

LOG OF BORING C-15



Rock Engineering & Testing Lab., Inc.
6817 Leopard St.
Corpus Christi, TX 78409
Telephone: (361) 883-4555
Fax: (361) 883-4711

CLIENT: HDR, Inc.
PROJECT: Prop. Large Scale Beach Nourishment Project
LOCATION: S. Jetty Borrow Source Area; Galveston, TX
NUMBER: G108558

DATE(S) DRILLED: 07/30/08 - 07/30/08

DRILLING METHOD(S):
Hollow Stem Auger

GROUNDWATER INFORMATION:

SURFACE ELEVATION: -21.0' NAVD

DESCRIPTION OF STRATUM

SOIL SYMBOL	FIELD DATA				LABORATORY DATA						
	Elevation, Ft. [NAVD]	SAMPLE NUMBER	SAMPLES	N: BLOWS/FT P: TONS/SQ.FT T: TONS/SQ.FT PERCENT RECOVERY/ ROCK QUALITY DESIGNATION	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ.FT)	MINUS NO. 200 SIEVE (%)
						LL	PL	PI			
	5										
	10										
	15										
	20										
	22	SS S-1	X	N= WOH							NO RECOVERY
	24	SS S-2	X	N= 2	20					9	POORLY GRADED SAND with clay and shell, gray, moist, very loose.
	26	SS S-3	X	N= 1							Same as above.
	28	SS S-4	X	N= 12							Same as above, medium.
	30	SS S-5	X	N= 1							POORLY GRADED SAND with shell and clay, gray, moist, very loose.
	32	SS S-6	X	N= WOH	23					10	Same as above.
	34	SS S-7	X	N= WOH	44					80	SANDY CLAY with shell, gray, very moist, very soft.
	36										Boring was extended to an elevation of -34-feet NAVD during the drilling operations.

N - STANDARD PENETRATION TEST RESISTANCE
P - POCKET PENETROMETER RESISTANCE
T - POCKET TORVANE SHEAR STRENGTH

REMARKS:

Boring depth and location was determined by HDR, Inc. Boring operations were performed by RETL.
GPS Coord. N. 29.33820 W. 94.71687

LOG OF BORING: G108558B PROP. LARGE SCALE BEACH NOURISHMENT PROJECT GP. ROCK ETL GDT 10/21/08



- Geotechnical Engineering
- Construction Materials Testing

PROJECT NAME: West Galveston Island Large Scale Beach Nourishment Project

CLIENT: HDR, Inc.

BORING ID.: C-15

DESCRIPTION: South Jetty Borrow Source Area

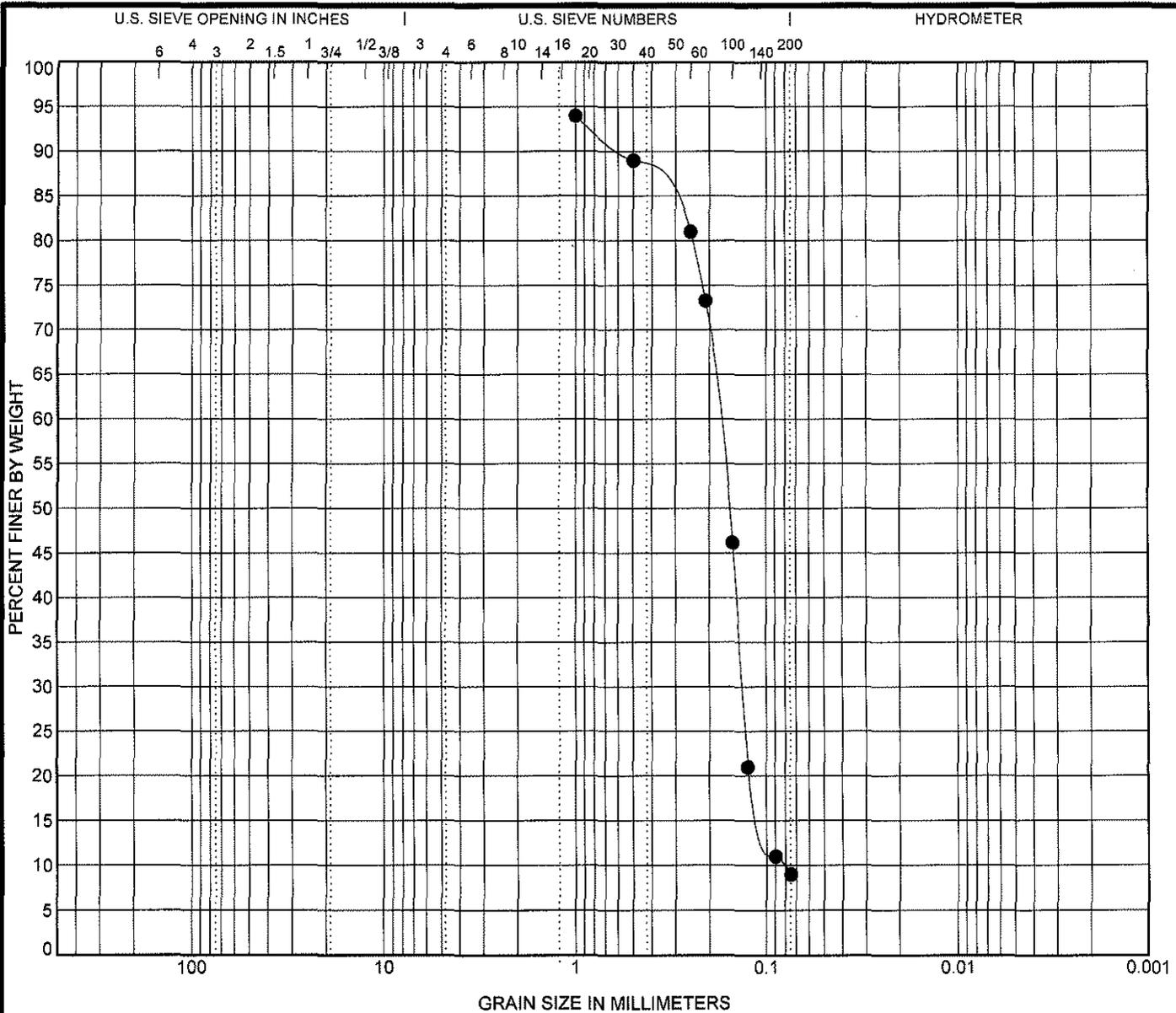
PERCENT SHELL BY WEIGHT (BASED ON #10 SIEVE)		
-23' TO -25' NAVD	-31' TO -33' NAVD	-33' TO -34' NAVD
7.21	1.50	N/A

ASTM MESH	% FINER BY WEIGHT AFTER REMOVING SHELL		
	-23' TO -25' NAVD	-31' TO -33' NAVD	-33' TO -34' NAVD
#10	100.00	100.00	N/A
#18	94.10	96.30	N/A
#35	98.60	91.40	N/A
#60	81.00	87.80	N/A
#70	73.33	N/A	N/A
#100	46.22	N/A	N/A
#120	21.00	48.40	N/A
#170	10.90	17.40	N/A
#200	8.60	9.50	80.30
STATISTICS (EXCLUDING SHELL)			
MEDIAN GRAIN SIZE (mm)	0.17	0.14	N/A
MEAN GRAIN SIZE (mm)	0.18	0.14	N/A
SORTING (σ)	N/A	N/A	N/A

*C-15; -33' to -34' NAVD was only passed through the -#200 sieve.

*The -#10 material was utilized as the total sample for Grain Size Distribution Curve calculations.

U.S. GRAIN SIZE G108558B PROP. LARGE SCALE BEACH NOURISHMENT PROJECT.GPJ US LAB.GDT. 10/20/08



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
● C-15	(-23' to -25' NAVD)	Borrow Area (-23' to -25' NAVD)				1.22	2.17

Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● C-15	(-23' to -25' NAVD)	1	0.178	0.133	0.082	0.0	85.0	9.0	

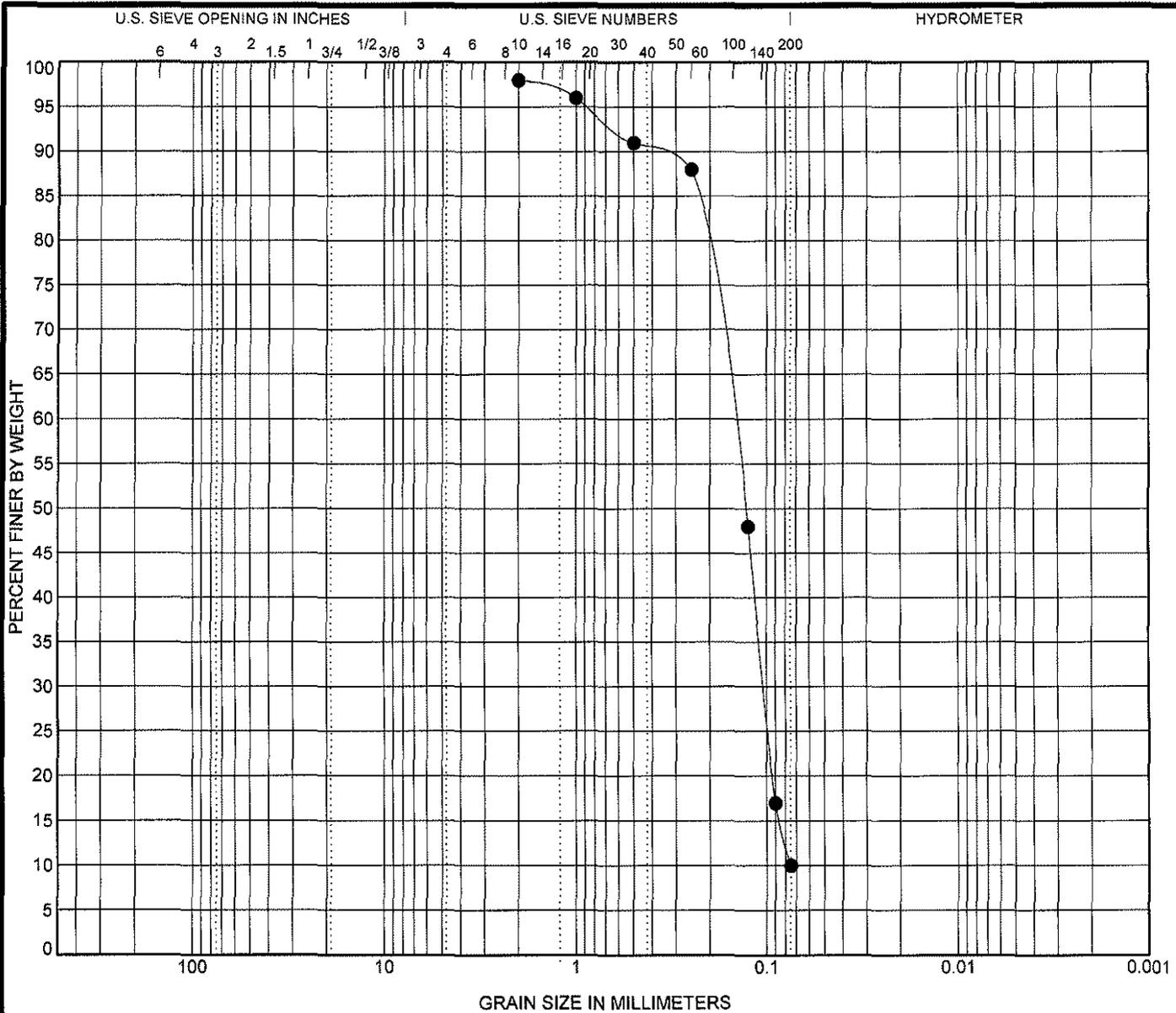


Rock Engineering & Testing Lab., Inc.
 6817 Leopard St.
 Corpus Christi, TX 78409
 Telephone: (361) 883-4555
 Fax: (361) 883-4711

GRAIN SIZE DISTRIBUTION

Project: Prop. Large Scale Beach Nourishment Project
 Location: South Jetty Borrow Source Area; Galveston, Texas
 Number: G108558

US GRAIN SIZE G108558B PROP. LARGE SCALE BEACH NOURISHMENT PROJECT.GPJ US LAB.GDT 10/20/08



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
● C-15	(-31' to -33' NAVD)	Borrow Area (-31' to -33' NAVD)				0.92	2.05

Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● C-15	(-31' to -33' NAVD)	2	0.154	0.103	0.075	0.0	88.0	10.0	



Rock Engineering & Testing Lab., Inc.
 6817 Leopard St.
 Corpus Christi, TX 78409
 Telephone: (361) 883-4555
 Fax: (361) 883-4711

GRAIN SIZE DISTRIBUTION
 Project: Prop. Large Scale Beach Nourishment Project
 Location: South Jetty Borrow Source Area; Galveston, Texas
 Number: G108558