

Job No. 0401-2906 Completion Date 5/23/90 Time _____ Field Log of Boring 90-87

Elevation _____ Location Disposal Area 4 Driller R. AGUILAR

Lab. Tests	Soil Sample			Depth (ft)	Sample	Blows	Torvane Penet.	Logger <u>W. CUTSHALL</u>	Comments	Description of Material
	No.	Depth	Type							
										CLAY, stiff, light brown
	1	3-5	Q				1.25			
				5						(5')
	2	5-7	J							SILTY SAND, medium-dense, light brown
	3	7.5-9	J		X	2-3-3				- loose to 10'
				10						
	4	12.5-14	J		X	4-6-6				
				15						
	5	17.5-19	J		X	4-7-7				
				20						
										(22')
	6	23.5-24	J		X	1-2-4				SANDY SILT, loose, gray
				25						(24')

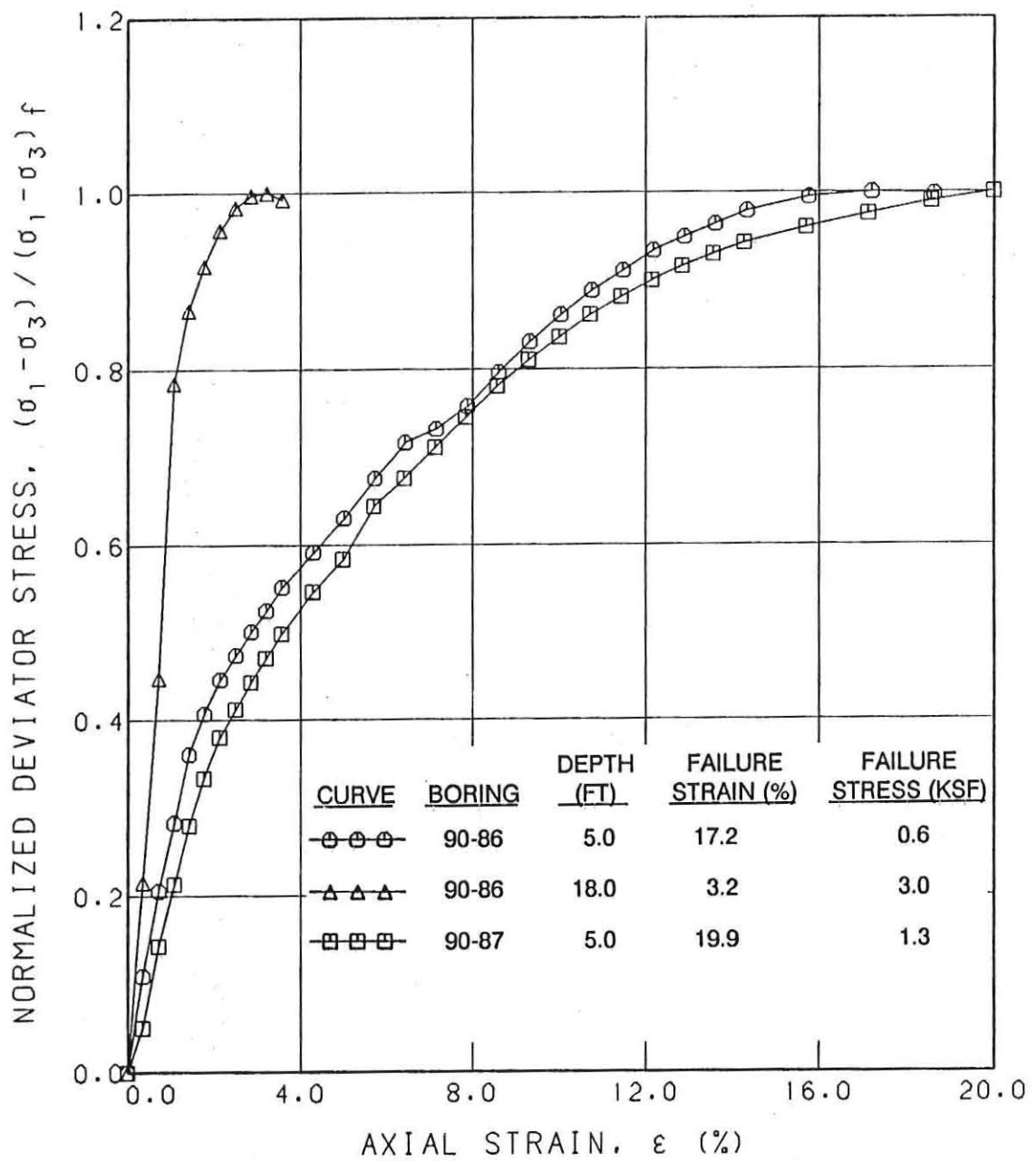
Remarks: Casing set to 5' depth

Boring Sealed? w/cutting
 Dry Auger _____ to _____ ft
 Wet Rotary 0 to 24 ft
 Water First Noticed _____ ft

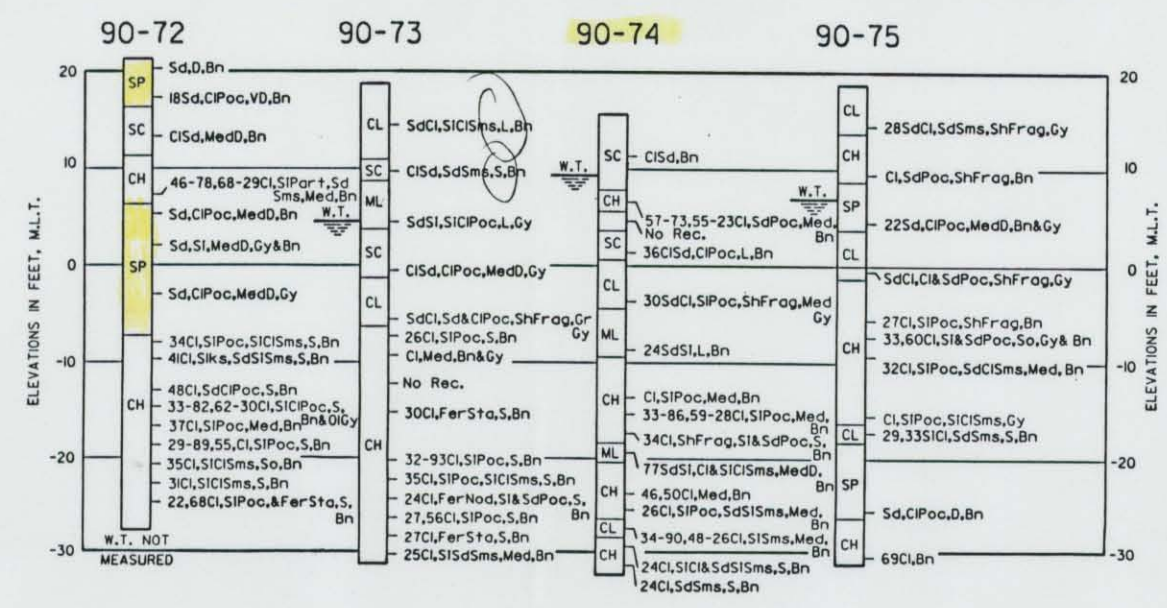
Depth to Water 0.0' Caved at _____ Date _____ Time _____ ;

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

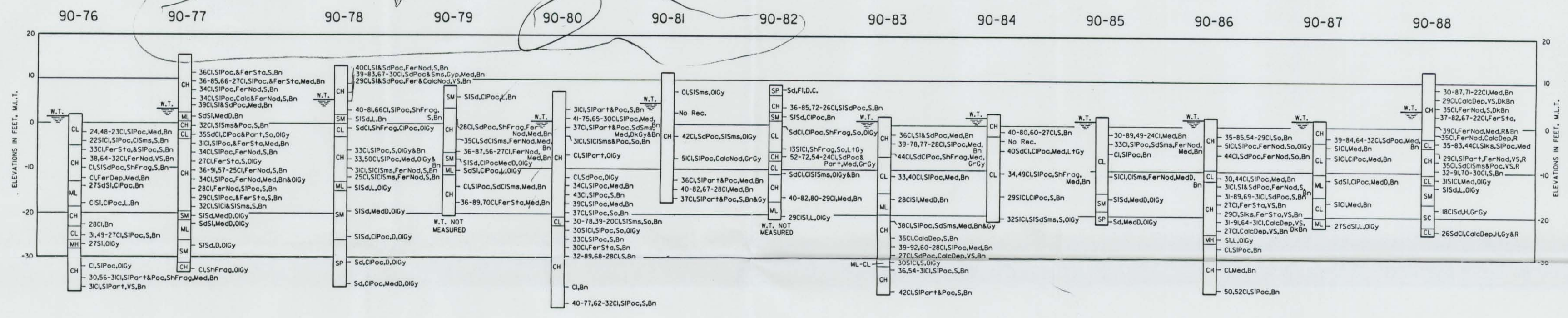
Boring Number	Sample Number	Sample Depth (ft)	Visual Classification	USCS	MC (%)	UDW (pcf)	LL	PL	PI	Gradation, % Passing Sieve No. 4 10 40 200	UNC Su (ksf)	TV Su (ksf)
90-86	1Q	3-5	Soft brown CLAY	CH	35	85	54	29		100 98 96	0.3	0.4
90-86	2J	5-7	Olive gray CLAY w/ silt pckts & ferrous nods	CH	51							
90-86	3J	7.5-9	Brown CLAY w/ sand pockets & ferrous nodules	CH	44					100 99 98 97		
90-86	4J	12.5-14	Brown CLAY w/ silt pockets	CL	30		44			100 99		
90-86	5Q	14-16	Stiff brown CLAY w/ si pckts, sa pckts & fe nods	CH	31							
90-86	6Q	16-18	Stiff brown CLAY w/ sand pockets	CH	31	89	69	31		100 99	1.5	
90-86	7Q	18-20	Very stiff brown CLAY w/ ferrous stains	CH	27							
90-86	8Q	20-22	Very stiff brown CLAY slickensided w/ ferrous stns	CH	29							
90-86	9Q	22-24	Very stiff dark brown CLAY w/calcareous deps	CH	31	91	64	31		100 99 98		
90-86	10Q	24-26	Very stiff brown CLAY w/ calcareous deps	CH	27							
90-86	11J	26-28	Olive gray SILT w/ free water	MH								
90-86	12J	28.5-30	Brown CLAY w/ silt pckts & free water	CH								
90-86	13J	33.5-35	Brown CLAY	CH						100 99 98		
90-86	14J	38.5-40	Brown CLAY w/ silt pockets	CH	50		52					
90-87	1Q	3-5	Firm brown CLAY w/ sand pockets	CH	39	84	64	32		100 97	0.7	0.4
90-87	2J	5-7	Brown SILTY CLAY	CL								
90-87	3J	7.5-9	Brown SILTY CLAY w/ clay pockets	CL								
90-87	4J	12.5-14	Brown fine SANDY SILT w/ clay pckts	ML						100 98 68		
90-87	5J	17.5-19	Brown SILTY CLAY	CL								
90-87	6J	22.5-24	Olive gray fine SANDY SILT w/ free water	ML	27					100 97 75		



STRESS-STRAIN CURVES
UNCONFINED COMPRESSION TEST



DISPOSAL AREA No. 2



DISPOSAL AREA No. 4

NOTES:

1. SOILS HAVE BEEN CLASSIFIED IN ACCORDANCE WITH MILITARY STANDARD 698B "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-UOW), (LL-PL), (B.L.S.)
3. BORINGS WERE DRILLED USING WET ROTARY DRILLING TECHNIQUES AND UNDISTURBED SAMPLES WERE 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 Brownish	Gr Green(ish)	R Reddish	Sta Stains)
Cdc Colorous	Gy Gray(ish)	Rec Recovery	Y Very
Cl Clay(ey)	Gyp Gypsum	S Stiff	W.T. Water Table
D Dense	H Hard	Sh Shale	
D.C. Driller's Classification	L Loose	Sh Shelly	
Dep Deposit(als)	Lt Light	SI Silty	
Dk Dark	Med Medium	Sls Silty	
Fer Ferrous	Nod Nodules	Sks Sickenalides	
Fl Fine(als)	Ol Olive	Sms Seams	
Frag Fragment(als)	Poc Pocket(als)	So Soft	

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			
DRAWN BY P.B.S.		BRAZOS ISLAND HARBOR, TEXAS BROWNSVILLE CHANNEL DREDGING INSHORE REACH NO. 1 DISPOSAL AREAS Nos. 2 & 4 BORING LOGS	
CHECKED BY J.T.F.		SUBMITTED BY David Campbell DIST. ENGINEER	
APPROVED BY David Campbell DIST. ENGINEER		DATE MAY 1992	
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	