

Job No. 0401-2906 Completion Date 5/29/90 Time _____ Field Log of Boring 90-85

Elevation _____ Location Disposal Area 4 Driller R. AGUILAR

Lab. Tests	Soil Sample			Depth (ft)	Sample	Blows	Torvane Penet.	Logger <u>W. CUTSHALL</u>	
	No.	Depth	Type					Comments	Description of Material
									CLAY, stiff, light brown
	1	3-5	Q			125			
	2	5-7	Q	5		125			(5')
	3	7.5-9	J		X	1 blow for 18"			SILTY SAND, gray - stiff light gray clay below 6.5' (r) SILTY SAND, loose, light gray - very loose to 9'
				10					
	4	12.5-14	J		X	3-5-5			
				15					
	5	17.5-19	J		X	8-8-6			- gray and medium-dense below 17'
				20					
	6	22.5-24	J		X	12-12-13			
				25					(24')

Remarks: ① 100' S. OF LEVEE ϕ ; ∇ 600' N. OF ORIGINAL STAKE POINT.

② Casing set to 5-ft depth

Depth to Water 1.1' Caved at _____ Date _____ Time _____ ;

Boring Sealed? w/cuttings

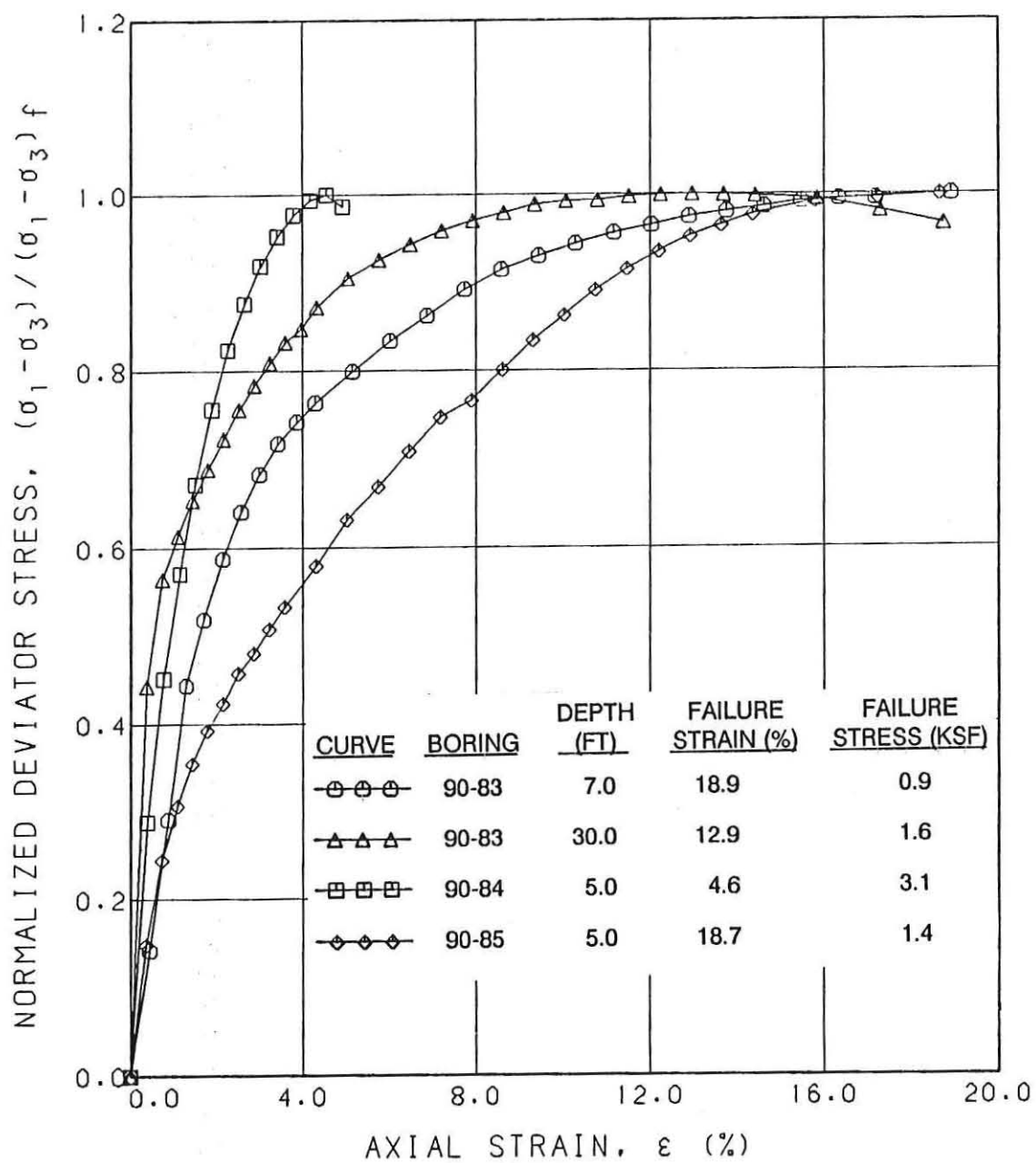
Dry Auger _____ to _____ ft

Wet Rotary 0 to 25 ft

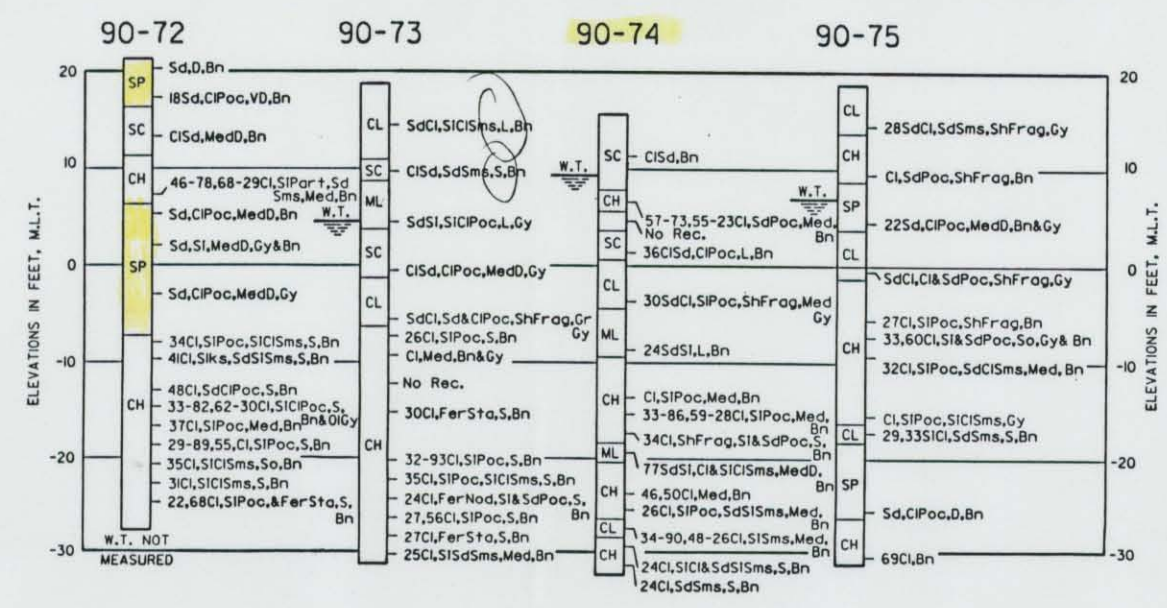
Water First Noticed _____ ft

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

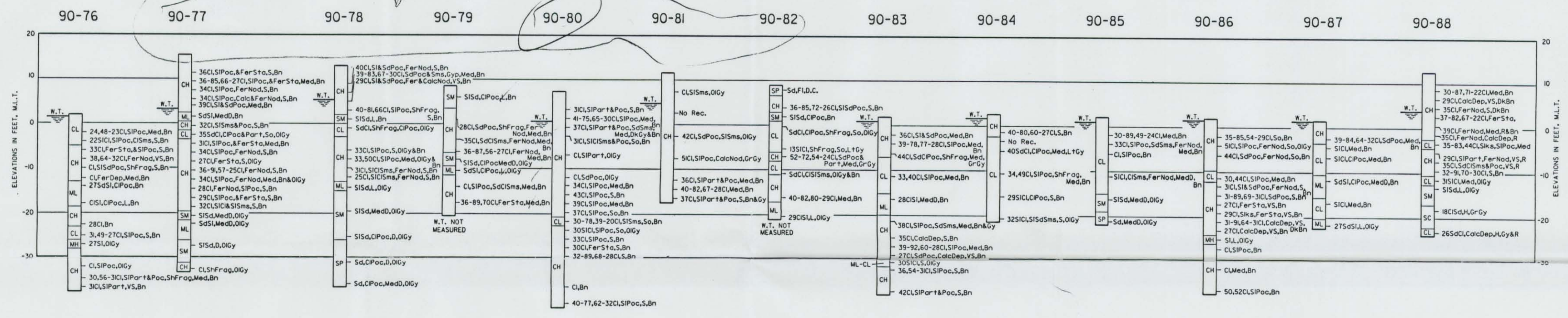
Boring Number	Sample Number	Sample Depth (ft)	Visual Classification	USCS	MC (%)	UDW (pcf)	LL	PL	PI	Gradation, % Passing Sieve No. 4 10 40 200	UNC Su (ksf)	TV Su (ksf)
90-83	1Q	3-5	Firm brown CLAY w/ silt pckts & sand pckts	CH	36							0.5
90-83	2Q	5-7	Firm brown CLAY w/ silt pockets	CH	39	78	77	28		100 99 98	0.5	0.3
90-83	3J	7.5-9	Greenish gray CLAY w/ sandy clay pckts & shell frags	CH	44							
90-83	4J	12.5-14	Brown CLAY w/ silt pockets	CL	33		40					
90-83	5J	17.5-19	Brown CLAYEY SILT	ML	28							
90-83	6J	22.5-24	Brown and gray CLAY w/ silt pckts & sand sms	CH	38					99 96 94 92		
90-83	7Q	26-28	Stiff brown CLAY w/ calcareous deposits	CH	35							
90-83	8Q	28-30	Firm brown CLAY w/ silt pockets	CH	39	92	60	28		100 99 97	0.8	
90-83	9Q	30-32	Very stiff brown CLAY w/ sand pckts & calcareous deps	CH	27							
90-83	10J	32-34	Olive gray SILTY CLAY	ML-CL	30							
90-83	11J	34-35.5	Brown CLAY w/ silt pockets	CH	36		54	31				
90-83	12	39-40.5	Brown CLAY w/ silt partings & pockets	CH	42							
90-84	1Q	3-5	Stiff brown CLAY	CH	40	80	60	27		99 98 97 97	1.6	
90-84	2J	7.5-9	Light gray SANDY CLAY w/ clay pockets	CL	40							
90-84	3J	12.5-14	Brown CLAY w/ silt pockets & shell fragments	CL	34		49			100 96 90		
90-84	4J	17.5-19	Brown SILTY CLAY w/ clay pckts & ferrous stns	CL	29							
90-84	5J	22.5-24	Olive gray SILTY CLAY w/ fine silty sand sms	CL	32							
90-85	1Q	3-5	Firm brown CLAY	CL	30	89	49	24		100 99	0.7	
90-85	2Q	5-7	Firm brown CLAY w/ silt pckts, sand sms & ferrous nods	CL	33							
90-85	3J	7.5-9	Brown CLAY w/ silt pockets	CL								
90-85	4J	12.5-14	Brown SILTY CLAY w/ clay seams & ferrous nods	CL						100 99 93		
90-85	5J	17.5-19	Olive gray fine SILTY SAND	SM								
90-85	6J	22.5-24	Olive gray SAND	SP								



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 699B "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 Clayey	Gyp Gypsum	S Stiff	W.T. Water Table
D Dense	H Hard	Sh Shale	
D.C. Driller's	L Loose	Sh Shelly	
Classification	Lt Light	SI Silty	
Dep. Deposit(s)	Med Medium	Sls Silty	
Dk Dark	Nod Nodules	Sks Sickenalides	
Fer Ferrous	Ol Olive	Sms Seams	
Fl Fine(s)	Port Partic(s)	So Soft	
Frag Fragment(s)	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			
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	