BORING LOG NO. B-4

PROJECT: Galveston Bay Sand Reclamation Project

CLIENT: Atkins North America, Inc.
Houston, Texas

SITE: Galveston Bay
Galveston, Texas

LOCATION See Exhibit A-2

Latitude: 29.30708° Longitude: -94.83889°

DEPTH	GRAPHIC LOG	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
		SAND, dark gray, very loose, with shell fragments				1-1-1 N=2							
2.0		**CLAY**, gray, soft to medium stiff, with shell fragments				2-2-3 N=5							
			5			1-1-1 N=2							
6.0		**POORLY GRADED SAND WITH SILT (SP-SM)**, gray, very loose to medium dense, with shell fragments - with clay pockets 6 to 10 feet				WOH							
			10			2-6-8 N=14							
						6-11-13 N=24							12
13.0		**CLAY**, gray and tan, stiff to very stiff, with ferrous nodules				7-9-11 N=20							
16.0			15			2.0 (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 14 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 7 feet at the time of our field program.

WATER LEVEL OBSERVATIONS

Not applicable

Terracon
551 League City Pkwy Ste F
League City, TX

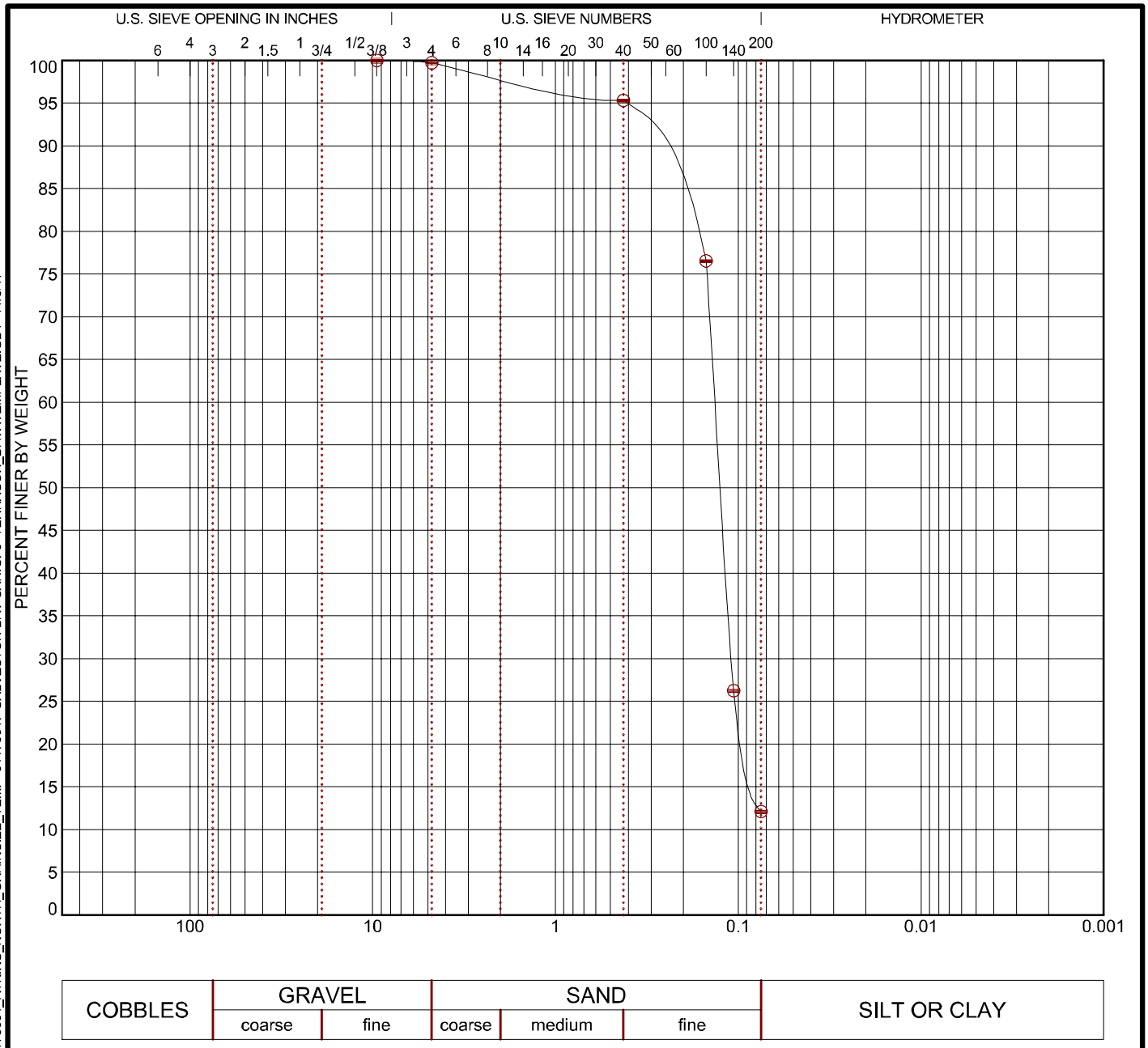
Boring Started: 07-12-2017 | Boring Completed: 07-12-2017

Drill Rig: Truck | Driller: Van and Sons

Project No.: 91175047 | Exhibit: A-6

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
B-4	10.5 - 12	POORLY GRADED SAND WITH SILT (SP-SM)					1.24	1.88

Boring ID	Depth	D_{100}	D_{85}	D_{50}	D_{10}	%Gravel	%Sand	%Silt	%Fines	%Clay
B-4	10.5 - 12	9.5	0.24	0.125		0.3	87.6		12.1	

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PROJECT NUMBER: 91175047

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EXHIBIT: A-24