

BORING LOG NO. B-16

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PROJECT: Galveston Island Sand Source Investigation

CLIENT: Atkins North America, Inc.
Houston, Texas

SITE: Sullivan Ranch Property
Galveston, Texas

GRAPHIC LOG	LOCATION See Exhibit A-6 Latitude: 29.2447° Longitude: -94.8938° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST			WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS	PERCENT FINES		
						TEST TYPE	COMPRESSIVE STRENGTH (tsf)	STRAIN (%)			LL-PL-PI			
	POORLY GRADED SAND (SP), gray, loose to very dense - with scattered roots 0 to 2 feet - tan 2 to 6 feet - gray below 6 feet - very loose 8 to 10 feet - with shell fragments below 10 feet 20.0													

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

Hammer Type: Rope and Cathead

Advancement Method:
Dry augered to 8 feet; wet rotary thereafter.

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

Notes:
- WOH = weight of hammer

WATER LEVEL OBSERVATIONS

- 8 ft While drilling
- 6 ft After 5 minutes
- 3.5 ft After 15 minutes

Terracon
551 League City Pkwy Ste F
League City, TX

Boring Started: 09-26-2017

Drill Rig: ATV

Project No.: 91175091

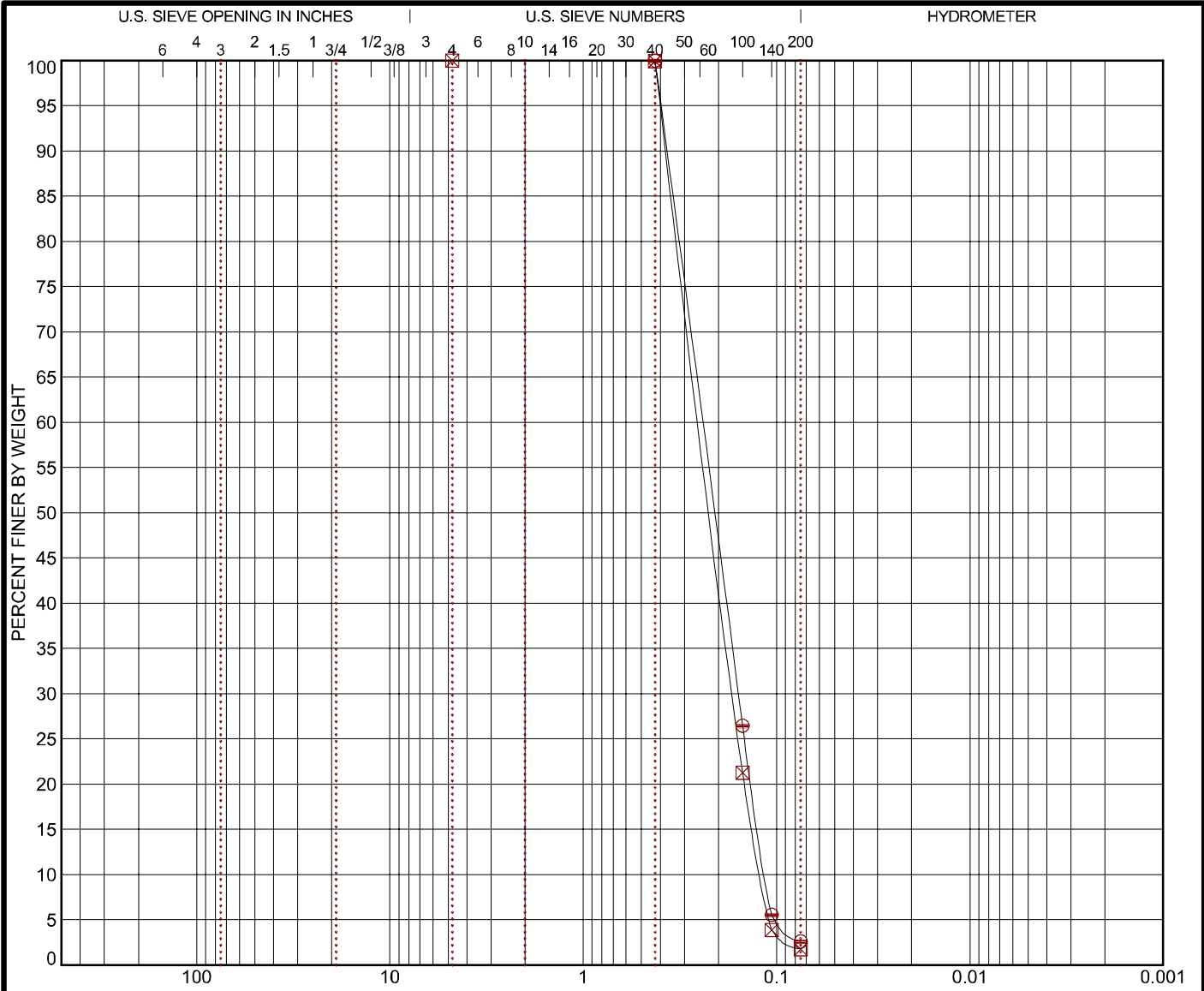
Boring Completed: 09-26-2017

Driller: Van and Sons

Exhibit: A-21

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-16	4.5 - 6	POORLY GRADED SAND (SP)				24				0.90	2.11
B-16	8.5 - 10	POORLY GRADED SAND (SP)				24				0.95	2.09
Boring ID	Depth	D ₁₀₀	D ₈₅	D ₅₀	D ₁₀	%Gravel	%Sand	%Silt	%Fines	%Clay	
B-16	4.5 - 6	0.425	0.344	0.209	0.114	0.0	97.4		2.6		
B-16	8.5 - 10	4.75	0.349	0.219	0.12	0.0	98.3		1.7		

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EXHIBIT: A38