

BORING LOG NO. B-17

Page 1 of 1

PROJECT: Galveston Bay Sand Reclamation Project

CLIENT: Atkins North America, Inc.
Houston, Texas

SITE: Galveston Bay
Galveston, Texas

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 29.30978° Longitude: -94.82955°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST			WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
						TEST TYPE	COMPRESSIVE STRENGTH (tsf)	STRAIN (%)				
	DEPTH											
	CLAY , gray, very soft to stiff			X	WOH							
	3.0			X	5-6-7 N=13							
	POORLY GRADED SAND WITH SILT (SP-SM) , gray, medium dense			X	8-13-15 N=28							
	- with shell fragments 6 to 10 feet			X	3-6-6 N=12							6
				X	5-7-11 N=18							
	12.0			X	6-9-9 N=18							
	CLAY , reddish brown and light gray, medium stiff to very stiff, with ferrous nodules and shell fragments			X	4-1-4 N=5							
	16.0				3.0 (HP)							
	Boring Terminated at 16 Feet											

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Dry augered to 6 feet; wet rotary thereafter.

Abandonment Method:
Not applicable

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

- WOH = Weight of Hammer.
- Water depth of about 13 feet at the time of our field program.

WATER LEVEL OBSERVATIONS

Not applicable

Terracon
551 League City Pkwy Ste F
League City, TX

Boring Started: 07-14-2017

Drill Rig: Truck

Project No.: 91175047

Boring Completed: 07-14-2017

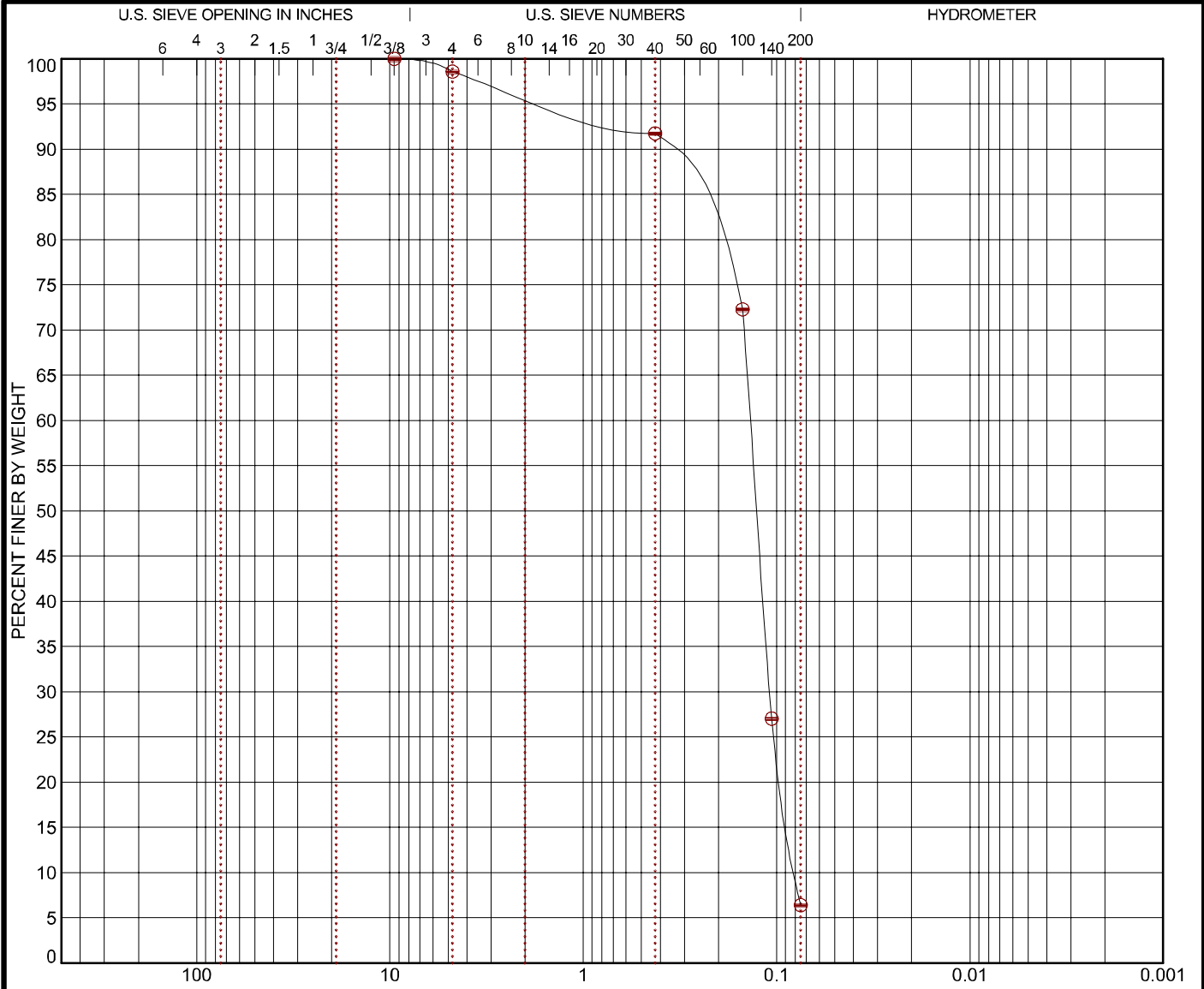
Driller: Van and Sons

Exhibit: A-19

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 91175047 REV1 GALVESTON BAY SAN.GPJ TERRACON_DATATEMPLATE.GDT 11/2/17

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring ID	Depth	USCS Classification				WC (%)	LL	PL	PI	Cc	Cu
⊖ B-17	6.5 - 8	POORLY GRADED SAND WITH SILT (SP-SM)								1.08	1.71
Boring ID	Depth	D ₁₀₀	D ₈₅	D ₅₀	D ₁₀	%Gravel	%Sand	%Silt	%Fines	%Clay	
⊖ B-17	6.5 - 8	9.5	0.296	0.126	0.08	1.4	92.2		6.4		

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EXHIBIT: A-34