

U.S. ARMY CORPS OF ENGINEERS
GEOTECHNICAL BORING DATA

BEM

PROJECT NAME Victoria Ship Channel

LOG OF BORING NO. 90-31

LOCATION/STATION 25+00 Right

DATE/TIME STARTED 06/15/90 4:30 pm

DATE/TIME COMPLETED // // 5:30 //

TIDE ELEVATION + 2.3' MLT DATUM

WATER DEPTH 3.0'

DEPTH FROM WATER SURFACE
TO BOTTOM OF BORING 27.5'


WEATHER Clear & Sunny

DRILL RIG MANUFACTURE
MODEL NO. CF-5

DRILLER Dempsey Gearen
LOGGER Arif Lazaridis

DRILLERS'/LOGGERS' COMMENTS —



| DEPTH, FEET | SAMPLE NO. | PEN. / TORVANE SPT. - BLOW COUNT | BORING NO. <u>90-31</u> | | DATE: BEGIN <u>06/15/90</u> COMPLETE <u>06/15/90</u> | | | |
|----------------------|------------|----------------------------------|--------------------------------------|----------------------|---|---|---|--|
| | | | JOB NO. <u>146404</u> | | LOGGER <u>Axis</u> PAGE <u>213</u> | | | |
| | | | PROJECT <u>Victoria Ship Channel</u> | | LOCATION/STATION/ELEVATION: <u>Sta. 25+00/ Et. + 2.3' HLT</u> | | | |
| | | | DEPTH: AUGERED _____ | | WASHED <u>24.5'</u> | | CORED _____ | |
| GROUNDWATER READINGS | | | | | | | | |
| TIME | DEPTH | TIME | DEPTH | TIME | DEPTH |  | | |
| FIRST | | | | | | | | |
| | | | | | | | | |
| CONSISTENCY | COLOR | MINOR | MAJOR | MODIFICATION | | | | |
| 0 | 1 | 0.25 | V/soft | Gray & Tan | Clayey | SAND | - w/shells | |
| | 2 | 0.25 | " | Gray | " | " | " | |
| -5- | 3 | 0.25 | V/soft | Gray | V/Silty | CLAY | " | |
| | 4 | 0.0 | " | " | sly/silty | " | - Disturbed sample ; jar | |
| | 5 | 1.25 | STIFF | Gray & Tan | | " | - w/calcareous nodules; 7" sample | |
| -10- | 6 | - | Loose | Gray & Tan | Clayey | SAND | - Disturbed sample ; jar | |
| | 7 | 2 2/3 | Loose | " | " | " | - w/ gray silty clay layer ; with sand & shells 12'-13.5' | |
| -15- | | | | | | | | |
| | 8 | 5 7/12 | M/dense | 1/2 Gray & Yellowish | | " | - w/trace clay & shells | |
| -20- | | | | | | | | |
| | 9 | 6 7/8 | " | 1/2 Gray & Tan | | " | - w/shells | |
| -25- | | | | | | | Bottom of Boring | |

CONTINUED: YES NO

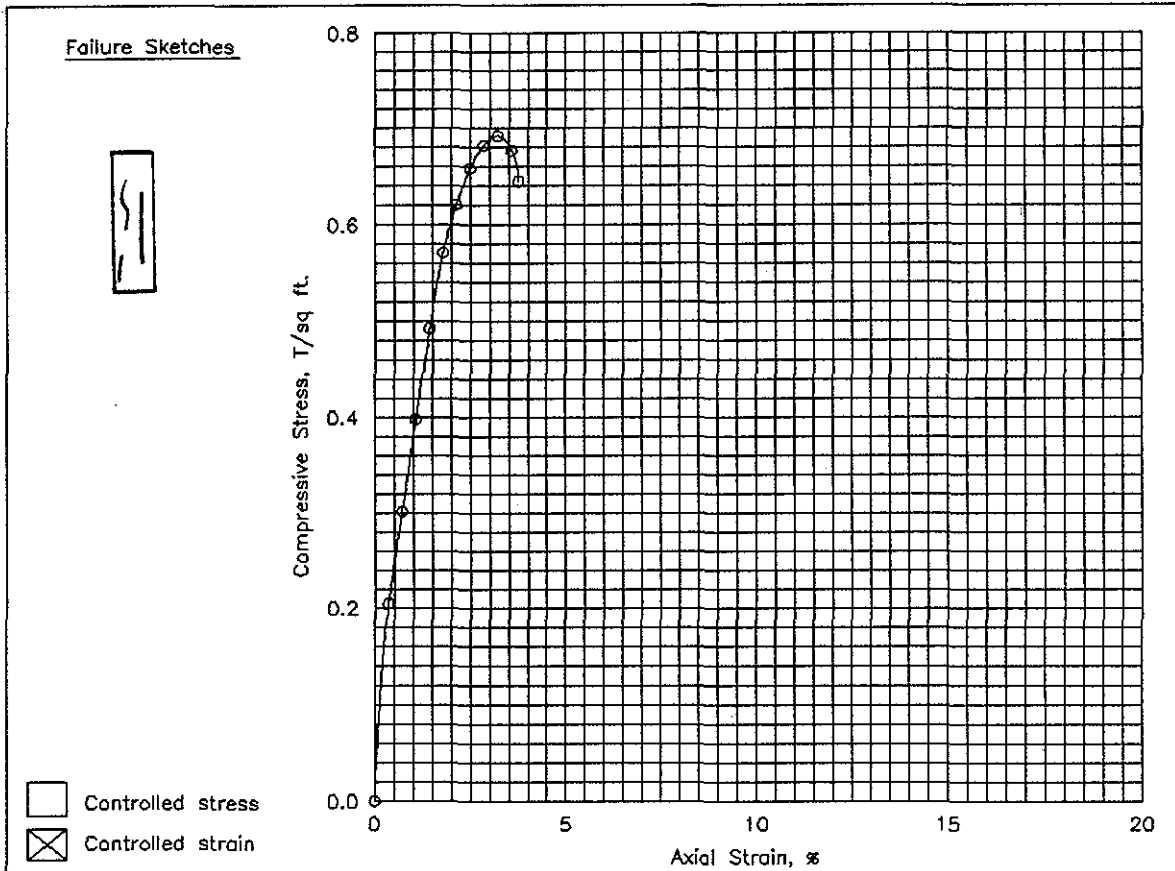
Project : VICTORIA SHIP CHANNEL, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 90-31

| S # | Depth (ft) | PP (tsf) | SPT Blows per Foot | Visual Classification | USC | M c (%) | Dry Unit Wt (pcf) | Wet Unit Wt (pcf) | LL (%) | PL (%) | Mechanical Analysis % Passing | | | | | Torvane Shear Strength (tsf) | q u (tsf) |
|-----|-------------|----------|--------------------|---|-----|---------|-------------------|-------------------|--------|--------|-------------------------------|------|------|------|------|------------------------------|-----------|
| | | | | | | | | | | | #4 | #10 | #40 | #100 | #200 | | |
| 1 | 0 - 2 | | | Dark gray, SILTY SAND, very loose, with shell fragments | SM | | | | | | | | | | | | |
| 2 | 2 (4) | | | Dark gray, SILTY SAND, very loose, with shell fragments | SM | | | | | | 100.0 | 99.7 | 98.7 | 93.8 | 33.8 | 0.00 | |
| 3 | 4 - 6 | 0.25 | | Dark gray, SILTY CLAY, soft, with shell fragments | CL | 41.6 | 77.8 | 110.2 | | | | | | | | | |
| 4 | 6 - 8 | | | Dark gray, SILTY CLAY, very soft, with shell fragments | CL | 50.3 | | | | | | | | | | | |
| 5 | 8 - 10 | 1.25 | | Gray and tan, SANDY CLAY, stiff, with calcareous nodules | CL | 24.4 | 101.9 | 126.8 | 44 | 17 | 99.9 | 99.0 | 97.6 | 96.4 | 80.4 | | 0.69 |
| 6 | 10 - (12) | | | Gray, CLAY, with sand and shell fragments | CL | | | | | | | | | | | | |
| 7 | 12 - (13.5) | | 6 | Gray and yellowish, SILTY SAND, loose, with calcareous nodules and shell fragments | SM | | | | | | 99.0 | 97.8 | 95.9 | 91.6 | 41.4 | | |
| 8 | 17 - 18.5 | | 19 | Gray and yellowish, SAND, medium dense, with silt, shell fragments and calcareous nodules | SP | | | | | | | | | | | | |
| 9 | 23 - 24.5 | | 15 | Gray and yellowish, SAND, medium dense, with silt, shell fragments and calcareous nodules | SP | | | | | | | | | | | | |
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S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
 q u : Unconfined Compressive Strength, W O H : Weight of hammer, W O P : Weight of pipe



| | | | | | |
|--|-----------------------|-------------|--------|---|---|
| Test No. | | 1 | | | |
| Type of Specimen | | Undisturbed | | | |
| Initial | Water content | w_0 | 24.4 % | % | % |
| | Void ratio | e_0 | | | |
| | Saturation | S_0 | % | % | % |
| | Dry density, lb/cu ft | γ_d | 101.9 | | |
| Time to failure, min | | t_f | 3.07 | | |
| Unconfined compressive strength, T/sq ft | | q_u | .69 | | |
| Undrained shear strength, T/sq ft | | S_u | .35 | | |
| Sensitivity ratio | | S_t | | | |
| Initial specimen diameter, in. | | D_0 | 2.810 | | |
| Initial specimen height, in. | | H_0 | 5.590 | | |

Classification Gray and tan, Sandy CLAY, stiff, with calcareous nodules

LL 44 PL 17 PI 27 G_s

| | | |
|---------|--|--------------|
| Remarks | Project CHANNEL TO VICTORIA, TEXAS | |
| | Area Channel to Victoria in San Antonio Bay, Texas | |
| | Boring No. 90-31 | Sample No. 5 |
| | Depth 8-10 ft | Date 7/20/90 |
| | UNCONFINED COMPRESSION TEST REPORT | |