



January 9, 2023

Leonard (Zach) Gamble, P.E.
Craven Thompson & Associates, Inc.
3563 Northwest 53rd Street
Fort Lauderdale, Florida 33309-6311

Re: Limited Geotechnical Field Investigation
Gladiator Lake, Greenacres, Florida 33463
Craven Thompson & Associates Job Number 17-0052-001-01
FGE Project Number 201040

Dear Mr. Gamble:

At your request, Florida Geotechnical Engineering, Inc. (FGE) performed a geotechnical field investigation at the referenced property. The purpose of this investigation was to assess the subsurface conditions and relatively quantify the strength characteristics of the soils surrounding Lake Gladiator in an effort to design a seawall system. The digital boring logs are provided in **Attachment A**.

GEOTECHNICAL INVESTIGATION

FGE personnel visited the property on December 20, 2022 to perform the investigation activities. The field investigation consisted of three (3) Standard Penetration Test (SPT) borings advanced to a depth of 40 feet below land surface (ft-bls). The graphic SPT boring logs are provided in **Attachment A**.

Standard Penetration Test (SPT) Borings

The SPT borings were completed in general accordance with ASTM Standard D-1586 using the mud-rotary drilling method. The penetration resistance testing and soil sample collection were accomplished with the use of a 1.4-inch inside diameter sampler seated 6 inches into the bottom of the borehole and advanced an additional 12 inches under the effort of a 140-pound hammer falling freely 30 inches. The number of blows required for the hammer to advance the sampler two (2) six-inch intervals into undisturbed soil is recorded as the blow count (or 'N' value) of the tested interval. The reported depths of the soil layers and test locations are sufficiently accurate for their intended purposes, although the indicated depths should be considered only approximate and as accurate as the field measurement methods used.

The SPT determines the relative density of sandy soils and the relative consistency of clayey/silty soils. The reported 'N' values on the boring logs indicate the relative density or consistency of different soil types, depending on the percentage (by weight) of soil finer than a No. 200 mesh sieve.

SANDY SOILS		CLAYEY & SILTY SOILS	
'N' Value (Blows per foot)	Relative Density	'N' Value (Blows per foot)	Relative Consistency
0 – 4	Very Loose	0 – 2	Very Soft
4 – 10	Loose	2 – 4	Soft
10 – 30	Medium Dense	4 – 8	Firm
30 – 50	Dense	8 – 15	Stiff
50+	Very Dense	15 – 30	Very Stiff
		30+	Hard

An FGE representative experienced with the drilling/testing techniques, soil sample classification method and field evaluations logged the borings in the field and secured representative soil samples. Each soil sample recovered was field-classified in general accordance with ASTM D2487 and the Unified Soil Classification System (USCS) method, and a representative portion of each sample was placed in a moisture-proof container and returned for visual verification of the field classification. Upon completion, the deep boring was grouted/sealed in accordance with local requirements.

Subsurface Conditions

The soil borings encountered generally consistent subsurface conditions across the investigation area with normal variations in soil layering and relative density. Generally, the investigation area is underlain by very loose to very dense sandy soils with varying amounts of silt and clay and SPT 'N' values ranging from 1 to greater than 50 blows per foot. The density values generally increased with depth and all three (3) borings were terminated in very dense clayey sand. There were no losses of drilling fluid circulation or indications of disrupted sedimentary units, and groundwater table was consistently encountered at approximately 3 ft-bls. Based on the boring logs, no significant deleterious soil conditions such as decomposing organic materials, shallow shrink/swell clays, or buried debris were encountered within the depths of the borings. The encountered subsurface conditions are primarily characteristic of a low-energy depositional environment, consistent with the natural development of near coastal regions, and considered typical for the area.

RECOMMENDATIONS

Based on the subsurface conditions, the Sheet Pile design by FGE is adequate.

As required, installation of the seawall should be completed under permit by a licensed and experienced contractor, in accordance with the current Florida Building Code.

LIMITATIONS

The conclusions and recommendations presented within this report were developed based on the exploratory soil borings and our professional judgment. The soil conditions described within this report are accurate with respect to the location and depth that the soil borings were completed. Because soil types vary with location and depth, subsurface conditions different from those encountered in this exploration may exist. This investigation was performed in accordance with generally accepted standards of practice. FGE reserves the right to update the information, conclusions, and/or recommendations within this report as new information is gained. No warranty regarding this investigation or the effectiveness of any remedial measures is intended, nor should any be inferred.

Please contact us at (813) 248-4720 should you have any questions regarding this report. We greatly appreciate the opportunity to support you with this effort.

Sincerely,

FLORIDA GEOTECHNICAL ENGINEERING, INC.



Adam Rothman
Senior Inspector
FL License No. HI8408

Vitaly B. Feygin, P.E.
Professional Engineer
FL License No. 65890

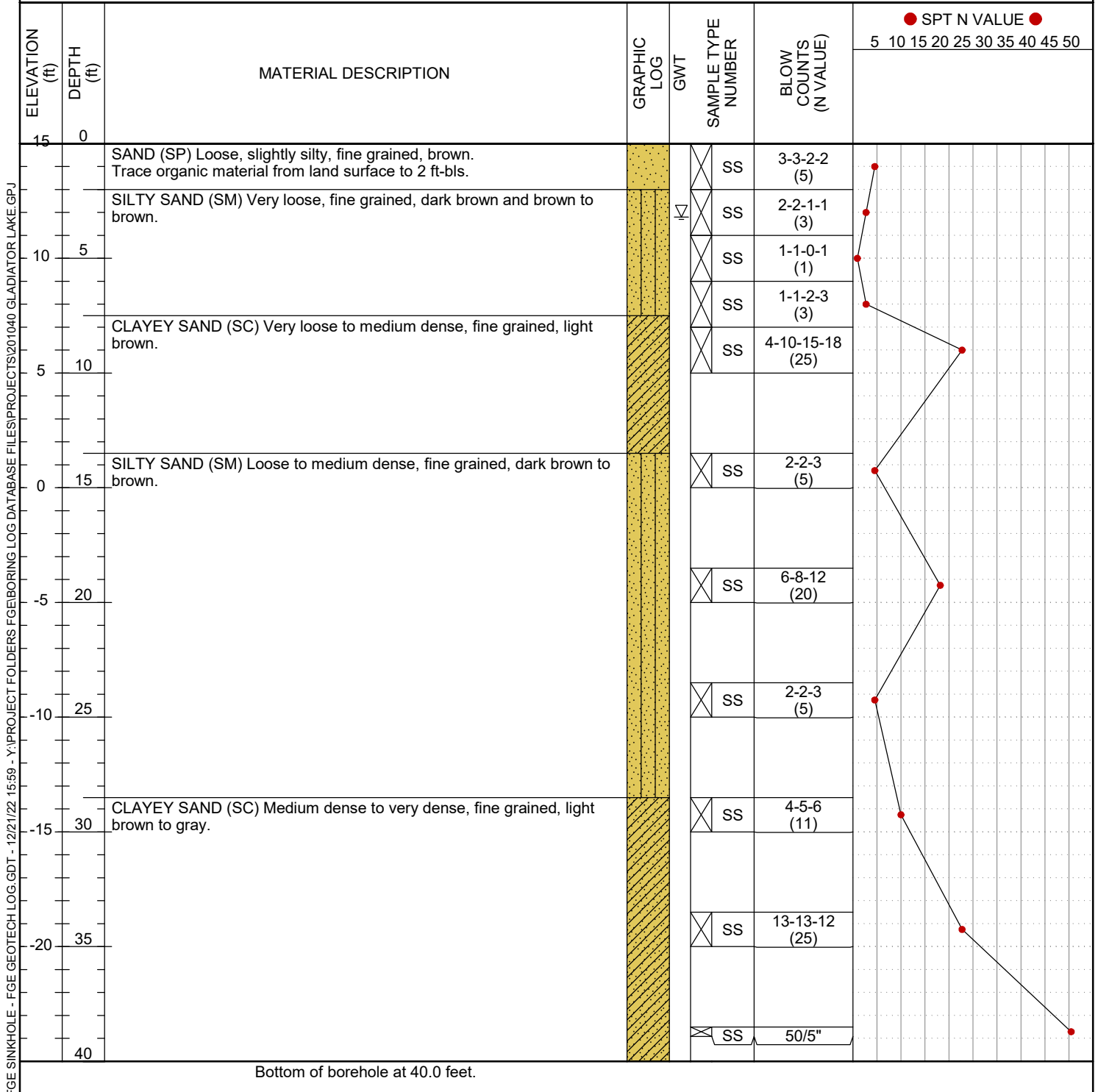
Attachments (1)

ATTACHMENT A



PO Box 76006
 Tampa, Florida 33675
 Telephone: 813-248-4720
 Fax: 813-384-2294

CLIENT Craven Thompson & Associates, Inc. PROJECT NAME Gladiator Lake Restoration
 PROJECT NUMBER 201040 PROJECT LOCATION Gladiator Lake, Greenacres, Florida 33463
 DATE 12/20/22 GROUND ELEVATION 15 ft
 DRILLING CONTRACTOR Suncoast Drilling SHGWT LEVEL _____
 DRILLING METHOD ASTM D-1586 GROUND WATER LEVEL 3.00 ft / Elev 12.00 ft
 BORING LOCATION 26.61059, -80.12016 LOGGED BY A. Rothman

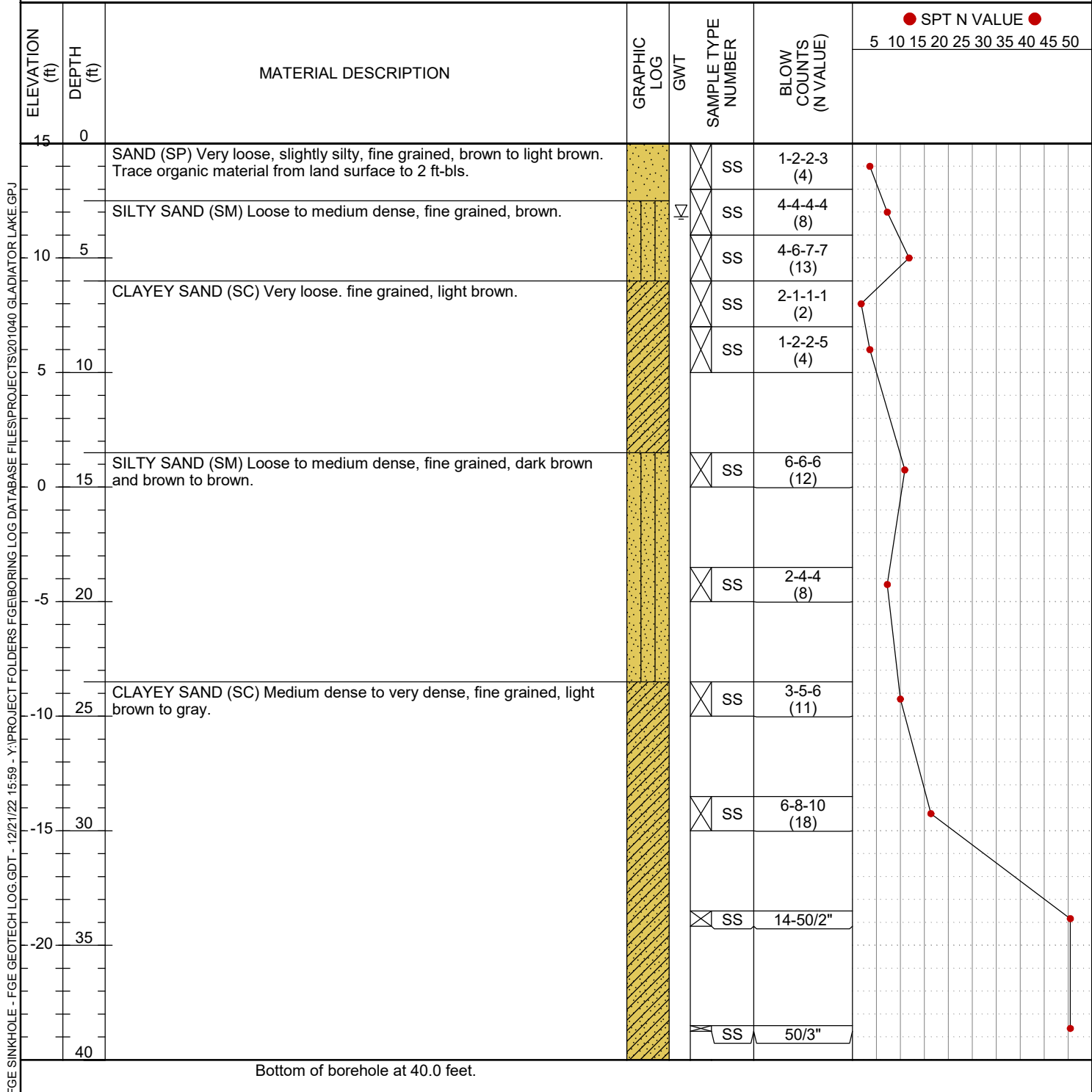


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 BORING LOCATION 26.609531, -80.119757 LOGGED BY A. Rothman

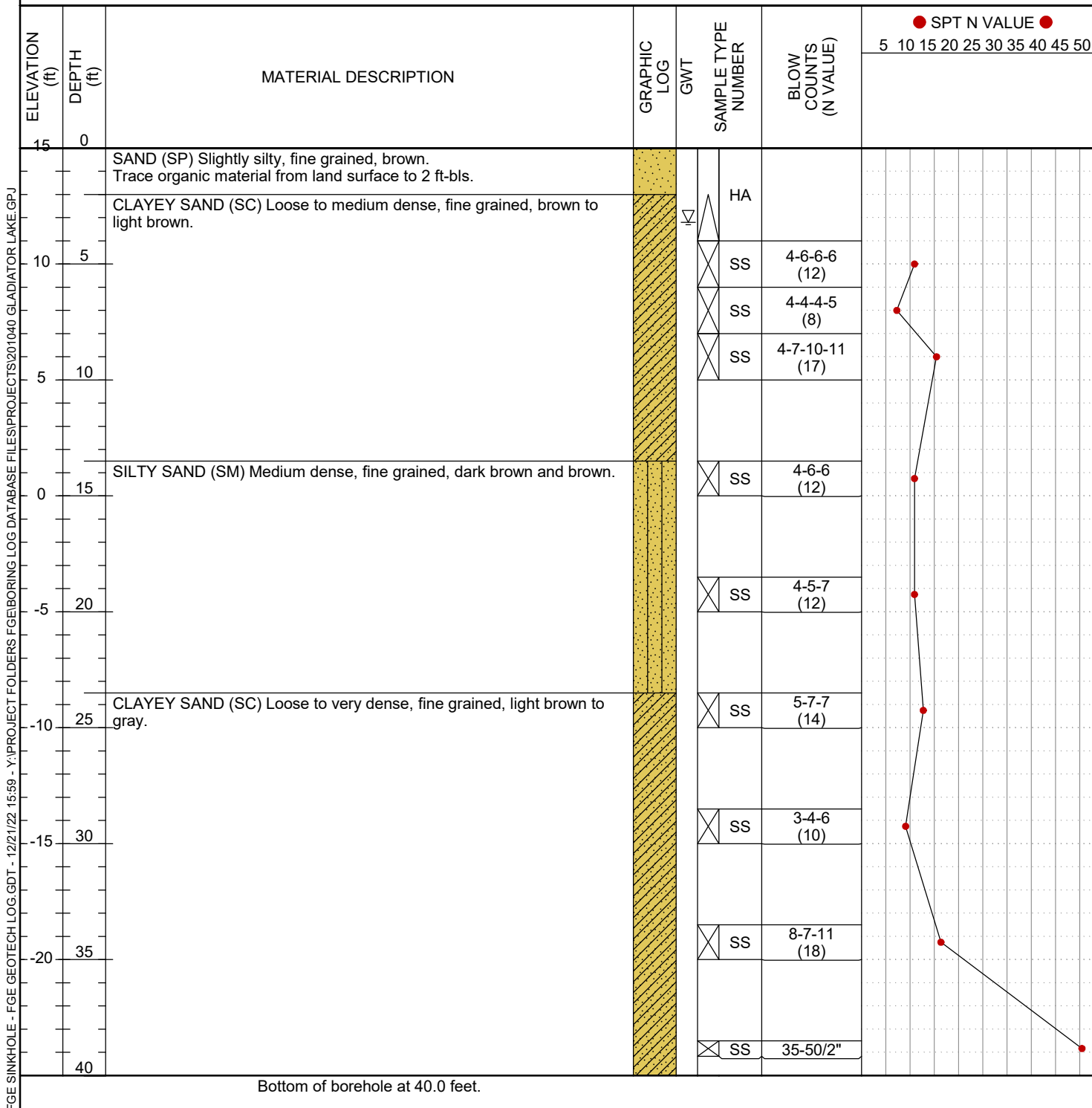


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 DRILLING CONTRACTOR Suncoast Drilling SHGWT LEVEL _____
 DRILLING METHOD ASTM D-1586 ▽ GROUND WATER LEVEL 3.00 ft / Elev 12.00 ft
 BORING LOCATION 26.608725, -80.119134 LOGGED BY A. Rothman



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