

Job No. 040-2906 Completion Date 5/24/90 Time \_\_\_\_\_ Field Log of Boring 90-83

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
									SANDY CLAY, firm, gray
	1	3-5	Q	5		-	0.75		(5')
	2	5-7	Q			0.50	SILT, very loose, gray		
	3	7.5-9	J	10	X	1 blow for 18"			(12')
	4	12.5-14	J			4-5-7	CLAYEY SILT, gray and brown, medium-dense		
	5	17.5-19	J	20	X	2-3-10			(17')
	6	22.5-24	J			4-3-7	SANDY SILTY, medium-dense, gray		
	7	26-28	Q	30			2.25		(26')
	8	28-30	Q			1.75	CLAY, very stiff, gray		
	9	30-32	Q	35	X		2.25	-stiff, 28'-to 30'	(32')
	10	32-34	J			2.25	-silty below 30'		
	11	34-35.5	J	40	X	9-10-15			(36')
							CLAYEY SILT, very dense, brown		
	12	39-40.5	J					SILTY CLAY, gray	(40.5')

Remarks: ① ≈ 50' S. & E. OF LEVEE  
 ≈ 500' N.W. OF BORING STAKE  
 ≈ 300' W. OF SHORELINE

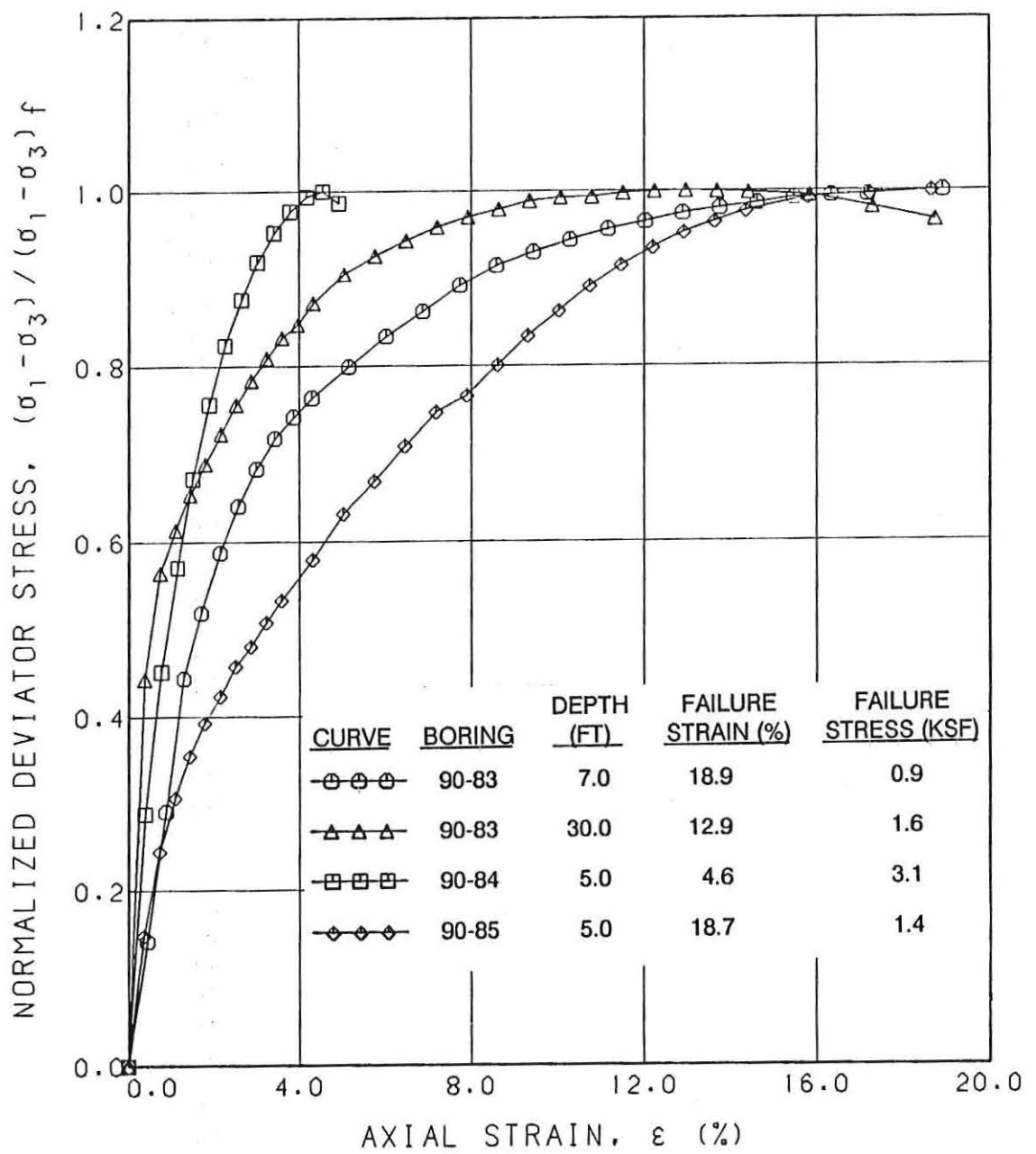
② Casing set to 5-ft depth

Depth to Water 1.0' Caved at \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ ;

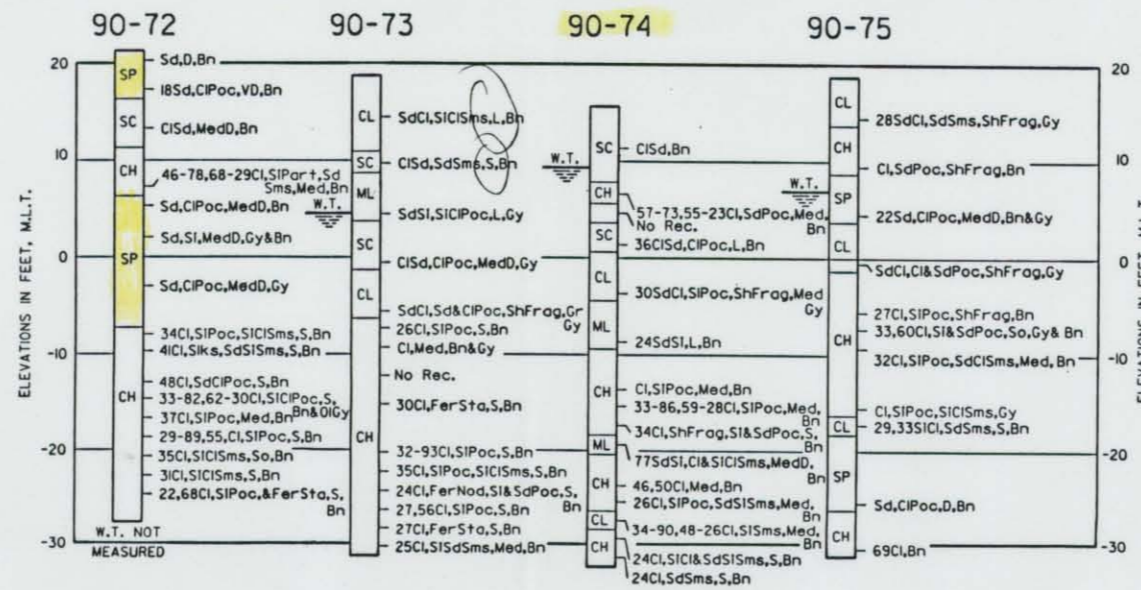
Boring Sealed? w/cuttings  
 Dry Auger \_\_\_\_\_ to \_\_\_\_\_ ft  
 Wet Rotary 0 to 40.5 ft  
 Water First Noticed \_\_\_\_\_ ft

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

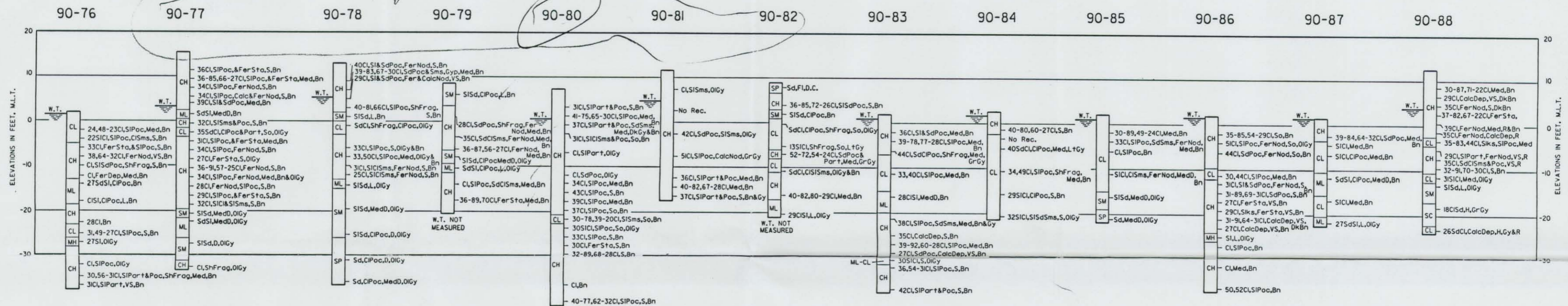
Boring Number	Sample Number	Sample Depth (ft)	Visual Classification	USCS	MC (%)	UDW (pcf)	LL	PL	PI	Gradation, % Passing Sieve No.				UNC Su (ksf)	TV Su (ksf)
										4	10	40	200		
90-83	1Q	3-5	Firm brown CLAY w/ silt pckts & sand pckts	CH	36										0.5
90-83	2Q	5-7	Firm brown CLAY w/ silt pockets	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:

- 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.
- 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-UW), (LL-PL), (B.L.S.)
- 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.
- 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 Stain(s)
Colo Calcareous	Gy Gray(ish)	Rec Recovery	V Very
Cl Clay(ey)	Gyp Gypsum	S Stiff	W.T. Water Table
D Dense	H Hard	Sd Sandy	
D.C. Driller's Classification	L Loose	Sh Shale	
Dep Deposit(al)	Lt Light	Sh Shell(ly)	
Dk Dark	Med Medium	Sl Silty	
Fer Ferrous	Nod Nodules	Slk Siltsand(s)	
Fl Fine(s)	Ol Olive	Sks Slickensides	
Frag Fragmental	Poc Pocket(al)	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	
TRACED BY			
CHECKED BY J.T.F.			
SUBMITTED BY David Campbell			
APPROVED BY David Campbell	DATE MAY 1992	SCALE AS SHOWN DRAWING NUMBER F-6 SHEET 13 OF 17 FILE NO. RIO 901-204	
Prepared under the direction of Brink P. Miller, Col., C.E. District Engineer			