LOG OF BORING B-1

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CLIENT: RVE, Inc.
PROJECT: Proposed Boardwalk Segment
LOCATION: Goose Island State Park; Rockport, TX
NUMBER: G111118
DATE(S) DRILLED: 02/21/11 - 02/21/11

DRILLING METHOD(S):
Hollow Stem Auger

GROUNDWATER INFORMATION:
Groundwater (GW) was encountered at 1' 6" during the drilling operations.
GW at 4' and caved at 5' upon completion of the drilling operations.

SURFACE ELEVATION: N/A

SOIL SYMBOL	DEPTH (FT)	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 (%)	DESCRIPTION OF STRATUM
	1	SS S-1		N= 4	20						8	**POORLY GRADED SAND**, with silt, brown, moist, loose.
	2											
	3											
	4	SS S-2		N= 1	50	61	20	41			65	**SANDY FAT CLAY**, with calcareous deposits, dark greenish gray, moist, very soft. (CH)
	5											
	6	SS S-3		N= WOH	30							**SANDY LEAN CLAY**, dark greenish gray, moist, very soft.
	7											
	8											
	9	SS S-4		N= WOH	35							Same as above.
	10											
	11											
	12	SS S-5		N= WOH	32	44	14	30			61	Same as above. (CL)
	13											
	14	SS S-6		N= WOH	31							**SANDY LEAN CLAY**, dark greenish gray, moist, very soft.
	15											Boring was terminated at a depth of 15-feet.

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

REMARKS:
Boring depth was determined by RETL and boring location was determined by RVE, Inc.
Boring operations were performed by EnviroCore, a drilling sub consultant to RETL, at GPS Coord. N 28.128245 W 96.989498.
WOH = Weight of Hammer

LOG_OF_BORING G111118 PROP BOARDWALK.GPJ ROCK_ETL.GDT 3/4/11

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KEY TO SOIL CLASSIFICATIONS AND SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Letter	Symbol: Hatching	Symbol: Color	NAME
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW		RED	Well – graded gravels or gravel – sand mixtures, little or no fines
		GP			Poorly-graded gravels or gravel – sand mixtures, little or no fines
		GM		YELLOW	Silty gravels, gravel – sand – silt mixtures
		GC			Clayey gravels, gravel - sand – clay mixtures
	SAND AND SANDY SOILS	SW		RED	Well - graded sands or gravelly sands, little or no fines
		SP			Poorly – graded sands or gravelly sands, little or no fines
		SM		YELLOW	Silty sands, sand – silt mixtures
		SC			Clayey sands, sand – clay mixtures
FINE GRAINED SOILS	SILTS AND CLAYS LL < 50	ML		GREEN	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with
		CL			Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL			Organic silts and organic silt-clays of low plasticity
	SILTS AND CLAYS LL > 50	MH		BLUE	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH			Inorganic clays of high plasticity, fat clays
		OH			Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		Pt		ORANGE	Peat and other highly organic soils

TERMS CHARACTERIZING SOIL STRUCTURE

SLICKENSIDED – having inclined planes Of weakness that are slick and glossy in appearance

FISSURED – containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical

LAMINATED (VARVED) – composed of thin layers of varying color and texture, usually grading from sand or silt at the bottom to clay at the top.

CRUMBLY – cohesive soils which break into small blocks or crumbs on drying

CALCAREOUS – containing appreciable quantities of calcium carbonate, generally nodular.

WELL GRADED – having wide range in grain sizes and substantial amounts of all intermediate particle sizes.

POORLY GRADED - predominantly of one grain size (uniformly graded) or having a range of sizes with some intermediate size missing (gap or skip graded)

SYMBOLS FOR TEST DATA

M/C = 15 – Natural moisture content in percent.

γ = 95 – Dry unit weight in lbs/cu ft.

Qu = 1.23 – Unconfined compression strength in tons/ sq ft.

51 – 21 – 30 – Liquid limit, Plastic limit, and Plasticity index.

30% FINER – Percent finer than No. 200 mesh sieve

30 B/F – Blows per foot, standard penetration test.

Ψ – Ground water table.

TERMS DESCRIBING CONSISTENCY OF SOIL (2)

COARSE GRAINED SOILS		FINE GRAINED SOILS		
DESCRIPTIVE TERM	NO. BLOWS / FT. STANDARD PEN. TEST	DESCRIPTIVE TERM	NO. BLOWS / FT. STANDARD PEN. TEST	UNCONFINED COMPRESSION TONS PER SQ. FT.
Very loose	0 – 4	Very Soft	< 2	< 0.25
Loose	4 – 10	Soft	2 – 4	0.25 – 0.50
Firm (medium)	10 – 30	Plastic (med. Stiff)	4 – 8	0.50- 1.00
Dense	30 – 50	Stiff	8 – 15	1.0 – 2.00
Very Dense	over 50	Very Stiff	15 – 30	2.00 – 4.00
		Hard	over 30	over 4.00

Field classification for "Consistency" is determined with a 0.25" diameter penetrometer.