

BORING LOG NO. B-15

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: 29.30755° Longitude: -94.83029°	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											
	POORLY GRADED SAND (SP) , gray, very loose, with shell fragments and clay pockets				1-1-1 N=2							
	CLAY , gray, very soft to medium stiff				3-2-1 N=3							
		5			WOH							
					2-3-3 N=6							
	POORLY GRADED SAND WITH SILT (SP-SM) , gray, loose to medium dense, with shell fragments - with clay pockets 8 to 12 feet				4-4-7 N=11							
		10			7-10-14 N=24							
					4-5-7 N=12							6
		15			6-10-12 N=22							
					2-4-2 N=6							
	CLAY , reddish brown and light gray, medium stiff to very stiff, with ferrous and calcareous nodules				2-3-3 N=6							
		20			3.25 (HP)							
					3.0 (HP)							
					3.5 (HP)							
	Boring Terminated at 25 Feet	25										

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

Hammer Type: Automatic

Advancement Method:
Dry augered to 12 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 10 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

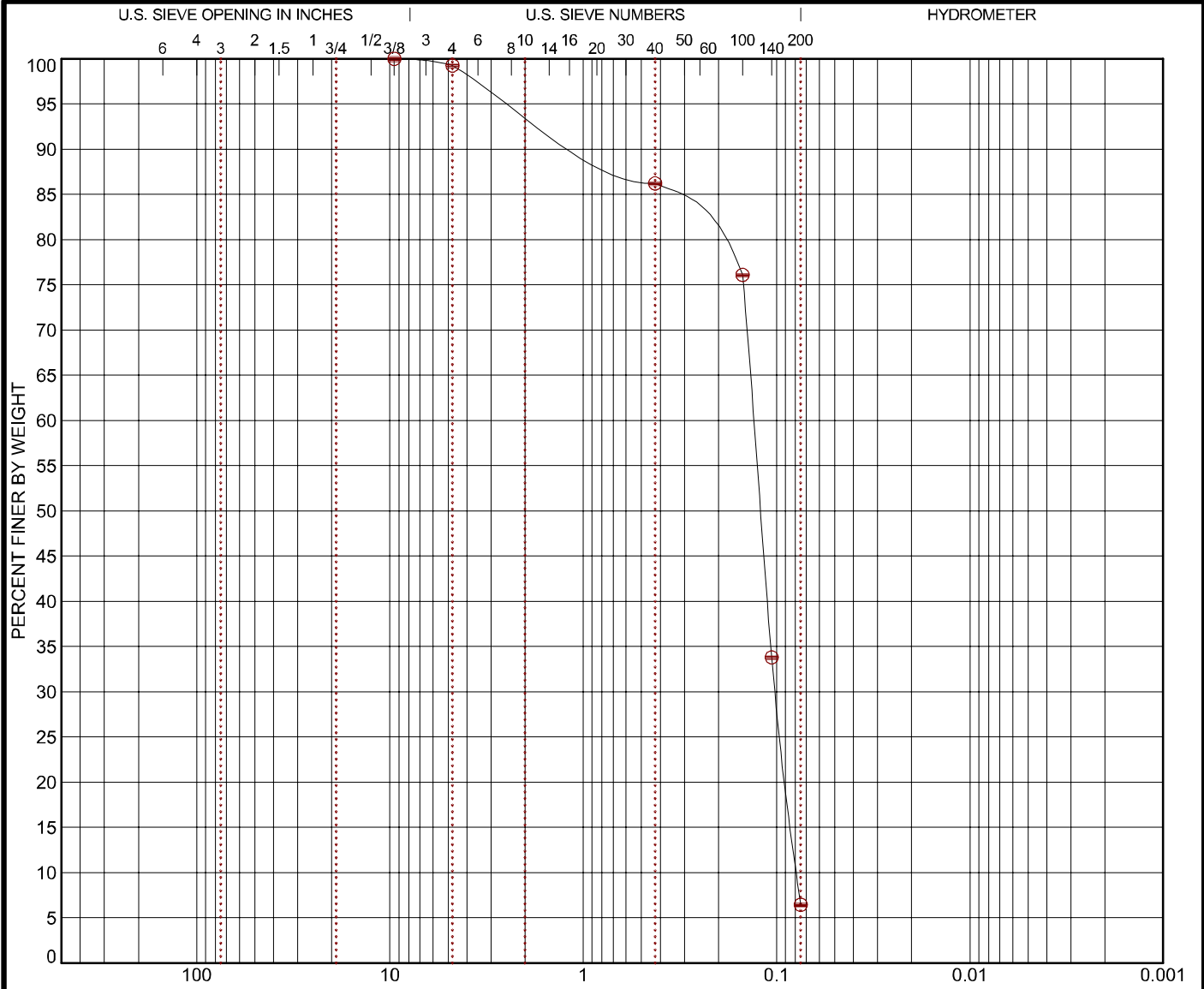
Driller: Van and Sons

Exhibit: A-17

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-15	12.5 - 14	POORLY GRADED SAND WITH SILT (SP-SM)								0.99	1.68
Boring ID	Depth	D ₁₀₀	D ₈₅	D ₅₀	D ₁₀	%Gravel	%Sand	%Silt	%Fines	%Clay	
⊖ B-15	12.5 - 14	9.5	0.375	0.121	0.078	0.7	92.8		6.4		

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EXHIBIT: A-32