Project No.: 03.14.859.054

Client: United States Army Corps of Engineers

Project: Beltway 8 PA Lab Testing
Contract No. DACW64-03-D-0008, Delivery Order No. 0054

Boring No.	Sample No.	Soil Description	USCS	Water Content (%)	Dry Density (pcf)	Liquid Limit	Plastic Limit	Plast. Index	Finer than #200 Sieve (%)	Uc/UU. Compr. (tsf)	Cell Press. (psi)	Failure Strain (%)	Failure Type
06-01													
	2	Gray and tan LEAN CLAY; traces of ferrous nodules and roots	CL	19.8		35	18	17	86.0				
	4	Gray and tan LEAN CLAY with SAND; few calcareous nodules and traces of ferrous nodules	CL	19.0		48	17	31	83.6				
	6	Gray and tan SANDY FAT CLAY; traces of ferrous nodules	CH	20.1									
	8	Gray and tan FAT CLAY; few ferrous nodules and traces of calcareous nodules	CH	32.8									
	10	Gray and tan FAT CLAY; traces of ferrous nodules	CH	35.1									
06-02													
	2	Gray and tan FAT CLAY; traces of ferrous nodules	CH	31.1									
	3	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	23.7		59	20	39	90.5				
	4	Gray and tan FAT CLAY; few ferrrous and calcareous nodules	CH	21.3									
	5	Tan and gray FAT CLAY; traces of calcareous nodules and slickensides	CH	24.2	101.9	63	22	41	96.9	1.57	13	7.8	Bulge/45 degree
	6	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	22.6									
	7	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	27.9									
	9	Gray and tan FAT CLAY; traces of ferrous nodules	CH	26.4									
06-03													
	4	Gray and tan FAT CLAY; few calcareous nodules and traces of ferrous nodules	CH	22.3	105.8	61	20	41	89.6	2.40	25	14.9	Bulge
	6	Gray and tan FAT CLAY; few ferrous and calcareous nodules	CH	19.6									
	8	Gray and tan FAT CLAY; traces of ferrous nodules	CH	29.1									
	10	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	36.2		83	28	55	98.2				
06-04													
	2	Dark gray and tan FAT CLAY; traces of ferrous nodules and roots	CH	22.0									
	3	Gray and tan FAT CLAY; traces of ferrous nodules and roots	CH	24.1									
	4	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	22.2									
	5	Gray and tan FAT CLAY; traces of ferrous and calcareous nodules	CH	22.6		57	18	39	89.1				
	6	Gray and tan FAT CLAY; traces of ferrous nodules	CH	23.9									

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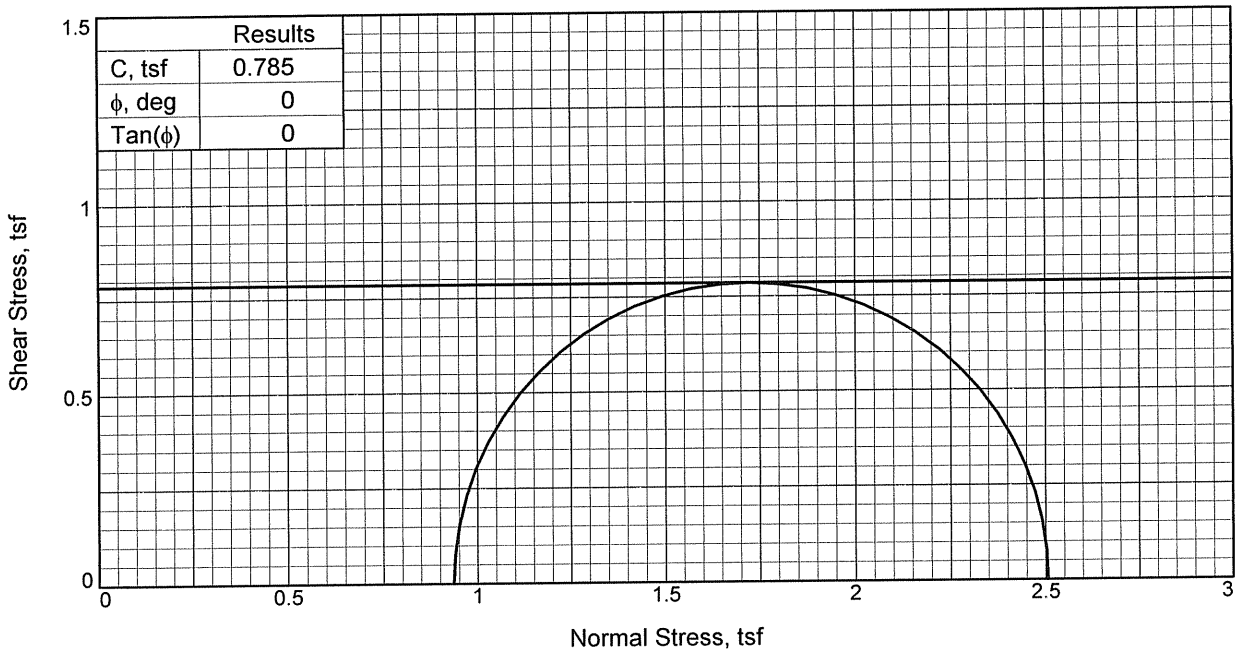

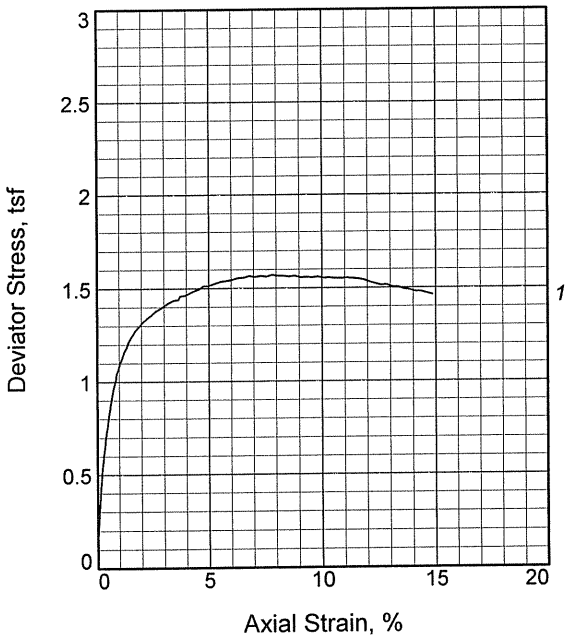

Sample No.		1
Initial	Water Content, %	24.2
	Dry Density, pcf	101.9
	Saturation, %	97.2
	Void Ratio	0.6844
	Diameter, in.	2.84
	Height, in.	5.90
At Test	Water Content, %	24.2
	Dry Density, pcf	101.9
	Saturation, %	97.2
	Void Ratio	0.6844
	Diameter, in.	2.84
	Height, in.	5.90
Strain rate, %/min.		1.00
Back Pressure, psi		0.00
Cell Pressure, psi		13.00
Fail. Stress, tsf		1.57
Strain, %		7.8
Ult. Stress, tsf		1.46
Strain, %		
σ_1 Failure, tsf		2.51
σ_3 Failure, tsf		0.94

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Tan and gray FAT CLAY; traces of calcareous nodules and slickensides

LL= 63 **PL=** 22 **PI=** 41

Assumed Specific Gravity= 2.75

Remarks:
Failure Type: Bulge/45 Degree
Test Method: ASTM D 2850

Client: United States Army Corps of Engineers

Project: Beltway 8 PA Lab Testing
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Source of Sample: 06-02

Sample Number: 5

Proj. No.: 03.14.859.054 **Date Sampled:** 10/5/06

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.