Project : Pelican Island Disposal Area
Galveston, Texas
Contract No. DACW64-92-D-0005 Delivery order No. 0023

**SUMMARY OF LABORATORY TEST RESULTS**

Boring No. 93-189

+17.5

| S # | Depth (ft) | P P (tsf) | SPT Blows per Foot | Visual Classification | U S C | M c (%) | Dry Unit Wt (pcf) | Wet Unit Wt (pcf) | L L (%) | P L (%) | Mechanical Analysis % Passing #4 | #10 | #40 | #100 | #200 | Torvane Shear Strength (tsf) | q u (tsf) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 - 2 | 0.00 | | Dark gray,Clay,Very soft,w/hydrocarbon | CH | 39.8 | | | | | | | | | | 0.09 | |
| 2 | 2 - 4 | 0.25 | | Dark gray,Clay,Soft,w/hydrocarbon | CH | 67.3 | 60.6 | 101.4 | 109 | 35 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 0.13 | 0.26 |
| 3 | 4 - 6 | 0.25 | | Dark gray,Clay,Soft,w/hydrocarbon | CH | 55.7 | | | | | | | | | | 0.13 | |
| 4 | 6 - 8 | 0.00 | | Dark gray,Clay,Very soft,w/hydrocarbon | CH | 65.0 | 60.7 | 100.2 | | | | | | | | 0.07 | 0.12 |
| 5 | 8 - 10 | 0.00 | | Gray,Clay,Very soft | CH | 58.2 | | | | | | | | | | 0.08 | |
| 6 | 10 - 12 | 0.00 | | Gray,Clay,Very soft,w/hydrocarbon | CH | 46.3 | 74.0 | 108.2 | | | | | | | | 0.08 | 0.18 |
| 7 | 12 - 14 | 0.00 | | Gray,Clay,Very soft,w/silt pockets&hydrocarbon | CH | 31.6 | | | | | | | | | | 0.07 | |
| 8 | 14 -16 | 0.25 | | Gray,Clay,Soft,w/hydrocarbon | CH | 46.1 | 73.3 | 107.1 | 87 | 30 | 100.0 | 100.0 | 100.0 | 99.6 | 99.0 | 0.15 | 0.32 |
| 9 | 16 - 18 | 0.00 | | Gray,Clay,Very soft,w/hydrocarbon | CH | 35.0 | | | | | | | | | | 0.09 | |
| 10 | 18 - 20 | 0.00 | | Gray,Clay,Very soft,w/trace of hydrocarbon | CH | 47.0 | | | | | | | | | | 0.08 | |
| 11 | 20 - 22 | 0.00 | | Gray,Clay,Very soft | CH | 74.8 | 55.6 | 97.1 | | | | | | | | 0.10 | 0.22 |
| 12 | 22 - 24 | 0.00 | | Gray,Clay,Very soft,Sandy | CL | 20.5 | | | | | | | | | | 0.09 | |
| 13 | 24 - 26 | 0.00 | | Gray,Clay,Very soft,Sandy,w/shell fragments | CL | 35.3 | 84.6 | 114.5 | 47 | 20 | 100.0 | 100.0 | 97.9 | 83.2 | 64.1 | 0.09 | 0.17 |
| 14 | 26 - 28 | 0.00 | | Gray,Clay,Very soft,Sandy,w/shell fragments | CL | 19.6 | | | | | | | | | | 0.08 | |
| 15 | 28 - 30 | 0.00 | | Gray,Clay,Very soft,Sandy | CL | 40.3 | 80.2 | 112.6 | | | 100.0 | 99.1 | 94.0 | 79.6 | 59.9 | 0.10 | 0.19 |
| 16 | 30 - 32 | 0.00 | | Gray,Clay,Very soft,Sandy,w/shell fragments& sand seams | CL | 15.5 | | | | | | | | | | 0.09 | |
| 17 | 32 - 33.5 | | 43 | Gray,Sand,Dense,Silty | SM | | | | | | | | | | | | |

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

***Geotest Engineering, Inc.***

Project : Pelican Island Disposal Area
Galveston, Texas
Contract No. DACW64-92-D-0005 Delivery order No. 0023

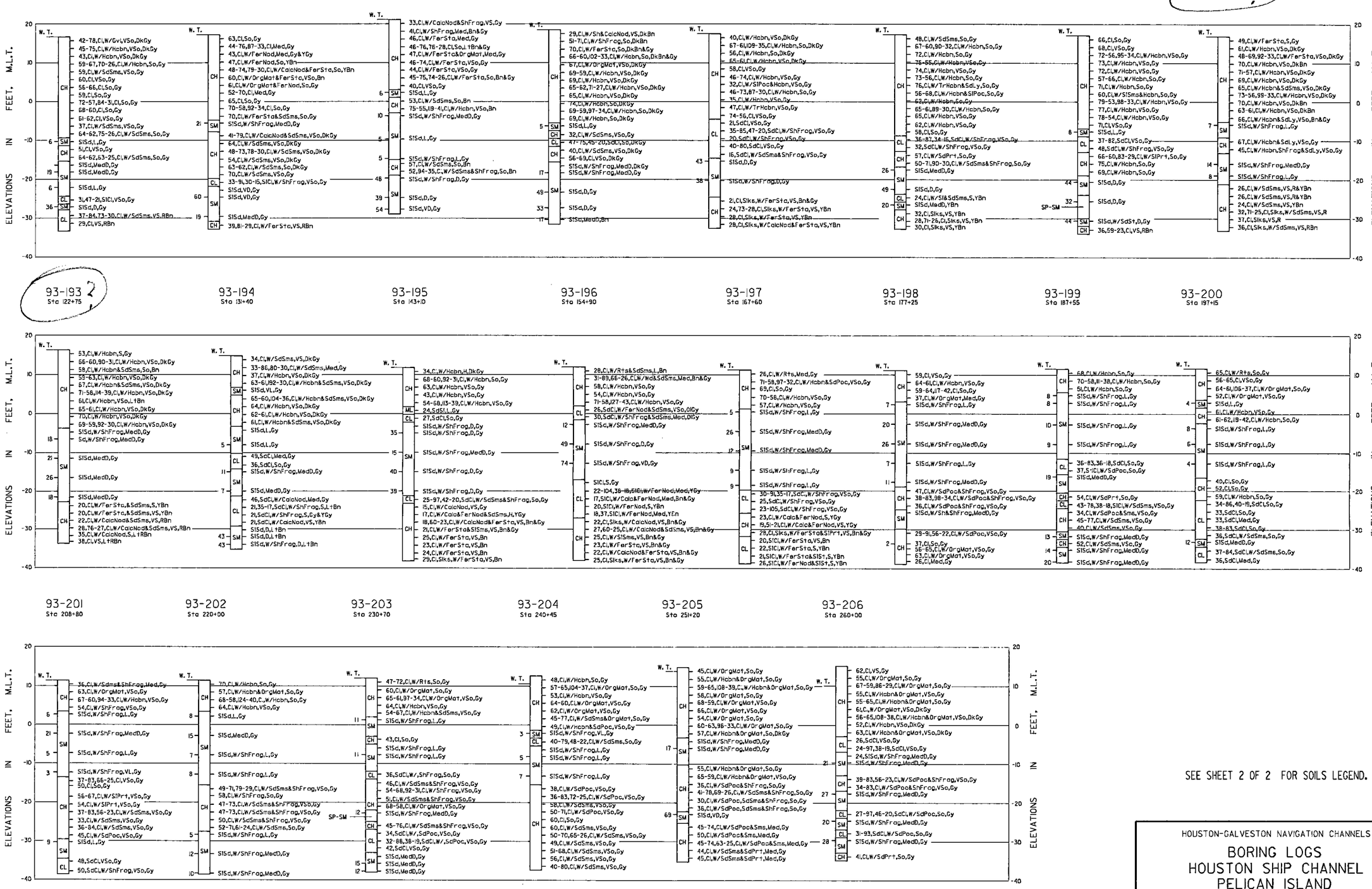
**SUMMARY OF LABORATORY TEST RESULTS**

Boring No. 93-189

| S # | Depth (ft) | P P (tsf) | SPT Blows per Foot | Visual Classification | U S C | M c (%) | Dry Unit Wt (pcf) | Wet Unit Wt (pcf) | L L (%) | P L (%) | Mechanical Analysis % Passing #4 | #10 | #40 | #100 | #200 | Torvane Shear Strength (tsf) | q u (tsf) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 37 - 38.5 | | 38 | Gray,Sand,Dense,Silty,w/shell fragments | SM | | | | | | | | | | | | |
| 19 | 42 - 44 | 2.75 | | Brown&gray,Clay,Very stiff,w/ferrous stains, Slickensided | CH | 21.1 | | | | | | | | | | | |
| 20 | 44 - 46 | 2.50 | | Yellowish brown,Clay,Very stiff,w/ferrous stains Slickensided | CH | 24.2 | | | 78 | 28 | | | | | | | |
| 21 | 46 - 48 | 2.25 | | Yellowish brown,Clay,Very stiff,w/ferrous stains Slickensided | CH | 28.2 | | | | | | | | | | | |
| 22 | 48 - 50 | 2.50 | | Yellowish brown,Clay,Very stiff,w/calcareous nodules&ferrous stains, Slickensided | CH | 27.5 | | | | | | | | | | | |

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

*Geotest Engineering, Inc.*




SEE SHEET 2 OF 2 FOR SOILS LEGEND.

HOUSTON-GALVESTON NAVIGATION CHANNELS

# BORING LOGS
# HOUSTON SHIP CHANNEL
# PELICAN ISLAND

U.S. ARMY ENGINEER DISTRICT, GALVESTON, TEXAS

SHEET 1 OF 2

EXHIBIT F-

| Boring No. | Depth (Top) EL. | (V/SO) psf | (SO) psf | MED psf | ST. to V/ST. psf |
|---|---|---|---|---|---|
| EL. | | | | | |
| 93-189: 14.5 | 2'-4' (17.5) EL | | 260 | | |
| 10.5' | 6'-8' | 120 | | | |
| 6.5' | 10'-12' | 180 | | | |
| 2.5' | 14'-16' | | 320 | | |
| -3.5 | 20'-22' | 220 | | | |
| -7.5 | 24-26' | 170 | | | |
| -11.5 | 28-30 | 190 | | | |
| 93-190: 14 | 2'-4' (17.3) | | 310 | | |
| 10' | 6'-8' | 130 | | | |
| 6' | 10'-12' | | 290 | | |
| 2' | 14'-16' | | 260 | | |
| -2 | 18'-20' | | 260 | | |
| -10 | 26'-28' | 140 | | | |
| -16 | 32'-34' | | 290 | | |
| 93-191: 12' | 4'-6' (17.1) EL | 220 | | | |
| 6' | 10'-12' | | 280 | | |
| 0' | 16-18' | 140 | | | |
| -4 | 20-22' | 140 | | | |
| -10 | 26-28 | 130 | | | |
| -15 | 30-32 | | 300 | | |
| 93-192: 12' | 4-6' (16.9) | 210 | | | |
| 8' | 8'-10' | 210 | | | |
| 2' | 14'-16' | 120 | | | |
| -2' | 18-20' | 120 | | | |

| Boring No. | Depth (Top) EL. | (V/SO) psf | (SO) psf | MED psf | ST. to V/ST. psf |
|---|---|---|---|---|---|
| EL. | | | | | |
| 93-189: 14.5 | 2'-4' (17.5) EL | | 260 | | |
| 10.5' | 6'-8' | 120 | | | |
| 6.5' | 10'-12' | 180 | | | |
| 2.5' | 14'-16' | | 320 | | |
| -3.5 | 20'-22' | 220 | | | |
| -7.5 | 24-26' | 170 | | | |
| -11.5 | 28-30 | 190 | | | |
| 93-190: 14 | 2'-4' (17.3) | | 310 | | |
| 10' | 6'-8' | 130 | | | |
| 6' | 10'-12' | | 290 | | |
| 2' | 14'-16' | | 260 | | |
| -2 | 18'-20' | | 260 | | |
| -10 | 26'-28' | 140 | | | |
| -16 | 32'-34' | | 290 | | |
| 93-191: 12' | 4'-6' (17.1) EL | 220 | | | |
| 6' | 10'-12' | | 280 | | |
| 0' | 16-18' | 140 | | | |
| -4 | 20-22' | 140 | | | |
| -10 | 26-28 | 130 | | | |
| -15 | 30-32 | | 300 | | |
| 93-192: 12' | 4-6' (16.9) | 210 | | | |
| 8' | 8'-10' | 210 | | | |
| 2' | 14'-16' | 120 | | | |
| -2' | 18-20' | 120 | | | |