4.00

# U.S. ARMY CORPS OF ENGINEERS

BORING NO. 92-58 DATE: BEGIN 7-30-92 PAGE 1 / 1
JOB NO. 146549 COMPLETE 7-30-92 Thin Walled Tube
PROJECT Disposal Area For channel to victoria ☑ 3" ☐ 6"
LOCATION near Seadrift, Tx sta. 20+00
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Ardco Failing Buggy
GROUNDWATER: DEPTH 10.00 ft., ELEV. ____ ft., at end of Drilling
WEATHER Sunny & Hot
DRILLER Mark Thornton LOGGER Iraj Mostamand

| DEPTH, FEET | SAMPLE | SAMPLE NO. | PEN./TORVANE SPT.-BLOW COUNT | COLOR | MATERIAL TYPE | CONSISTENCY | SECONDARY CONSTITUENTS | STRUCTURAL FEATURES AND COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | 4.5T | DK-Gray | clay | Hard | | -w/roots |
| | | 2 | 1.25 | Gray | clay | stiff | | -w/calc nod |
| 5 | | 3 | 1.50 | Gray & V. Brown | clay | stiff | | -w/calc nod & Fest |
| | | 4 | 1.50 | Gray & Yellowish Brown | clay | stiff | | -w/calc nod & Fest -slickensided 6-8' |
| | | 5 | 2.00 | Yellowish Brown & Gray | clay | V.stiff | Sand | -w/Fest |
| 10 | | 6 | 3.00 | Yellowish Brown & Gray | clay | V.stiff | Sand | -w/calc nod & Fest |
| | | 7 | 3.75 | Yellowish Gray & Gray | clay | V.stiff | Sand | -w/calc nod & Fest |
| 15 | | 8 | 4.5T | Gray & Brown | clay | Hard | Sand | -w/calc nod & Fest |
| | | 9 | 2.25 | Gray & Brown | clay | V.stiff | Sand | -w/sand @ bottom of sample |
| | | 10 | 6/10/11 | Yellowish Gray | Sand | M.Dense | Silt | |
| 20 | | | | | | | | |
| 25 | | | | | | | | |
| 30 | | | | | | | | |
| 35 | | | | | | | | |

GEOTEST ENGINEERING, INC.

# SUMMARY OF LABORATORY TEST RESULTS

Project: Proposed new Disposal area for channel to victoria project, near Seadrift, Texas
Contract No. DACW64-92-D-0001 Delivery Order No. 0023

Boring No. 92-58

| S# | Depth (ft.) | PP (tsf) | SPT Blows per foot | Visual Classification | U S C | M C (%) | Dry Unit Wt. (pcf) | Wet Unit Wt. (pcf) | LL (%) | PL (%) | Mechanical Analysis % passing #4 | #10 | #40 | #100 | #200 | Torvane Shear Strength (tsf) | qu (tsf) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0-2 | 4.5+ | | Dark gray,Clay,Hard,w/roots | C H | 20.0 | | | | | | | | | | | |
| 2 | 2-4 | 1.25 | | Gray,Clay,Stiff,w/calcareous nodules | C H | 33.7 | 87.0 | 116.3 | 74 | | | | | | | | |
| 3 | 4-6 | 1.25 | | Gray,Clay,Stiff,w/calcareous nodules and mica | C H | 35.1 | | | | | | | | | | | |
| 4 | 6-8 | 1.50 | | Yellowish gray,Clay,Stiff,w/calcareous nodules and ferrous stains,Blocky structure | C H | 32.2 | | | | | | | | | | | |
| 5 | 8-10 | 3.00 | | Gray&Yellowish brown,Clay,Very stiff,w/sand seams and blocky structure | C H | 23.4 | 103.6 | 127.8 | 60 | 24 | 100.0 | 99.9 | 99.8 | 97.9 | 96.5 | | 1.54 |
| 6 | 10-12 | 3.50 | | Gray&Yellowish brown,Clay,Very stiff,w/ calcareous nodule fe stains & blocky structure | C H | 25.2 | | | | | | | | | | | |
| 7 | 12-14 | 3.25 | | Yellowish brown&gray,Clay,Very stiff,w/ calcareous nodules and ferrous stains | C H | 29.9 | | | | | | | | | | | |
| 8 | 14-16 | 3.50 | | Gray&Yellowish brown,Clay,Very stiff,w/calc-areous nodules ferrous stains,Slickensided | C H | 36.4 | | | | | | | | | | | |
| 9 | 16-18 | 2.00 | | Yellowish brown,Clay,Very stiff,Sandy,w/calc-areous nodules ferrous stains and sand pockets | C L | 23.3 | | | | | | | | | | | |
| 10 | 18.5-20 | | 21 | Yellowish brown,Sand,Medium dense,Silty | S M | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

S#: Sample Number, PP: Pocket Penetrometer Reading, USC: Unified Soil Classification, MC: Moisture Content
qu: Unconfined Compressive Strength, WOH: Weight of Hammer, WOP: Weight of Pipe

*GEOTEST ENGINEERING, INC.*

JOB NO. 14G599 DATE 8/12/92

PROJECT Proposed Disposal area for Channel to Victoria Project

AREA near Seadrift, Texas

BORING NO. 92-58 SAMPLE NO. 5 DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray&Yellowish brown,Clay,Very stiff,w/sand seams&blocky structure

| | | | |
|---|---|---|---|
| Tare No. | P3 | Height | 5.595 in. |
| Tare plus Wet Specimen | 637.48 gm | Average Diameter | 2.830 in. |
| Tare plus Dry Specimen | 524.69 gm | Initial Area | 6.290 sq in. |
| Water Weight | 112.79 gm | Volume | 35.194 cu in. |
| Tare Weight | 42.47 gm | Volume of Solids | cu in. |
| Wet Specimen | 1180.83 gm | Void Ratio | |
| Dry Specimen | 956.99 gm | Saturation | % |
| Water Content | 23.39 % | Dry Density | 103.6 lb/cu ft |
| Specific Gravity of Solids | | | |

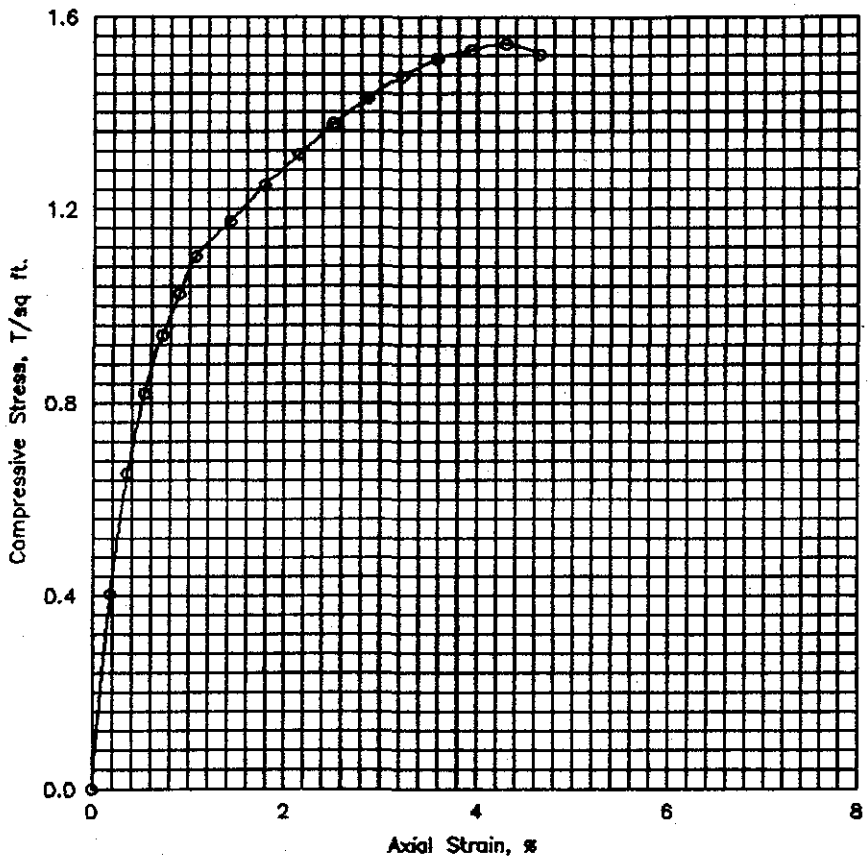
LL = 60 PL = 24 PI = 36

Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

| Elapsed Time min. | Dial Reading 0.001" | Cumulative Change in. | Proving Ring Dial Reading | Axial Load lb | Axial Strain | Area Corr. sq in. | Compr. Stress tsf |
|---|---|---|---|---|---|---|---|
| .0 | 0. | .000 | .0 | .0 | .000 | 6.29 | .000 |
| .2 | 10. | .010 | 46.0 | 35.2 | .002 | 6.30 | .403 |
| .4 | 20. | .020 | 75.0 | 57.4 | .004 | 6.31 | .655 |
| .6 | 30. | .030 | 94.0 | 72.0 | .005 | 6.32 | .820 |
| .8 | 40. | .040 | 108.0 | 82.7 | .007 | 6.34 | .940 |
| 1.0 | 50. | .050 | 118.0 | 90.4 | .009 | 6.35 | 1.025 |
| 1.2 | 60. | .060 | 127.0 | 97.3 | .011 | 6.36 | 1.102 |
| 1.5 | 80. | .080 | 136.0 | 104.2 | .014 | 6.38 | 1.175 |
| 1.8 | 100. | .100 | 145.0 | 111.1 | .018 | 6.40 | 1.249 |
| 2.0 | 120. | .120 | 153.0 | 117.2 | .021 | 6.43 | 1.313 |
| 2.3 | 140. | .140 | 161.0 | 123.3 | .025 | 6.45 | 1.376 |
| 2.6 | 160. | .160 | 168.0 | 128.7 | .029 | 6.48 | 1.431 |
| 2.9 | 180. | .180 | 174.0 | 133.3 | .032 | 6.50 | 1.477 |
| 3.3 | 200. | .200 | 179.0 | 137.1 | .036 | 6.52 | 1.513 |
| 3.5 | 220. | .220 | 182.0 | 139.4 | .039 | 6.55 | 1.533 |
| 3.9 | 240. | .240 | 184.0 | 140.9 | .043 | 6.57 | 1.544 |
| 4.1 | 260. | .260 | 182.0 | 139.4 | .046 | 6.60 | 1.522 |

Job No. 14G599

Failure Sketches




☐ Controlled stress
☒ Controlled strain

| | | | | | | |
|---|---|---|---|---|---|---|
| Test No. | | | 1 | | | |
| Type of Specimen | | | Undisturbed | | | |
| Initial | Water content | $w_0$ | 23.4 % | % | % | % |
| | Void ratio | $e_0$ | | | | |
| | Saturation | $S_0$ | % | % | % | % |
| | Dry density, lb/cu ft | $\gamma_d$ | 103.6 | | | |
| Time to failure, min | | $t_f$ | 3.90 | | | |
| Unconfined compressive strength, T/sq ft | | $q_u$ | 1.54 | | | |
| Undrained shear strength, T/sq ft | | $S_u$ | .77 | | | |
| Sensitivity ratio | | $S_t$ | | | | |
| Initial specimen diameter, in. | | $D_0$ | 2.830 | | | |
| Initial specimen height, in. | | $H_0$ | 5.595 | | | |

Classification Gray&Yellowish brown,Clay,Very stiff,w/sand seams&blocky structure

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LL | 60 | PL | 24 | PI | 36 | $G_s$ | |

Remarks

Project Proposed Disposal area for Channel to Victoria Project

Area near Seadrift, Texas

Boring No. 92-58 | Sample No. 5

Depth El 8-10 ft | Date 8/12/92

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.