

U.S. ARMY CORPS OF ENGINEERS  
GEOTECHNICAL BORING DATA

BKM

PROJECT NAME Victoria Ship Channel

LOG OF BORING NO. 90-47

LOCATION / STATION 265000

DATE / TIME STARTED 5/12/00 2 7:10 am

DATE / TIME COMPLETED " " 7:50 "

TIDE ELEVATION + 2.00 MLT DATUM

WATER DEPTH 5.00 -3.

DEPTH FROM WATER SURFACE  
TO BOTTOM OF BORING 27.00'

WEATHER Clear & Sunny

DRILL RIG MANUFACTURE  
MODEL NO. CF-5

DRILLER Dimitrios Geron  
LOGGER Aris Lazanidis

DRILLER'S / LOGGER'S COMMENTS —

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

| DEPTH, FEET                          |   | SAMPLE | SAMPLE NO. | PEN./TORVANE | SPT.-BLOW COUNT | BORING NO. <u>90-47</u>                                              |      | DATE: BEGIN <u>06/17/90</u> COMPLETE <u>06/17/90</u> |   |
|--------------------------------------|---|--------|------------|--------------|-----------------|----------------------------------------------------------------------|------|------------------------------------------------------|---|
|                                      |   |        |            |              |                 | JOB NO. <u>146404</u>                                                |      | LOGGER <u>Anis</u> PAGE <u>2/3</u>                   |   |
| PROJECT <u>Victoria Ship Channel</u> |   |        |            |              |                 | LOCATION/STATION/ELEVATION: <u>Sta. 265+00 / E.P. + 2.00' M.L.T.</u> |      |                                                      |   |
| DEPTH: AUGERED _____                 |   |        |            |              |                 | WASHED <u>22'</u>                                                    |      | CORED _____                                          |   |
| GROUNDWATER READINGS                 |   |        |            |              |                 |                                                                      |      |                                                      |   |
| TIME                                 |   | DEPTH  | TIME       |              | DEPTH           | TIME                                                                 |      | DEPTH                                                | N |
| FIRST                                |   |        |            |              |                 |                                                                      |      |                                                      |   |
|                                      |   |        |            |              |                 |                                                                      |      |                                                      |   |
| CONSISTENCY                          |   | COLOR  | MINOR      | MAJOR        | MODIFICATION    |                                                                      |      |                                                      |   |
| 0                                    | X | 1      | WOP        | V/LOOSE      | Gray            | Clayey                                                               | SILT | -w/ little sand                                      |   |
|                                      | X | 2      | WOP        | "            | "               | "                                                                    | "    | -w/ few sand & shells                                |   |
|                                      |   | 3      | 0.25       | V/Soft       | Gray            | Silty                                                                | CLAY | —                                                    |   |
| 5                                    |   | 4      | 0.25       | "            | "               | "                                                                    | "    | —                                                    |   |
|                                      | X | 5      | WOP        | V/LOOSE      | Gray            | Clayey                                                               | SILT | -w/shells                                            |   |
| 10                                   |   | 6      | 0.25       | V/Soft       | Gray            | Sandy                                                                | CLAY | -w/silt & shells                                     |   |
|                                      | X | 7      | WOP        | V/LOOSE      | Gray            | Clayey                                                               | SILT | -w/shells                                            |   |
| 15                                   | X | 8      | WOP        | "            | "               | "                                                                    | "    | "                                                    |   |
|                                      | X | 9      | WOP        | "            | "               | "                                                                    | "    | "                                                    |   |
|                                      | X | 10     | WOP        | V/LOOSE      | Gray            | Clayey                                                               | SAND | -w/silt & shells                                     |   |
| 20                                   | X | 11     | WOP        | "            | "               | "                                                                    | "    | "                                                    |   |
|                                      |   |        |            |              |                 |                                                                      |      | Bottom of Boring                                     |   |
| 25                                   |   |        |            |              |                 |                                                                      |      |                                                      |   |

CONTINUED: ☐ YES ☒ NO

Project : CHANNEL TO VICTORIA  
VICTORIA, TEXAS

**SUMMARY OF LABORATORY TEST RESULTS**

Boring No. 90-47

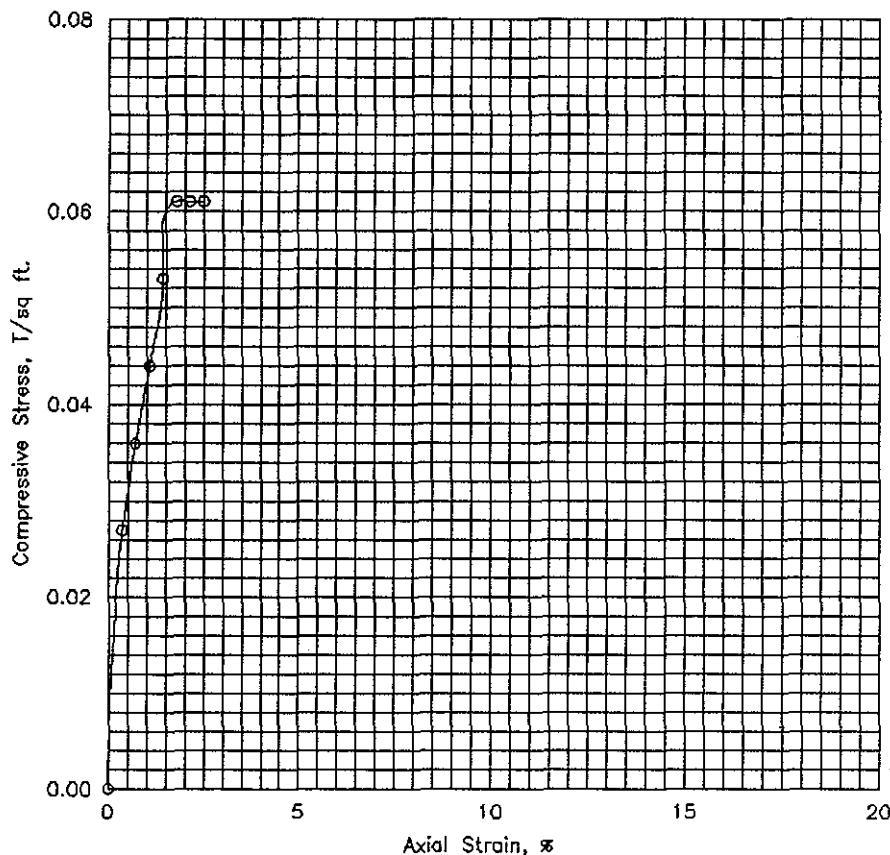
| S # | Depth<br>(ft) | P P<br>(tsf) | SPT<br>Blows<br>per<br>Foot | Visual<br>Classification                                           | U S C | M c<br>(%) | Dry<br>Unit<br>Wt<br>(pcf) | Wet<br>Unit<br>Wt<br>(pcf) | LL<br>(%) | P L<br>(%) | Mechanical Analysis<br>% Passing |       |      |      |      | Torvane<br>Shear<br>Strength<br>(tsf) | q u<br>(tsf) |
|-----|---------------|--------------|-----------------------------|--------------------------------------------------------------------|-------|------------|----------------------------|----------------------------|-----------|------------|----------------------------------|-------|------|------|------|---------------------------------------|--------------|
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            | #4                               | #10   | #40  | #100 | #200 |                                       |              |
| 1   | 0 - 2         |              | WOP                         | Dark gray, CLAYEY SILTY SAND, very loose, with shell fragments     | S M   | 31.9       |                            |                            |           |            | 99.4                             | 98.7  | 95.9 | 74.7 | 40.0 |                                       |              |
| 2   | 2 - 3.5       |              | WOP                         | Dark gray, SANDY CLAY, very soft, with silt and shell fragments    | CL    | 40.7       |                            |                            | 27        |            |                                  |       |      |      |      |                                       |              |
| 3   | 4 - 6         | 0.00         |                             | Gray, SANDY CLAY, very soft, with silt and shell fragments         | CL    | 44.3       |                            |                            |           |            |                                  |       |      |      |      | 0.06                                  |              |
| 4   | 6 - 8         | 0.00         |                             | Dark gray, SANDY CLAY, very soft, with silt and shell fragments    | CL    | 48.9       | 71.3                       | 106.1                      | 37        |            | 99.4                             | 98.5  | 96.4 | 82.1 | 53.7 | 0.08                                  |              |
| 5   | 8 - 9.5       |              | WOP                         | Dark gray, SILTY CLAY, very soft, with sand and shell fragments    | CL    | 44.7       |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
| 6   | 10 - 12       | 0.00         |                             | Dark gray, SILTY CLAY, very soft, with sand and shell fragments    | CL    | 36.9       | 87.0                       | 119.2                      | 29        | 15         | 99.1                             | 97.9  | 96.7 | 91.3 | 70.3 | 0.01                                  | 0.06         |
| 7   | 12 - 13.5     |              | WOP                         | Gray, SILTY CLAY, very soft, with shell fragments                  | CL    | 45.8       |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
| 8   | 14 - 15.5     |              | WOP                         | Gray, SANDY SILTY CLAY, very soft, with shell fragments            | CL    | 32.4       |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
| 9   | 16 - 17.5     |              | WOP                         | Dark gray, SANDY SILTY CLAY, very soft, with shell fragments       | CL    | 35.8       |                            |                            | 25        | 13         |                                  |       |      |      |      |                                       |              |
| 10  | 18 - 19.5     |              | WOP                         | Bluish green and gray, SILTY CLAY, very soft, with shell fragments | CL    | 33.4       |                            |                            |           |            | 100.0                            | 100.0 | 99.7 | 99.3 | 98.9 |                                       |              |
| 11  | 20.5 - 22     |              | WOP                         | Gray, SILTY SANDY CLAY, very soft, with shell fragments            | CL    | 35.8       |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |
|     |               |              |                             |                                                                    |       |            |                            |                            |           |            |                                  |       |      |      |      |                                       |              |

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

Job No. 14G404

Failure Sketches



- ☐ Controlled stress  
☒ Controlled strain

|                                             |                       |             |        |   |   |
|---------------------------------------------|-----------------------|-------------|--------|---|---|
| Test No.                                    |                       | 1           |        |   |   |
| Type of Specimen                            |                       | Undisturbed |        |   |   |
| Initial                                     | Water content         | $w_0$       | 36.9 % | % | % |
|                                             | Void ratio            | $e_0$       |        |   |   |
|                                             | Saturation            | $S_0$       | %      | % | % |
|                                             | Dry density, lb/cu ft | $\gamma_d$  | 87.0   |   |   |
| Time to failure, min                        |                       | $t_f$       | 1.68   |   |   |
| Unconfined compressive strength, $T/sq\ ft$ |                       | $q_u$       | .06    |   |   |
| Undrained shear strength, $T/sq\ ft$        |                       | $S_u$       | .03    |   |   |
| Sensitivity ratio                           |                       | $S_t$       |        |   |   |
| Initial specimen diameter, in.              |                       | $D_0$       | 2.810  |   |   |
| Initial specimen height, in.                |                       | $H_0$       | 5.590  |   |   |

Classification Dark gray, Silty CLAY, very soft, with shell fragments

|    |    |    |    |    |    |       |  |
|----|----|----|----|----|----|-------|--|
| LL | 29 | PL | 15 | PI | 14 | $G_s$ |  |
|----|----|----|----|----|----|-------|--|

|         |                                                    |              |
|---------|----------------------------------------------------|--------------|
| Remarks | Project CHANNEL TO VICTORIA, TEXAS                 |              |
|         | Area Channel to Victoria in San Antonio Bay, Texas |              |
|         | Boring No. 90-47                                   | Sample No. 6 |
|         | Depth 10-12 ft                                     | Date 7/30/90 |
|         | UNCONFINED COMPRESSION TEST REPORT                 |              |