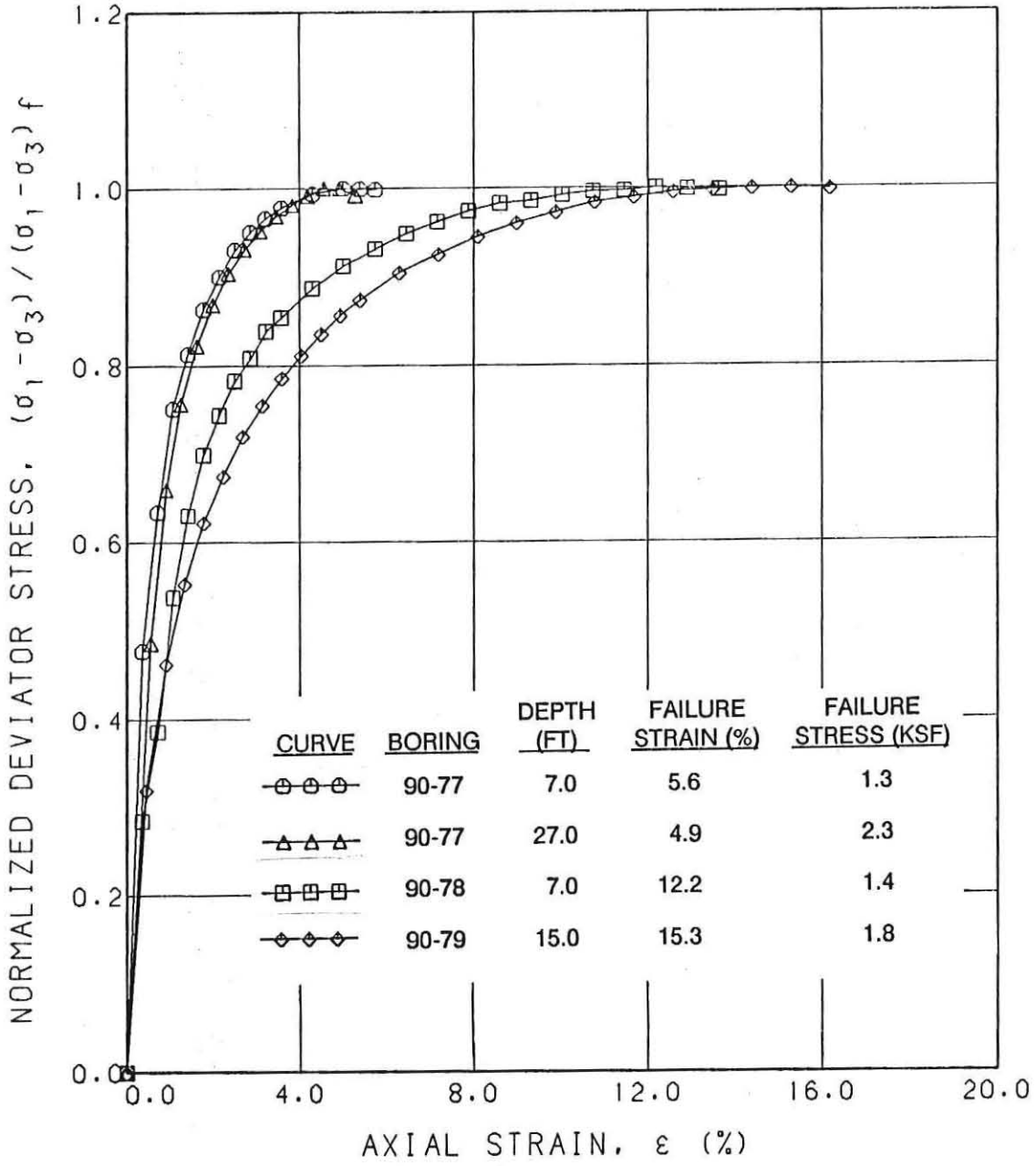
SUMMARY OF TEST RESULTS
Galveston District, Corps of Engineers
Delivery Order No. 0016
Brazos Island Harbor
Brownsville Ship Channel

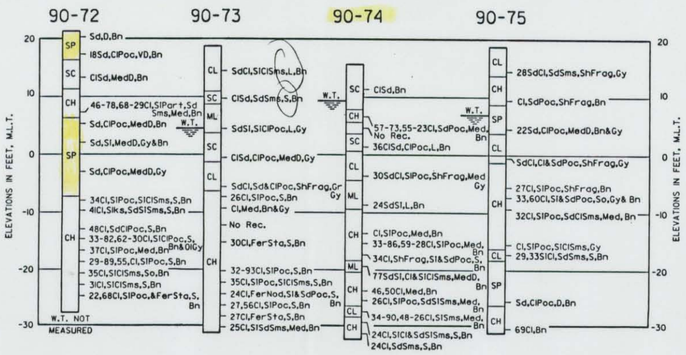
| Boring Number | Sample Number | Sample Depth (ft) | Visual Classification | USCS | MC (%) | UDW (pcf) | LL | PL | PI | Gradation, % Passing Sieve No. 4 | 10 | 40 | 200 | UNC Su (ksf) | TV Su (ksf) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90-78 | 1Q | 3-5 | Stiff brown CLAY w/ silt & sand pckts and ferrous nods | CH | 40 | | | | | | | | | | |
| 90-78 | 2Q | 5-7 | Firm brown CLAY w/ fe stns, sa pckts & sms gypsum | CH | 39 | 83 | 67 | 30 | | 100 | 99 | 99 | 98 | 0.7 | 1.0 |
| 90-78 | 3Q | 7-9 | Very stiff brown CLAY w/ si & sa pckts and fe & calc nod | CH | 29 | | | | | | | | | | |
| 90-78 | 4Q | 9-11 | Brown CLAY w/silt pckts and shell frags | CH | 40 | 81 | 66 | | | | | | | | |
| 90-78 | 5J | 11-13 | Brown fine SILTY SAND | SM | | | | | | | | | | | |
| 90-78 | 6J | 13-15 | Olive gray SANDY CLAY w/shell frags & clay pckts | CL | | | | | | | 100 | 83 | 66 | | |
| 90-78 | 7J | 15-16 | Missing | | | | | | | | | | | | |
| 90-78 | 8Q | 18-20 | Stiff olive gray and brown CLAY w/ silt pckts | CH | 33 | | | | | | | | | | |
| 90-78 | 9Q | 20-22 | Firm olive gray and brown CLAY w/ silt pckts | CH | 33 | | 50 | | | | | | | | 0.6 |
| 90-78 | 10Q | 22-24 | Stiff olive gray and brown CLAY w/ ferrous nods | CH | 31 | | | | | | | | | | |
| 90-78 | 11Q | 24-26 | Stiff brown CLAY w/ silty clay sms & ferrous nods | CH | 25 | | | | | | | | | | |
| 90-78 | 12J | 26.5-28 | Olive gray fine SANDY SILT w/free water | ML | | | | | | | 100 | 99 | 65 | | |
| 90-78 | 13J | 32-33 | Olive gray fine SILTY SAND w/free water | SM | | | | | | | | | | | |
| 90-78 | 14J | 37.5-39 | Olive gray fine SILTY SAND w/clay pckts & free water | SM | | | | | | | | | | | |
| 90-78 | 15J | 43.5-45 | Olive gray fine SAND w/clay pckts & free water | SP | | | | | | | | | | | |
| 90-78 | 16J | 48.5-50 | Olive gray SAND w/clay pckts & free water | SP | | | | | | | | | | | |

PLATE 10

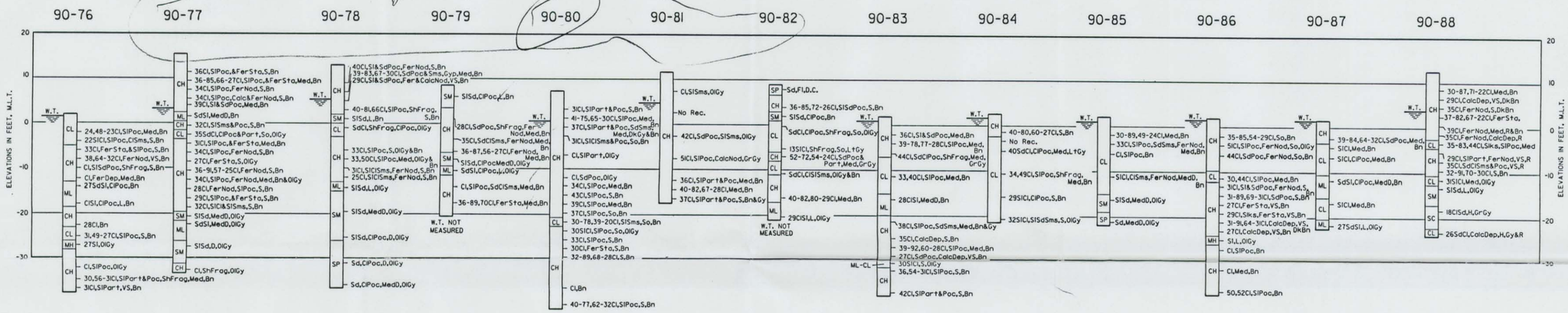



STRESS-STRAIN CURVES
UNCONFINED COMPRESSION TEST

PLATE 21




## DISPOSAL AREA No. 2




## DISPOSAL AREA No. 4

### NOTES;

1. SOILS HAVE BEEN CLASSIFIED IN ACCORDANCE WITH MILITARY STANDARD 619B "UNIFIED SOIL CLASSIFICATION SYSTEM FOR ROADS, AIRFIELDS, EMBANKMENTS AND FOUNDATIONS." CONSISTENCY OF SOILS SUCH AS SOFT, MEDIUM, HARD, LOOSE, DENSE, ETC., ARE RELATIVE TERMS BASED ON ESTIMATED UNDISTURBED SHEAR STRENGTH OF THE MATERIAL AS DETERMINED BY VISUAL CLASSIFICATION POCKET PENETROMETER TESTS AND PENETRATION RESISTANCE DURING SAMPLING.
2. FIGURES TO THE RIGHT OF BORING LOGS ARE WATER CONTENTS IN PERCENT OF THE DRY WEIGHT, DRY DENSITY, LIQUID LIMIT, PLASTIC LIMIT, AND BAR LINEAR SHRINKAGE. (MC-UDW),(LL-PL),(B.L.S.)*
3. BORINGS WERE DRILLED USING WET ROTARY DRILLING TECHNIQUES AND UNDISTURBED SAMPLES WHERE RECOVERED WITH A 3-INCH DIAMETER THIN WALL SAMPLER WHERE COHESIVE MATERIALS WERE ENCOUNTERED. WHERE COHESIONLESS MATERIALS WERE ENCOUNTERED, DISTURBED SAMPLES WERE TAKEN WITH A SPLIT SPOON SAMPLER DURING PERFORMANCE OF STANDARD PENETRATION TESTING.
4. WATER TABLE LEVELS SHOWN ON BORING LOGS WERE DETERMINED AFTER DRILLING BORINGS BY MEASURING THE TOP OF FLUID LEVELS IN THE BORINGS. INASMUCH AS WET ROTARY DRILLING TECHNIQUES AND DRILLING MUD WERE USED TO DRILL THE HOLES, THE LEVEL OF DRILLING FLUIDS IN THE BORE HOLES MAY NOT HAVE STABILIZED TO THE LEVEL OF THE ACTUAL WATER TABLE. ADDITIONALLY, WATER TABLES IN THE FIELD ARE LIKELY TO FLUCTUATE DEPENDING ON WEATHER CONDITIONS. THEREFORE, SOME VARIATION SHOULD BE ANTICIPATED BETWEEN WATER TABLES INDICATED AND WATER TABLES ENCOUNTERED IN THE FIELD.

### VISUAL CLASSIFICATIONS

| | | | |
|---|---|---|---|
| Bn Brown(ish) | Gr Green(ish) | R Red(dish) | Sta Stain(s) |
| Calc Calcareous | Gy Gray(ish) | Rec Recovery | V Very |
| Cl Clay(ey) | Gyp Gypsum | S Stiff | W.T. Water Table |
| D Dense | H Hard | Sd Sand(y) | |
| D.C. Driller's Classification | L Loose | Sl Shale | |
| Dep Deposit(s) | Lt Light | Sh Shell(y) | |
| Dk Dark | Med Medium | Sl Silty | |
| Fer Ferrous | Nod Nodules | Slks Slickensides | |
| Fl Fine(s) | Ol Olive | Sms Seams | |
| Frag Fragment(s) | Part Particle(s) | So Soft | |
| | Poc Pocket(s) | | |

### LABORATORY CLASSIFICATION

SP POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES.
SM SILTY SANDS, SAND-SILT MIXTURES.
SC CLAYEY SANDS, SAND-CLAY MIXTURES.
ML INORGANIC SILTS AND VERY FINE SANDS, WITH SLIGHT PLASTICITY.
CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, LEAN CLAYS.
MH INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
CH INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

OFFICE OF THE DISTRICT ENGINEER
U.S. ARMY ENGINEER DISTRICT, GALVESTON
CORPS OF ENGINEERS
GALVESTON, TEXAS

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DATED: MAY 1992

BRAZOS ISLAND HARBOR, TEXAS
BROWNSVILLE CHANNEL
DREDGING INSHORE REACH NO. 1
DISPOSAL AREAS Nos. 2 & 4
# BORING LOGS

Prepared under the direction of
Brink P. Miller, Col., C.E.
District Engineer

SCALE: AS SHOWN
SPEC. DATE:
DRAWING NUMBER: F-6
SHEET 13 OF 17 FILE NO. RIO 901-204