



# BORING LOG NO. 10-B8

CLIENT: **USACE, Galveston District  
Galveston, Texas**

BORING LOCATION: **N: 13686122.8  
E: 3317135.23**

PROJECT: **Galveston Channel Deepening, TO-0010**

SITE: **San Jacinto Placement Area  
Galveston, Texas**

Graphic Log	DESCRIPTION	DEPTH, FEET	SAMPLES						TESTS								
			USCS SYMBOL	TYPE	RECOVERY, IN	SPT, BLOWS/FT	CALIBRATED HAND PENETROM., TSF	TORVANE, TSF	MOISTURE CONTENT, %	DRY DENSITY, PCF	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	MINUS #200 SIEVE, %	COMPRESSIVE STRENGTH, TSF	FAILURE STRAIN, %	CONFINING PRESSURE, PSI
<b>Approx. Surface Elevation: 16.8 feet</b>																	
	<b>POORLY GRADED SAND w/ SILT</b> bluish gray, with shell, fine, some cohesion, density varies from loose to very dense  at 32' - 7" thick layer of fat clay	31 32 33 34 35 36 37 38 39 40		SS	7	16			25								
	-25.2	42.0	41	SS	8	27			24								
	<b>SILTY SAND</b> bluish gray, with shell, fine, some cohesion, density decreases with depth from very dense to loose  below 46' - with thin fat clay layers	42 43 44 45 46 47 48 49		SM	SS	9	38			23			14				
	-33.2	50.0	50	SS	12	52			23								
	<b>SANDY LEAN CLAY</b> bluish gray, w/ silt, sand & shell, medium stiff to very soft	50 51 52		CL	SS	18	8			39							
	-37.2	54.0	53	ST	15		0.0	0.5			38	16	22	68			
	<b>CLAYEY SAND</b> bluish gray, w/ shell, fine, loose	54 55		SC	SS	12	5			31							
	-39.2	56.0	56	CH	ST	9		0.0	0.1	40							
	<b>FAT CLAY</b> bluish gray, w/ shell, sand seams and layers very soft to soft	57 58 59		CH	ST	13		0.0	0.15	34	87	52	19	33	89		
	<b>Continued Next Page</b>		60														

STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. IN SITU, THE TRANSITION BETWEEN STRATA MAY BE MORE GRADUAL.

REMARKS: **Dry auger to 12 feet; wet rotary thereafter.**

WATER LEVEL OBSERVATIONS			
▽ 10 ft	WS	▽ 7.5 ft	at 5 min
▽ 7.5 ft	at 10 min	▽ 7.8 ft	at 15 min



DATE DRILLED  
4/19/2010

PROJECT NUMBER  
92105154

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PROJECT: **Galveston Channel Deepening, TO-0010**

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Graphic Log	DESCRIPTION	DEPTH, FEET	SAMPLES							TESTS						
			USCS SYMBOL	TYPE	RECOVERY, IN	SPT, BLOWS/FT	CALIBRATED HAND PENETROM., TSF	TORVANE, TSF	MOISTURE CONTENT, %	DRY DENSITY, PCF	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	MINUS #200 SIEVE, %	COMPRESSIVE STRENGTH, TSF	FAILURE STRAIN, %
	<b>Approx. Surface Elevation: 16.8 feet</b>															
	<b>FAT CLAY</b> bluish gray, w/ shell, sand seams and layers very soft to soft	61	ST	8				39								
		62														
		63	ST	8		0.0	0.25	46								
		64														
		65	ST	14		0.5	0.25	54								
		66														
	-50.2	67.0														
	<b>CLAYEY SAND</b> bluish gray, very loose	67	SC	16		0.0	0.2			41	16	25	43			
		68														
		69	ST	8		0.0	0.1	26								
		70														
		71	ST	14		0.5		28								
	-55.2	72.0														
	<b>SANDY LEAN CLAY</b> light bluish gray and yellow w/ sand and silt seams, medium stiff to very soft	72	CL													
		73	ST	8		1.5		23								
		74														
		75	ST	16		0.0	0.1	28								
	-59.2	76.0														
	<b>LEAN CLAY w/ SAND</b> pinkish gray and yellow w/ sand and silt seams, medium stiff to very soft	76	CL													
		77	ST	16		1.0		32				85				
		78														
		79	SS	10	14			30								
	-63.2	80.0														
	Boring terminated at 80 feet.	80														

STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. IN SITU, THE TRANSITION BETWEEN STRATA MAY BE MORE GRADUAL.

REMARKS: **Dry auger to 12 feet; wet rotary thereafter.**

WATER LEVEL OBSERVATIONS			
▽ 10 ft	WS	▽ 7.5 ft	at 5 min
▽ 7.5 ft	at 10 min	▽ 7.8 ft	at 15 min



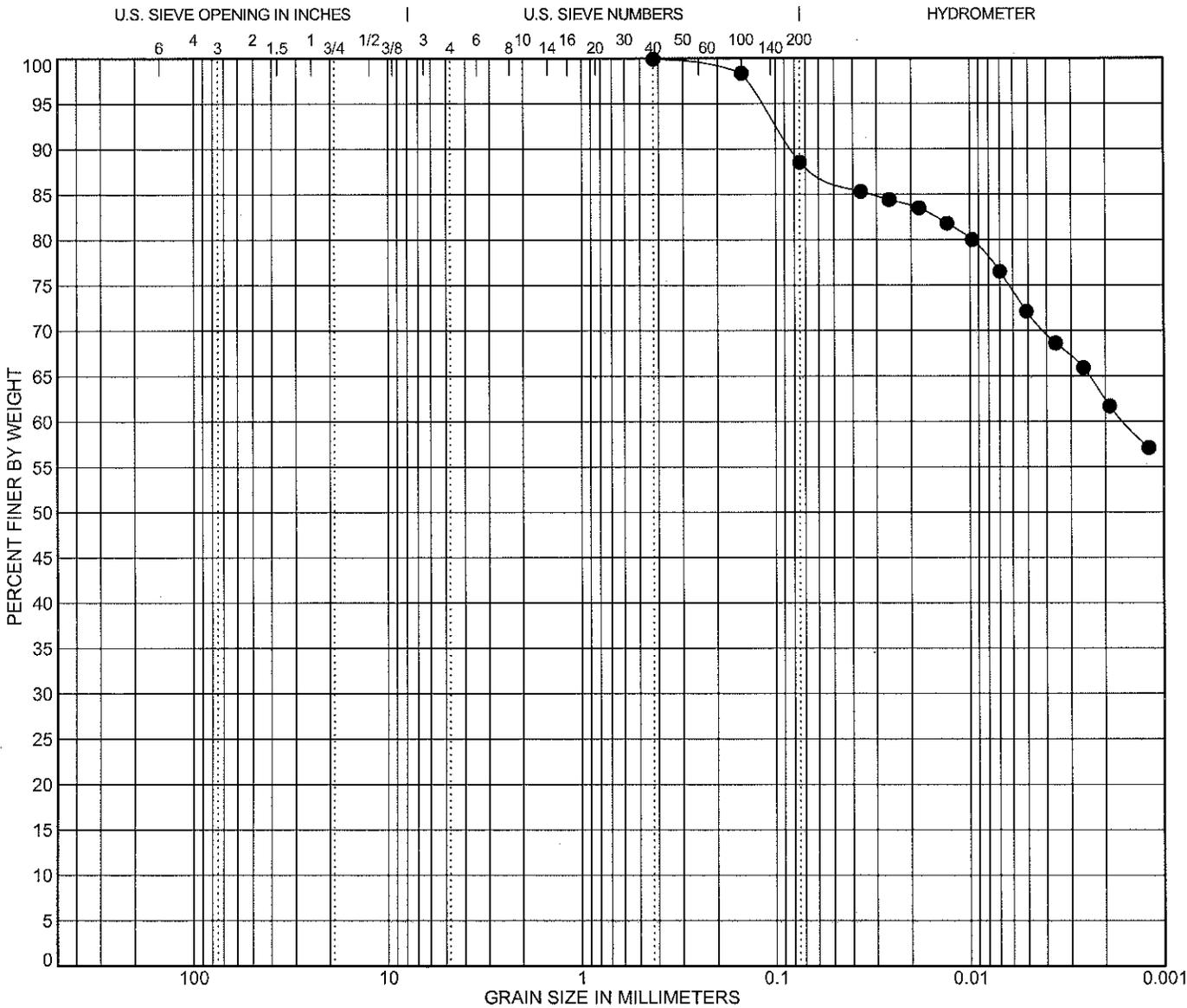
DATE DRILLED  
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**10-B8**

**EXHIBIT A-8**



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● 10-B8      6.0	<b>FAT CLAY(CH)</b>					<b>107</b>	<b>31</b>	<b>76</b>		

Percent Passing the Indicated Sieve						
Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8      6.0				<b>99.9</b>	<b>98.4</b>	<b>88.5</b>

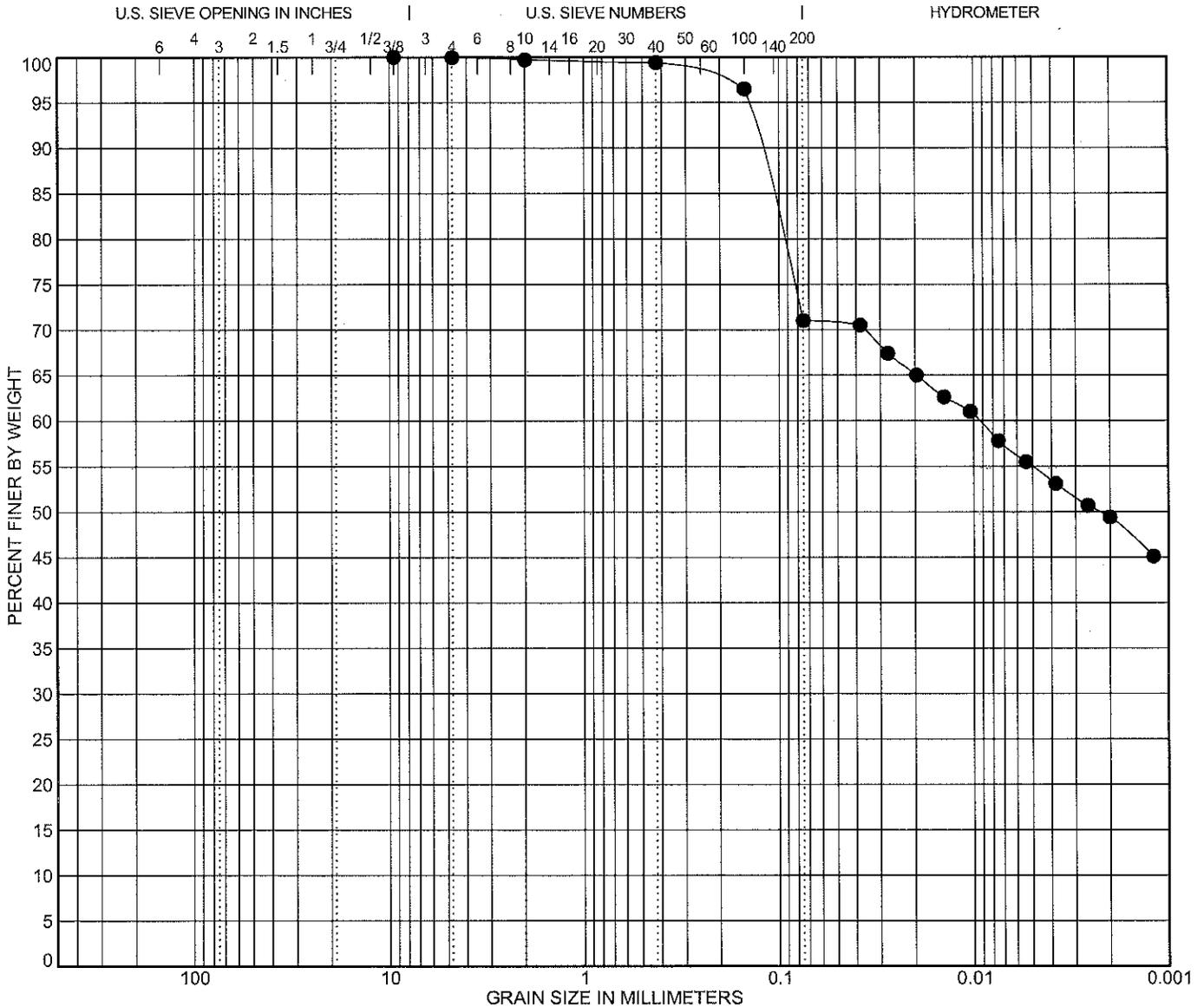
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8      6.0	<b>0.425</b>				<b>0.0</b>	<b>11.4</b>	<b>26.1</b>	<b>62.4</b>

**GRAIN SIZE DISTRIBUTION**

Galveston Channel Deepening,  
TO-0010  
Galveston, Texas  
Project Number 92105154



Terracon Consultants, Inc.  
11555 Clay Road, Suite 100  
Houston, Texas 77043  
Telephone: 713-690-8989  
Fax: 713-690-8787



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 12.5	FAT CLAY with SAND(CH)	54	21	33		

Percent Passing the Indicated Sieve

Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 12.5	100	100	99.7	99.4	96.5	71

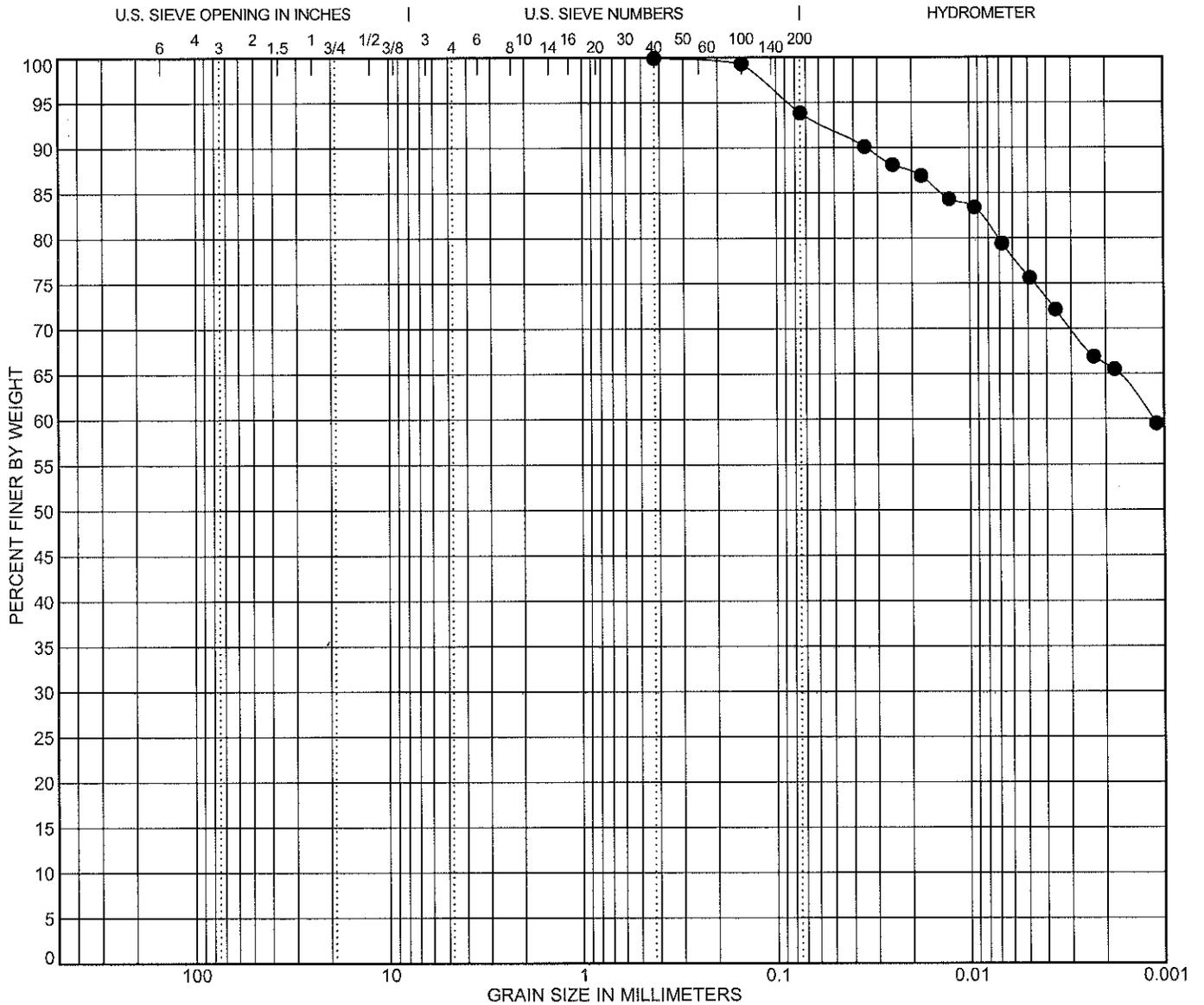
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 12.5	9.5	0.002			0.0	28.9	21.6	49.4

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 14.0						

Percent Passing the Indicated Sieve						
Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 14.0				99.9	99.3	93.8

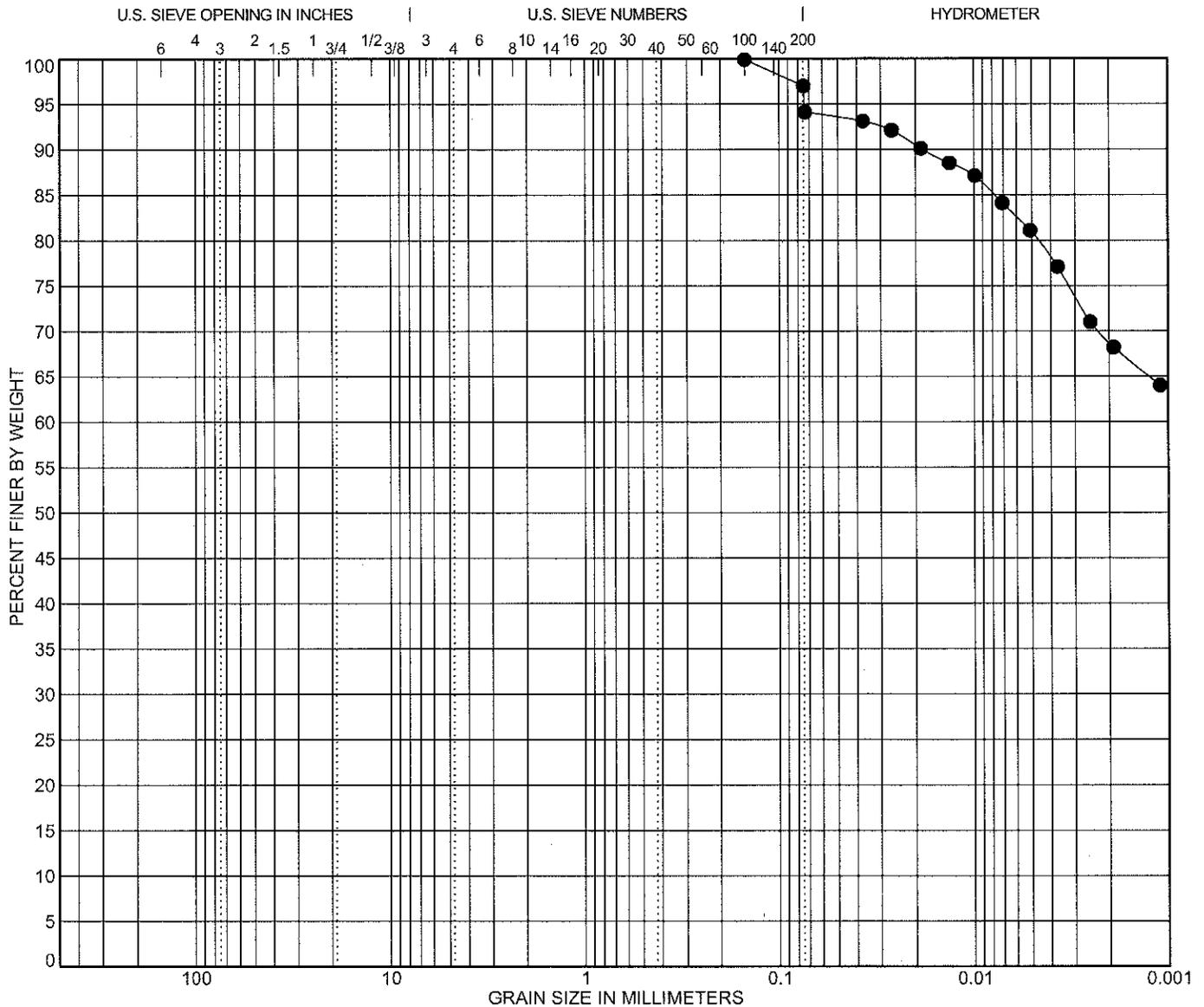
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 14.0	0.425				0.0	6.1	27.7	66.1

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 20.0	FAT CLAY(CH)	114	33	81		

Percent Passing the Indicated Sieve

Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 20.0					99.9	97

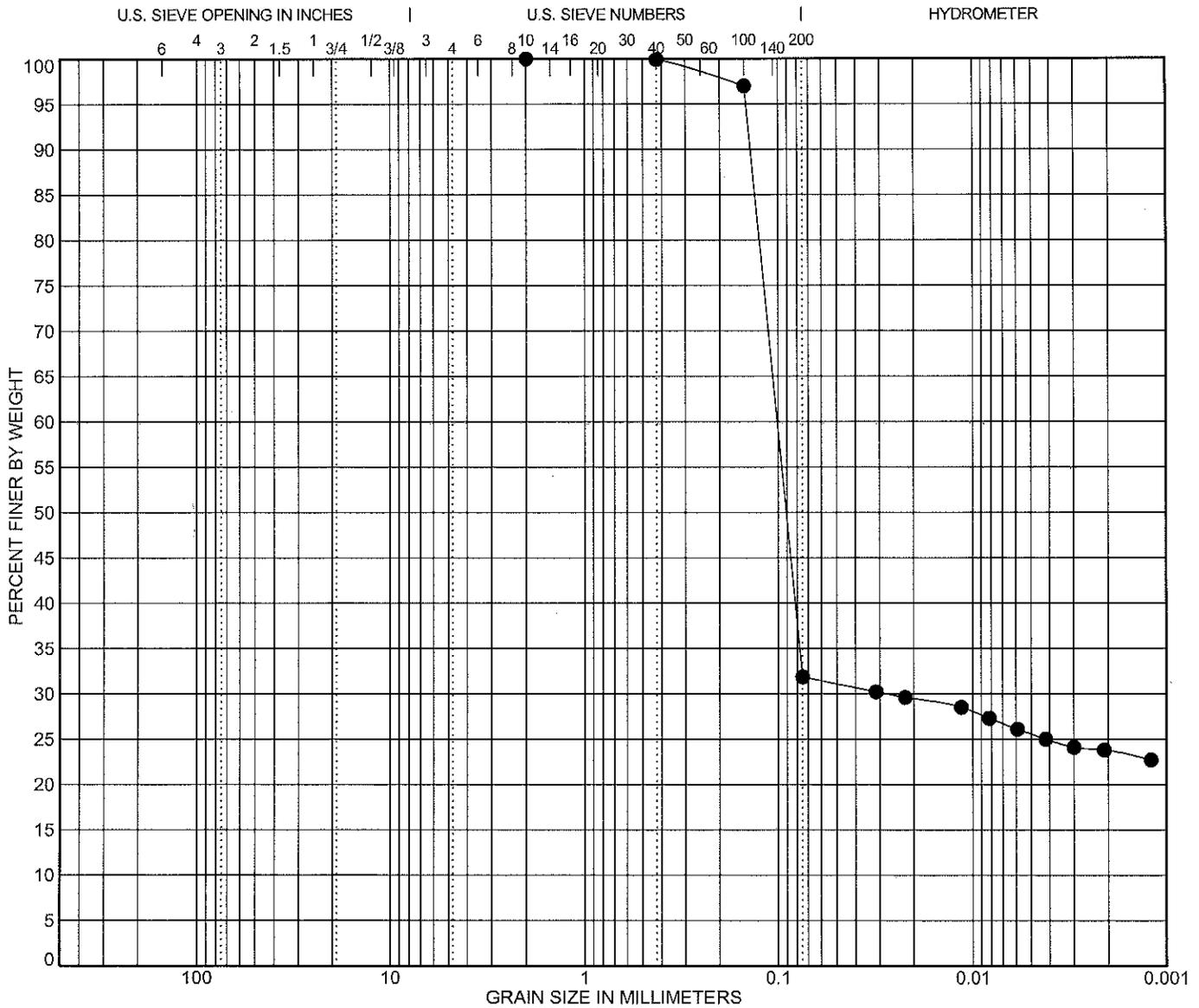
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 20.0	0.15				0.0	2.9	28.3	68.7

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8      24.0	<b>SILTY SAND(SM)</b>	<b>31</b>	<b>23</b>	<b>8</b>		

Percent Passing the Indicated Sieve

Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8      24.0			<b>100</b>	<b>99.9</b>	<b>97</b>	<b>31.8</b>

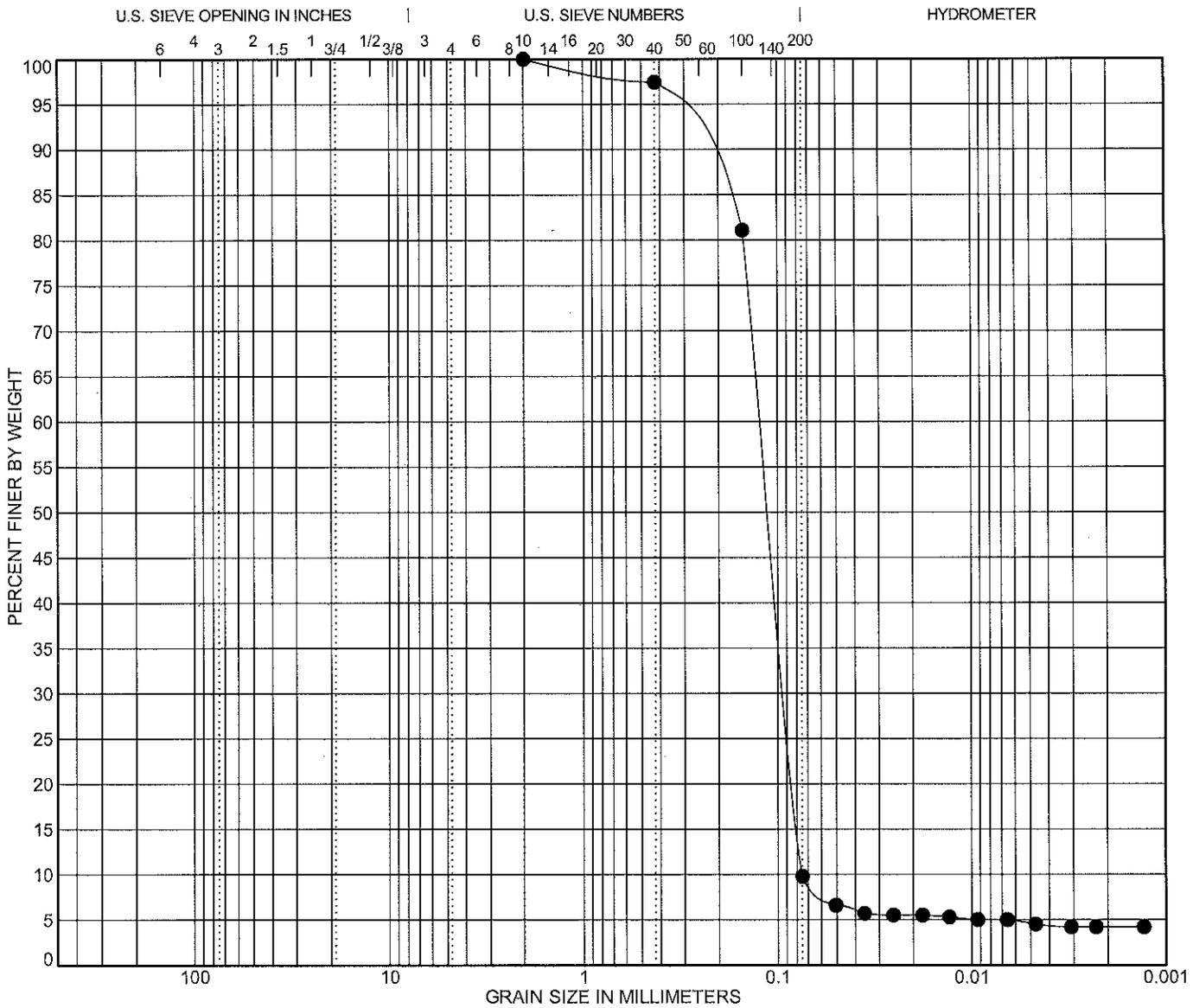
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8      24.0	<b>2</b>	<b>0.091</b>	<b>0.028</b>		<b>0.0</b>	<b>68.2</b>	<b>8.1</b>	<b>23.7</b>

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 34.5					0.91	1.63

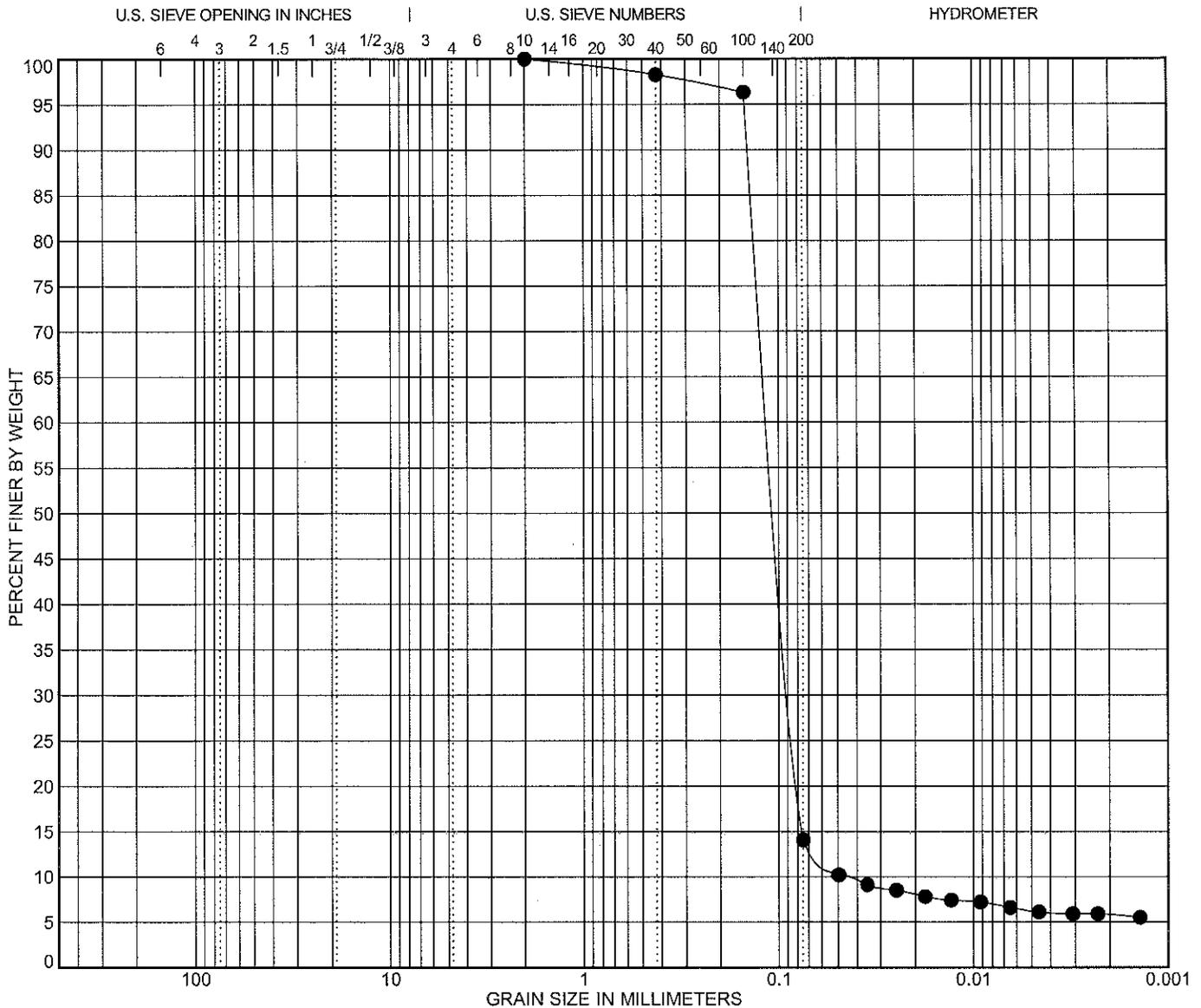
Percent Passing the Indicated Sieve						
Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 34.5			100	97.5	81.1	9.8

Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 34.5	2	0.111	0.091	0.075	0.0	90.2	5.6	4.2

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 42.5					1.43	2.37

Percent Passing the Indicated Sieve						
Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 42.5			100	98.3	96.3	14.1

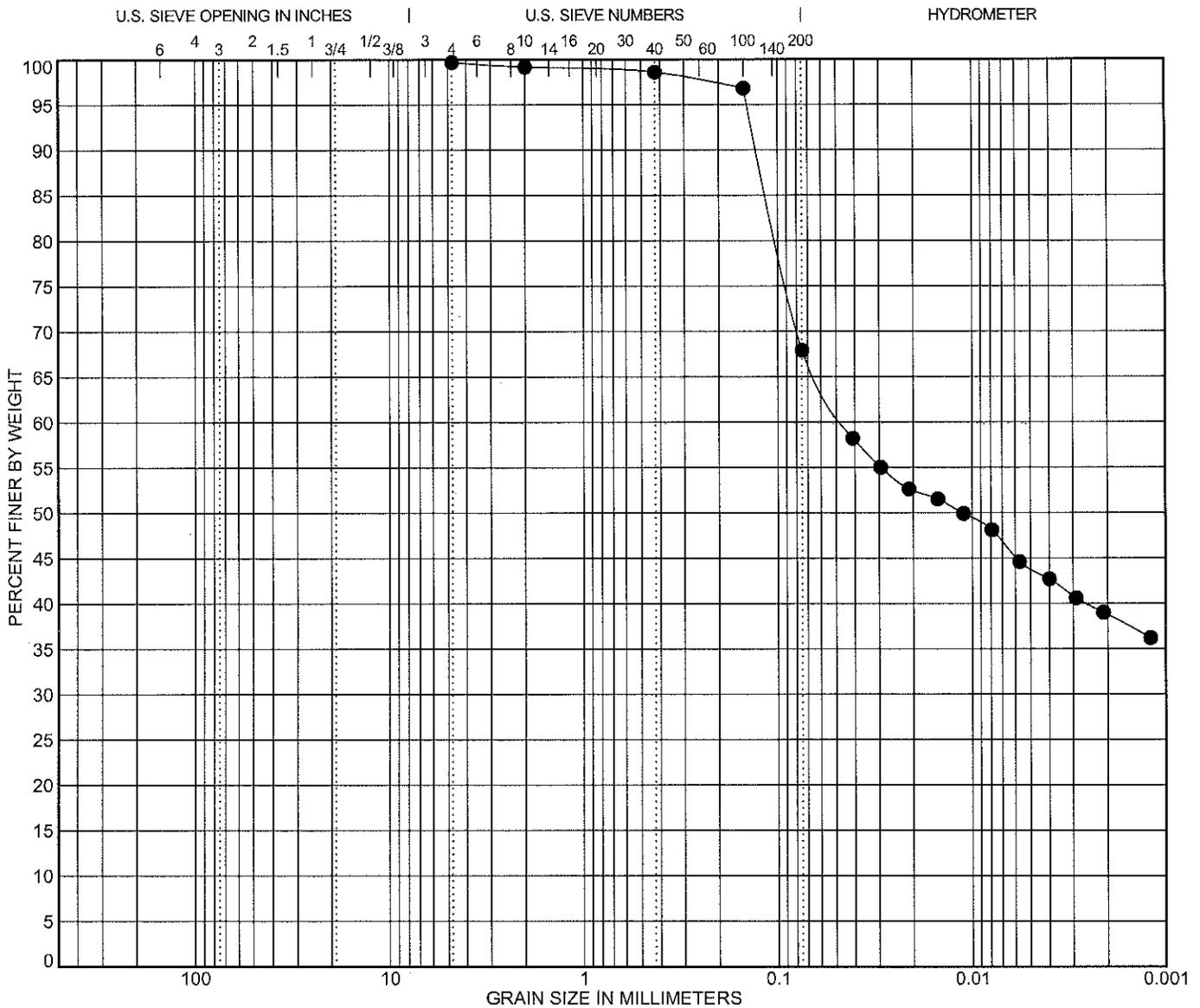
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 42.5	2	0.102	0.086	0.047	0.0	85.9	8.3	5.8

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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 52.0	SANDY LEAN CLAY(CL)	38	16	22		

Percent Passing the Indicated Sieve

Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 52.0		99.7	99.2	98.6	96.8	67.9

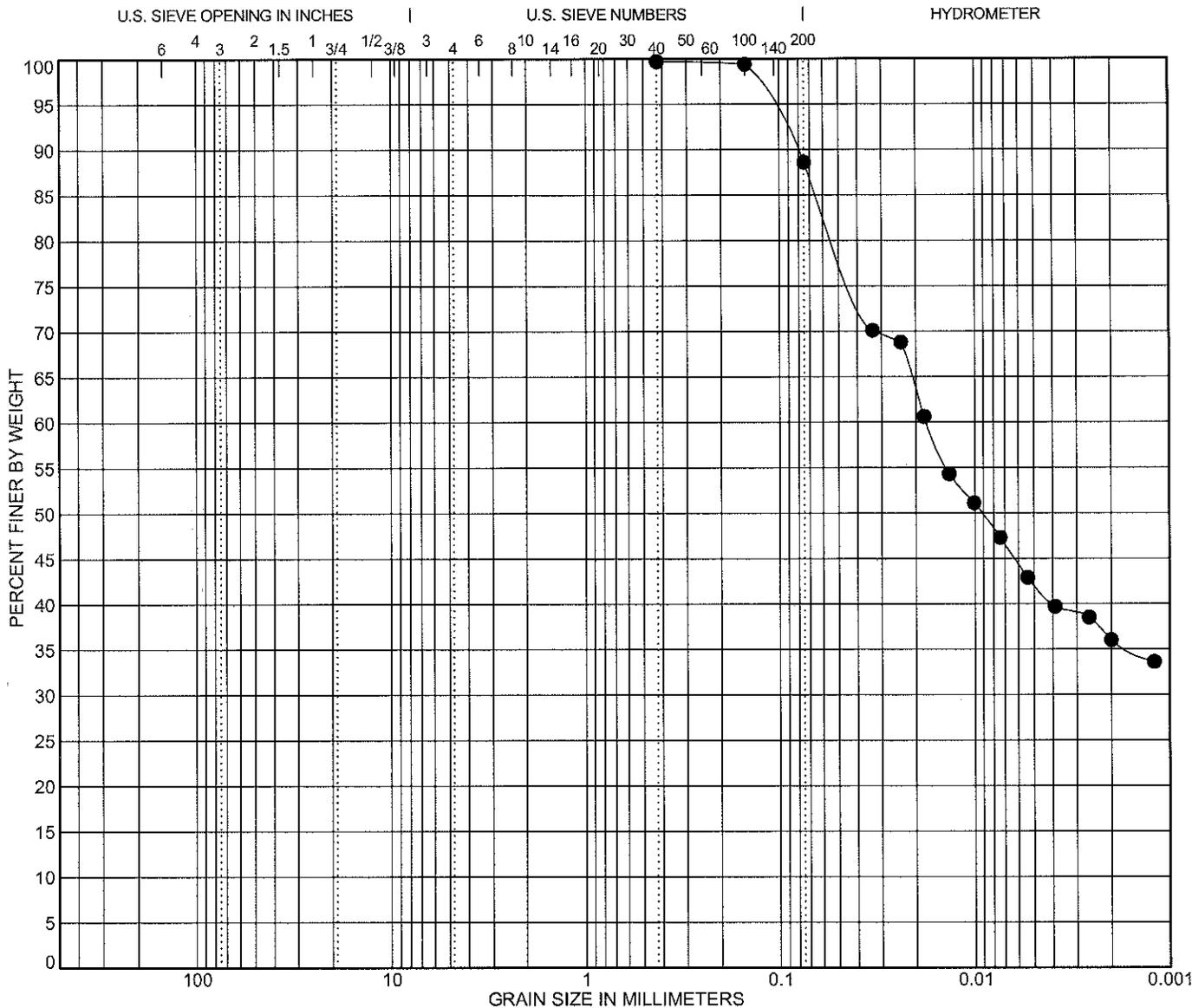
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 52.0	4.75	0.011			0.0	31.8	29.1	38.8

**GRAIN SIZE DISTRIBUTION**

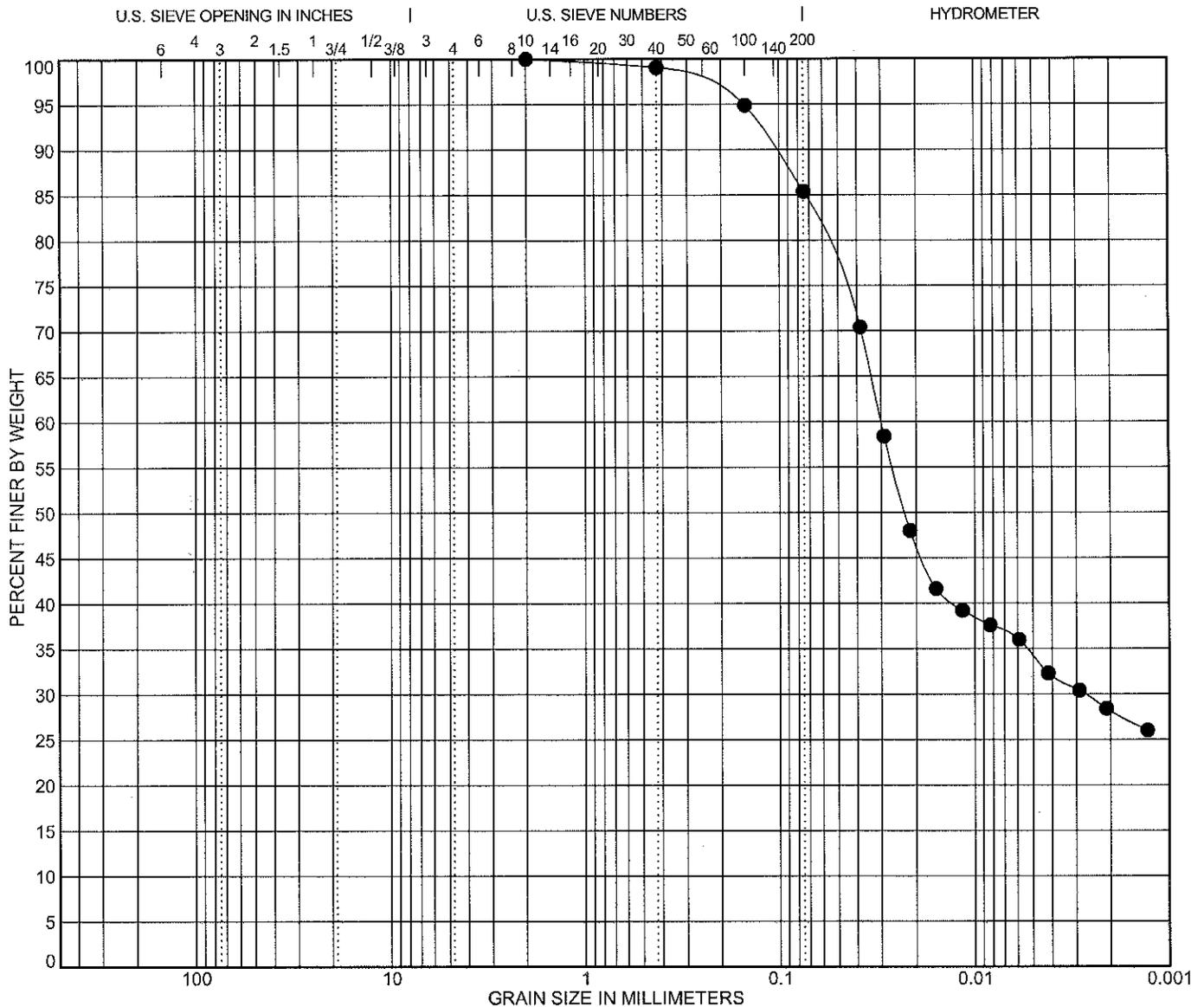
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TO-0010  
Galveston, Texas  
Project Number 92105154



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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 10-B8 76.0						

Percent Passing the Indicated Sieve

Specimen Identification	3/8"	#4	#10	#40	#100	#200
● 10-B8 76.0			100	99.1	94.9	85.4

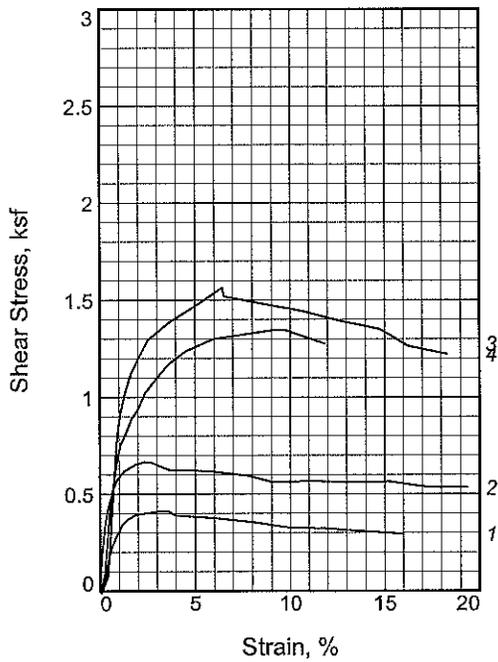
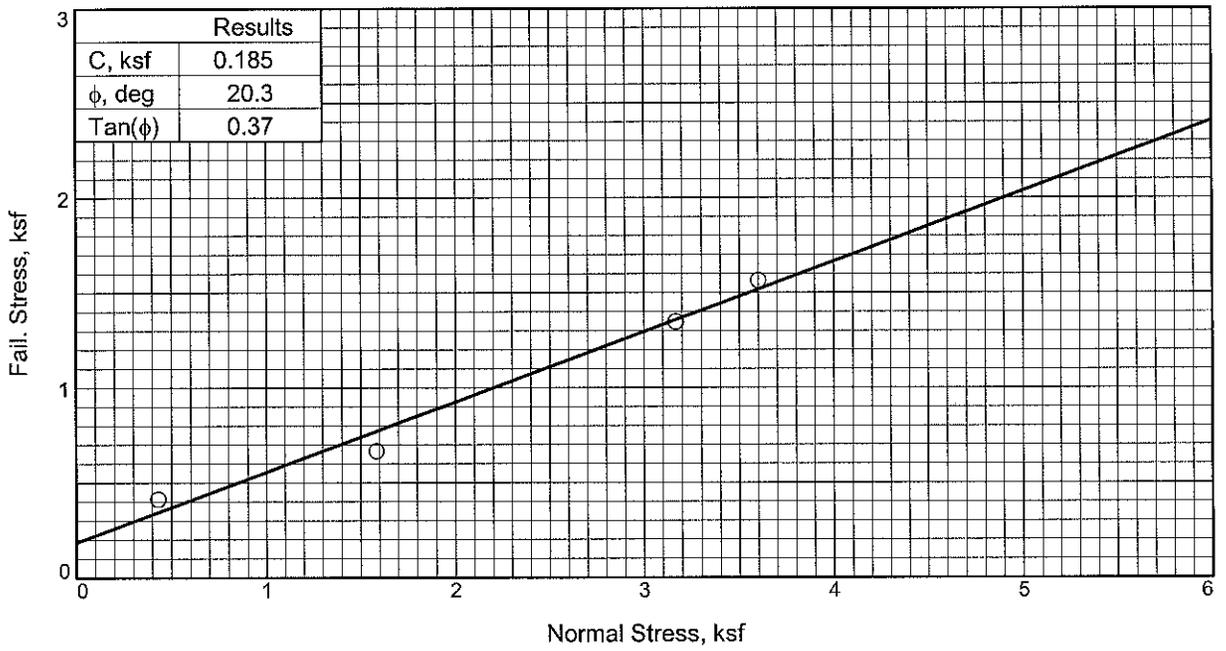
Specimen Identification	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 10-B8 76.0	2	0.023	0.003		0.0	14.6	57.2	28.2

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Sample No.	1	2	3	4	
Initial	Water Content, %	76.6	76.6	76.6	76.6
	Dry Density, pcf	54.3	54.4	54.7	55.2
	Saturation, %	97.4	97.7	98.6	99.8
	Void Ratio	2.1619	2.1547	2.1360	2.1091
	Diameter, in.	2.500	2.500	2.500	2.500
	Height, in.	1.035	1.035	1.045	1.028
At Test	Water Content, %	73.9	71.2	63.1	62.9
	Dry Density, pcf	55.3	56.3	57.4	59.5
	Saturation, %	96.5	95.5	87.2	91.9
	Void Ratio	2.1053	2.0489	1.9905	1.8838
	Diameter, in.	2.500	2.500	2.500	2.500
	Height, in.	1.016	1.000	0.996	0.954
Normal Stress, ksf	0.432	1.584	3.168	3.600	
Fail. Stress, ksf	0.414	0.666	1.347	1.565	
Strain, %	3.2	2.4	9.2	6.4	
Ult. Stress, ksf					
Strain, %					
Strain rate, in./min.	0.001	0.001	0.001	0.001	

**Sample Type:** Undisturbed

**Description:** Gray Fat Clay

**Assumed Specific Gravity=** 2.75

**Remarks:** ASTM D3080

**Client:** USACE

**Project:** Galveston Channel Deepening San Jacinto Placement Area  
Contract #W912HY-09-D-0021, Task Order #0010

**Location:** 10-B8

**Sample Number:** 11

**Depth:** 20-22 ft.

**Proj. No.:** 92105154

**Date Sampled:**

DIRECT SHEAR TEST REPORT

Terracon, Inc.

Houston, TX

**DIRECT SHEAR TEST**

8/5/2010

**Date:**  
**Client:** USACE  
**Project:** Galveston Channel Deepening San Jacinto Placement Area  
 Contract #W912HY-09-D-0021, Task Order #0010  
**Project No.:** 92105154  
**Location:** 10-B8  
**Depth:** 20-22 ft. **Sample Number:** 11  
**Description:** Gray Fat Clay  
**Remarks:** ASTM D3080  
**Type of Sample:** Undisturbed  
**Assumed Specific Gravity=**2.75 **LL=** **PL=** **PI=**

**Parameters for Specimen No. 1**

Specimen Parameter	Initial	Consolidated	Final
Moisture content: Moist soil+tare, gms.	225.940		121.870
Moisture content: Dry soil+tare, gms.	155.280		95.500
Moisture content: Tare, gms.	62.990		59.800
Moisture, %	76.6	73.9	73.9
Moist specimen weight, gms.	127.85		
Diameter, in.	2.500	2.500	
Area, in. <sup>2</sup>	4.909	4.909	
Height, in.	1.035	1.016	
Net decrease in height, in.		0.018	
Wet density, pcf	95.9	96.1	
Dry density, pcf	54.3	55.3	
Void ratio	2.1619	2.1053	
Saturation, %	97.4	96.5	

**Test Readings for Specimen No. 1**

**Normal stress =** 0.432 ksf  
**Strain rate, in./min. =** 0.001  
**Fail. Stress =** 0.414 ksf at reading no. 17

No.	Horizontal Def. Dial in.	Load Dial	Load lbs.	Strain %	Shear Stress ksf
0	0.0000	0.195	0.0	0.0	0.000
1	0.0005	0.304	0.1	0.0	0.003
2	0.0040	0.852	0.7	0.2	0.019
3	0.0060	1.383	1.2	0.2	0.035
4	0.0070	2.107	1.9	0.3	0.056
5	0.0080	2.955	2.8	0.3	0.081
6	0.0090	3.776	3.6	0.4	0.105
7	0.0105	4.871	4.7	0.4	0.137
8	0.0120	6.006	5.8	0.5	0.170
9	0.0145	7.288	7.1	0.6	0.208
10	0.0165	8.116	7.9	0.7	0.232
11	0.0190	8.837	8.6	0.8	0.254
12	0.0220	9.927	9.7	0.9	0.285
13	0.0255	10.655	10.5	1.0	0.307

**Test Readings for Specimen No. 1**

No.	Horizontal Def. Dial in.	Load Dial	Load lbs.	Strain %	Shear Stress ksf
14	0.0285	11.659	11.5	1.1	0.336
15	0.0361	12.786	12.6	1.4	0.369
16	0.0466	13.558	13.4	1.9	0.392
17	0.0811	14.293	14.1	3.2	0.414
18	0.0901	14.234	14.0	3.6	0.412
19	0.0991	13.506	13.3	4.0	0.390
20	0.1516	13.032	12.8	6.1	0.377
21	0.2027	12.264	12.1	8.1	0.354
22	0.2447	11.393	11.2	9.8	0.328
23	0.2957	11.196	11.0	11.8	0.323
24	0.3468	10.703	10.5	13.9	0.308
25	0.3978	10.282	10.1	15.9	0.296

**Parameters for Specimen No. 2**

Specimen Parameter	Initial	Consolidated	Final
Moisture content: Moist soil+tare, gms.	225.940		171.950
Moisture content: Dry soil+tare, gms.	155.280		124.850
Moisture content: Tare, gms.	62.990		58.680
Moisture, %	76.6	71.2	71.2
Moist specimen weight, gms.	128.14		
Diameter, in.	2.500	2.500	
Area, in. <sup>2</sup>	4.909	4.909	
Height, in.	1.035	1.000	
Net decrease in height, in.		0.035	
Wet density, pcf	96.1	96.4	
Dry density, pcf	54.4	56.3	
Void ratio	2.1547	2.0489	
Saturation, %	97.7	95.5	

**Test Readings for Specimen No. 2**

Normal stress = 1.584 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 0.666 ksf at reading no. 18

No.	Horizontal Def. Dial in.	Load Dial	Load lbs.	Strain %	Shear Stress ksf
0	0.0000	-0.668	0.0	0.0	0.000
1	0.0005	0.321	1.0	0.0	0.029
2	0.0010	2.047	2.7	0.0	0.080
3	0.0015	3.249	3.9	0.1	0.115
4	0.0026	5.186	5.9	0.1	0.172
5	0.0031	6.293	7.0	0.1	0.204
6	0.0042	7.411	8.1	0.2	0.237
7	0.0052	8.619	9.3	0.2	0.272
8	0.0062	10.006	10.7	0.2	0.313
9	0.0073	11.286	12.0	0.3	0.351
10	0.0094	12.612	13.3	0.4	0.390
11	0.0110	13.852	14.5	0.4	0.426
12	0.0136	15.151	15.8	0.5	0.464

**Test Readings for Specimen No. 2**

<b>No.</b>	<b>Horizontal Def. Dial in.</b>	<b>Load Dial</b>	<b>Load lbs.</b>	<b>Strain %</b>	<b>Shear Stress ksf</b>
13	0.0162	16.263	16.9	0.6	0.497
14	0.0190	17.787	18.5	0.8	0.541
15	0.0232	18.939	19.6	0.9	0.575
16	0.0315	20.427	21.1	1.3	0.619
17	0.0467	21.578	22.2	1.9	0.653
18	0.0589	22.038	22.7	2.4	0.666
19	0.0665	21.954	22.6	2.7	0.664
20	0.0910	20.644	21.3	3.6	0.625
21	0.1423	20.488	21.2	5.7	0.621
22	0.1938	19.608	20.3	7.8	0.595
23	0.2270	18.457	19.1	9.1	0.561
24	0.2782	18.693	19.4	11.1	0.568
25	0.3295	18.445	19.1	13.2	0.561
26	0.3809	18.592	19.3	15.2	0.565
27	0.4321	17.642	18.3	17.3	0.537
28	0.4834	17.542	18.2	19.3	0.534

**Parameters for Specimen No. 3**

Specimen Parameter	Initial	Consolidated	Final
Moisture content: Moist soil+tare, gms.	225.940		174.240
Moisture content: Dry soil+tare, gms.	155.280		130.630
Moisture content: Tare, gms.	62.990		61.560
Moisture, %	76.6	63.1	63.1
Moist specimen weight, gms.	130.15		
Diameter, in.	2.500	2.500	
Area, in. <sup>2</sup>	4.909	4.909	
Height, in.	1.045	0.996	
Net decrease in height, in.		0.049	
Wet density, pcf	96.7	93.7	
Dry density, pcf	54.7	57.4	
Void ratio	2.1360	1.9905	
Saturation, %	98.6	87.2	

**Test Readings for Specimen No. 3**

Normal stress = 3.168 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 1.347 ksf at reading no. 22

No.	Horizontal Def. Dial in.	Load Dial	Load lbs.	Strain %	Shear Stress ksf
0	0.0000	-3.529	0.0	0.0	0.000
1	0.0005	-3.294	0.2	0.0	0.007
2	0.0010	-3.570	0.0	0.0	-0.001
3	0.0065	-0.839	2.7	0.3	0.079
4	0.0080	2.009	5.5	0.3	0.162
5	0.0095	4.714	8.2	0.4	0.242
6	0.0115	7.338	10.9	0.5	0.319
7	0.0130	9.912	13.4	0.5	0.394
8	0.0150	12.473	16.0	0.6	0.469
9	0.0175	14.672	18.2	0.7	0.534
10	0.0200	17.197	20.7	0.8	0.608
11	0.0225	19.358	22.9	0.9	0.671
12	0.0270	22.067	25.6	1.1	0.751
13	0.0346	24.368	27.9	1.4	0.818
14	0.0406	26.592	30.1	1.6	0.884
15	0.0511	28.771	32.3	2.0	0.948
16	0.0601	31.401	34.9	2.4	1.025
17	0.0751	33.966	37.5	3.0	1.100
18	0.0901	36.312	39.8	3.6	1.169
19	0.1126	38.605	42.1	4.5	1.236
20	0.1486	40.804	44.3	5.9	1.301
21	0.1997	41.799	45.3	8.0	1.330
22	0.2297	42.398	45.9	9.2	1.347
23	0.2447	42.284	45.8	9.8	1.344
24	0.2957	40.025	43.6	11.8	1.278

**Parameters for Specimen No. 4**

Specimen Parameter	Initial	Consolidated	Final
Moisture content: Moist soil+tare, gms.	225.940		185.900
Moisture content: Dry soil+tare, gms.	155.280		137.050
Moisture content: Tare, gms.	62.990		59.410
Moisture, %	76.6	62.9	62.9
Moist specimen weight, gms.	129.14		
Diameter, in.	2.500	2.500	
Area, in. <sup>2</sup>	4.909	4.909	
Height, in.	1.028	0.954	
Net decrease in height, in.		0.074	
Wet density, pcf	97.5	97.0	
Dry density, pcf	55.2	59.5	
Void ratio	2.1091	1.8838	
Saturation, %	99.8	91.9	

**Test Readings for Specimen No. 4**

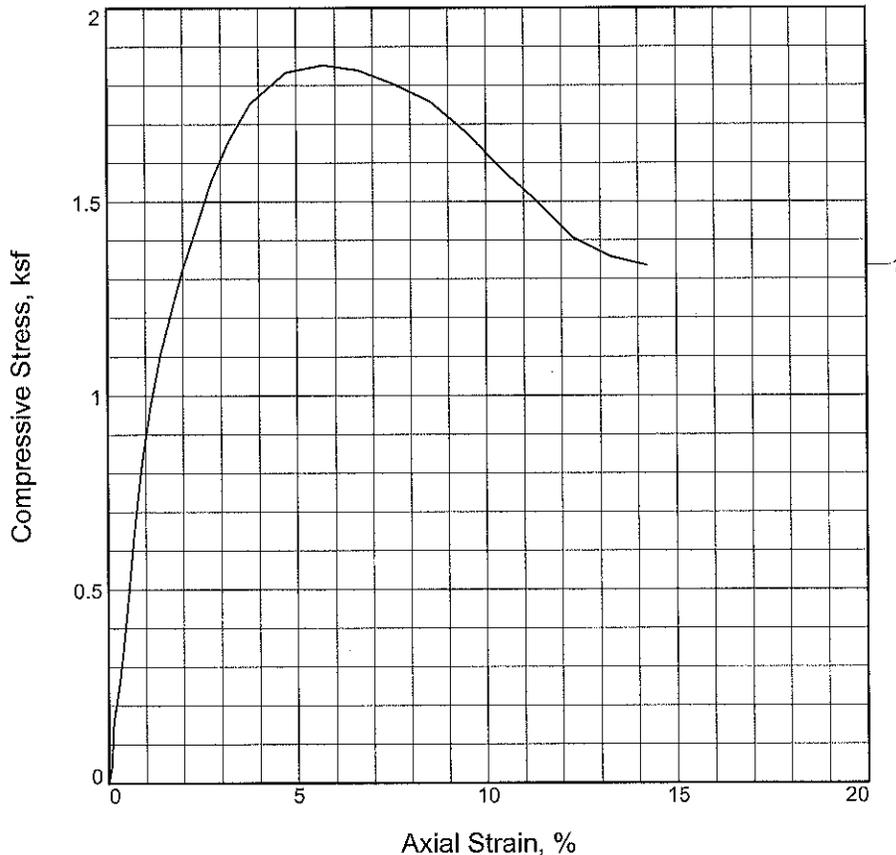
Normal stress = 3.600 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 1.565 ksf at reading no. 19

No.	Horizontal Def. Dial in.	Load Dial	Load lbs.	Strain %	Shear Stress ksf
0	0.0000	0.000	0.0	0.0	0.000
1	0.0000	-0.124	-0.1	0.0	-0.004
2	0.0020	-0.288	-0.3	0.1	-0.008
3	0.0105	2.473	2.5	0.4	0.073
4	0.0125	5.876	5.9	0.5	0.172
5	0.0140	8.739	8.7	0.6	0.256
6	0.0155	12.553	12.6	0.6	0.368
7	0.0170	15.990	16.0	0.7	0.469
8	0.0185	19.225	19.2	0.7	0.564
9	0.0201	22.190	22.2	0.8	0.651
10	0.0216	25.306	25.3	0.9	0.742
11	0.0236	28.085	28.1	0.9	0.824
12	0.0271	31.244	31.2	1.1	0.917
13	0.0331	34.972	35.0	1.3	1.026
14	0.0406	38.272	38.3	1.6	1.123
15	0.0526	41.397	41.4	2.1	1.214
16	0.0631	44.116	44.1	2.5	1.294
17	0.0901	47.128	47.1	3.6	1.383
18	0.1277	50.307	50.3	5.1	1.476
19	0.1607	53.342	53.3	6.4	1.565
20	0.1637	51.845	51.8	6.5	1.521
21	0.2147	50.500	50.5	8.6	1.481
22	0.2657	49.241	49.2	10.6	1.445
23	0.3168	47.511	47.5	12.7	1.394
24	0.3678	46.117	46.1	14.7	1.353
25	0.4068	43.078	43.1	16.3	1.264
26	0.4579	41.696	41.7	18.3	1.223

# UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	1.853			
Undrained shear strength, ksf	0.926			
Failure strain, %	5.7			
Strain rate, in./min.	0.055			
Water content, %	43.9			
Wet density, pcf	114.3			
Dry density, pcf	79.5			
Saturation, %	103.9			
Void ratio	1.1608			
Specimen diameter, in.	2.862			
Specimen height, in.	5.805			
Height/diameter ratio	2.03			

**Description:** Gray Fat Clay w/sand pockets

LL =	PL =	PI =	Assumed GS= 2.75	Type: Undisturbed
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**Project No.:** 92105154  
**Date Sampled:**  
**Remarks:**  
 ASTM D2166

**Client:** USACE  
**Project:** Galveston Channel Deepening San Jacinto Placement Area  
 Contract #W912HY-09-D-0021, Task Order #0010  
**Location:** 10-B8  
**Sample Number:** 34      **Depth:** 66-68 ft.  
 UNCONFINED COMPRESSION TEST  
 Terracon, Inc.  
 Houston, TX

**UNCONFINED COMPRESSION TEST**

7/21/2010

**Date:**  
**Client:** USACE  
**Project:** Galveston Channel Deepening San Jacinto Placement Area  
 Contract #W912HY-09-D-0021, Task Order #0010  
**Project No.:** 92105154  
**Location:** 10-B8  
**Depth:** 66-68 ft. **Sample Number:** 34  
**Description:** Gray Fat Clay w/sand pockets  
**Remarks:** ASTM D2166  
**Type of Sample:** Undisturbed  
**Assumed Specific Gravity=**2.75 **LL=** **PL=** **PI=**

**Parameters for Specimen No. 1**

Specimen Parameter	Initial
Moisture content: Moist soil+tare, gms.	176.000
Moisture content: Dry soil+tare, gms.	140.370
Moisture content: Tare, gms.	59.120
Moisture, %	43.9
Moist specimen weight, gms.	1120.39
Diameter, in.	2.862
Area, in. <sup>2</sup>	6.433
Height, in.	5.805
Wet density, pcf	114.3
Dry density, pcf	79.5
Void ratio	1.1608
Saturation, %	103.9

**Test Readings for Specimen No. 1**

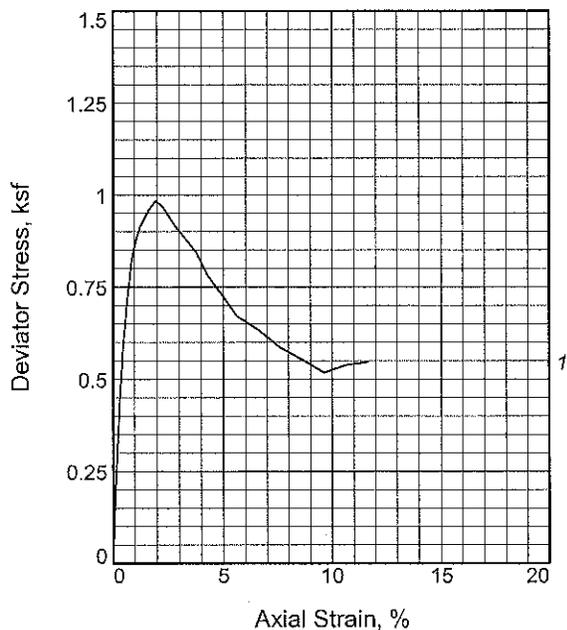
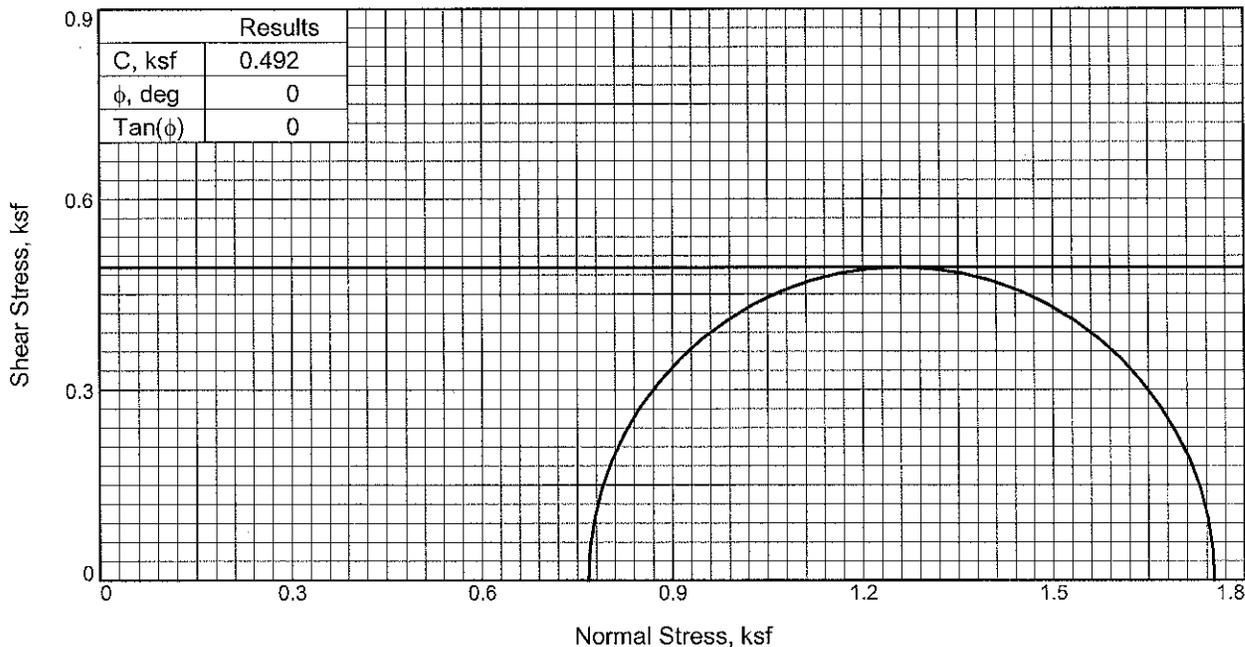
**Strain rate, in./min. = 0.055**

**Unconfined compressive strength = 1.853 ksf at reading no. 18**

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf
0	0.0000	0.000	0.0	0.0	0.000
1	0.0050	1.968	2.0	0.1	0.044
2	0.0079	6.946	6.9	0.1	0.155
3	0.0178	11.751	11.8	0.3	0.262
4	0.0244	16.504	16.5	0.4	0.368
5	0.0315	21.952	22.0	0.5	0.489
6	0.0382	27.388	27.4	0.7	0.609
7	0.0452	32.545	32.5	0.8	0.723
8	0.0533	37.562	37.6	0.9	0.833
9	0.0656	43.743	43.7	1.1	0.968
10	0.0821	50.184	50.2	1.4	1.107
11	0.0987	55.278	55.3	1.7	1.216
12	0.1152	60.119	60.1	2.0	1.319
13	0.1374	65.662	65.7	2.4	1.435
14	0.1592	71.176	71.2	2.7	1.549
15	0.1866	76.450	76.4	3.2	1.656

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf
16	0.2197	81.434	81.4	3.8	1.754
17	0.2751	86.008	86.0	4.7	1.834
18	0.3299	87.753	87.8	5.7	1.853
19	0.3711	87.972	88.0	6.4	1.843
20	0.3848	88.021	88.0	6.6	1.840
21	0.4397	87.181	87.2	7.6	1.804
22	0.4950	85.942	85.9	8.5	1.760
23	0.5499	82.935	82.9	9.5	1.681
24	0.6052	78.985	79.0	10.4	1.584
25	0.6600	75.603	75.6	11.4	1.500
26	0.7149	71.638	71.6	12.3	1.406
27	0.7702	69.995	70.0	13.3	1.359
28	0.8250	69.562	69.6	14.2	1.336



Sample No.		1
Initial	Water Content, %	49.8
	Dry Density, pcf	70.4
	Saturation, %	95.3
	Void Ratio	1.4386
	Diameter, in.	2.837
	Height, in.	5.866
At Test	Water Content, %	49.8
	Dry Density, pcf	70.4
	Saturation, %	95.3
	Void Ratio	1.4386
	Diameter, in.	2.837
	Height, in.	5.866
Strain rate, in./min.		0.055
Back Pressure, psi		0.000
Cell Pressure, psi		5.330
Fail. Stress, ksf		0.984
Ult. Stress, ksf		
$\sigma_1$ Failure, ksf	1.752	
$\sigma_3$ Failure, ksf	0.768	

**Type of Test:**  
Unconsolidated Undrained

**Sample Type:** Undisturbed

**Description:** Gray and brown Fat Clay w/sand pockets

**Assumed Specific Gravity=** 2.75

**Remarks:** ASTM D2850

**Client:** USACE

**Project:** Galveston Channel Deepening San Jacinto Placement Area  
Contract #W912HY-09-D-0021, Task Order #0010

**Location:** 10-B8

**Sample Number:** 4      **Depth:** 6-8 ft.

**Proj. No.:** 92105154      **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT  
 Terracon, Inc.  
 Houston, TX

**TRIAxIAL COMPRESSION TEST**  
Unconsolidated Undrained

7/20/2010  
2:35 PM

**Date:**  
**Client:** USACE  
**Project:** Galveston Channel Deepening San Jacinto Placement Area  
Contract #W912HY-09-D-0021, Task Order #0010  
**Project No.:** 92105154  
**Location:** 10-B8  
**Depth:** 6-8 ft. **Sample Number:** 4  
**Description:** Gray and brown Fat Clay w/sand pockets  
**Remarks:** ASTM D2850  
**Type of Sample:** Undisturbed  
**Assumed Specific Gravity=**2.75 **LL=** **PL=** **PI=**  
**Test Method:** ASTM D 2850

**Parameters for Specimen No. 1**

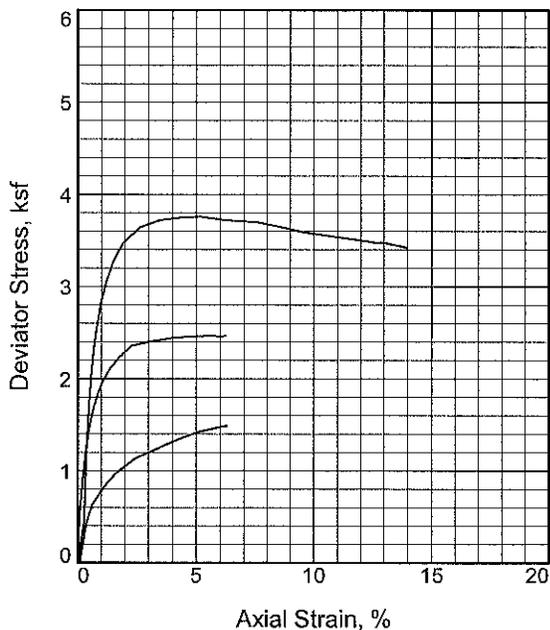
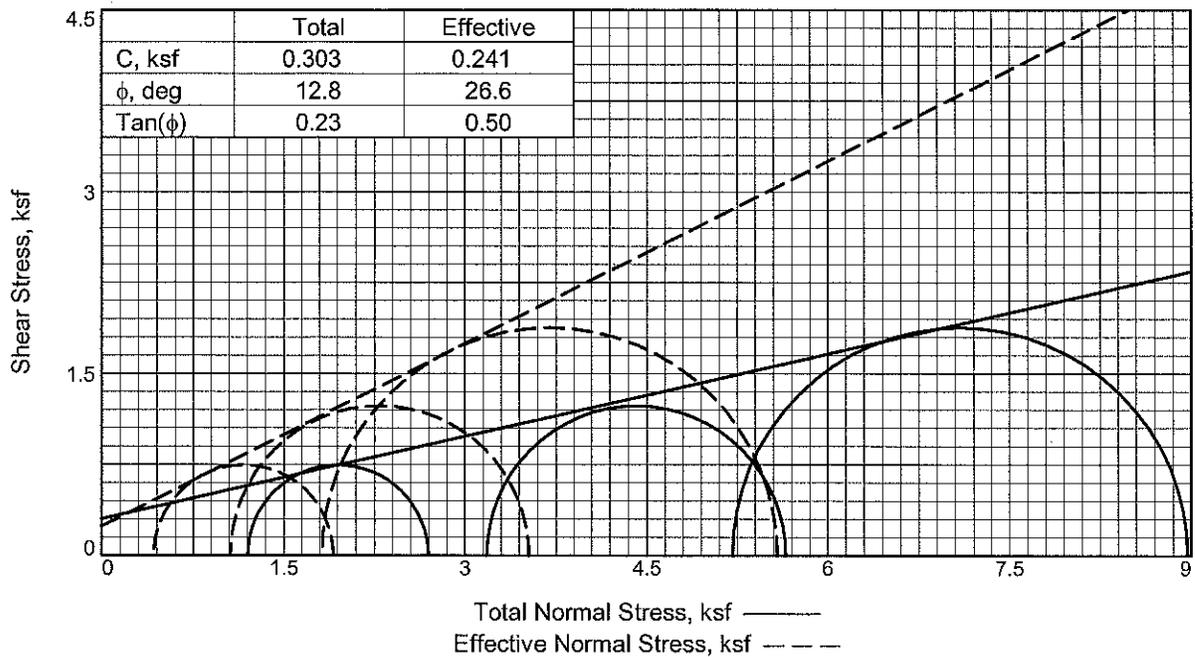
Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	176.960	176.960
Moisture content: Dry soil+tare, gms.	139.040	139.040
Moisture content: Tare, gms.	62.950	62.950
Moisture, %	49.8	49.8
Moist specimen weight, gms.	1026.75	
Diameter, in.	2.837	
Area, in. <sup>2</sup>	6.321	
Height, in.	5.866	
Wet density, pcf	105.5	
Dry density, pcf	70.4	
Void ratio	1.4386	
Saturation, %	95.3	

**Test Readings for Specimen No. 1**

**Cell pressure =** 5.330 psi (0.768 ksf)  
**Back pressure =** 0.000 psi (0.000 ksf)  
**Strain rate, in./min. =** 0.055  
**Fail. Stress =** 0.984 ksf at reading no. 17

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Princ. Stress ksf	Major Princ. Stress ksf	1:3 Ratio	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	0.768	0.768	1.00	0.768	0.000
1	0.0011	2.212	2.2	0.0	0.050	0.768	0.818	1.07	0.793	0.025
2	0.0031	4.956	5.0	0.1	0.113	0.768	0.880	1.15	0.824	0.056
3	0.0062	8.254	8.3	0.1	0.188	0.768	0.955	1.24	0.861	0.094
4	0.0093	10.677	10.7	0.2	0.243	0.768	1.010	1.32	0.889	0.121
5	0.0125	13.919	13.9	0.2	0.316	0.768	1.084	1.41	0.926	0.158
6	0.0156	16.924	16.9	0.3	0.384	0.768	1.152	1.50	0.960	0.192
7	0.0188	19.429	19.4	0.3	0.441	0.768	1.209	1.57	0.988	0.221
8	0.0231	22.913	22.9	0.4	0.520	0.768	1.287	1.68	1.027	0.260
9	0.0276	26.191	26.2	0.5	0.594	0.768	1.361	1.77	1.064	0.297
10	0.0339	28.892	28.9	0.6	0.654	0.768	1.422	1.85	1.095	0.327
11	0.0385	31.225	31.2	0.7	0.707	0.768	1.474	1.92	1.121	0.353
12	0.0447	33.679	33.7	0.8	0.761	0.768	1.529	1.99	1.148	0.381
13	0.0503	36.032	36.0	0.9	0.814	0.768	1.581	2.06	1.174	0.407
14	0.0594	38.274	38.3	1.0	0.863	0.768	1.631	2.12	1.199	0.432
15	0.0733	40.554	40.6	1.2	0.912	0.768	1.680	2.19	1.224	0.456
16	0.0971	42.836	42.8	1.7	0.960	0.768	1.727	2.25	1.247	0.480
17	0.1146	44.072	44.1	2.0	0.984	0.768	1.752	2.28	1.260	0.492
18	0.1327	43.417	43.4	2.3	0.967	0.768	1.734	2.26	1.251	0.483
19	0.1684	41.203	41.2	2.9	0.912	0.768	1.679	2.19	1.223	0.456
20	0.2215	38.537	38.5	3.8	0.845	0.768	1.612	2.10	1.190	0.422
21	0.2516	35.931	35.9	4.3	0.783	0.768	1.551	2.02	1.159	0.392
22	0.2929	33.473	33.5	5.0	0.724	0.768	1.492	1.94	1.130	0.362
23	0.3287	31.226	31.2	5.6	0.671	0.768	1.439	1.87	1.103	0.336
24	0.3876	29.779	29.8	6.6	0.634	0.768	1.401	1.83	1.084	0.317
25	0.4466	27.847	27.8	7.6	0.586	0.768	1.354	1.76	1.061	0.293
26	0.5056	26.587	26.6	8.6	0.553	0.768	1.321	1.72	1.044	0.277
27	0.5645	25.149	25.1	9.6	0.518	0.768	1.285	1.67	1.026	0.259
28	0.6235	26.478	26.5	10.6	0.539	0.768	1.307	1.70	1.037	0.270
29	0.6829	27.183	27.2	11.6	0.547	0.768	1.315	1.71	1.041	0.274



Sample No.	1	2	3	
Initial	Water Content, %	34.4	34.4	34.4
	Dry Density, pcf	86.1	86.1	86.1
	Saturation, %	95.2	95.2	95.2
	Void Ratio	0.9945	0.9945	0.9945
	Diameter, in.	2.866	2.866	2.866
	Height, in.	6.050	6.050	6.050
At Test	Water Content, %	35.9	35.9	35.8
	Dry Density, pcf	86.1	86.1	86.1
	Saturation, %	99.2	99.2	99.1
	Void Ratio	0.9945	0.9945	0.9945
	Diameter, in.	2.866	2.866	2.866
	Height, in.	6.050	6.050	6.050
Strain rate, in./min.	0.001	0.001	0.001	
Back Pressure, psi	30.000	30.000	30.000	
Cell Pressure, psi	38.360	52.090	66.180	
Fail. Stress, ksf	1.492	2.469	3.760	
Excess Pore Pr., ksf	0.781	2.121	3.390	
Ult. Stress, ksf				
Excess Pore Pr., ksf				
$\bar{\sigma}_1$ Failure, ksf	1.915	3.529	5.581	
$\bar{\sigma}_3$ Failure, ksf	0.423	1.060	1.820	

**Type of Test:**

CU with Pore Pressures

**Sample Type:** Undisturbed

**Description:** Gray Sandy Clay w/sand pockets

**Assumed Specific Gravity=** 2.75

**Remarks:** ASTM D4767

**Client:** USACE

**Project:** Galveston Channel Deepening San Jacinto Placement Area  
Contract #W912HY-09-D-0021, Task Order #0010

**Location:** 10-B8

**Sample Number:** 27

**Depth:** 52-54 ft.

**Proj. No.:** 92105154

**Date Sampled:**

TRIAXIAL SHEAR TEST REPORT

Terracon, Inc.  
Houston, TX

**TRIAXIAL COMPRESSION TEST**  
CU with Pore Pressures

8/4/2010  
2:04 PM

**Date:**  
**Client:** USACE  
**Project:** Galveston Channel Deepening San Jacinto Placement Area  
Contract #W912HY-09-D-0021, Task Order #0010  
**Project No.:** 92105154  
**Location:** 10-B8  
**Depth:** 52-54 ft. **Sample Number:** 27  
**Description:** Gray Sandy Clay w/sand pockets  
**Remarks:** ASTM D4767  
**Type of Sample:** Undisturbed  
**Assumed Specific Gravity**=2.75 **LL**= **PL**= **PI**=  
**Test Method:** ASTM D 4767 Method A

Parameters for Specimen No. 1				
Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	153.660			179.690
Moisture content: Dry soil+tare, gms.	130.120			147.710
Moisture content: Tare, gms.	61.710			58.550
Moisture, %	34.4	35.9	35.9	35.9
Moist specimen weight, gms.	1185.30			
Diameter, in.	2.866	2.866	2.866	
Area, in. <sup>2</sup>	6.451	6.451	6.451	
Height, in.	6.050	6.050	6.050	
Net decrease in height, in.		0.000	0.000	
Net decrease in water volume, cc.			0.000	
Wet density, pcf	115.7	116.9	116.9	
Dry density, pcf	86.1	86.1	86.1	
Void ratio	0.9945	0.9945	0.9945	
Saturation, %	95.2	99.2	99.2	

**Test Readings for Specimen No. 1**

Consolidation cell pressure = 38.360 psi (5.524 ksf)  
 Consolidation back pressure = 30.000 psi (4.320 ksf)  
 Consolidation effective confining stress = 1.204 ksf  
 Strain rate, in./min. = 0.001  
 Fail. Stress = 1.492 ksf at reading no. 20

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	5.524	5.524	1.00	0.000	5.524	0.000
1	0.0053	3.583	3.6	0.1	0.080	1.196	1.276	1.07	30.055	1.236	0.040
2	0.0068	0.988	1.0	0.1	0.022	1.198	1.220	1.02	30.041	1.209	0.011
3	0.0100	5.702	5.7	0.2	0.127	1.209	1.336	1.11	29.964	1.273	0.064
4	0.0162	11.338	11.3	0.3	0.252	1.090	1.343	1.23	30.787	1.217	0.126
5	0.0193	16.059	16.1	0.3	0.357	0.974	1.331	1.37	31.596	1.153	0.179
6	0.0240	20.033	20.0	0.4	0.445	0.866	1.311	1.51	32.348	1.088	0.223
7	0.0303	24.304	24.3	0.5	0.540	0.770	1.310	1.70	33.011	1.040	0.270
8	0.0381	28.481	28.5	0.6	0.632	0.670	1.301	1.94	33.710	0.986	0.316
9	0.0506	32.387	32.4	0.8	0.717	0.580	1.297	2.24	34.329	0.939	0.358
10	0.0647	36.699	36.7	1.1	0.810	0.514	1.324	2.58	34.791	0.919	0.405
11	0.0803	40.389	40.4	1.3	0.890	0.475	1.364	2.87	35.064	0.919	0.445
12	0.0991	44.322	44.3	1.6	0.973	0.440	1.413	3.21	35.304	0.927	0.487
13	0.1241	48.279	48.3	2.1	1.056	0.412	1.467	3.56	35.500	0.940	0.528
14	0.1491	52.162	52.2	2.5	1.136	0.397	1.533	3.86	35.602	0.965	0.568
15	0.1866	55.744	55.7	3.1	1.206	0.385	1.591	4.13	35.688	0.988	0.603
16	0.2241	59.623	59.6	3.7	1.282	0.400	1.682	4.20	35.580	1.041	0.641
17	0.2679	63.783	63.8	4.4	1.361	0.402	1.762	4.39	35.572	1.082	0.680
18	0.3117	67.361	67.4	5.2	1.426	0.412	1.838	4.46	35.502	1.125	0.713
19	0.3648	70.554	70.6	6.0	1.480	0.422	1.901	4.51	35.433	1.162	0.740
20	0.3805	71.311	71.3	6.3	1.492	0.423	1.915	4.52	35.421	1.169	0.746
21	0.3805	70.855	70.9	6.3	1.482	0.424	1.906	4.50	35.416	1.165	0.741

**Parameters for Specimen No. 2**

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	153.660			179.690
Moisture content: Dry soil+tare, gms.	130.120			147.710
Moisture content: Tare, gms.	61.710			58.550
Moisture, %	34.4	35.9	35.9	35.9
Moist specimen weight, gms.	1185.30			
Diameter, in.	2.866	2.866	2.866	
Area, in. <sup>2</sup>	6.451	6.451	6.451	
Height, in.	6.050	6.050	6.050	
Net decrease in height, in.		0.000	0.000	
Net decrease in water volume, cc.			0.000	
Wet density, pcf	115.7	116.9	116.9	
Dry density, pcf	86.1	86.1	86.1	
Void ratio	0.9945	0.9945	0.9945	
Saturation, %	95.2	99.2	99.2	

**Test Readings for Specimen No. 2**

Consolidation cell pressure = 52.090 psi (7.501 ksf)

Consolidation back pressure = 30.000 psi (4.320 ksf)

Consolidation effective confining stress = 3.181 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 2.469 ksf at reading no. 20

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	7.501	7.501	1.00	0.000	7.501	0.000
1	0.0009	3.606	3.6	0.0	0.080	3.124	3.204	1.03	30.396	3.164	0.040
2	0.0025	10.884	10.9	0.0	0.243	3.035	3.278	1.08	31.011	3.157	0.121
3	0.0040	17.213	17.2	0.1	0.384	2.942	3.326	1.13	31.662	3.134	0.192
4	0.0072	27.067	27.1	0.1	0.603	2.769	3.372	1.22	32.862	3.071	0.302
5	0.0103	34.582	34.6	0.2	0.771	2.623	3.394	1.29	33.872	3.009	0.385
6	0.0134	41.611	41.6	0.2	0.927	2.496	3.423	1.37	34.756	2.959	0.463
7	0.0181	50.021	50.0	0.3	1.113	2.330	3.444	1.48	35.906	2.887	0.557
8	0.0228	56.790	56.8	0.4	1.263	2.190	3.453	1.58	36.882	2.821	0.631
9	0.0275	62.903	62.9	0.5	1.398	2.076	3.474	1.67	37.671	2.775	0.699
10	0.0337	69.546	69.5	0.6	1.544	1.957	3.501	1.79	38.499	2.729	0.772
11	0.0416	75.929	75.9	0.7	1.683	1.827	3.510	1.92	39.402	2.669	0.842
12	0.0509	82.498	82.5	0.8	1.826	1.715	3.541	2.06	40.179	2.628	0.913
13	0.0634	88.770	88.8	1.0	1.961	1.607	3.567	2.22	40.932	2.587	0.980
14	0.0822	95.471	95.5	1.4	2.102	1.477	3.580	2.42	41.830	2.528	1.051
15	0.1072	101.841	101.8	1.8	2.233	1.366	3.599	2.64	42.606	2.482	1.116
16	0.1385	108.193	108.2	2.3	2.360	1.274	3.634	2.85	43.242	2.454	1.180
17	0.1885	111.292	111.3	3.1	2.407	1.179	3.586	3.04	43.900	2.383	1.203
18	0.2385	113.860	113.9	3.9	2.441	1.127	3.568	3.17	44.266	2.347	1.221
19	0.2886	115.654	115.7	4.8	2.458	1.091	3.550	3.25	44.512	2.320	1.229
20	0.3448	117.276	117.3	5.7	2.469	1.060	3.529	3.33	44.728	2.294	1.234
21	0.3605	116.925	116.9	6.0	2.454	1.056	3.510	3.32	44.759	2.283	1.227
22	0.3762	117.861	117.9	6.2	2.467	1.047	3.515	3.36	44.816	2.281	1.234

**Parameters for Specimen No. 3**

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	153.660			179.690
Moisture content: Dry soil+tare, gms.	130.120			147.710
Moisture content: Tare, gms.	61.710			58.500
Moisture, %	34.4	35.8	35.8	35.8
Moist specimen weight, gms.	1185.30			
Diameter, in.	2.866	2.866	2.866	
Area, in. <sup>2</sup>	6.451	6.451	6.451	
Height, in.	6.050	6.050	6.050	
Net decrease in height, in.		0.000	0.000	
Net decrease in water volume, cc.			0.000	
Wet density, pcf	115.7	116.9	116.9	
Dry density, pcf	86.1	86.1	86.1	
Void ratio	0.9945	0.9945	0.9945	
Saturation, %	95.2	99.1	99.1	

**Test Readings for Specimen No. 3**

Consolidation cell pressure = 66.180 psi (9.530 ksf)

Consolidation back pressure = 30.000 psi (4.320 ksf)

Consolidation effective confining stress = 5.210 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 3.760 ksf at reading no. 16

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0480	0.000	0.0	0.0	0.000	9.530	9.530	1.00	0.000	9.530	0.000
1	0.0500	2.515	2.5	0.0	0.056	5.213	5.269	1.01	29.981	5.241	0.028
2	0.0520	3.762	3.8	0.1	0.084	4.612	4.696	1.02	34.150	4.654	0.042
3	0.0645	20.158	20.2	0.3	0.449	4.407	4.856	1.10	35.577	4.631	0.224
4	0.0708	54.003	54.0	0.4	1.201	4.002	5.203	1.30	38.389	4.602	0.600
5	0.0770	76.481	76.5	0.5	1.699	3.649	5.348	1.47	40.838	4.499	0.849
6	0.0833	92.931	92.9	0.6	2.062	3.372	5.435	1.61	42.761	4.403	1.031
7	0.0896	104.150	104.1	0.7	2.309	3.173	5.482	1.73	44.146	4.327	1.154
8	0.0958	113.997	114.0	0.8	2.524	2.996	5.520	1.84	45.375	4.258	1.262
9	0.1083	128.142	128.1	1.0	2.832	2.745	5.577	2.03	47.117	4.161	1.416
10	0.1208	138.046	138.0	1.2	3.044	2.555	5.599	2.19	48.436	4.077	1.522
11	0.1396	149.035	149.0	1.5	3.276	2.369	5.646	2.38	49.727	4.007	1.638
12	0.1646	158.554	158.6	1.9	3.471	2.204	5.675	2.57	50.873	3.940	1.735
13	0.2084	167.701	167.7	2.7	3.644	2.032	5.676	2.79	52.070	3.854	1.822
14	0.2584	172.757	172.8	3.5	3.722	1.922	5.644	2.94	52.834	3.783	1.861
15	0.3084	175.612	175.6	4.3	3.751	1.860	5.612	3.02	53.261	3.736	1.876
16	0.3616	177.663	177.7	5.2	3.760	1.820	5.581	3.07	53.539	3.700	1.880
17	0.4241	177.839	177.8	6.2	3.723	1.789	5.512	3.08	53.758	3.650	1.861
18	0.4866	178.961	179.0	7.2	3.705	1.764	5.470	3.10	53.927	3.617	1.853
19	0.5022	179.221	179.2	7.5	3.700	1.760	5.460	3.10	53.961	3.610	1.850
20	0.5647	178.721	178.7	8.5	3.649	1.757	5.405	3.08	53.980	3.581	1.824
21	0.6273	177.987	178.0	9.6	3.593	1.737	5.330	3.07	54.115	3.534	1.796
22	0.6898	178.106	178.1	10.6	3.554	1.729	5.283	3.06	54.174	3.506	1.777
23	0.7523	178.275	178.3	11.6	3.516	1.722	5.238	3.04	54.225	3.480	1.758
24	0.8148	178.410	178.4	12.7	3.478	1.708	5.186	3.04	54.316	3.447	1.739
25	0.8305	179.160	179.2	12.9	3.482	1.698	5.180	3.05	54.391	3.439	1.741

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
26	0.8930	178.410	178.4	14.0	3.426	1.680	5.106	3.04	54.516	3.393	1.713

**Parameters for Specimen No. 2**

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	182.070			129.410
Moisture content: Dry soil+tare, gms.	133.770			97.360
Moisture content: Tare, gms.	60.740			47.300
Moisture, %	66.1	64.0	64.0	64.0
Moist specimen weight, gms.	1026.08			
Diameter, in.	2.837	2.837	2.837	
Area, in. <sup>2</sup>	6.321	6.321	6.321	
Height, in.	6.056	6.056	6.056	
Net decrease in height, in.		0.000	0.000	
Net decrease in water volume, cc.			0.000	
Wet density, pcf	102.1	100.8	100.8	
Dry density, pcf	61.5	61.5	61.5	
Void ratio	1.7935	1.7935	1.7935	
Saturation, %	101.4	98.2	98.2	

**Test Readings for Specimen No. 2**

Consolidation cell pressure = 41.160 psi (5.927 ksf)

Consolidation back pressure = 30.000 psi (4.320 ksf)

Consolidation effective confining stress = 1.607 ksf

Strain rate, in./min. = 0.001

Fail. Stress = 1.091 ksf at reading no. 19

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	5.927	5.927	1.00	0.000	5.927	0.000
1	0.0074	2.562	2.6	0.1	0.058	1.605	1.663	1.04	30.016	1.634	0.029
2	0.0134	6.810	6.8	0.2	0.155	1.463	1.617	1.11	31.003	1.540	0.077
3	0.0164	11.018	11.0	0.3	0.250	1.366	1.616	1.18	31.673	1.491	0.125
4	0.0194	15.373	15.4	0.3	0.349	1.299	1.648	1.27	32.139	1.474	0.175
5	0.0224	18.387	18.4	0.4	0.417	1.246	1.663	1.33	32.509	1.454	0.209
6	0.0269	21.932	21.9	0.4	0.497	1.180	1.677	1.42	32.969	1.428	0.249
7	0.0299	24.506	24.5	0.5	0.555	1.139	1.694	1.49	33.250	1.417	0.278
8	0.0344	27.456	27.5	0.6	0.622	1.088	1.710	1.57	33.606	1.399	0.311
9	0.0389	30.808	30.8	0.6	0.697	1.045	1.742	1.67	33.905	1.393	0.349
10	0.0464	33.713	33.7	0.8	0.762	0.984	1.746	1.77	34.326	1.365	0.381
11	0.0539	36.365	36.4	0.9	0.821	0.929	1.750	1.88	34.709	1.339	0.411
12	0.0629	39.323	39.3	1.0	0.886	0.873	1.759	2.02	35.101	1.316	0.443
13	0.0734	42.350	42.3	1.2	0.953	0.823	1.776	2.16	35.446	1.299	0.477
14	0.0914	45.048	45.0	1.5	1.011	0.769	1.780	2.31	35.819	1.274	0.505
15	0.1274	48.269	48.3	2.1	1.076	0.705	1.782	2.53	36.262	1.244	0.538
16	0.1814	47.554	47.6	3.0	1.051	0.670	1.721	2.57	36.508	1.195	0.525
17	0.2354	49.284	49.3	3.9	1.079	0.634	1.713	2.70	36.754	1.174	0.540
18	0.2895	49.802	49.8	4.8	1.080	0.610	1.690	2.77	36.925	1.150	0.540
19	0.3075	50.452	50.5	5.1	1.091	0.600	1.691	2.82	36.996	1.145	0.545
20	0.3374	50.191	50.2	5.6	1.080	0.592	1.672	2.82	37.050	1.132	0.540



