** 75.0
USCS CL **AASHTO** A-7-6(17)
Date Sampled 1/20/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6060.3	6222.9	6252.2	6200.8		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	579.20	609.20	709.10	711.50		
WD + T #1	533.70	548.90	627.50	615.40		
TARE #1	6.80	6.70	6.80	7.00		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	8.6	11.1	13.1	15.8		
DRY DENSITY	113.5	120.6	120.2	114.5		

TEST RESULTS

Maximum dry density = 121.0 pcf

Optimum moisture = 12.0 %

Material Description

Light Gray with Brownish Yellow Lean CLAY with sand

Remarks:
Natural Moisture was obtained from Jar Sample S-4,10'

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

● **Source:** TP-2337 **Sample No.:** Bulk 2 **Elev./Depth:** 10.0'

Checked by: LBJ
Title: LAB MANAGER

DSC 4-2-08

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Raleigh, North Carolina

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02

Curve No.
TP 2351 B2

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.

Test Performed on Material Passing No.4 **Sieve**

NM 13.0 **LL** 29 **PI** 16
Sp.G. (ASTM D 854) 2.664
%>No.4 0.0 **%<No.200** 38.2
USCS SC **AASHTO** A-6(2)
Date Sampled 1/21/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	6079.7	6193.0	6307.6	6219.6		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	577.10	578.60	583.80	615.20		
WD + T #1	539.00	530.30	521.60	536.30		
TARE #1	7.30	7.10	7.00	9.50		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	7.2	9.2	12.1	15.0		
DRY DENSITY	116.2	120.9	124.6	116.4		

TEST RESULTS

Maximum dry density = 125.0 pcf

Optimum moisture = 11.5 %

Material Description

Pale Yellow Clayey SAND

Remarks:
Natural Moisture was obtained from Jar Sample S-2,4'

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

● **Source:** TP-2351 **Sample No.:** Bulk 2 **Elev./Depth:** 3.5-10.0

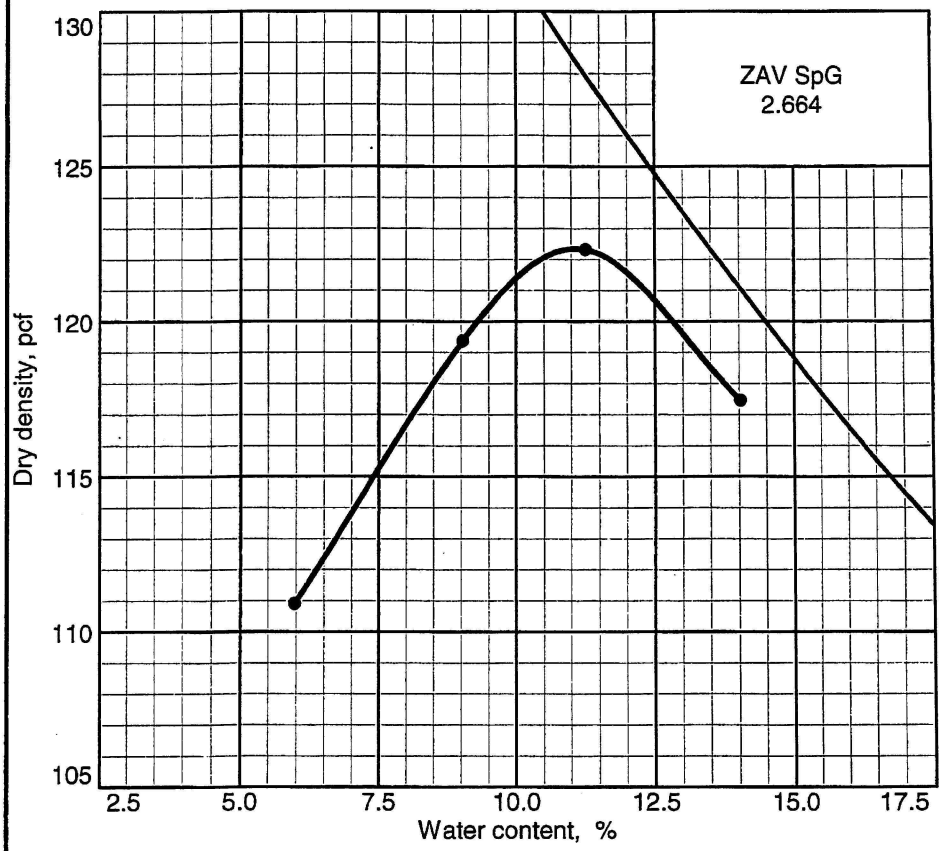
Checked by: LBJ
Title: LAB MANAGER

DSC 4-2-08

MACTEC, Inc.
Raleigh, North Carolina

Figure NA

COMPACTION TEST REPORT/ ASTM D-1557-02



Curve No.
TP 2352 B1

Test Specification:
ASTM D 1557-02 Method A Modified

Preparation Method Dry
Hammer Wt. 10 lb.
Hammer Drop 18 in.(mechanical)
Number of Layers five
Blows per Layer 25
Mold Size .03317 cu.ft.

Test Performed on Material Passing No.4 **Sieve**

NM 17.0 **LL** ND **PI**
Sp.G. (ASTM D 854) 2.664
%>No.4 0.0 **%<No.200** 66.9
USCS CL **AASHTO** ND
Date Sampled 1/31/08
Date Tested 2/27/08
Tested By AWH

TESTING DATA

	1	2	3	4	5	6
WM + WS	5974.2	6164.1	6253.5	6221.0		
WM	4205.9	4205.9	4205.9	4205.9		
WW + T #1	611.80	613.00	788.50	698.90		
WD + T #1	577.70	562.80	709.40	613.80		
TARE #1	6.80	6.80	6.70	7.20		
WW + T #2	N/A	N/A	N/A	N/A		
WD + T #2	N/A	N/A	N/A	N/A		
TARE #2	N/A	N/A	N/A	N/A		
MOISTURE	6.0	9.0	11.3	14.0		
DRY DENSITY	110.9	119.4	122.3	117.5		

TEST RESULTS

Maximum dry density = 122.5 pcf

Optimum moisture = 11.0 %

Material Description

Dark Gray with Brownish Yellow Sandy Lean CLAY (Visual)

Remarks:
ND = Not Determined
Natural Moisture was obtained from Jar Sample S-2,4-5'

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

● **Source:** TP-2352 **Sample No.:** Bulk 1 **Elev./Depth:** 4.0-5.0

Checked by: LBJ
Title: LAB MANAGER

DSC 4-2-08

MACTEC, Inc.
Raleigh, North Carolina

Figure N/A