MANHOLE TOP 3877 INV 3502

INV 3502

OLD FENCE

405+00

400+00

395±00

390+00

385+00

REQUIRED R.O.W

BOUND WEST

BOUND EAST

FRONTAGE ROAD

LOOP

CENTERLINE

NORTH

NORTH PAN AMERICAN PIPE LINE CO

Hwy Dept 137-10

Hwy Dept 137-10

TRAIL

TRAIL

LINE GST-156

LINE GST-155

50' BOTTOM WIDTH CONCRETE LINED

LINE

A-1

A-2

A-3

A-28

A-29

C-40

C-41

C-42

C-43

| STA. | Y | X | ELEV. | DESCRIPTION |
|---|---|---|---|---|
| HWY DEPT. 137-10 | 735,451.26 | 3,128,673.26 | 64.209 | IRON PIN |
| A-1 | 735,790.18 | 3,128,471.59 | 61.729 | IRON PIN |
| A-2 | 736,171.48 | 3,128,129.68 | 61.220 | |
| A-3 | 736,619.18 | 3,128,054.15 | 62.836 | IRON PIN |
| A-28 | 736,393.76 | 3,127,855.68 | 63.960 | |
| A-29 | 735,579.05 | 3,128,147.86 | 63.769 | |
| HWY DEPT. 137-10B | 735,349.04 | 3,128,479.42 | 64.515 | |
| C-40 | 735,063.91 | 3,129,514.73 | 62.043 | |
| C-41 | 735,420.36 | 3,129,182.14 | 61.748 | IRON PIN |
| C-42 | 735,044.04 | 3,128,895.27 | 65.637 | |
| C-43 | 734,710.29 | 3,129,516.93 | 63.901 | |

N

736,000

735,000

3,127,000

3,128,000

3,129,000

KEY MAP

60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45

Galveston Dist. Lab. Report No. 1813

BUFFALO BAYOU, TEXAS

# WHITE OAK BAYOU PROPOSED ALIGNMENT

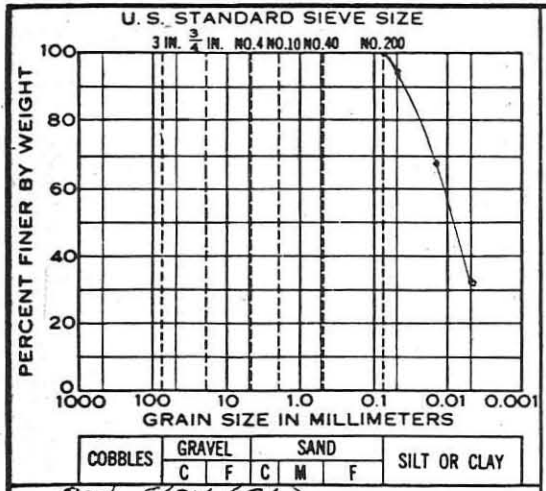
SCALE OF FEET

100' 0' 100'

U.S. ARMY ENGINEER DISTRICT, GALVESTON, TEXAS APRIL 1963

TO ACCOMPANY GENERAL DESIGN MEMORANDUM NO. 1 BUFFALO AND WHITE OAK BAYOUS AND WHITE OAK BAYOU FEATURE DESIGN MEMORANDUM NO.2 MILE 1.07 TO YALE STREET DATED: APRIL 1963

FILE H.S.C. 402-133

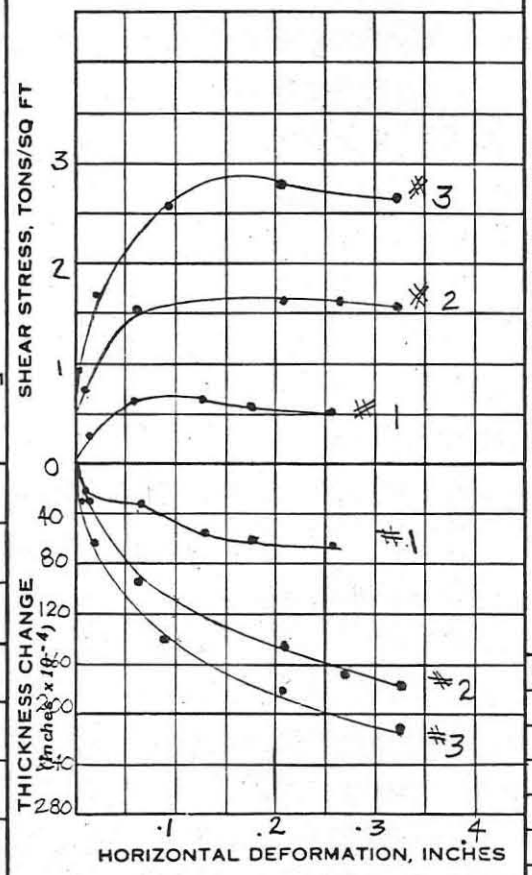



Red clay (CL)

Classification

| | | | |
|---|---|---|---|
| LL | 33.0 | G | |
| PL | 19.4 | $D_{10}$ | |

| Test No. | 1 | 2 | 3 | |
|---|---|---|---|---|
| Initial Water Content, $W_0$ % | 17 | 17 | 17 | |
| Dry Density Lbs/Cu Ft | — | 106.0 | 105.9 | |
| Void Ratio, $e_0$ | | | | |
| Saturation, $S_0$ % | | | | |
| Duration of Test (MIN.) | 100 | 275 | 298 | |
| WC after Test, $W_f$ % | 18.9 | 22.5 | 21.8 | |
| Normal Stress, $\sigma$ T/Sq Ft | 1 | 3 | 5 | |
| Max. Shear Stress, $\tau$ T/Sq Ft | .60 | 1.61 | 2.12 | |
| | | | | |
| | | | | |



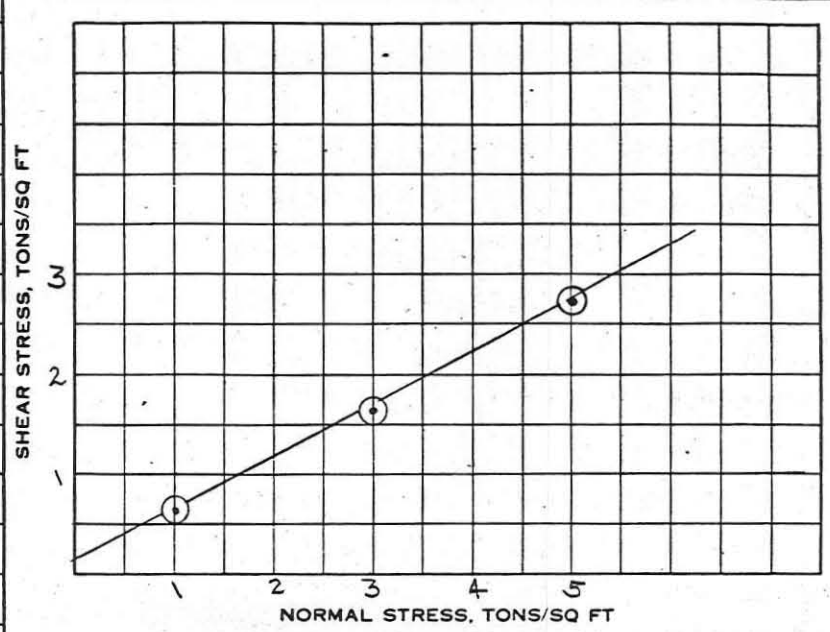

Type of Test: Strain – Control; Rate .001 in/min.; ✓ Consolidated; Drained

Type of Specimen: undisturbed

3 in. square

.75 in. thickness

| SHEAR VALUES | ø | TAN ø | C, T/SQ FT |
|---|---|---|---|
| Maximum | 27.9° | .530 | .15 |
| Ultimate | | | |




Remarks:

Project: WHITE OAK

Area

Boring No. 6ST-156 Sample No. 64-5958

Elev or Depth 30'-32' Date July 1964

# DIRECT SHEAR TEST REPORT

ENG FORM 1 FEB 58 2092 (TRANSLUCENT) (EM 1110-2-1803)

# WHITE OAK BAYOU

LOG OF BORING NO. 65T-156

TYPE: 6" Shelby Tube LOCATION:

SURF. EL:

| DEPTH FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL | BLOWS PER FT. | UNIT DRY WT. LBS./CU.FT. |
|---|---|---|---|---|---|
| | CH | | Brown sandy clay v/stiff - 0.0'-4.0' | | |
| | | | L.S=7.0 0-34-66 | | 121 |
| 5 | | | | | |
| | | | stiff-Medium from 4.0'-18.0' | | |
| 10 | | | | | |
| | | | L.S=5.0 2-38-60 | | 109 |
| 15 | | | | | |
| | CH | | Tan & Gray clay, v/stiff | | |
| 20 | | | L.S=18.0 0-3-97 | | 104 |
| | ML | | Red silt, w/calc. Nods | | |
| | | | L.S=2.5 0-10-90 | | 106 |
| | CH | | Red clay, calc Nod 22'-24' v/stiff-hard | | |
| 25 | | | | | |
| | | | L.S=18.5 0-0-100 | | 107 |
| 30 | | | | | |
| | CL | | Red clay, v/stiff | | |
| | | | L.S=8.5 0-0-100 | | 109 |
| | ML | | L.S=2.0 0-10-90 | | 105 |
| 35 | | | Red silt medium | 21 | |
| | | | D.C silt w/thin sandstone layers | | |
| 40 | CL ML | | Brown silt, sandstone layers | | |
| | | | L.S=3.0 4-3-93 | | |
| | CH | | Red clay, hard - v/stiff | | |
| 45 | | | L.S=16.0 0-0-100 | | 102 |
| 50 | | | | | |

POCKET PENETROMETER TONS / SQ. FT.

0.5 1.0 1.5 2.0 2.5 3.0

PLASTIC LIMIT — WATER CONTENT, % — LIQUID LIMIT

10 20 30 40 50 60

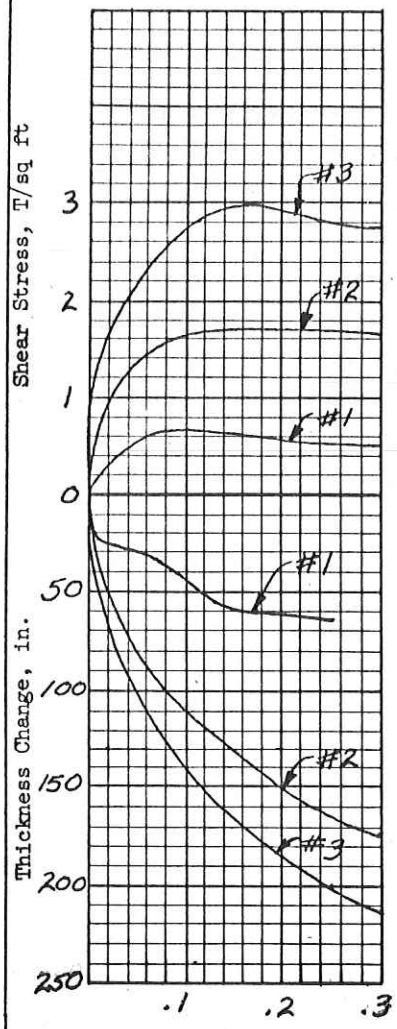
ELEVATION FT

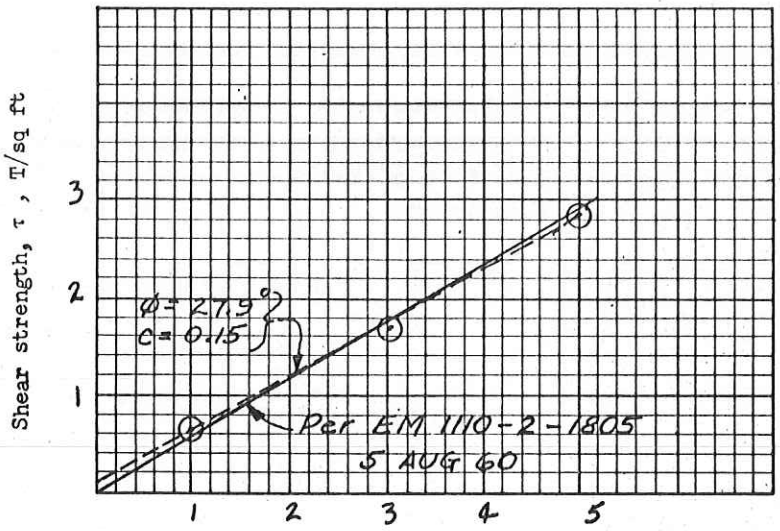
3.75 4.5 3.75 4.0 4.5 4.5 3.75 4.5

COMPLETION DEPTH
DATE

DEPTH TO WATER IN BORING
DATE

SWN 266(C)
22 AUG 62




| Test No. | | | 1 | 2 | 3 | |
|---|---|---|---|---|---|---|
| Initial | Water content | $w_o$ | 17 % | 17% | 17% | % |
| | Void ratio | $e_o$ | | | | |
| | Saturation | $S_o$ | % | % | % | % |
| | Dry density lb/cu ft | $\gamma_d$ | — | 106.0 | 105.9 | |
| Void ratio after consolidation | | $e_c$ | | | | |
| Time for 50% consolidation, min | | $t_{50}$ | | | | |
| Final | Water content | $w_f$ | 18.9% | 22.5% | 21.8 % | % |
| | Void ratio | $e_f$ | | | | |
| | Saturation | $S_f$ | % | % | % | % |
| Actual time to failure, min. | | $t_f$ | 100 | 275 | 298 | |
| Normal stress T/sq ft | | σ | 1 | 3 | 5 | |
| Maximum shear strength, T/sq ft | | τ | .60 | 1.61 | 2.72 | |

Shear Values

$\phi'$ = 30.0°

tan $\phi'$ = .577

c' = 0.0

Test Type (Check One) ☐ Controlled, stress ☑ Controlled, strain

Type of Specimen Undisturbed | 3 in. Square | .75 in. Thickness

Classification Red Clay (CL)

LL 33.0 | PL 19.4 | PI | $D_{10}$

Remarks RATE OF STRAIN .001 in/min.

Project WHITE OAK

Area

Boring No. 65T-156 | Sample No. 64-5958

Depth El 30'-32' | Date July 1964

**DIRECT SHEAR TEST REPORT**

ENG FORM 2092 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT) C 3437

17

PLATE 29