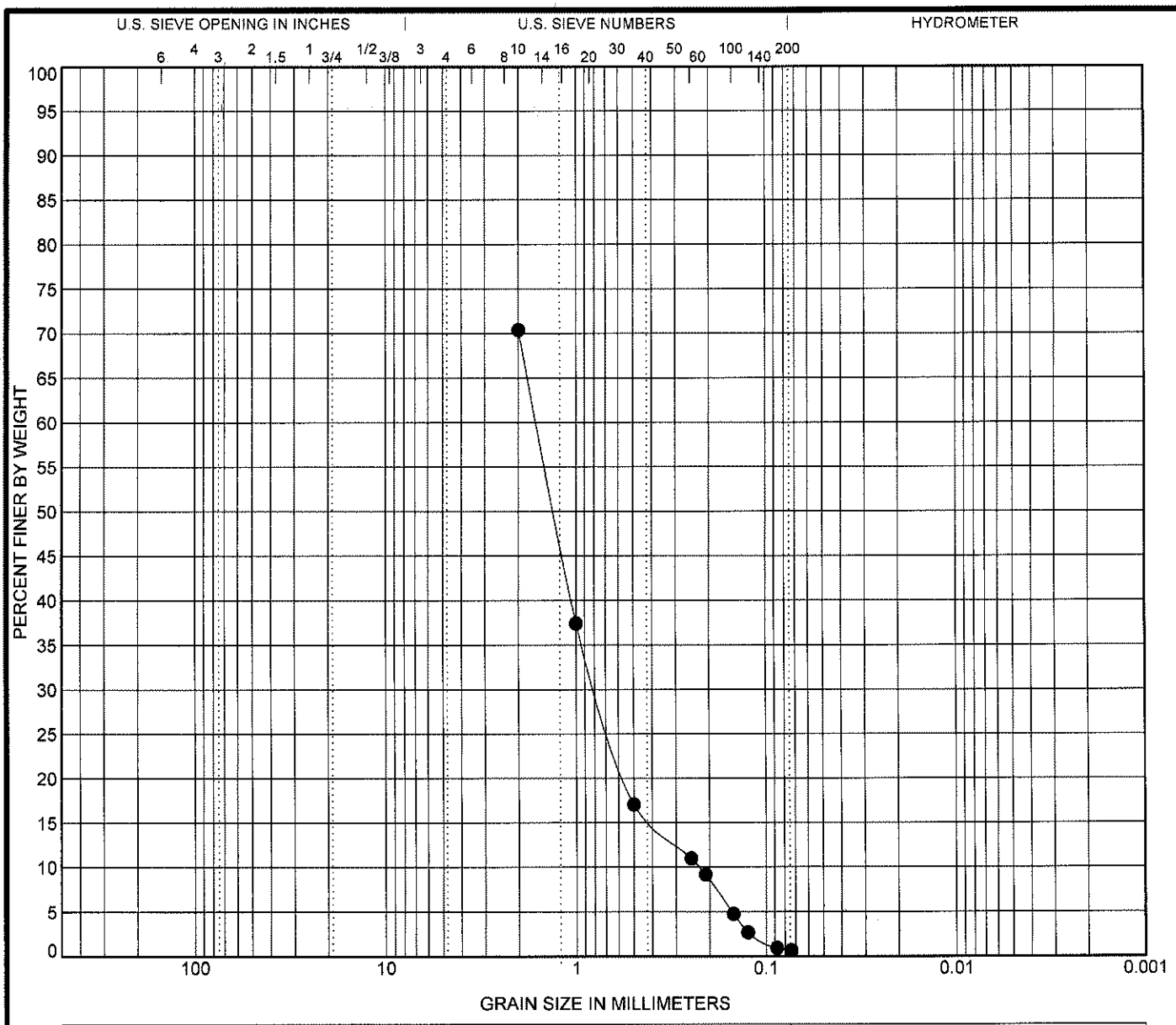
· Geotechnical Engineering
· Construction Materials Testing

PROJECT NAME: Anchorage Basin Sand Source Investigation
CLIENT: HDR Engineering, Inc.
SAMPLE ID.: AA-01
DESCRIPTION: Anchorage Basin Borrow Source Area

PERCENT SHELL BY WEIGHT (BASED ON #10 SIEVE)
-38' to -39' NAVD
29.60

ASTM MESH	% FINER BY WEIGHT AFTER REMOVING SHELL
	-38' to -39' NAVD
#10	100.00
#18	37.43
#35	17.06
#60	10.97
#70	9.17
#100	4.76
#120	2.71
#170	0.95
#200	0.69
STATISTICS (EXCLUDING SHELL)	
MEDIAN GRAIN SIZE (mm)	1.30
MEAN GRAIN SIZE (mm)	0.84
SORTING (σ)	0.68

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



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	LL	PL	PI	Cc	Cu
●	**AA-01**	(-38' to -39' NAVD)	**Borrow Area (-38' to -39' NAVD)**				**1.65**	**7.06**

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**AA-01**	(-38' to -39' NAVD)	**2**	**1.607**	**0.777**	**0.228**	**0.0**			

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

GRAIN SIZE DISTRIBUTION

Project: Anchorage Basin Sand Source Investigation

Location: Anchorage Basin; Galveston, Texas

Number: G109112

US_GRAIN SIZE_G109112 PROP. ANCHORAGE BASIN SAND SOURCE.GPJ US_LAB.GDT 4/8/09

LOG OF BORING AA-01

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CLIENT: HDR Engineering, Inc.
PROJECT: Anchorage Basin Sand Source Investigation
LOCATION: Anchorage Basin; Galveston, Texas
NUMBER: G109112
DATE(S) DRILLED: 03/11/09 - 03/11/09

DRILLING METHOD(S):
Vibracore

GROUNDWATER INFORMATION:

SURFACE ELEVATION: -36' NAVD

FIELD DATA					LABORATORY DATA								DESCRIPTION OF STRATUM
SOIL SYMBOL	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 LIQUID LIMIT LL	ATTERBERG LIMITS PLASTIC LIMIT PL	ATTERBERG LIMITS PLASTICITY INDEX PI	DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ.FT)	MINUS NO. 200 SIEVE (%)		
	21												
	22												
	23												
	24												
	25												
	26												
	27												
	28												
	29												
	30												
	31												
	32												
	33												
	34												
	35												
	36												**POORLY GRADED SAND**, with shell fragments, brown and gray.
	37	S-1											Same as above.
	38	S-2											Same as above.
	39	S-3										1	**POORLY GRADED SAND**, with shell fragments, brown and gray.
	40	S-4											

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

REMARKS:
Boring depth and location was determined by HDR Engineering, Inc. Boring operations were performed by Ocean Surveys, Inc.
GPS Coord. N. 13,697,653' E. 3,316,595'

LOG_OF_BORING G109112 PROP. ANCHORAGE BASIN SAND SOURCE.GPJ ROCK_ETL.GDT 4/28/09

LOG OF BORING AA-01

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						LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI			
	41	S-5									

DESCRIPTION OF STRATUM

Same as above.

Boring was extended to an elevation of -41-feet NAVD during the drilling operations.

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