

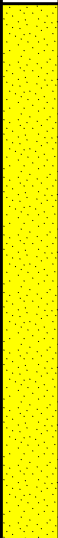
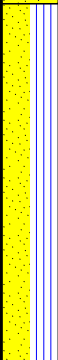
BORING LOG NO. B-14

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: 29.30303° Longitude: -94.83123°	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 to medium dense, with shell fragments			X	2-3-1 N=4							
				X	1-3-4 N=7							4
		5		X	1-1-1 N=2							
				X	4-8-11 N=19							
		10		X	4-9-15 N=24							
				X	4-9-11 N=20							
	POORLY GRADED SAND WITH SILT (SP-SM) , gray, loose to dense, with shell fragments	12.0		X	11-14-19 N=33							8
				X	6-8-14 N=22							
		15		X	4-6-7 N=13							
				X	5-5-2 N=7							
		20.0		X	1-2-4 N=6							
	CLAY , gray, soft to very stiff - with shell fragments 20 to 24 feet	20		X	1-1-1 N=2							
					2.5 (HP)							
		25.0										
	Boring Terminated at 25 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.

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:
- Water depth of about 7 feet at the time of our field program.

Abandonment Method:
Not applicable

WATER LEVEL OBSERVATIONS

Not applicable

Terracon
551 League City Pkwy Ste F
League City, TX

Boring Started: 07-13-2017

Boring Completed: 07-13-2017

Drill Rig: Truck

Driller: Van and Sons

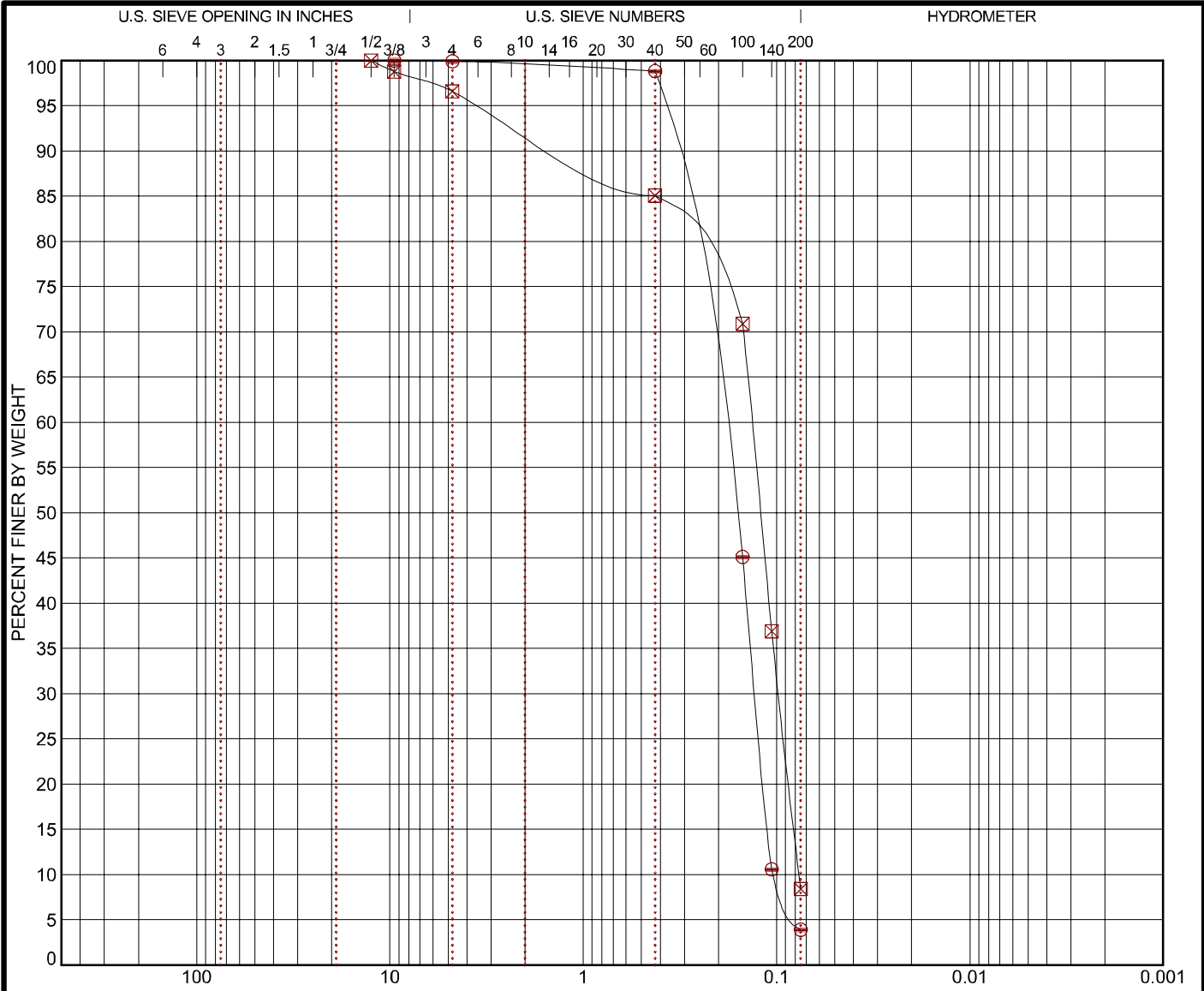
Project No.: 91175047

Exhibit: A-16

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-14	2.5 - 4	POORLY GRADED SAND (SP)								0.81	1.95
⊠ B-14	12.5 - 14	POORLY GRADED SAND WITH SILT (SP-SM)								0.93	1.76
Boring ID	Depth	D ₁₀₀	D ₈₅	D ₅₀	D ₁₀	%Gravel	%Sand	%Silt	%Fines	%Clay	
⊖ B-14	2.5 - 4	9.5	0.325	0.165	0.103	0.1	96.0		3.9		
⊠ B-14	12.5 - 14	12.5	0.424	0.121	0.076	3.4	88.2		8.4		

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EXHIBIT: A-31