Project No. 03-859-037 Client: United States Army Corps of Engineers

Project: Colorado River to Matagorda Bay; Contract DACW64-03-D-0008; Delivery Order 0037

Boring No.	Sample No.	Depth (feet)	Torvane Shear Test (tsf)	Soil Description	USCS	Water Content (%)	Dry Density (pcf)	Liquid Limit	Plastic Limit	Plast. Index	Finer than #200 Sieve (%)	Uconf. Compr. (tsf)	Failure Strain (%)	Failure Type
	6	10-12		Tan and gray LEAN CLAY; sand seams	CL	18.8								
	7	13.5-15		Tan SILTY SAND	SM									
05-32														
	1	0-2		Gray and tan FAT CLAY; few calcareous nodules	CH	61.3								
	2	2-4	0.06	Brown and gray FAT CLAY	CH	110.3		96	27	69				
	3	4-6	0.05	Brown and gray FAT CLAY	CH	95.1								
	4	6-8		Olive gray FAT CLAY; traces of shells	CH	34.0	87.0					0.21	13.0	Bulge
	5	8-10		Olive gray LEAN CLAY; sand pockets and few shells	CL	29.4	96.3	34	18	16		0.30	14.5	Bulge/Vertical Shr
	6	10-12		Tan and gray LEAN CLAY; sand seams	CL	22.3								
	7	12-14		Gray and tan LEAN CLAY; sand seams and traces of ferrous nodules	CL	18.7								
	8	14-15		Gray and tan FAT CLAY; sand seams	CH	23.7								
05-33														
	1	0-2		Gray CLAYEY SAND	SC						21.8			
	2	2.5-4		Gray CLAYEY SAND	SC						25.4			
	3	4-6		Olive and gray FAT CLAY with SAND; organics	CH	95.6								
	4	8.5-10		Tan SILTY SAND	SM						14.9			
	5	13.5-15		Tan POORLY GRADED SAND with SILT	SP-SM						10.4			
05-34														
	1	0.5-2		Brown and gray FAT CLAY	CH	89.9								
	2	2-4	0.06	Brown and gray FAT CLAY	CH	74.0								
	3	4-6	0.05	Olive gray LEAN CLAY; sand seams and traces of shells	CL	30.3		26	15	11				
	4	6-8	0.12	Olive gray FAT CLAY; sand seams and traces of shells	CH	29.6								
	5	8-10		Olive and gray FAT CLAY; silt seams	CH	33.7	92.7					0.15	14.5	Bulge
	6	10-12		Olive and gray FAT CLAY with SAND	CH	33.4								
	7	12.5-14		Gray FAT CLAY with SAND; little shells	CH	33.2								
	8	14-15		Brown and gray FAT CLAY; sand seams	CH	34.7								
05-35														
	1	2.5-4		Olive gray SILTY SAND; traces of shells	SM						22.2			
	2	4.5-6			CL			27	16	11	60.2			
	3	8.5-10			CL			27	15	12	65.5			
	4	10-12		Olive gray FAT CLAY; sand seams and traces of shells	CH	32.9	88.8					0.25	6.1	bulge
	5	12-14		Olive gray FAT CLAY; sand seams and traces of shells	CH	39.7	81.0					0.13	3.8	bulge
	6	14-16		Olive gray FAT CLAY: traces of shells	CH	36.8								
Grab Samples														
	A-58	Surface			CH	148.6		74	23	51	94.8			
	A-59	Surface			CH	152.6		85	24	61	95.1			
	A-60	Surface			CH	155.1		80	24	56	94.6			
	A-61	Surface			CH	186.2		91	25	66	89.2			
	A-62	Surface			CH	201.4		87	24	63	95.0			
	A-63	Surface			CH	145.2		65	22	43	87.7			

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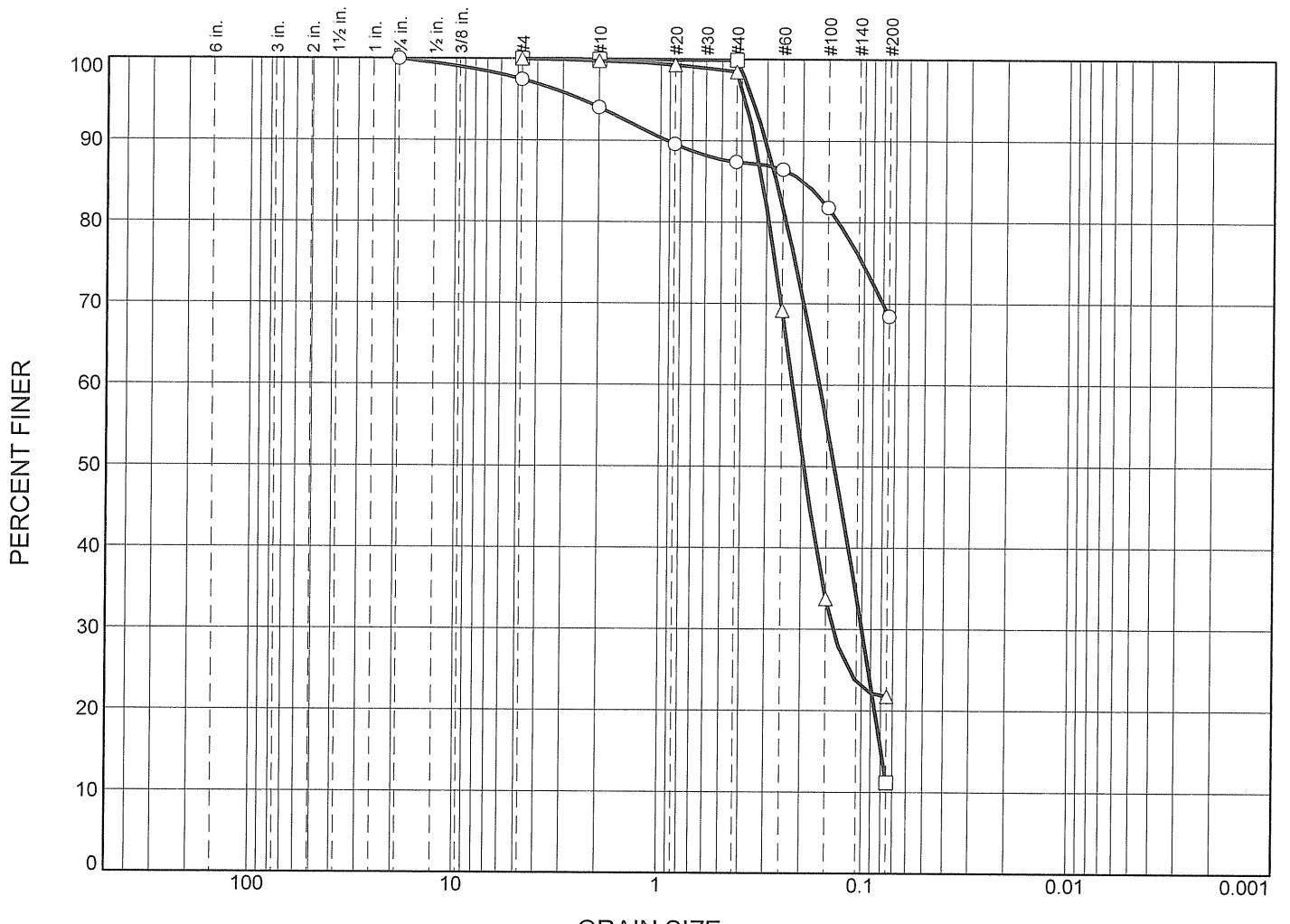
Particle Size Distribution Report (ASTM D 422)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.5	3.4	6.7	19.0	68.4	
□	0.0	0.0	0.0	0.0	0.1	88.7	11.2	
△	0.0	0.0	0.0	0.2	1.3	76.7	21.8	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	05-30	4	6.5-8	Gray CLAYEY SAND; calcareous nodules	CL
□	05-30	5	8.5-10	Tan and gray POORLY GRADED SAND with SILT	SP-SM
△	05-33	1	0-2	Gray CLAYEY SAND	SC

Tolunay-Wong Engineers, Inc.
Houston, Texas

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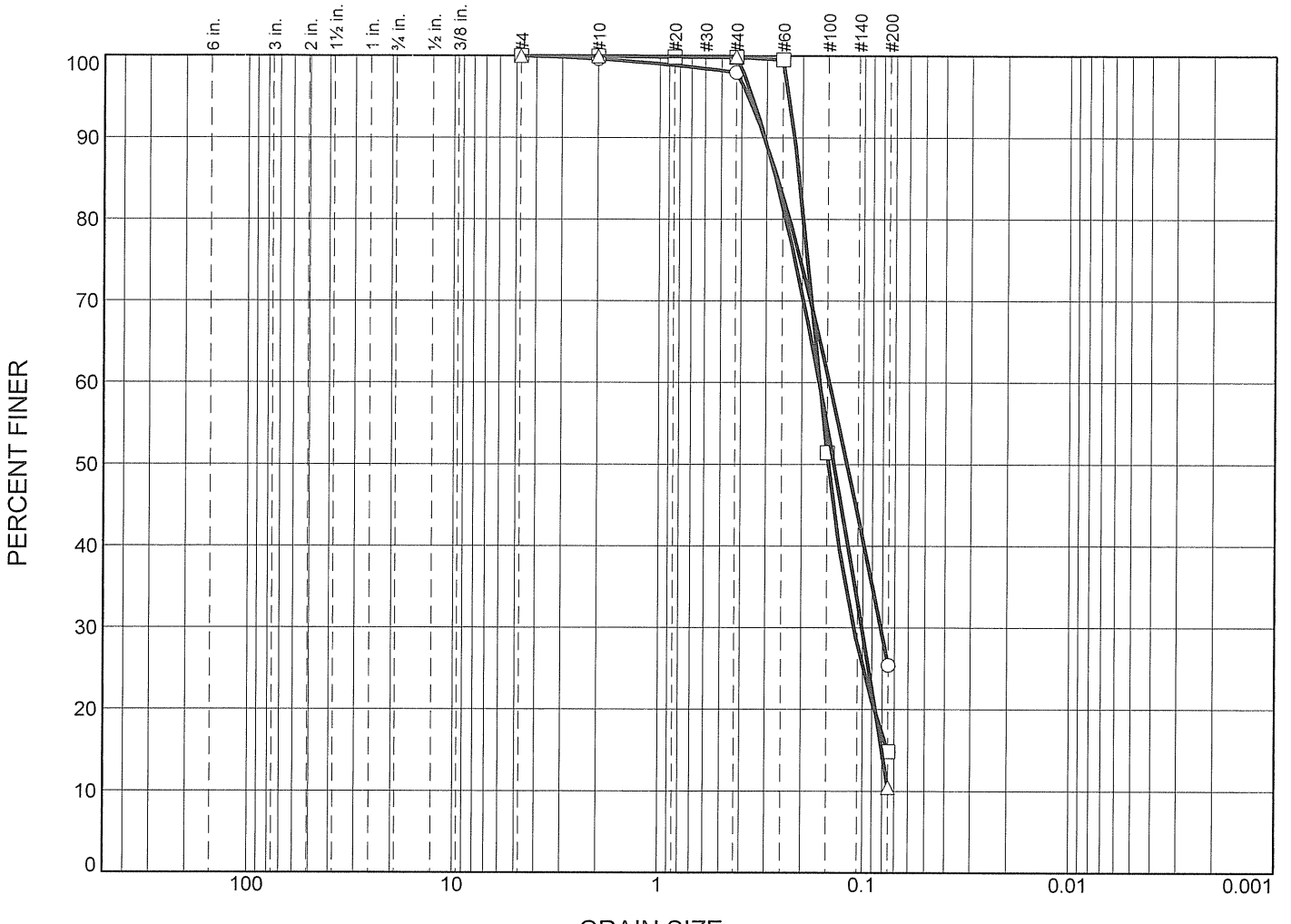

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.4	1.6	72.6	25.4	
□	0.0	0.0	0.0	0.0	0.2	84.9	14.9	
△	0.0	0.0	0.0	0.0	0.1	89.5	10.4	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	05-33	2	2.5-4	Gray CLAYEY SAND	SC
□	05-33	4	8.5-10	Tan SILTY SAND	SM
△	05-33	5	13.5-15	Tan POORLY GRADED SAND with SILT	SP-SM

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