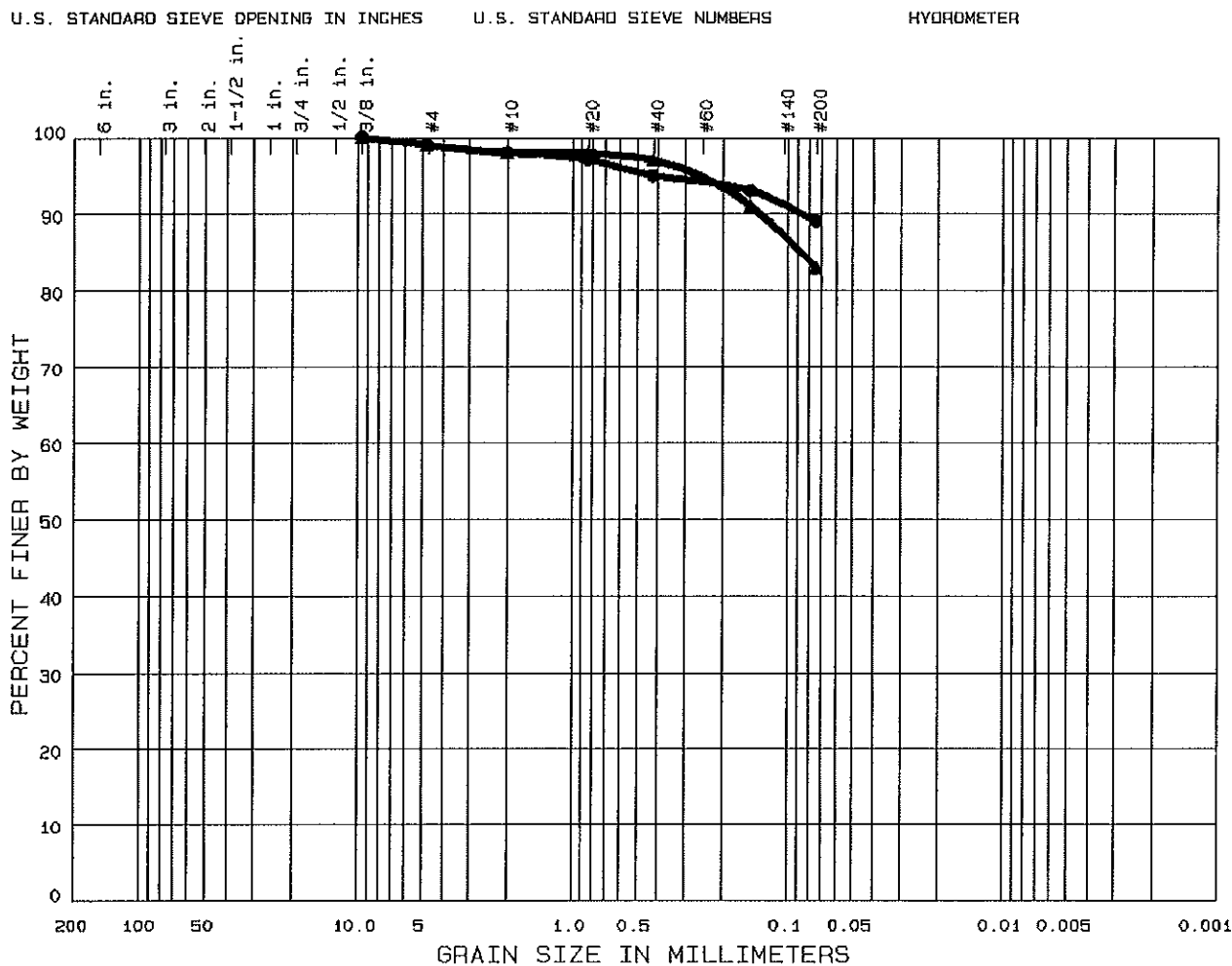


DEPARTMENT OF THE ARMY, SOUTHWESTERN DIVISION LABORATORY
CORPS OF ENGINEERS, 4815 CASS STREET, DALLAS, TX 75235

W.O. No.
Req. No.
Contract No.



% COBBLES	% GRAVEL	% SAND	% SILT OR CLAY
● 0.0	1.0	10.0	89.0
▲ 0.0	1.0	16.0	83.0

Sample No.	Elev or Depth	Nat W%	LL	PL	PI	C _c	C _u
● 91/2524	4.0-6.0	39.1	95	22	73		
▲ 91/2525	14.0-16.0	28.2	64	20	44		

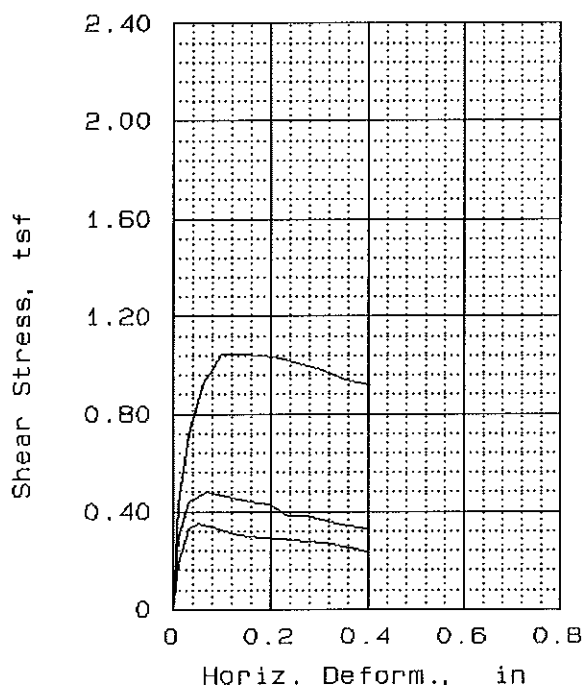
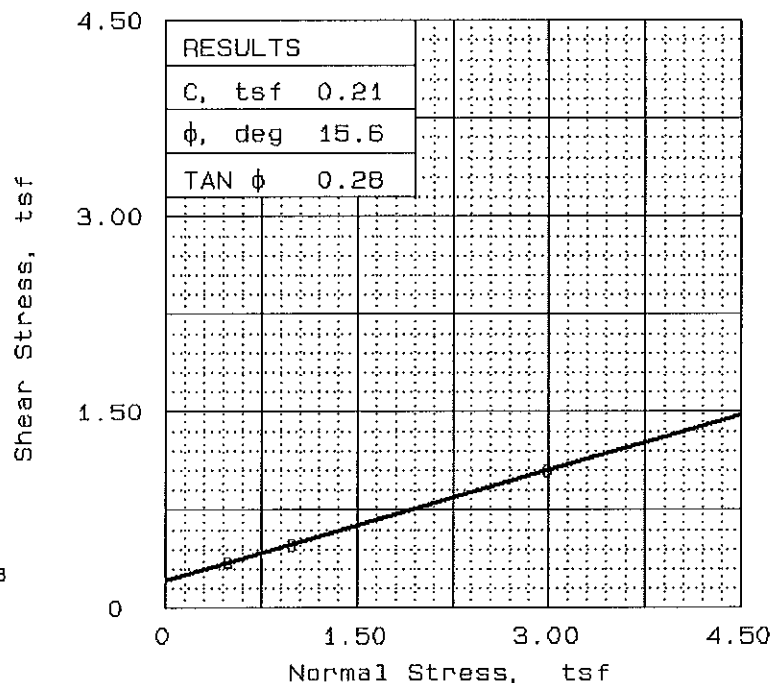
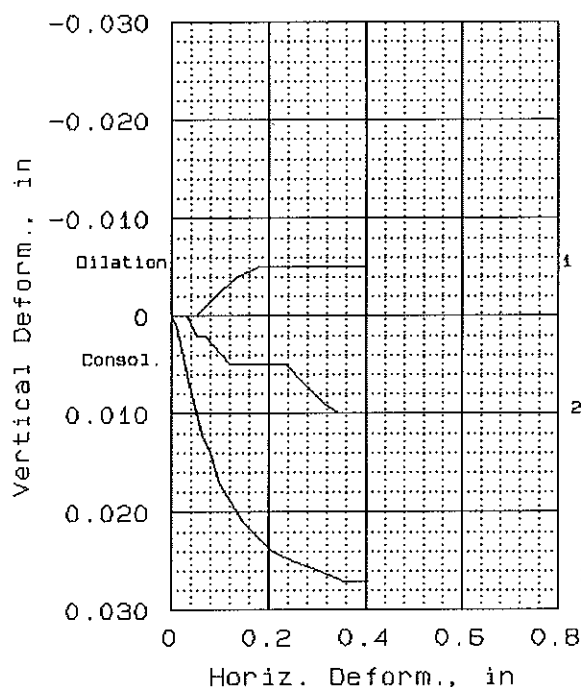
CLASSIFICATION

- FAT CLAY (CH)
- ▲ FAT CLAY WITH SAND (CH)

Remarks:

Project BRAYS BAYOU
FLOOD DAMAGE REDUCTION PROJECT
Lab No. SWDED-GL RPT NO. 15363
Area
Boring No. 91-87 Date AUGUST 1991

GRADATION CURVES



SAMPLE NO.		1	2	3
INITIAL	WATER CONTENT, %	39.0	38.6	38.7
	DRY DENSITY, pcf	82.3	81.7	82.1
	SATURATION, %	100.3	97.8	99.3
	VOID RATIO	1.049	1.064	1.052
	SIDE LENGTH, in	3.00	3.00	3.00
	HEIGHT, in	1.00	1.00	1.00
AT TEST	WATER CONTENT, %	39.7	38.7	36.6
	DRY DENSITY, pcf	83.1	83.2	85.8
	SATURATION, %	104.1	101.7	102.5
	VOID RATIO	1.028	1.027	0.964
	SIDE LENGTH, in	3.39	3.39	3.39
	HEIGHT, in	0.99	0.98	0.96
NORMAL STRESS, tsf		0.50	1.00	3.00
MAX. SHEAR, tsf		0.35	0.48	1.05
STRAIN RATE, %/min.		0.002	0.002	0.002
ULT. SHEAR, tsf				

SAMPLE DATA

SAMPLE TYPE: UNDISTURBED
DESCRIPTION: FAT CLAY (CH)

LL= 95 PL= 22 PI= 73.0

SPECIFIC GRAVITY= 2.70

REMARKS: SPECIFIC GRAVITY
ESTIMATED.

CLIENT: US ARMY CORPS OF ENGINEERS
GALVESTON DISTRICT
PROJECT: BRAYS BAYOU FLOOD DAMAGE
REDUCTION PROJECT, HOUSTON, TX.

SAMPLE LOCATION: BORING: 91-87, CTN-3,
5.0'-6.0', SWD LAB NO. 91/2524

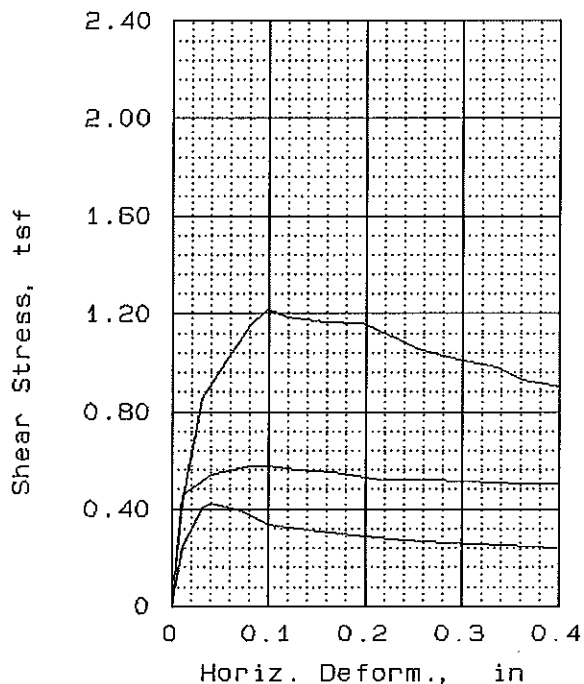
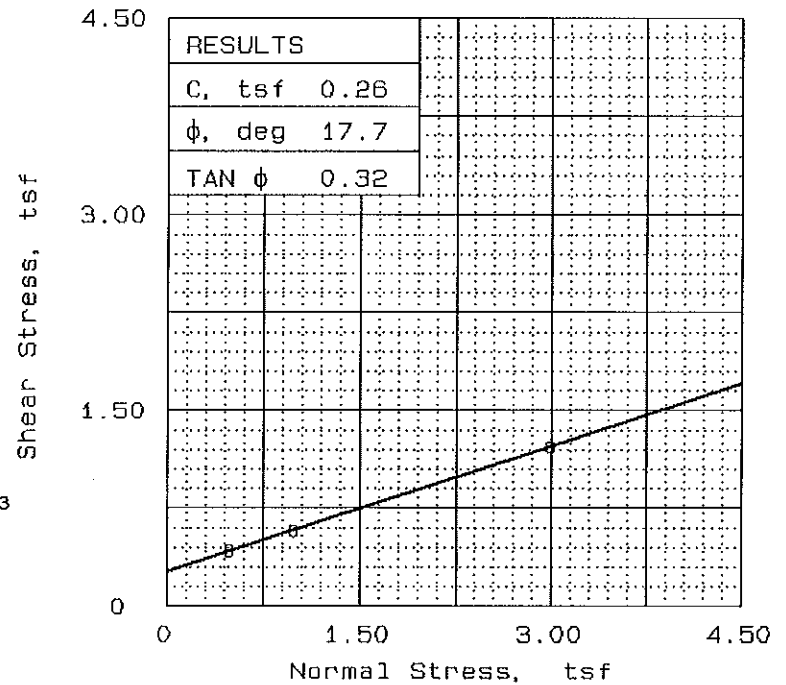
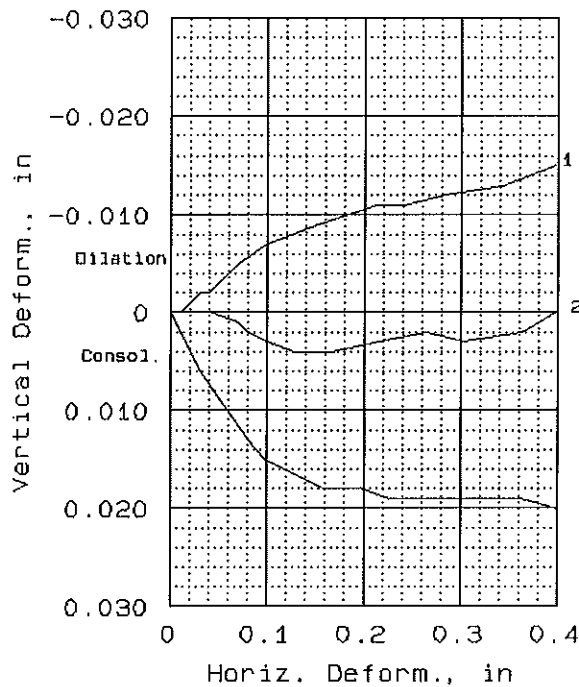
PROJ. NO.: 15363

DATE: AUGUST 1991

DIRECT SHEAR TEST

CORPS OF ENGINEERS - SOUTHWESTERN

FIG. NO.



SAMPLE NO.		1	2	3
INITIAL	WATER CONTENT, %	26.3	27.6	27.7
	DRY DENSITY, pcf	96.6	96.2	95.6
	SATURATION, %	95.3	99.1	98.1
	VOID RATIO	0.744	0.752	0.763
	SIDE LENGTH, in	3.00	3.00	3.00
	HEIGHT, in	1.00	1.00	1.00
AT TEST	WATER CONTENT, %	28.2	27.2	26.1
	DRY DENSITY, pcf	96.8	97.9	99.6
	SATURATION, %	102.9	101.6	101.9
	VOID RATIO	0.741	0.722	0.693
	SIDE LENGTH, in	3.39	3.39	3.39
	HEIGHT, in	1.00	0.98	0.96
NORMAL STRESS, tsf		0.50	1.00	3.00
MAX. SHEAR, tsf		0.42	0.58	1.22
STRAIN RATE, %/min.		0.002	0.002	0.002
ULT. SHEAR, tsf				

SAMPLE DATA

SAMPLE TYPE: UNDISTURBED
DESCRIPTION: FAT CLAY WITH
SAND (CH)

LL= 64 PL= 20 PI= 44.0

SPECIFIC GRAVITY= 2.70

REMARKS: SPECIFIC GRAVITY
ESTIMATED.

CLIENT: US ARMY CORPS OF ENGINEERS
GALVESTON DISTRICT

PROJECT: BRAYS BAYOU FLOOD DAMAGE
REDUCTION PROJECT, HOUSTON, TX.

SAMPLE LOCATION: BORING: 91-87, CTN-B
15.2'-16.0', SWD LAB NO. 91/2525

PROJ. NO.: 15363

DATE: AUGUST 1991

DIRECT SHEAR TEST

CORPS OF ENGINEERS - SOUTHWESTERN

FIG. NO.

TABLE 1

RESULTS OF TESTS OF DISTURBED AND UNDISTURBED SOIL SAMPLES

SWDED-GL REPORT NO. 15363 BRAYS BAYOU - FLOOD DAMAGE REDUCTION PROJECT

BORING	NO.	SWD NO.	FLD NO.	DEPTH, FT	GR	SA	FI	LL	PL	PI	LS	WC, %	PCF	MAJOR TESTS	DESCRIPTION OF MATERIAL
91	77	91/2518	CTN-5	8.0 - 10.0	2	17	81	67	16	51		18.0	110	DS	CH - FAT CLAY WITH SAND, GRAYISH BROWN MOTTLED WITH BROWNISH GRAY AND GRAY, MOIST, HARD(>4.0), NON-CALCAREOUS, IRON-OXIDE DEPOSITS, CALCAREOUS POCKETS, CALCAREOUS NODULES TO 1/2" IN BOTTOM 2".
91	79	91/2519	CTN-3	4.0 - 6.0	3	15	82	60	13	47		20.2	106	DS	CH - FAT CLAY WITH SAND, LIGHT GRAYISH BROWN MOTTLED WITH YELLOW AND GRAY, MOIST, VERY STIFF(2.0-2.5), NON-CALCAREOUS, IRON-OXIDE DEPOSITS, CALCAREOUS NODULES THROUGHOUT.
91	79	91/2520	CTN-10	18.0 - 20.0	0	24	76	35	12	23		18.3	110	DS	CL - LEAN CLAY WITH SAND, REDDISH YELLOW, MOIST, VERY STIFF(2.25), NON-CALCAREOUS, POCKETS OF GRAY VERY FINE SILTY SAND.
91	82	91/2521	CTN-3	4.0 - 6.0	1	23	76	57	14	43		19.5	107	DS	CH - FAT CLAY WITH SAND, LIGHT GRAYISH BROWN MOTTLED WITH GRAY, MOIST, VERY STIFF(3.25), NON-CALCAREOUS, IRON-OXIDE DEPOSITS, CALCAREOUS NODULES AND GRAVELS TO 1".
91	82	91/2522	CTN-12	22.0 - 24.0	1	14	85	37	13	24		21.3	106	DS	CL - LEAN CLAY WITH SAND, LIGHT BROWN AND LIGHT GRAY, MOIST, VERY STIFF(2.25), NON-CALCAREOUS, A FEW GRAVELS, CALCAREOUS NODULES THROUGHOUT.
91	84	91/2523	CTN-8	14.0 - 16.0	0	17	83	39	13	26		25.3	98	DS	CL - LEAN CLAY WITH SAND, YELLOW AND GRAY, MOIST, SOFT(0.5), NON-CALCAREOUS, CALCAREOUS NODULES, SEAMS AND POCKETS THROUGHOUT, VERY SANDY IN TOP 1".
91	87	91/2524	CTN-3	4.0 - 6.0	1	10	89	95	22	73		39.1	80	DS	CH - FAT CLAY, GRAY, MOIST, STIFF(1.5), NON-CALCAREOUS, IRON-OXIDE DEPOSITS, CALCAREOUS NODULES.
91	87	91/2525	CTN-8	14.0 - 16.0	1	16	83	64	20	44		28.2	96	DS	CH - FAT CLAY WITH SAND, LIGHT GRAY AND BROWN AND OLIVE SPOTS, MOIST, VERY STIFF(2.25), NON-CALCAREOUS CALCAREOUS NODULES TO 1 1/2", IRON-OXIDE DEPOSITS, INDURATED THROUGHOUT.