POZ Engineering & Environmental Consulting, P.C.

Geotechnical Investigation Report

To

Burns & McDonnell Consultants, P.C.

For

PSEGLI Bridgehampton to Buell

P.O. 163671

69kV XLPE Underground Transmission Cable Project

May 16, 2024

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1. EXECUTIVE SUMMARY

The purpose of this report is to provide information on the soil for the installation of 69kV underground cable for PSEGLI from the Bridgehampton Substation to the Buell Substation in Suffolk County, New York. The route was along Municipal, County, and State rights-of-way. Permits were acquired in two phases: Phase 1 was from BH 1 to 5 and 17, and Phase 2 was from BH 6 to 16. Phase 1 permits were approved in a timely manner, but Phase 2 (NYDOT) was lagging and required 3 submittals (bonding and a change order). In anticipation for the approval by NYDOT, Phase 1 began from the Bridgehampton Substations to BH 5 in Sag Harbor then at the Buell Substation (BH 17). Phase 2 drilling began after NYDOT approval with a change order to remobilize and collect proctor samples. Seventeen (17) borings were drilled to a depth of 14 to 62 feet below existing site grades in the proposed path of the underground cable. Field engineer recorded blows counts, logged the soil conditions and types encountered, and retrieve bulk and undisturbed soil samples from within the borings as conditions dictate. Soil samples were collected at the designated depths for thermal resistivity and soil physical analysis. The thermal resistivity samples were collected in 3" brass cylinders and the soil samples in plastic bags. The samples collected for physical analysis consisted of a soil classification for Phase 1 drilling (BH 1 to 5 and 17) and placed in plastic bags. These samples were collected at the top of the 2-foot run at each sampling depth. Through a change order, a standard proctor was taken for Phase 2 drilling (BH 6 to 16) in a composite of the borehole. Testing focused on gradation, classification and moisture content. Visually classified per ASTM D-2488; Selected samples were tested for gradation and classification per ASTM D-2487; Moisture Content per ASTM D-221; Unconfined Compressive Strength ASTM D-2166. Four trenchless boreholes (BH 2, 8 and 17) where drilled to a 60-foot depth and one (BH 16) was drilled to a depth of 35 feet. Friction angles (Φ) were taken from typical values for cohesionless soils without clay or cementing agents along with the bearing capacity factors from a table that lists Terzsghi's values at that angle. Some of these values were estimated from the physical laboratory analysis because not all of the BH samples were tested at either laboratory. The results of the drilling delineated the expected for glacial deposits as shown in the reference literature. Most of the boreholes recovered coarse angular sand with various colors (orange, brown, gray, and black) with gravel or pebbles and silt. In one or two boreholes, clay was encountered but in small pocket or deposits (BH 8, 11, and 14). One large boulder (6 inches in diameter) was drilled at BH10 and a core was recovered and intact. The ground water levels did not agree with the average USGS measurement (see Figures 4 to 5 in Appendix E). This could be due to a high groundwater table as a result of the precipitation or snow melt. The ASTM soil analysis did verify the field observations. In most cases, the soil was similar.

The thermal resistivity samples shows that the native soils range from 37 to 78C*cm/W for wet soils and 108 to 419 C*cm/W for dry, which are high in thermal resistance when compared to FTBTM which has a thermal resistivity of 75cm-C/W dry and a wet resistance of 50cm-C/W. The soil groups are well drained consisting of mostly glacial parent material, which is mostly fine to

coarse grained sand and gravel either stratified or unstratified. The cable will generate heat that will feed back into the cable and reduce its ampacity. The amount of heat fed back will depend on the type of soil. The analysis suggest that the heat will be too high and will reduce the cable's ampacity significantly.

2. **PURPOSE AND SCOPE** - POZ Engineering was contracted under a purchase order by Burns and McDonnell Engineering Company, Inc. to perform geo-technical services to drill 17 borings (See Appendix A-Figure #1) prior to the installation of approximately 7.5 miles of 69kV underground cable for PSEGLI from the Bridgehampton Substation to the Buell Substation in Suffolk County, New York. These services included core samples (physical content) and soil resistivity of soil along the proposed path of the cable.

3. ***Scope of Services***

3.1. ***Field Exploration –***

3.1.1. The route was along Municipal, County, and State rights-of-way. Permits were acquired in two phases: Phase 1 was from BH 1 to 5 and 17, and Phase 2 was from BH 6 to 16. Phase 1 permits were approved in a timely manner, but Phase 2 (NYDOT) was lagging and required 3 submittals (bonding and a change order). In anticipation for the approval by NYDOT, Phase 1 began from the Bridgehampton Substations to BH 5 in Sag Harbor then at the Buell Substation (BH 17). Phase 2 drilling began after NYDOT approval with a change order to remobilize and collect proctor samples.

3.1.2. Borings were advanced to depths as shown in Appendix A, Table #1 (Boring Schedule) under the direction of a qualified field geologist to the designated depths. Prior to any drilling, a utility check was conducted for both the public and private utilities, and marked accordingly. Seventeen (17) borings were drilled to a depth of 14 to 62 feet below existing site grades in the proposed path of the underground cable. Field engineer recorded blows counts, logged the soil conditions and types encountered (see Appendix B, Field Logs), and retrieve bulk and undisturbed soil samples from within the borings as conditions dictate. Soil samples were collected at the designated depths for thermal resistivity and soil physical analysis. The thermal resistivity samples were collected in 3" brass cylinders and the soil samples in plastic bags.

3.2. ***Laboratory –*** The physical samples were taken to Midlantic Engineering for analysis, and the thermal resistivity samples were shipped to Geotherm USA.

3.2.1. The samples collected for physical analysis consisted of a soil classification for Phase 1 drilling (BH 1 to 5 and 17) and placed in plastic bags. These samples were collected at the top of the 2-foot run at each sampling depth. Through a change order, a standard proctor was taken for Phase 2 drilling (BH 6 to 16) in a composite of the borehole. Testing focused on gradation, classification and moisture content. The following geotechnical laboratory analyses were performed on samples retrieved from the borings: Visually classified per ASTM D-2488; Selected samples were tested for gradation and classification per ASTM D-2487; Moisture Content

per ASTM D-221; Unconfined Compressive Strength ASTM D-2166. See Appendix C for sampling results.

3.2.2. The samples collected for thermal resistivity consisted of taking the bottom brass cylinder filled with soil (undisturbed) at each sampling depth for shipment to Geotherm. The testing for these samples were in accordance with IEEE Standard 442-2017. The results of this sampling are listed in Appendix C.

4. **SOIL –** A soil report was generated from the NRCS WebSoil GIS site and is listed in Appendix D. The soil profile was taken along the BH route from the Bridgehampton to Deerfield substations. The most part, the soil is sand ranging from coarse to fine grained.
5. **SITE GEOLOGY-** The geology of Long Island consists of three categories: pre-glacial, glacial, and post-glacial.
   - **5.1. Pre-glacial** consists of metamorphic bedrock from the pre-Cretaceous period. The bedrock Th significant landforms on Long Island. Resting on the bedrock are Cretaceous sediments of sand, clay and gravels. This sediment is over 2,000 feet thick at Fire Island and thins out to the north and west, pinching out at Long Island Sound.
   - **5.2. Glacial** deposits significantly formed the Long Island land mass. This occurred in the Wisconsin stage of the Pleistocene Epoch. The ice mass encompassed all or most of Long Island carrying large amounts of sediment including large boulders.
   - **5.3. Post-glacial** period consisted of Kane moraines and glacial outwash, and the formation of kettle lakes. In addition, costal waves and currents have eroded and reshaped the soft glacial sediment to form numerous sandy shorelines features.
6. **TOPOGRAPHY –** The project is on an island (Long Island NY, See Appendix A). The topography of the project area is relatively flat with a local relief of 90 feet throughout the project.
7. **Hydrology** –
   - **7.1.** The surface drainage on Long Island is limited to small streams and runoff with pocket of wetlands, estuaries, and kettle lakes. The drainage pattern is mostly trellis.
   - **7.2.** Ground water consists of the water table and aquifers.
     - **7.2.1.** Water table data was taken from the USGA GIS website and included three wells as shown on the USGS Map 1 in Appendix E. The water table is proportionate to the rainfall amount and the infiltration rate of the soil. These wells are as follows:
       - **7.2.1.1.** S105711.1 – Exhibit #1 in Appendix E shows this site to be west of the project area. The water table at this well fluctuated between 11.75 to near 14 feet elevation (NGVD) over a 27-year period.
       - **7.2.1.2.** S8844.1 – Exhibit #2 in Appendix E shows this site to be in Sag Harbor and is within the project limits. The water table at this well

fluctuated between 1 to 9.6 feet elevation (NGVD) over a 27-year period.

7.2.1.3. S46524.1 Exhibit #3 in Appendix E shows this site to also be in within the project limits but to the south. The water table at this well fluctuated between 8 to 14.5 feet elevation (NGVD) over a 27-year period.

7.2.2. Aquifers consists of 3 zones and is the main source of water for Long Island. The total depth of the Long Island Aquifer System is shallowest on the north shore at approximately 600 feet and deepest along the south shore at approximately 2000 feet. These zones consist of:

7.2.2.1. Glacial Aquifer is the main source of water for most wells. Virtually all private wells and less than half of the Suffolk County Water Authority draws from this aquifer (SCWA).

7.2.2.2. Magothy Aquifer is the largest of the three aquifers and holds the most water. A little more than half is used by the SCWA.

7.2.2.3. Lloyd Aquifer is largely untapped and is separated from the Magothy Aquifer by the Raritan aquiclude, which is a clay layer from the Cretaceous formation.

8. PROPOSED DEVELOPMENT – No above ground structures will be constructed along the path of the underground line. Underground cable vaults will be installed at various places along the line.

9. RESULTS

9.1. BH Logs and Soil Classification –

9.1.1. Phase 1 drilling (BH1 to 5 and BH17) was from January 29 to February 7, 2024.The logs for these boreholes consisted of sand ranging in color from brown to orange. Some of the soil consisted of a gravel/pebble mix. The top five feet of these BHs were hand dug with a post-hole digger. Logs are in Appendix B.

9.1.1.1. BH1 was to the west at the Bridgehampton Substation and was higher in elevation (100 feet) consisting of brown to orange coarse sand with some pebbles. The depth of the hole was to 14 feet (one-foot above the targeted depth. No ground water was encountered during the drilling but the sample at S1 was wet. BH1 is above the ground water table. The blow counts for this BH were loose at 5 to 7 feet with only 25% of the sample recovered at 3 tons per square foot (3-tsf pocket penetrometer). The sample at 12 to 14 feet was a little tighter but only 25% of the sample was recovered. No penetrometer reading was taken.

9.1.1.2. BH 2 was to the east of BH 1 in route to the Deerfield Substation at an elevation of 65 feet. This BH was drilled to a depth of 60 feet because it was a street crossing and designated for tunneling. The soil consisted mostly of coarse-grained sand ranging in color from brown

(medium to light) to orange with a gravel mix. The blow count (SPT) for all the sampling depths except for S1 (5 to 7 feet) were dense. The SPT for S1 strata was loose and the soil was dry. BH 2 was drilled through the groundwater table where water was encountered at about 15 feet below the surface. A lab analysis (see Exhibit 1 in Appendix C) shows the soil to be well-graded sand with gravel (SW) to poorly graded sand with silt (SP-SM and SW-SM). The sand was fine to medium grain with some silt (6 to 9%).

9.1.1.3. BH 3 was to the east of BH 2 at an elevation of 13 feet. The drilling encountered sand consisting of light to dark brown fine-grained sand with some pebbles. The depth of the hole was to 14 feet (one-foot above the targeted depth. Ground water is expected to intercept the drilling at or below the 6-foot depth, but no water was encountered at S1. The blow counts for this BH were loose at 5 to 7 feet with 90% of the sample. The sample at 12 to 14 feet was similar with 100% of the sample recovered. No penetrometer reading was taken.

9.1.1.4. BH 4 was to the east of BH 3 at an elevation of 10 feet. The drilling encountered medium brown coarse-grained sand with some pebbles in the hand dug. The depth of the hole was to 14 feet (one-foot above the targeted depth. Ground water was encountered at 7 feet below the surface below S1. The blow counts for this BH were loose at 5 to 7 feet with 25% (S1) of the sample. The sample at 12 to 14 feet (S2) was similar with 25% of the sample recovered. A penetrometer reading was taken at S2 reading 0.75 tsf.

9.1.1.5. BH 5 was to the east of BH 4 at an elevation of 30 feet. The drilling encountered medium brown to orange coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with ground water encountered at 8 feet below the surface below S1. The blow counts for this BH were loose at 5 to 7 feet with 25% (S1) of the sample. The sample at 12 to 14 feet (S2) was similar with 25% of the sample recovered, but was dense at 28 to 30 feet (S3). A penetrometer reading was not taken.

9.1.1.6. BH 17 was at the Deerfield Substation at an elevation of 40 feet. This BH was drilled to a depth of 60 feet because it was a street crossing and designated for tunneling. The soil consisted mostly of fine to coarse-grained sand ranging in color from brown (medium to light) to orange with a gravel mix. The blow count (SPT) for the sampling to 14-foot depth was loose then became dense with depth. BH 17 was drilled through the groundwater table where water was encountered at about 25 feet below the surface. A lab analysis (see Exhibit 1 in Appendix C)

shows the soil to be poorly graded sand with silt (SP-SM). The sand was fine to medium grain with some silt and clay (0.8 to 7%).

9.1.2. Phase 2 drilling (BH 6 to 16) was from March 21 to 25, 2024.The logs for these boreholes consisted of sand ranging in color from brown to orange. Some of the soil consisted of a gravel/pebble mix. The top five feet of these BHs were hand dug with a post-hole digger. Logs are in Appendix B.

9.1.2.1. BH 6 was south of BH 5 at an elevation of 50 feet. The drilling encountered medium brown coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with ground water encountered at 16 feet below the surface at S2. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample and 1tsf. The sample at 12 to 14 feet (S2) was denser with 50% of the sample recovered, but a penetrometer reading was not taken. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 7 feet) and S2 (14 to 16 feet) and a proctor that was a composite of the BH 6. The analysis was poorly graded sand with silt SP-SM) and or gravel (SP).

9.1.2.2. BH 7 was south of BH 6 at an elevation of 16 feet. The drilling encountered light brown coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with ground water encountered at 14 feet below the surface at S2. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample. The sample at 12 to 14 feet (S2) was denser with 100% of the sample recovered, with a penetrometer reading at 0.75 tsf. The sample at 28 to 30 feet (S3) was similar to S2 with 50% of the sample recovered, with a penetrometer reading at 1 tsf. Lab samples (Exhibit 2, Appendix C) were taken at three sampling depths S1 (5 to 7 feet), S2 (14 to 16 feet), S3 (28 to 29 feet) and a proctor that was a composite of the BH 7. The analysis was poorly graded sand with silt (SP-SM) and/or gravel.

9.1.2.3. BH 8 was south of BH 7 with an elevation of 14 feet. This BH was drilled to a depth of 60 feet because it was a street crossing and designated for tunneling. The soil consisted mostly of coarse-grained sand ranging in color from medium to light brown with a gravel mix. Blow counts (SPT) were taken at 6 sampling depths: S1 was medium at 5 to 7 feet (4 tsf) with 75% recovery, S2 was loose (1.5 tsf) at 15 to 17 feet with 50% recovery, S3 was loose at 25 to 27 feet (0.5 tsf) with 50% recovery, S4 was medium at 34 to 36 feet (0.5 tsf), S5 was medium at 45 to 47 feet (1.5 tsf), and S6 was dense at 55 to 57 feet (2.5 tsf). A lab analysis (see Exhibit 2 in Appendix C) for six sampling depths S1 (5 to 6 feet), S2 (15 to 16 feet), S3 (25 to 26 feet), S4 (35 to 36 feet), S5 (45 to 46 feet), S6 (55 to 56 feet), and a proctor that was a composite of

BH8. The analysis shows the soil to be to poorly graded sand with silt (SP-SM). The sand was fine to medium grain with some silt (2 to 10%).

9.1.2.4. BH 9 was south of BH 8 at an elevation of 10 feet. The drilling encountered dark brown to orange coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with ground water encountered at 14 feet below the surface at S2. The blow counts for this BH were loose at 5 to 7 feet with 75% (S1) of the sample and 0.5 tsf. The sample at 12 to 14 feet (S2) was denser with 50% of the sample recovered and 7.5 tsf. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 6 feet) and S3 (14 to 15 feet) and a proctor that was a composite of the BH 9. The analysis was poorly graded sand with silt (SP-SM) and or gravel (SP).

9.1.2.5. BH 10 was south of BH 9 at an elevation of 80 feet. The drilling encountered dark brown coarse-grained sand with some pebbles and large boulders. The depth of the hole was to 30 feet with no ground water encountered. The blow counts for this BH were dense with 25% for S1, 50% for S2, and 20% for S3 recovery. S1 had 1.5 tsf, S2 had 7 tsf, and S3 had 2.5 tsf. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 6 feet), S2 (14 to 16 feet), and S3 (28 to 30 feet) and a proctor that was a composite of the BH 10. The analysis was poorly graded sand with gravel (SP).

9.1.2.6. BH 11 was south of BH 10 at an elevation of 80 feet. The drilling encountered black to medium brown coarse-grained sand with some pebbles and layers of clayey sand. The depth of the hole was to 30 feet with no ground water encountered. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample and 2 tsf. The sample at 12 to 14 feet (S2) was denser with 100% of the sample recovered, and 4.5 tsf. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 6 feet) and S2 (14 to 15 feet) and a proctor that was a composite of the BH 11. The analysis was poorly graded silty sand (SM) and poorly graded sand (SP).

9.1.2.7. BH 12 was south of BH 11 at an elevation of 70 feet. The drilling encountered medium brown coarse-grained sand with some pebbles and cobbles. The depth of the hole was to 30 feet with a wet zone at 14 feet that above the normal ground water elevation. The blow counts for this BH were dense at 5 to 7 feet with 30% (S1) of the sample recovered and 1.25 tsf. The samples at 14 to 16 feet (S2) and at 28 to 30 feet (S3) were also dense with 75% of the sample recovered, and 2.75 and 4.5 tsf. Lab samples (Exhibit 2, Appendix C) were taken at three sampling depths S1 (5 to 6 feet), S2 (14 to 15 feet), S3 (28 to 29

feet), and a proctor that was a composite of the BH 12. The analysis was poorly graded sand (SP).

9.1.2.8. BH 13 was south of BH 12 at an elevation of 60 feet. The drilling encountered black to light to dark brown coarse-grained sand with some pebbles and layers of silty clay. The depth of the hole was to 30 feet with a wet zone above 14 feet and above the normal no ground water elevation. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample and1.25 tsf. The sample at 14 to 16 feet (S2) was dense with 75% of the sample recovered, and 3 tsf. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 6 feet) and S2 (14 to 15 feet) and a proctor that was a composite of the BH 13. The analysis was poorly graded silty sand (SM) and poorly graded sand (SP). The proctor was classified as silt with sand (ML).

9.1.2.9. BH 14 was south of BH 13 at an elevation of 60 feet. The drilling encountered light brown to orange coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with a wet zone at 16 feet that is above the normal ground water elevation. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample recovered and 1.25 tsf. The sample at 14 to 16 feet (S2) was also loose with 50% recovery and 2.25 tsf. The sample at 28 to 30 feet (S3) were dense with 50% of the sample recovered, and 3.75 tsf. Lab samples (Exhibit 2, Appendix C) were taken at three sampling depths S1 (5 to 6 feet), S2 (14 to 15 feet), S3 (28 to 29 feet), and a proctor that was a composite of the BH 12. The analysis was poorly graded sand (SP).

9.1.2.10. BH 15 was south of BH 14 at an elevation of 40 feet. The drilling encountered black to medium brown to orange fine to coarse-grained sand with some pebbles. The depth of the hole was to 30 feet with a wet zone at 14 feet and above the normal ground water elevation. The blow counts for this BH were loose at 5 to 7 feet with 100% (S1) of the sample and 2.5 tsf. The sample at 14 to 16 feet (S2) was dense with 100% of the sample recovered, and 2.25 tsf. Lab samples (Exhibit 2, Appendix C) were taken at two sampling depths S1 (5 to 6 feet) and S2 (14 to 15 feet) and a proctor that was a composite of the BH 13. The analysis was poorly graded sand with silt (SP-SM) and poorly graded sand (SP). The proctor was classified as silty sand (SM).

9.1.2.11. BH 16 was south of BH 15 at an elevation of 50 feet. The drilling encountered dark brown to orange coarse-grained sand with some pebbles. The depth of the hole was to 36 feet with a wet zone at 14 feet that is above the normal ground water elevation. The blow counts for

this BH were medium at 10 to 12 feet with 100% (S1) of the sample recovered and 0.5 tsf. The sample at 14 to 16 feet (S2) was dense with 50% recovery and 2.5 tsf. The sample at 34 to 36 feet (S3) were dense with 50% of the sample recovered, and 1 tsf. Lab samples (Exhibit 2, Appendix C) were taken at three sampling depths S1 (10 to 11 feet), S2 (14 to 15 feet), S3 (34 to 36 feet), and a proctor that was a composite of the BH 16. The analysis was poorly graded sand (SP) and silty sand (SM).

9.2. Thermal Resistivity - Soil samples were sent to Geotherm USA to determine the thermal resistivity of the soil at depths corresponding to the logs.

9.2.1. **Phase 1** – The following is the report of thermal dry out characterization tests conducted on four (4) bulk samples and eleven (11) tube samples of native soil. The tube samples were tested 'as is'. The bulk samples were tested at the 'as received' moisture content and at the specified standard Proctor dry density *provided by POZ.* The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dryout curves are presented in Exhibit 3 in Appendix C. The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density. The dry density figured in red could not be achieved. The samples were compacted at the best possible density at standard Proctor effort.

TABLE 1 – Test Results of Soil Samples

Sample ID	Depth (ft)	Effort (%)	Description (POZ)	Thermal Resistivity (°C-cm/W)		Moisture Content	Dry Density (lb/ft^3)
				Wet	Dry		
BH01 S-1	6	Tube	Medium Brown to Orange Coarse Sand w/ Some Pebbles	60	176	14	121
BH01 S-2	13	Tube	Medium Brown to Orange Coarse Sand w/ Some Pebbles	61	170	12	125
BH02 S-1	5	Tube	Light brown sand with round pebbles	63	179	6	125
BH02 TH-2	12	100	Lighter brown sand with pebbles	74	213	5	115
BH02 TH-4	36	Tube	Very coarse pebbled sand	49	163	17	122
BH03 S-1	5 - 6	Tube	Fine grained light and dark Brown sand	102	367	7	81
BH03 S-2	12 - 13	Tube	Fine grained light and dark Brown sand	74	341	24	84
BH04 S-1	6	Tube	Medium Brown coarse sand	70	221	8	113
BH04 S-2	13	Tube	Medium Brown coarse sand	59	215	15	112
BH05 S-1	6	Tube	Orange to Brown coarse sand	97	244	5	105
BH05 S-2	15	Tube	Medium Brown loose sand w/ small pebbles	59	188	16	119
BH05 S-3	29	Tube	Very coarse pebbly sand	64	214	13	116
BH17 S-1	6	100	Loose gray sand	61	232	15	114
BH17 S-4	15	100	Orange coarse sand	101	264	5	106
BH17 TH-4	40	95	Dark sand with gravel and cobbles	57	179	16	119

9.2.2. **Phase 2 -** These samples were tested ‘as is’. The tests were conducted in accordance with the **IEEE standard 442-2017**. The results are tabulated below and the thermal dryout curves are presented in Exhibit 4 in Appendix C.

Table # 2 Thermal Resistivity Test Results

Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
BH-6 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	44	232	16	103
BH-6 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP-SM)	67	419	9	94
BH-7 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	55	337	13	97
BH-7 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP-SM)	54	346	18	92
BH-8 S1	6.5 - 7	Tube	Brown Silty Sand (SM)	37	108	12	128
BH-8 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	39	182	15	107
BH-9 S1	6.5 - 7	Tube	Brown Poorly Graded Sand (SP)	57	310	6	100
BH-9 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	41	138	13	129
BH-10 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Gravel (SP)	66	204	5	118
BH-10 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	43	248	15	115
BH-1 1	6.5 - 7	Tube	Brown Silty Sand (SM)	57	325	23	89
BH-11	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	58	196	6	109
BH-12 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Gravel (SP)	78	176	5	112
BH-12 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	68	145	8	120
BH-13 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	51	340	24	96

Table # 2 Thermal Resistivity Test Results (continued)

Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W) WET	DRY	Moisture Content (%)	Dry Density (lb/ft^3)
BH-13 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP)	41	149	13	118
BH-14 S1	6.5 - 7	Tube	Brown Poorly Graded Sand (SP)	53	234	6	104
BH-14 S3	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	43	179	11	110
BH-15 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	67	282	9	103
BH-15 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP)	64	189	13	111
BH-16 S1	6.5 - 7	Tube	Brown Silty Sand (SM)	69	297	5	100
BH-16 S2	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	40	301	21	98
BH-16 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	44	178	17	104

9.3. Trenchless design of 4 boreholes (BH 2, 8 and 17) where drilled to a 60-foot depth and one (BH 16) was drilled to a depth of 35 feet. The purpose of these deep boreholes was to determine the soil at various levels to use a mechanical tunneling machine for the placement of the cable. Table #1 (Appendix C) is a summary of the data collected, tested, and calculated. The estimated friction angle (Φ) was taken from typical values for cohesionless soils without clay or cementing agents. The bearing capacity factors were taken from a table that lists Terzsghi's values at that angle. Some of these values were estimated from the physical laboratory analysis and Tables 1 and 2 above. Not all of the BH samples were tested at either laboratory. Therefore, some of these values were matched to the USCS designation and some of these values were matched to similar soil characteristics. Also interesting to note for BH16 is the dry density values from the proctor (115 pcf) and the thermal resistivity analysis (98 to 104 psf). The thermal resistivity values are lower than the proctor. The soil

classification for S2 is SP, but was analyzed as SM to arrive at a reasonable Φ value.

10. DISCUSSION OF RESULTS

10.1. BH Logs – The results of the drilling delineated the expected for glacial deposits as shown in the reference literature. Most of the boreholes recovered coarse angular sand with various colors (orange, brown, gray, and black) with gravel or pebbles and silt. In one or two boreholes, clay was encountered but in small pocket or deposits (BH 8, 11, and 14). One large boulder (6 inches in diameter) was drilled at BH10 and a core was recovered and intact.

10.2. Groundwater- The ground water levels did not agree with the average USGS measurement (see Figures 4 to 5 in Appendix E). This could be due to a high groundwater table as a result of the precipitation or snow melt. As stated in Section 5.2.2, the glacial water is the main source of residential water and is a significant water supply.

10.3. Laboratory Results

10.3.1. The ASTM soil analysis did verify the field observations. Phase 2 drilling required a standard proctor for each BH. However, each proctor required approximately 5 gallons of soil. In order to collect these samples, soil was collected at different depths to create a composite of the BH. In most cases, the soil was similar.

10.3.2. The thermal resistivity samples shows that the native soils range from 37 to 78C*cm/W for wet soils and 108 to 419 C*cm/W for dry, which are high in thermal resistance when compared to FTBTM which has a thermal resistivity of 75cm-C/W dry and a wet resistance of 50cm-C/W. Looking at the soils map from NRCS (see Appendix E), the BH logs, and the Lab results (Section 8.3.1), the soil groups are well drained consisting of mostly glacial parent material, which is mostly fine to coarse grained sand and gravel either stratified or unstratified. The groundwater is discussed in Section 8.2 above. The cable will generate heat that will feed back into the cable and reduce its ampacity. The amount of heat fed back will depend on the type of soil. The analysis suggest that the heat will be too high and will reduce the cable's ampacity significantly. In addition, the dry density values in BH16 appear to be lower than expected considering the soil type.

11. REFERENCES

11.1. Long Island's Aquifer – Peconic Estuary Partnership, https://www.peconicestuary.org/projects/clean-waters-2/long_island_aquifer

11.2. Garvies Point Museum & Preserve, Geology of Long Island, https://www.graviespointmuseum.com/gelolgy.php

12. SIGNATORY

MAY 17, 2024

EMANUEL T. POSLUSZNY **DATE**

PRESIDENT

APPENDIX A

Location and Project Information

PSEG-LI Bridgehampton to Buell

Borehole locations FIGURE #1

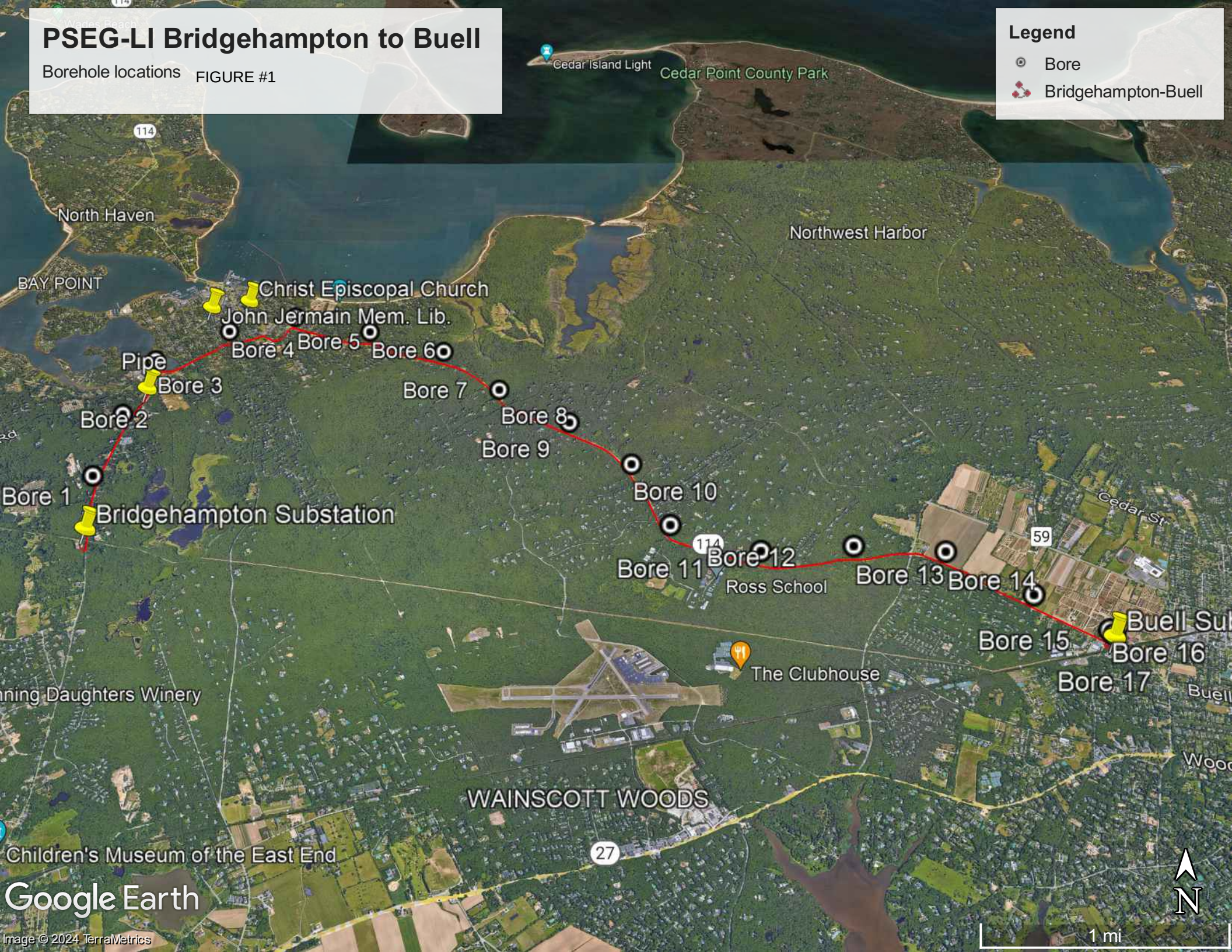


FIGURE #2- TOPOGRAPHY OF THE PROJECT AREA

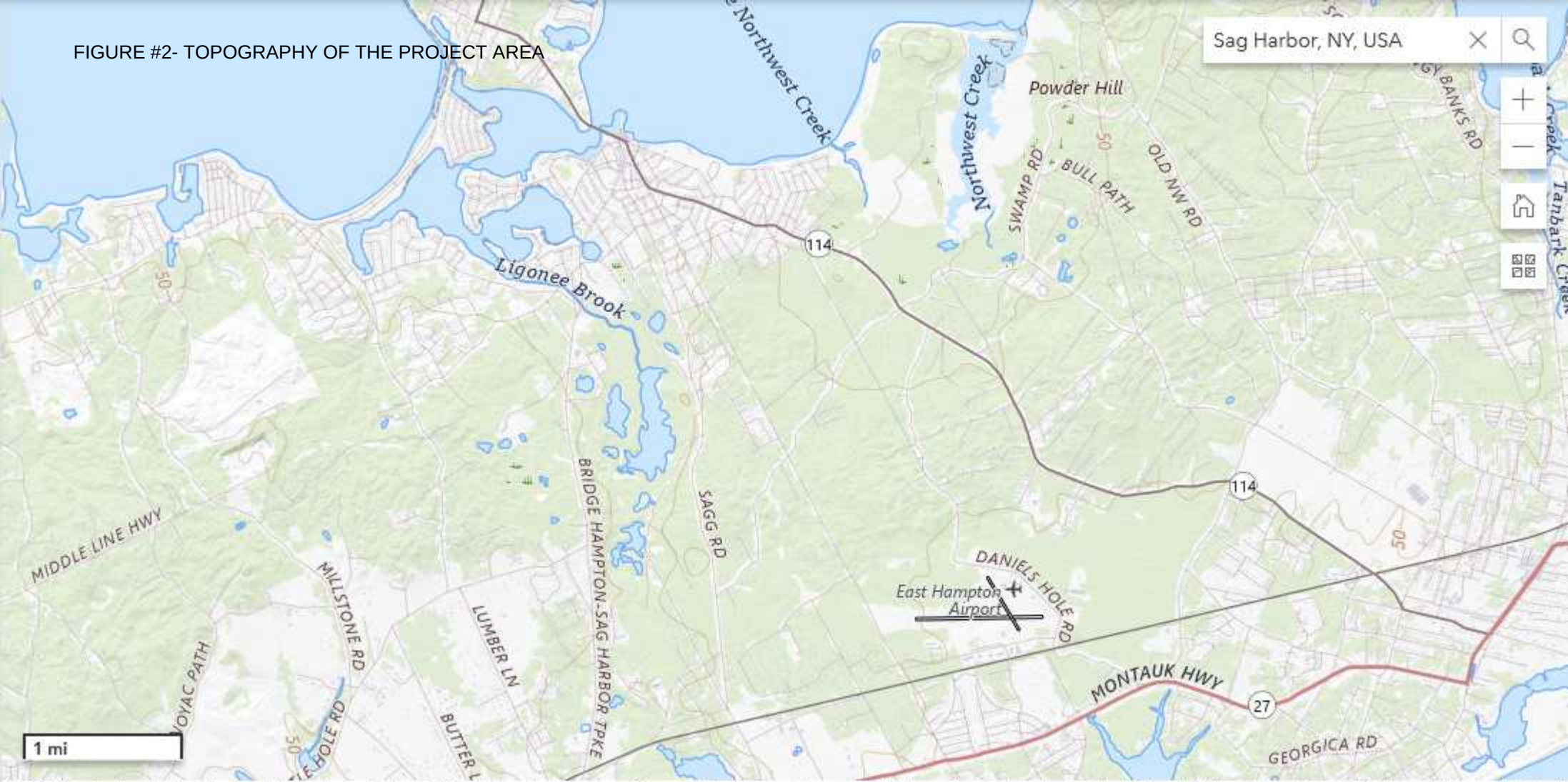


TABLE #1 Boring/Sounding Schedule 2/27/2024

Project Name: PSEGLI Bridgehampton to Buell
Project Number: 163671

Boring/Sounding	Latitude (deg)	Longitude (deg)	Minimum Depth (ft)	Sample Depths for Thermal Resistivity Testing (ft)	Notes
B-1	40°58'20.38"N	72°18'7.22"W	15	4'-6', 9'-11'	Chemical Suite
B-2	40°58'40.09"N	72°18'8.21"W	60	4'-14', 14'-24', 24'-34', 34'-44', 44'-54', 54'-60'	
B-3	40°59'11.82"N	72°18'3.27"W	15	4'-6', 9'-11'	Chemical Suite
B-4	40°59'28.45"N	72°17'59.37"W	15	4'-6', 9'-11'	
B-5	40°59'39.53"N	72°17'37.96"W	30	5'-7', 14'-16', 28'-30'	Chemical Suite
B-6	40°59'45.81"N	72°17'3.43"W	30	5'-7', 14'-16'	
B-7	40°59'31.71"N	72°16'8.33"W	30	5'-7', 14'-16', 28'-30'	Chemical Suite
B-8	40°59'15.03"N	72°15'45.25"W	60	4'-14', 14'-24', 24'-34', 34'-44', 44'-54', 54'-60'	
B-9	40°59'1.32"N	72°15'18.07"W	30	5'-7', 14'-16'	Chemical Suite
B-10	40°58'44.45"N	72°14'55.11"W	30	5'-7', 14'-16', 28'-30'	
B-11	40°58'22.11"N	72°14'41.89"W	30	5'-7', 14'-16'	Chemical Suite
B-12	40°58'13.22"N	72°14'11.34"W	30	5'-7', 14'-16', 28'-30'	
B-13	40°58'14.96"N	72°13'39.42"W	30	5'-7', 14'-16'	Chemical Suite
B-14	40°58'12.79"N	72°13'8.49"W	30	5'-7', 14'-16', 28'-30'	
B-15	40°57'58.55"N	72°12'42.33"W	30	5'-7', 14'-16'	Chemical Suite
B-16	40°57'47.59"N	72°12'20.72"W	40	4'-14', 14'-24', 24'-34', 34'-40'	
B-16 OPTIONAL	40°57'47.75"N	72°12'22.28"W	40	4’-14’, 14’-24’, 24’-34’, 34’-40’	If B-16 is not possible, use this as an alternate location
B-17	40° 57' 45.46" N	72° 12' 20.93" W	40	4'-14', 14'-24', 24'-34', 34'-40'	Chemical Suite
MASW-1	40°57'47.06"N	72°12'21.95"W	N/A	N/A	

*Chem (8) = Chemical Suite at depth of 15 feet below ground WAS NOT DONE AT CLIENT'S INSTRUCTIONS

APPENDIX B

Borehole Logs

Hole No. 01

DIVISION DRILLING LOG	INSTALLATION SHEET 1 OF 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97236N, 72.30206W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-01	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: ; UNDISTURBED: 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 02/06/2024 COMPLETED 02/06/2024
	17. ELEVATION TOP OF HOLE: 100’ ASL
7. THICKNESS OF OVERBURDEN: 15’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
100	0	-	Medium Brown to Orange coarse sand w/ some pebbles	N/A	N/A	Hand dug to 5 feet
	1	--				
98	2	--				
	3	--				
96	4	--				
	5	--	Medium Brown to Orange coarse sand w/ some pebbles	25%	S-1	7-5-6-8 3.0 t/sf Wet water table
94	6	--				
	7	--	Medium Brown to Orange coarse sand w/ some pebbles	N/A	N/A	Augered to next sampling depth
92	8	--				
	9	--				
90	10	--				
	11	--				
88	12	--	Medium Brown to Orange coarse sand w/ some pebbles	25%	S-2	17-13-9-9
	13	--				
86	14	--				
	15	--				EOH
84	16	--				

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97797N, 72.30219W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-2	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: ; UNDISTURBED: 3
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 01/29/2024 COMPLETED 02/07/2024
	17. ELEVATION TOP OF HOLE: 65’ ASL
7. THICKNESS OF OVERBURDEN: Unknown	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 62 feet	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
65	0	--	Light brown sand with round pebbles	N/A	N/A	Hand dug to 5 feet moist
	2	--				
61	4	--				
	6	--		100%	S-1	6-8-10, 5 to 7 feet, dry
57	8	--	Lighter brown sand with pebbles	N/A	N/A	Augered to 12 feet
	10	--				
53	12	--		100%	S-2	25-50, dry 12 to 14 feet
	14	--	Unstratified Lighter brown sand with gravel	N/A	N/A	Augered to 15 feet
49	16	--			SS-1	17-22-26-29, wet, 15 to 17 feet
	18	--		N/A	N/A	Augered to 20 feet
45	20	--	Medium brown sand		SS-2	20-29-30-35, wet 20 to 22 feet
	22	--	Medium Brown sand	N/A	N/A	Augered to 25 feet
41	24	--		N/A	N/A	
	26	--	Light brown coarse sand	25%	TH-3	21-18-22-50, wet, 25 to 27 feet
37	28	--		N/A	N/A	Augered to 30 feet
	30	--	Medium coarse brown sand		SS-3	19-17-23-33, wet, 30 to 32 feet
33	32	--		N/A	N/A	Augered to 35 feet
	34	--	.			
29	36	--	Very coarse pebbled sand	20%	TH-4	37-54-50, 35 to 37 feet, wet
	38	--		N/A	N/A	Augered to 40 feet.
25	40	--	Medium brown loose sand		SS-4	44-50, wet, 40 to 42 feet
	42	--		N/A	N/A	Augered to 45 feet
21	44	--				
	46	--				
17	48	--				

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE

Hole No. BH 2 (continued)

PROJECT INSTALLATION SHEET: 2 of 2

OF: PSEG-LI, BRIDGEHAMPTON TO BUELL SHEETS

ELEVATION a	DEPTH b	LEGEND C	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
		-	See page 1			
21	44	--				
		-				
19	46	--	Orange loose sand	25%	TH-5	50-50, wet, 45 to 47 feet
		-				
17	48	--		N/A	N/A	Augered to 50 feet
		-				
13	50	--	Light orange loose sand		SS-5	50-35-39-49, wet,
		-				
9	52	--		N/A	N/A	Augered to 55 feet
		-				
5	54	--				
		-				
1	56	--	Light coarse sand with some pebbles		TH-6	27-35-48-50, wet, 55 to 57 feet
		-				
-1	58	--		N/A	N/A	Augered to 60 feet
		-				
-3	60	--		M	SS-6	18-31-30-41, wet, 60 to 62 feet
		-	Medium brown coarse sand			
-5	62	--				EOH
			EOH			

ENG FORM 1836-A (ER 1110-1-1801) PROJECT HOLE NO.
JUN 67 GPO 1991-618-759/40491

Hole No. 03

DIVISION: DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT: PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.98662N, 72.30091W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-03	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: ; UNDISTURBED: 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE — STARTED 02/01/2024 COMPLETED 02/01/2024
	17. ELEVATION TOP OF HOLE: 13' ASL
7. THICKNESS OF OVERBURDEN: 15’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
13	0	-	Light fine grain sand w/ some pebbles	N/A	N/A	Hand dug to 5 feet Damp
	1	--				
11	2	--				
	3	--				
7	4	--				
	5	--	Fine grained light and dark Brown sand	90%	S-1	5-5-10-12 water table
3	6	--				
	7	--	Fine grained light and dark Brown sand	N/A	N/A	Augered to next sampling depth
-1	8	--				
	9	--				
-5	10	--				
	11	--				
-9	12	--	Fine grained light and dark Brown sand	100%	S-2	3-5-6-9
	13	--				
-13	14	--				
	15	--				EOH
	16	--				

Hole No. 04

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.99110N, 72.30004W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-04	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: ; UNDISTURBED: 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 02/05/2024 COMPLETED 02/05/2024
	17. ELEVATION TOP OF HOLE: 10’ ASL
7. THICKNESS OF OVERBURDEN: 15’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
10	0	-	Very dark sandy soil then medium brown coarse sand with some cobbles	N/A	N/A	Hand dug to 5 feet Dry
	1	--				
8	2	--				
	3	--				
6	4	--				
	5	--	Medium Brown coarse sand	25%	S-1	6-5-4-5 Dry
4	6	--				
	7	--	Medium Brown coarse sand	N/A	N/A	Augered to next sampling depth wet
2	8	--				
	9	--				
0	10	--				Water Table
	11	--				
-2	12	--	Medium Brown coarse sand	25%	S-2	8-9-9-11 0.75 tons/sf
	13	--				
-4	14	--				EOH
	15	--				
-6	16	--				

Hole No. 05

DIVISION: DRILLING LOG

INSTALLATION OF 1 SHEET 1 SHEETS

1. PROJECT; PSEG-LI Bridgehampton to Buell
2. LOCATION (Coordinates or Station) 40.99439N, 72.29397W
3. DRILLING AGENCY Aquifer Drilling & Testing, INC
4. HOLE NO. (As shown on drawing title and title number); BH-05
4. NAME OF DRILLER Dan Mendoza
6. DIRECTION OF HOLE: X VERTICAL INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30'
8. DEPTH DRILLED INTO ROCK: N/A
9. TOTAL DEPTH OF HOLE

10. SIZE AND TYPE OF BIT: 2.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: — UNDISTURBED: 3
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER
16. DATE HOLE — STARTED 02/07/2024 COMPLETED 02/07/2024
17. ELEVATION TOP OF HOLE: 30' ASL
18. TOTAL CORE RECOVERY FOR BORING:
19. SIGNATURE OF INSPECTOR: Dawson Sinsineg

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
30	0	--	Very dark sandy soil	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
26	4	--	Medium orange loose sand w/ pebbles			
	6	--	Orange to Brwn coarse sand	25%	S-1	6-8-10-12, 5 to 7 feet
22	8	--	Medium Brown coarse sand	N/A	N/A	Augered to next sampling depth
	10	--				Water at 8 feet
18	12	--				
	14	--	Medium Brown loose sand w/ small pebbles	25%	S-2	10-7-12-15, wet
14	16	--	Medium Brown loose sand With small pebbles	N/A	N/A	Augered to next sampling depth
	18	--				
10	20	--				
	22	--				
6	24	--				
	26	--				
2	28	--				
	30	--	Very Coarse pebbly sand	25%	S-3	11-15-25-32, wet
-2	32	--				EOH at 30 feet

Hole No. 06

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.99500N, 72.28167W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-06	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — UNDISTURBEbD 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/25/2024 — COMPLETED 03/25/2024
	17. ELEVATION TOP OF HOLE: 50’ ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
50	0	--	Brown Coarse Sand w/ Some pebbles	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
46	4	--				
	6	--	Same Soil	100%	S-1	3-3-4-5, 5 to 7 feet, Damp, 1-tsf
42	8	--	Same Soil	N/A	N/A	Augered to next sampling depth
	10	--				
38	12	--				
	14	--	Medium Brown coarse sand w/ gravel mix	50%	S-2	9-12-18-22, wet,
34	16	--	Medium Brown loose sand With small pebbles	N/A	N/A	Augered to next sampling depth
	18	--				
30	20	--				
	22	--				
26	24	--				
	26	--				
22	28	--				
20	30	--				EOH at 30 feet

Hole No. 07

DIVISION: DRILLING LOG

INSTALLATION OF 1 SHEET 1 SHEETS

1. PROJECT; PSEG-LI Bridgehampton to Buell
2. LOCATION (Coordinates or Station) 40.99213N, 72.26903W
3. DRILLING AGENCY Aquifer Drilling & Testing, INC
4. HOLE NO. (As shown on drawing title and title number); BH-07
4. NAME OF DRILLER Dan Mendoza
6. DIRECTION OF HOLE: X VERTICAL INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30'
8. DEPTH DRILLED INTO ROCK: N/A
9. TOTAL DEPTH OF HOLE: 30'
10. SIZE AND TYPE OF BIT: 2.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): Google Earth
12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 1; Undisturbed 3
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED 03/26/2024 COMPLETED 03/26/2024
17. ELEVATION TOP OF HOLE: 16' ASL
18. TOTAL CORE RECOVERY FOR BORING:
19. SIGNATURE OF INSPECTOR: Dawson Sinsineg

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
16	0	--	Brown Coarse Sand	N/A	N/A	Hand dug to 5 feet
		-				Dry
	2	--				
		-				
12	4	--				
		-				
	6	--	Light Brown Coarse Sand	100%	S-1	4-6-6-7, 5 to 7 feet, Damp,
		-				
8	8	--	Same Soil	N/A	N/A	Augered to next sampling depth
		-				
	10	--				
		-				
4	12	--				
		-				
	14	--	Brown coarse sand w/ gravel	100%	S-2	19-24-27-35, wet, .75 tsf
		-				
0	16	--	Brown coarse sand With small pebbles	N/A	N/A	Augered to next sampling depth 28'
		-				
	18	--				
		-				
-4	20	--				
		-				
	22	--				
		-				
-8	24	--				
		-				
	26	--				
		-				
-12	28	--	Coarse sand w/ gravel mix	50%	S3	15-23-21-24, wet, 1 tsf
		-				
-16	30	--				EOH at 30 feet
		-				
	32	--				
		-				
		--				
		-				
		--				
		-				
		--				
		-				
		--				
		-				
		--				
		-				
		--				
		-				
		--				
		-				
		--				

DIVISION DRILLING LOG	INSTALLATION OF SHEET 1 2 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.98750N, 72.26250W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-8	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 1; UNDISTURBED 6
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 03/27/2024 COMPLETED 03/27/2024
	17. ELEVATION TOP OF HOLE: 14' ASL
7. THICKNESS OF OVERBURDEN: Unknown	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 60 feet	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
14	0	--	Dark brown coarse sand w/ some pebbles	N/A	N/A	Hand dug to 5 feet moist
	2	--				
12	4	--				
	6	--	Coarse brown clayey sand	75%	S-1	11-22-25-28, 5 to 7 feet, wet 4-tsf
8	8	--	Same soil	N/A	N/A	Augered to 15 feet
	10	--				
4	12	--				
	14	--				
0	16	--	brown coarse sand w/ pebbles	50%	S-2	7-11-12-10, wet, 1.5-tsf
	18	--	Brown coarse sand w/ pebbles	N/A	N/A	Augered to 17 to 25 feet
-4	20	--				
	22	--				
-8	24	--				
	26	--	brown coarse sand w/ pebbles	50%	S-3	11-12-12-13, wet, 0.5 tsf
-12	28	--	coarse brown sand w/ pebbles	N/A	N/A	Augered to 35 feet
	30	--				
-16	32	--	.			
	34	--				
-20	36	--	coarse brown sand w/ gravel	50%	S-4	7-15-20-20, wet,0.5-tsf
	38	--	Coarse brown sand w/ pebbles	N/A	N/A	Augered to 45 feet
-24	40	--				
	42	--				
-28	44	--				
	46	--				Continued on Page 2
-32	48	--				

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE

Hole No. BH 8 (continued)

PROJECT INSTALLATION SHEET: 2 of 2

OF: PSEG-LI, BRIDGEHAMPTON TO BUELL SHEETS

ELEVATION a	DEPTH b	LEGEND C	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
		-	See page 1			
-28	44	--				45 feet
		-	Light brown coarse sand	50%	S-5	11-1624-20, wet, 45 to 47 feet
	46	--				1.5-tsf
		-	Light brown coarse sand	N/A	N/A	Augered to 55 feet
-32	48	--				
		-				
	50	--				
		-				
-36	52	--				
		-				
	54	--				
		-	Light brown coarse sand		S-6	16-19-25-20, wet, 2.5 tsf
-40	56	--				
		-	Light brown coarse sand	N/A	N/A	Augered to 60 feet
	58	--				
		-				
-44	60	--				
		-				EOH
		--				

Hole No. 09

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.98361N, 72.25500W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-09	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — UNDISTURBED 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/26/2024 — COMPLETED 03/26/2024
	17. ELEVATION TOP OF HOLE: 20’ ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
20	0	--	Light orange coarse sand	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
16	4	--				
	6	--	Same Soil	75%	S-1	5-8-9-10, 5’ to 7’, Damp, 0.5-tsf
12	8	--	Same Soil	N/A	N/A	Augered to next sampling depth
	10	--				
8	12	--				
	14	--	Dark Brown coarse sand w/ gravel mix	50%	S-2	24-30-41-40, wet, 7.5 tsf
4	16	--	Dark Brown coarse sand With small pebbles	N/A	N/A	Augered to next sampling depth
	18	--				
0	20	--				
	22	--				
-4	24	--				
	26	--				
-8	28	--				
-10	30	--				EOH at 30 feet

Hole No. 10

DIVISION: DRILLING LOG

INSTALLATION OF 1 SHEET 1 SHEETS

1. PROJECT; PSEG-LI Bridgehampton to Buell
2. LOCATION (Coordinates or Station) 40.97900N, 72.24863W
3. DRILLING AGENCY Aquifer Drilling & Testing, INC
4. HOLE NO. (As shown on drawing title and title number); BH-10
4. NAME OF DRILLER Dan Mendoza
6. DIRECTION OF HOLE: X VERTICAL INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30'
8. DEPTH DRILLED INTO ROCK: 6" into large boulder
9. TOTAL DEPTH OF HOLE: 30'
10. SIZE AND TYPE OF BIT: 2.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 1; Undisturbed 3
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED 03/25/2024 COMPLETED 03/25/2024
17. ELEVATION TOP OF HOLE: 80' ASL
18. TOTAL CORE RECOVERY FOR BORING:
19. SIGNATURE OF INSPECTOR: Dawson Sinsineg

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
80	0	--	Brown Coarse Sand w/ gravel	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
76	4	--				
	6	--	Brown Coarse Sand w/ Gravel & some cobbles	25%	S-1	50-50, Dry, 1.5 tsf
72	8	--	Brown Coarse Sand w/ Gravel and large Boulders	N/A	N/A	Augered to next sampling depth 6" boulder rock cored
	10	--				
68	12	--				
	14	--	Brown coarse sand w/ gravel	50%	S-2	25-26-35-41, wet, 7 tsf
64	16	--	Brown coarse sand With gravel	N/A	N/A	Augered to next sampling depth 28'
	18	--				
50	20	--				
	22	--				
56	24	--				
	26	--				
52	28	--				
40	30	--	Coarse sand w/ gravel mix	20%	S3	33-46-48-50, wet, 2.5 tsf EOH at 30 feet

Hole No. 11

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97289N, 72.24507W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ’Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-11	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — UNDISTURBEbD 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/25/2024 — COMPLETED 03/25/2024
	17. ELEVATION TOP OF HOLE: 100’ ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
100	0	--	Black to Medium Brown coarse sand to light brown clayey sand SP to SC	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
96	4	--				
	6	--	Light brown clayey sand ML	100%	S-1	4-6-6-10, Damp, 2-tsf
92	8	--	Coarse sand and clay	N/A	N/A	Augered to next sampling depth
	10	--				
88	12	--				
	14	--	Medium Brown coarse sand w/ pebbles	100%	S-2	30-17-25-39, Damp, 4.5-tsf
84	16	--	Medium Brown coarse sand With small pebbles	N/A	N/A	Augered to next sampling depth
	18	--				
80	20	--				
	22	--				
76	24	--				
	26	--				
72	28	--				
70	30	--				EOH at 30 feet

Hole No. 12

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97030N, 72.23642W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ’Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-12	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — Undisturbed 3
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/25/2024 — COMPLETED 03/25/2024
	17. ELEVATION TOP OF HOLE: 51’ ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
51	0	--	Medium Brown Coarse Sand w/ some pebbles	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
47	4	--				
	6	--	Brown Coarse Sand w/ Pebbles to cobbles	30%	S-1	18-37-50, Dry, 1.25-tsf
43	8	--	Same Soil with more cobbles	N/A	N/A	Augered to next sampling depth
	10	--				
39	12	--				
	14	--	Brown coarse sand w/ gravel & less cobbles	75%	S-2	33-40-48-54, wet, 2.75 tsf
35	16	--	Brown coarse sand With pebbles & cobbles	N/A	N/A	Augered to next sampling depth 28’
	18	--				
31	20	--				
	22	--				
27	24	--				
	26	--				
23	28	--	Gravel w/ Med. Brwn. sand	75%	S3	49-47-50, wet, 4.5-tsf
19	30	--				EOH at 30 feet

Hole No. 13

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97084N, 72.22759W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) ’ Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-13	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 1; UNDISTURBEbD 2
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE STARTED 03/22/2024 COMPLETED 03/22/2024
	17. ELEVATION TOP OF HOLE: 83'ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
83	0	--	Light Brown Med. Sand w/ Some pebbles	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
79	4	--				
	6	--	Light to med. Gray Silty clay	100%	S-1	7-9-9-8, Dry, 1.25-tsf, pH7 T=44 deg.
75	8	--	Same Soil	N/A	N/A	Augered to next sampling depth
	10	--				
71	12	--				
	14	--	Dark Brown coarse sand w/ gravel mix	75%	S-2	30-29-33-36, wet, 3-tsf, pH7,
67	16	--	Dark Brown coarse sand With small pebbles	N/A	N/A	Augered to next sampling depth
	18	--				
63	20	--				
	22	--				
59	24	--				
	26	--				
55	28	--				
53	30	--				EOH at 30 feet

Hole No. 14

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.97036N, 72.21911W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-14	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — Undisturbed 3
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/22/2024 — COMPLETED 03/22/2024
	17. ELEVATION TOP OF HOLE: 110’ ASL
7. THICKNESS OF OVERBURDEN: 30’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
110	0	--	Med. Orange Coarse Sand w/ some light gray silty clay some pebbles	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
106	4	--				
	6	--	Light Brown Coarse Sand w/ some small pebbles	100%	S-1	7-13-14-10, 5 to 7 feet, wet, 1.25-tsf, pH5, T48
102	8	--	Same Soil	N/A	N/A	Augered to next sampling depth
	10	--				
98	12	--				
	14	--	Light Brown coarse sand w/ some pebbles	50%	S-2	12-13—13-17, wet, 2.25 tsf, pH7, T51
94	16	--	Light Brown coarse sand With small pebbles	N/A	N/A	Augered to next sampling depth 28’
	18	--				
90	20	--				
	22	--				
86	24	--				
	26	--				
82	28	--	Light Brown Coarse sand w/ some pebbles	50%	S3	21-27-31-34, wet, 3.75 tsf, pH7,T50
80	30	--				EOH at 30 feet
	32	--				

Hole No. 15

DIVISION: DRILLING LOG

INSTALLATION OF 1 SHEET 1 SHEETS

1. PROJECT: PSEG-LI Bridgehampton to Buell
2. LOCATION (Coordinates or Station): 40.96575N, 72.21141W
3. DRILLING AGENCY: Aquifer Drilling & Testing, INC
4. HOLE NO. (As shown on drawing title and title number): BH-15
4. NAME OF DRILLER: Dan Mendoza
6. DIRECTION OF HOLE: X VERTICAL INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30'
8. DEPTH DRILLED INTO ROCK: N/A
9. TOTAL DEPTH OF HOLE: 30'
10. SIZE AND TYPE OF BIT: 2.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): 40' ASL
12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 1; UNDISTURBED 2
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER
16. DATE HOLE: STARTED 03/21/2024 COMPLETED 03/22/2024
17. ELEVATION TOP OF HOLE: 40' ASL
18. TOTAL CORE RECOVERY FOR BORING:
19. SIGNATURE OF INSPECTOR: Dawson Sinsineg

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
40	0	--	Medium Brown Sand	N/A	N/A	Hand dug to 5 feet Dry
	2	--				
36	4	--				
	6	--	Organic to Med. Brwn. fine Grained sand	100%	S-1	4-6-10-9, Dry, 2.5-tsf, pH7 T 44
32	8	--	Medium Brown fine grained sand	N/A	N/A	Augered to next sampling depth
	10	--				
28	12	--				
	14	--	Light Brown coarse sand w/ gravel mix	100%	S-2	22-19-22-28, wet, 2.25-tsf, pH7 T 42
24	16	--	Light Brown coarse sand With gravel	N/A	N/A	Augered to next sampling depth
	18	--				
20	20	--				
	22	--				
16	24	--				
	26	--				
12	28	--				
10	30	--				EOH at 30 feet

ENG FORM 1836 MAR 71 — PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT) — PROJECT — HOLE NO.

Hole No. 16

DIVISION DRILLING LOG	INSTALLATION OF 1 SHEET 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40. 96329N, 72.0616W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-16	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED 1 — Undisturbed 3
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE XVERTICAL INCLINED____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 03/27/2024 — COMPLETED 03/27/2024
	17. ELEVATION TOP OF HOLE: 40’ ASL
7. THICKNESS OF OVERBURDEN: Unknown	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE: 30’	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
40	0	-- -	Dark Brown sand w/ small Pebbles	N/A	N/A	Hand dug to 5 feet Dry
	2	-- -				
36	4	-- -				
	6	-- -	Dark Brown sand w/ pebbles	N/A	N/A	Augered to next sampling depth To 10 feet
32	8	-- -				
	10	-- -	Med. Orange coarse sand	100%	S-1	20-20-18-17, dry, 0.5 tsf, pH7
28	12	-- -	Med. Orange coarse sand	N/A	N/A	Augered to 14 feet
	14	-- -	Dark Orange coarse sand	50%	S-2	17-20-29-28, wet, 2.5 tsf, pH7
24	16	-- -	Dark Orange coarse sand	N/A	N/A	Augered to next sampling Depth at 34 feet
	18	-- -				
20	20	-- -				
	22	-- -				
16	24	-- -				
	26	-- -				
12	28	-- -				
	30	-- -				
8	32	-- -				
	34	-- -	Dk Brwn coarse sand w/ Pebbles	50%	S3	24-23-21-23, wet, 1.0 tsf, pH6
4	36	-- - -- - -- - -- - -- - -- - -- - -- - --				EOH 36 feet

Hole No. 17

DIVISION DRILLING LOG	INSTALLATION SHEET 1 OF 1 SHEETS
1. PROJECT; PSEG-LI Bridgehampton to Buell	10. SIZE AND TYPE OF BIT: 2.5”
2. LOCATION (Coordinates or Station) 40.962364N, 72.206622W	11. DATUM FOR ELEVATION SHOWN (TBM or MSL)\ Google Earth
3. DRILLING AGENCY Aquifer Drilling & Testing, INC	12. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7822DT
4. HOLE NO. (As shown on drawing title and title number); BH-17	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED: ; UNDISTURBED: 3
4. NAME OF DRILLER Dan Mendoza	14. TOTAL NUMBER CORE BOXES: N/A
6. DIRECTION OF HOLE X VERTICAL INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER 16. DATE HOLE — STARTED 01/31/2024 COMPLETED 02/01/2024
	17. ELEVATION TOP OF HOLE: 40’ ASL
7. THICKNESS OF OVERBURDEN: 60’	18. TOTAL CORE RECOVERY FOR BORING:
8. DEPTH DRILLED INTO ROCK: N/A	19. SIGNATURE OF INSPECTOR: Dawson Sinsineg
9. TOTAL DEPTH OF HOLE	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
40	0	--	Medium redish brown fine grained sand	N/A	N/A	Hand dug to 5 feet moist
	2	--				
36	4	--				
	6	--	Loss gray sand	100%	S-1	3-5-5-6, 5 to 7 feet, damp
32	8	--		100%	S-2	4-5-7-7, 7 to 9 feet, damp
	10	--	Stratified dark fine grained sand w/ coarse grained Orange sand	100%	TH-1	10-12-16-18, 9 to 12 feet, damp
28	12	--	Gray clay & med. Bwn sand	100%	S-3	5-10-11-17, damp, 12 to 14 feet
	14	--	Orange coarse sand	100%	S-4	16-15-20-24, damp, 14 to 16 feet
24	16	--	Orange coarse sand	N/A	N/A	Augered to 19 feet
	18	--				
20	20	--	Very dense unstratified sand and gravel	75%	TH-2	50 B.C., 19 to 21 feet, 2.75 tons/sf
	22	--		N/A	N/A	Augered to 25 feet
16	24	--				
	26	--	Stratified Medium Brown sand with pebbles, finer grain on bottom	80%	S-5	12-16-19-20, wet, 25 to 27 feet
12	28	--		N/A	N/A	Augered to 29 feet
	30	--	Unstratified large pebbles in orange coarse sand	80%	TH-3	Sample to 31’, 3.1 tons/sf
8	32	--		N/A	N/A	Augered to 35 feet
	34	--				
4	36	--	Brown sand, well sorted with some pebbles stratified at the top.		S-6	49-29-22-19, 35 to 37 feet, wet
	38	--			N/A	Augered to 39 feet.
0	40	--	Dark sand with gravel and cobbles.	40%	TH-4	26-20-20-21, wet, 39 to 41 feet
	42	--			S-7	15-11-24-26, wet, 43 to 45 feet
-4	44	--	Poorly sorted medium to dark brown sand		N/A	Augered to 47 feet
	46	--				
-8	48	--				

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE

Hole No. BH 17 (continued)

PROJECT INSTALLATION SHEET: 2 of 2

OF: PSEG-LI, BRIDGEHAMPTON TO BUELL SHEETS

ELEVATION a	DEPTH b	LEGEND C	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	47	-	Dark brown coarse sand		S-8	30-20-20-21, wet, 47 to 49 feet
-8	48	--				
		-				
-10	50	--		N/A	N/A	Augered to 51 feet
		-				
-12	52	--	Brownish gray coarse sand		S-9	17-20-21-13, wet, 51 to 53 feet
		-				
-14	54	--		N/A	N/A	Augered to 58 feet
		-				
-16	56	--				
		-				
-18	58	--			S-10	14-14-19-21, wet, 58 to 60 feet
		-				
-20	60	--				
			EOH			

APPENDIX C

Laboratory Results

EXHIBIT 1 - LAB ANALYSIS FOR BH 2

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-2)
- Gradation and Classifications (5 Sheets)

SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-2 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Specific Gravity (D-854)
SS-1	15’	brown well-graded SAND with gravel (SW)*	14.4%	--	--
SS-2	20’	brown poorly graded SAND with silt (SP-SM)	14.4%	8%	--
TH-3	25’	brown poorly graded SAND with silt and gravel (SP-SM)	13.1%	6%	2.638
SS-3	30’	brown poorly graded SAND with silt (SP-SM)	13.9%	7%	2.567
SS-4	45’	brown well-graded SAND with silt (SW-SM)	--	8%	--
SS-5	55’	brown well-graded SAND with silt (SW-SM)	21.5%	10%	--
SS-6	60’	brown well-graded SAND (SW)*	12.4%	--	--

***Note:** Visual classification per ASTM D-2488.

GRADATION AND CLASSIFICATION (ASTM D2487)

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.1	5.2	34.9	42.4	8.4	

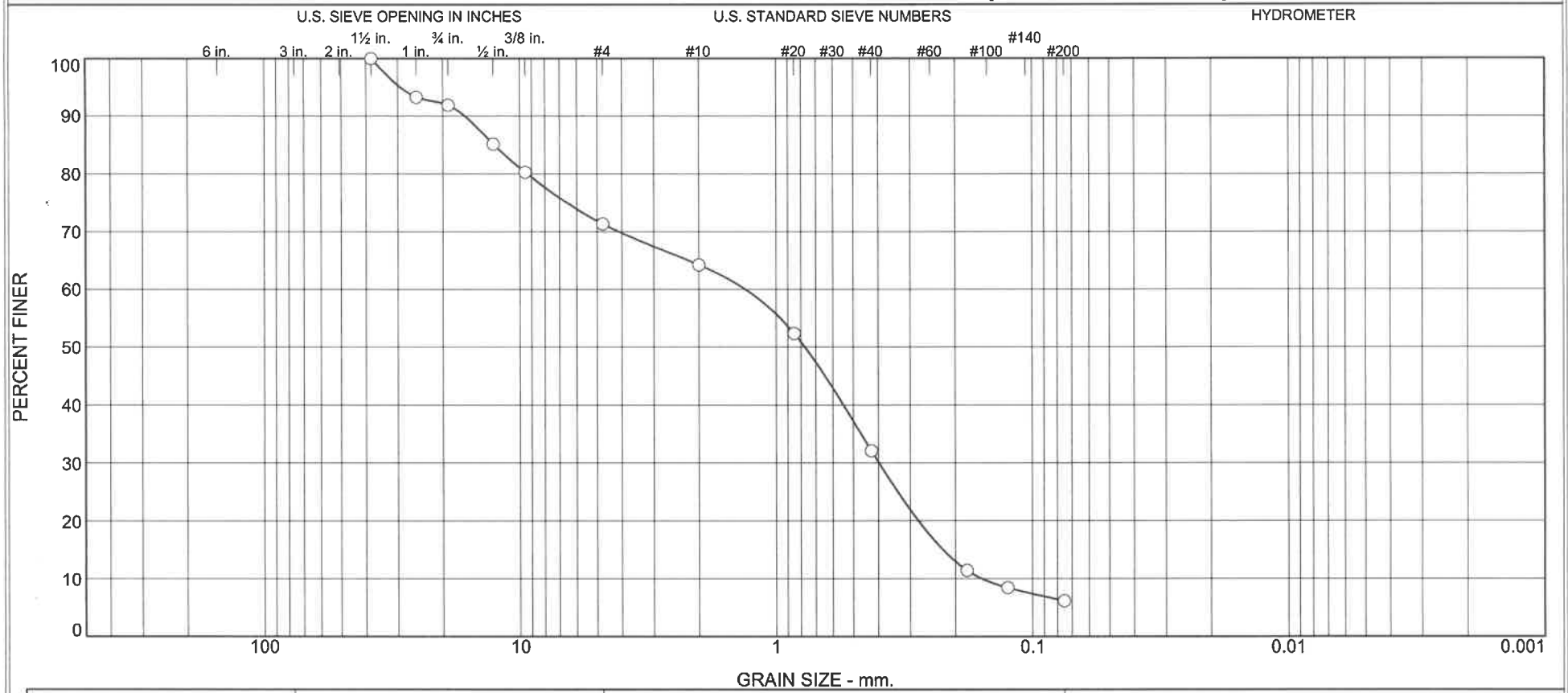
	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-2	SS-2	20'	3/8/24	SP-SM	brown poorly graded SAND with silt	14.4	NV	NP

Client POZ Engineering and Environmental Consulting
Project PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	8.1	20.5	7.2	32.1	25.9	6.2	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-2	TH-3	25'	3/8/24	SP-SM	brown poorly graded SAND with silt and gravel	13.1	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

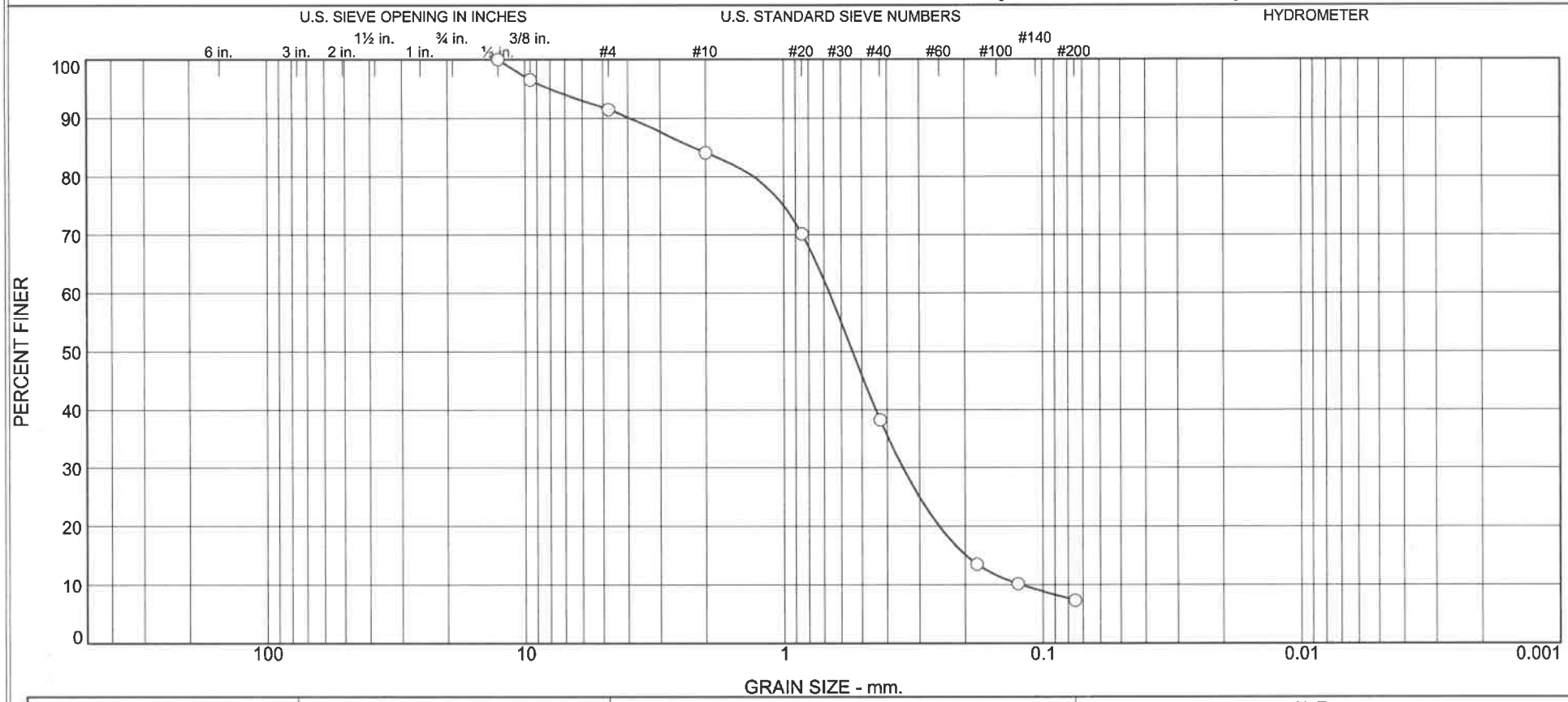
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.638

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	8.6	7.3	45.9	30.9	7.3	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-2	SS-3	30'	3/8/24	SP-SM	brown poorly graded SAND with silt	13.9	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.567

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	8.0	6.0	47.1	30.7	8.2	

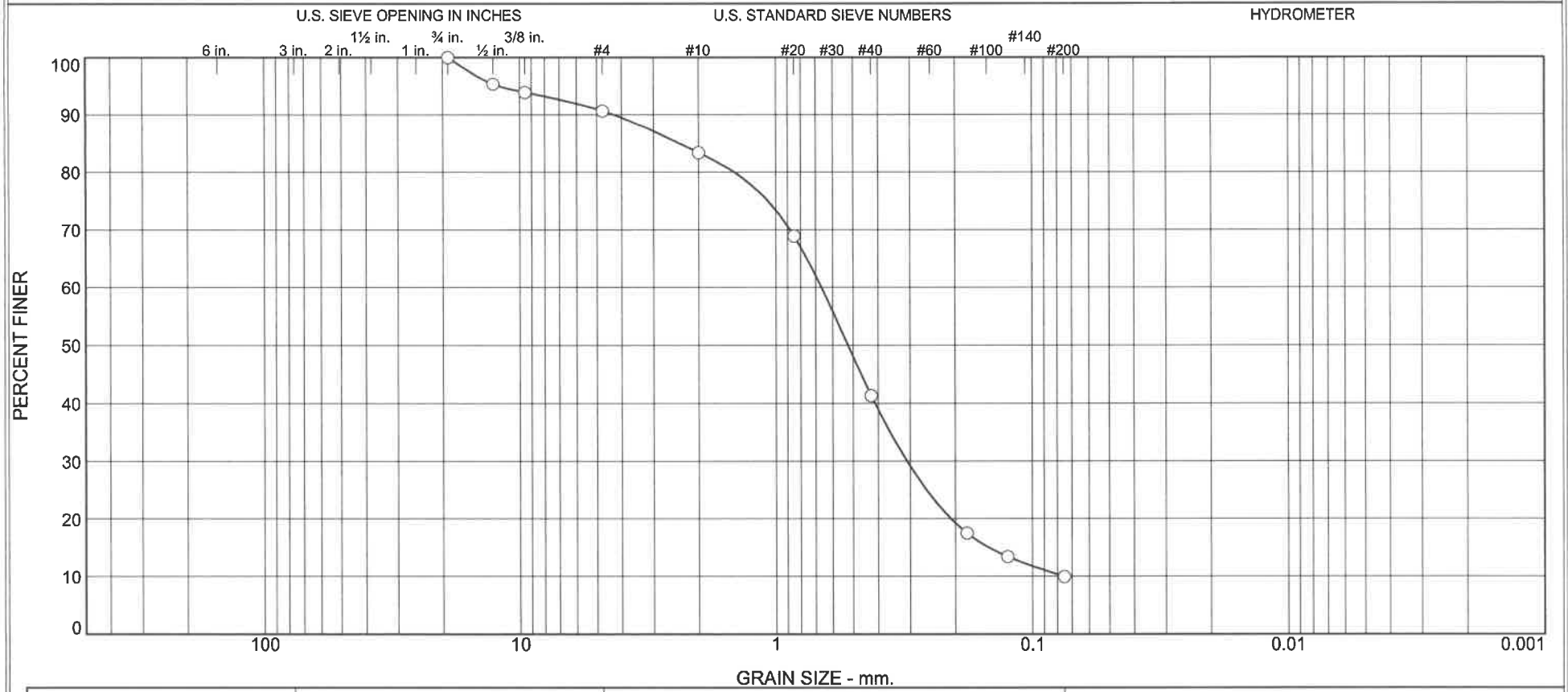
	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-2	SS-4	45'	3/8/24	SW-SM	brown well-graded SAND with silt		NV	NP

Client POZ Engineering and Environmental Consulting
Project PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.4	7.2	42.1	31.4	9.9	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-2	SS-5	55'	3/8/24	SW-SM	brown well-graded SAND with silt	21.5	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

EXHIBIT 2 - LAB ANALYSIS FOR BH 17

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-17)
- Gradation and Classifications (6 Sheets)

SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-17 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Specific Gravity (D-854)
SS-2	9’	brown silty SAND, trace gravel (SM)*	15.4%	--	--
SS-3	13’	brown poorly graded SAND with silt and gravel (SP-SM)	5.7%	7%	2.630
TH-2	21’	brown poorly graded SAND (SP)	8.4%	1%	2.631
TH-3	31’	brown poorly graded SAND (SP)	15.5%	3%	2.677
SS-6	36’	brown well-graded SAND with gravel (SW)*	15.2%	--	--
SS-7	45’	brown poorly graded SAND (SP)	16.2%	4%	--
SS-8	49’	brown poorly-graded SAND with silt and gravel (SP-SM)	14.7%	7%	2.632
SS-9	55’	brown poorly graded SAND with silt (SP-SM)	15.9%	6%	--
SS-10	60’	brown well-graded SAND with silt and gravel (SW-SM)*	16.4%	--	--

***Note:** Visual classification per ASTM D-2488.

GRADATION AND CLASSIFICATION (ASTM D2487)

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	2.6	13.9	5.3	39.3	31.7	7.2	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-17	SS-3	13'	3/8/24	SP-SM	brown poorly graded SAND with silt and gravel	5.7	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

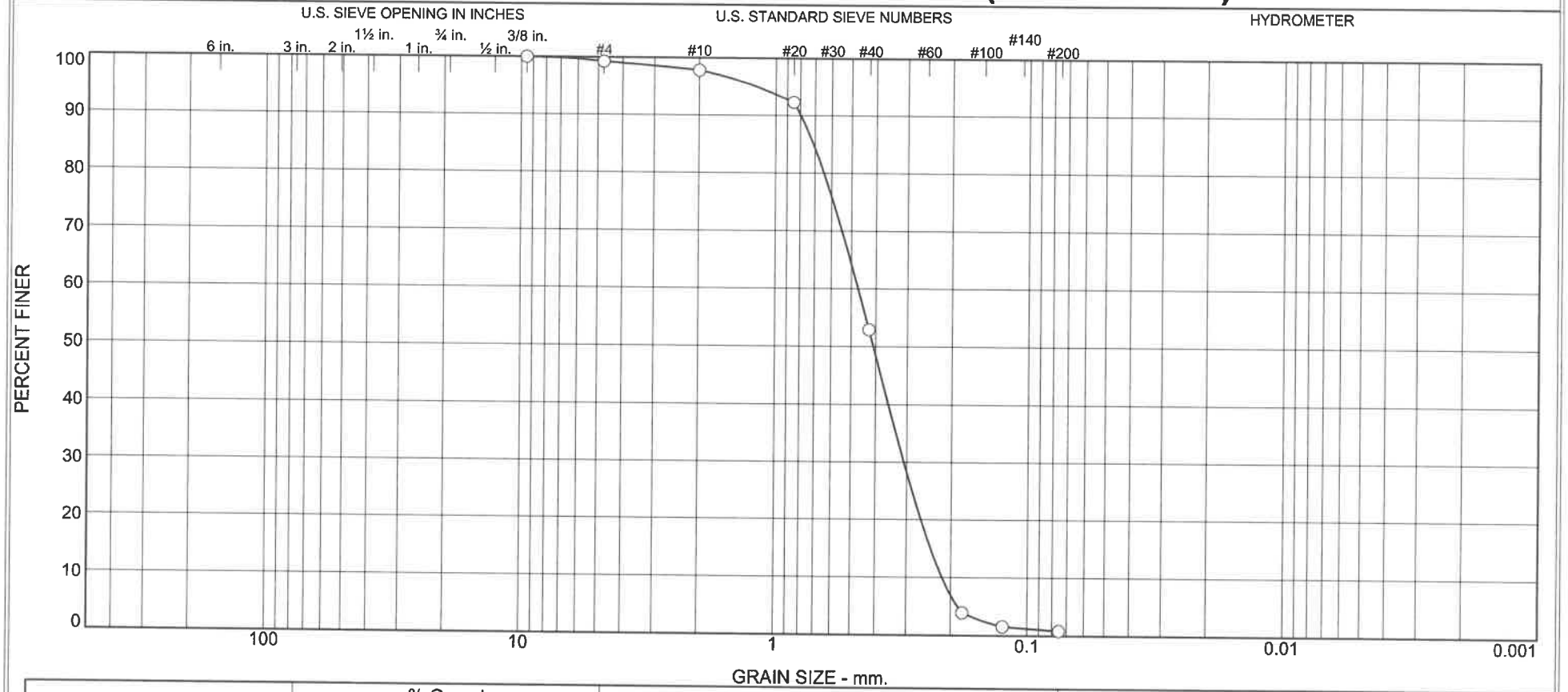
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.630

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.4	44.9	52.1	0.8	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
BH-17	TH-2	21'	3/8/24	SP	brown poorly graded SAND	8.4	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

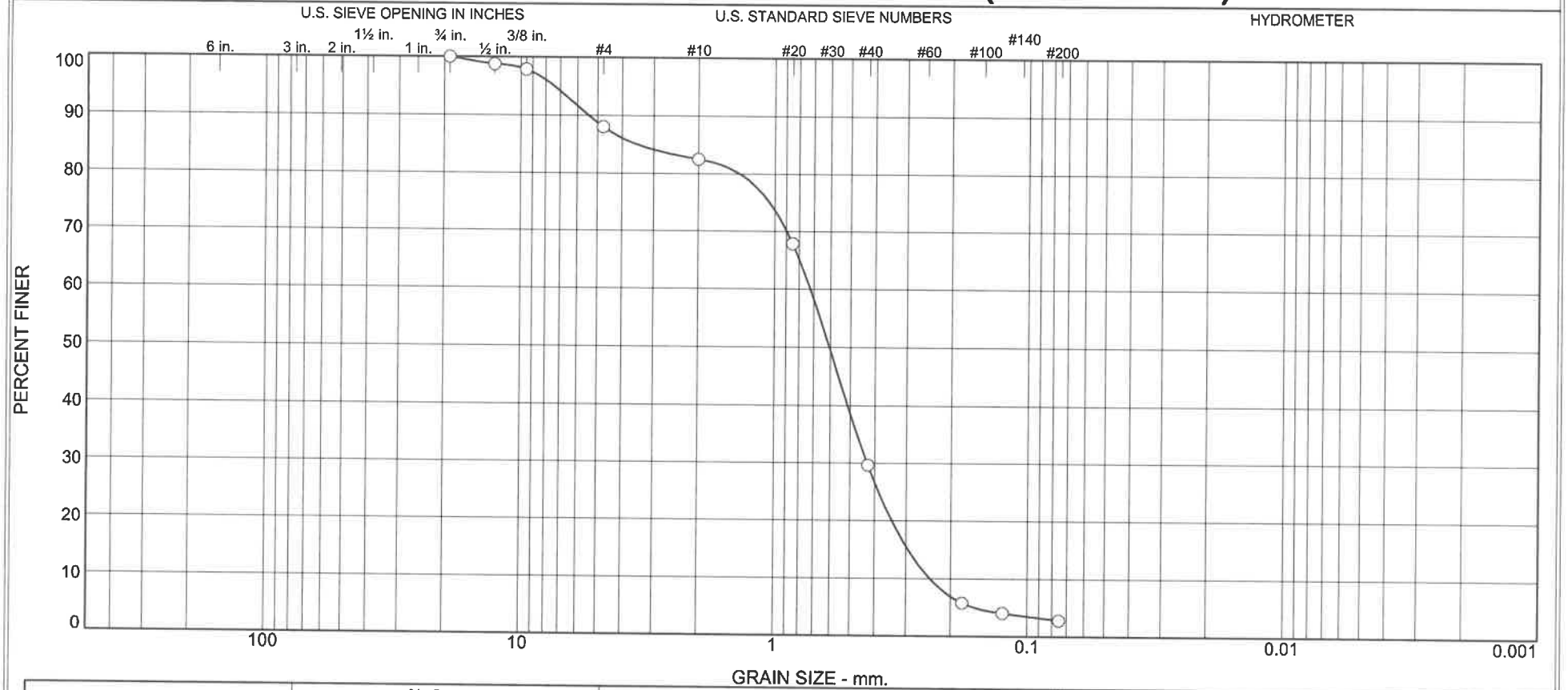
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.631

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	12.0	5.5	52.8	26.9	2.8	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-17	TH-3	31'	3/8/24	SP	brown poorly graded SAND	15.5	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

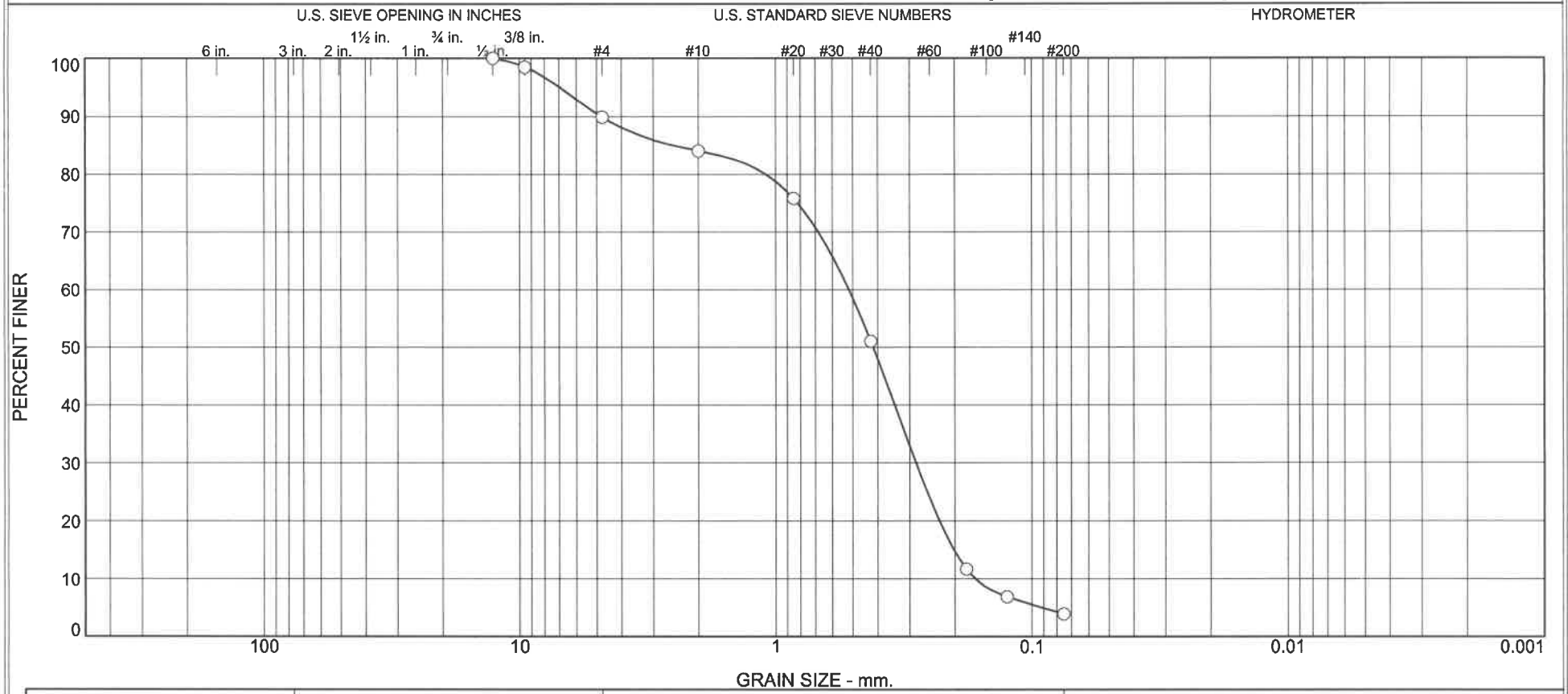
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.677

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	10.1	5.8	33.0	47.2	3.9	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-17	SS-7	45'	3/8/24	SP	brown poorly graded SAND	16.2	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	5.2	11.0	7.5	36.7	32.5	7.1	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-17	SS-8	49'	3/8/24	SP-SM	brown poorly graded SAND with silt and gravel	14.7	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

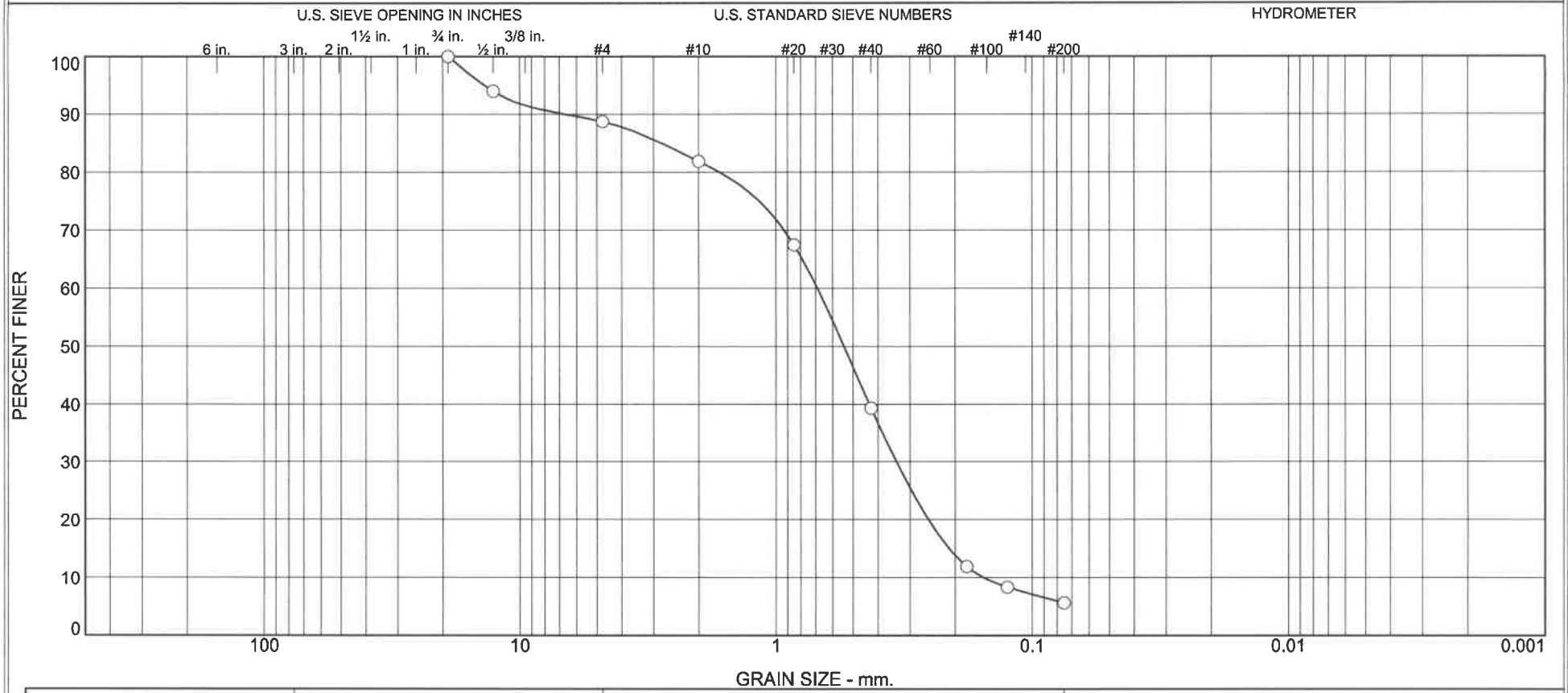
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.632

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	11.3	6.8	42.6	33.7	5.6	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-17	SS-9	55'	3/8/24	SP-SM	brown poorly graded SAND with silt	15.9	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

(4) Laboratory Test Data (Test Boring BH-9)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(5) Laboratory Test Data (Test Boring BH-10)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(6) Laboratory Test Data (Test Boring BH-11)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(7) Laboratory Test Data (Test Boring BH-12)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(8) Laboratory Test Data (Test Boring BH-13)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(9) Laboratory Test Data (Test Boring BH-14)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(10) Laboratory Test Data (Test Boring BH-15)
- Soil Classification Summary
- Gradation and Classification
- Moisture-Density Relationship

(11) Laboratory Test Data (Test Boring BH-16)
- Soil Classification Summary
- Gradation and Classifications (4 sheets)
- Moisture-Density Relationship

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-6)
- Gradation and Classification
- Moisture-Density Relationship

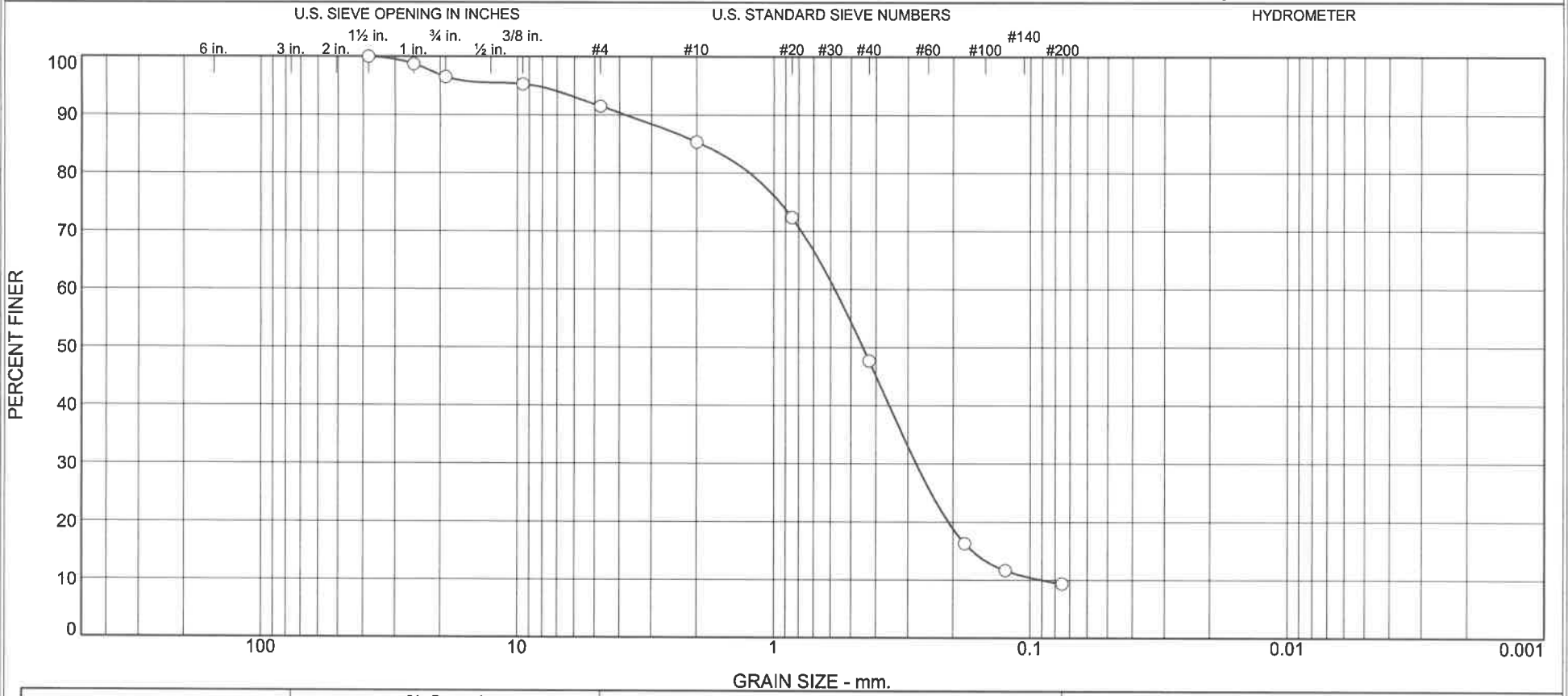
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-6 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Density (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with silt (SP-SM)*	9.9%	---	---	---	---
S-2	14-16’	brown poorly graded SAND with gravel (SP)*	8.7%	---	---	---	---
Bulk	---	well-graded SAND with silt (SW-SM)	5.0%	9.4%	116.7 pcf	8.8%	2.646

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	3.5	5.0	6.2	37.6	38.3	9.4	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-6	Bulk		4/2/24	SW-SM	brown well-graded SAND with silt	5.0	NV	NP

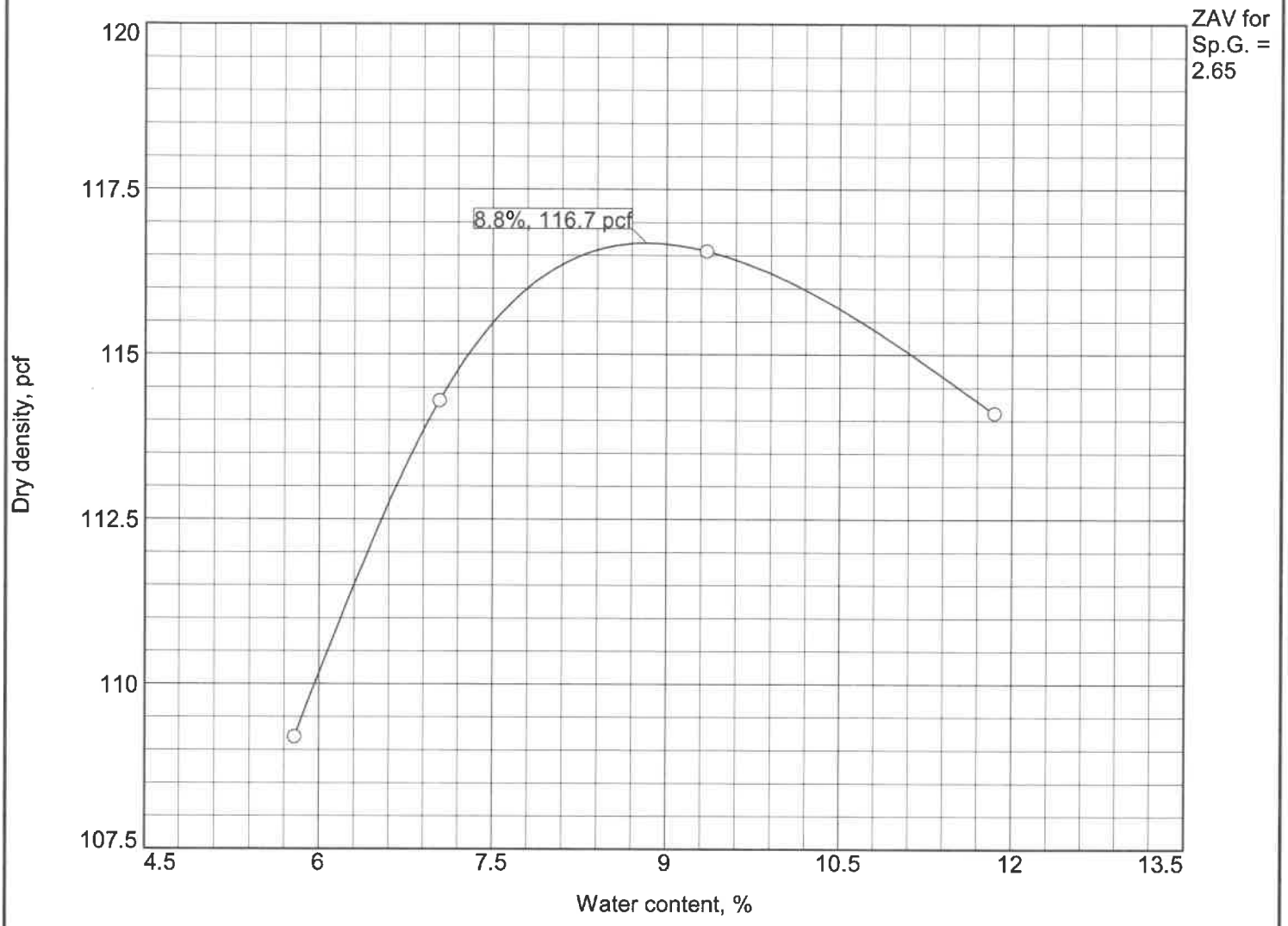
Client POZ Engineering and Environmental Consulting
Project PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.646

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method C Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	SW-SM	A-1-b	5.0	2.646	NV		3.5	9.4

TEST RESULTS

Maximum dry density = 116.7 pcf

Optimum moisture = 8.8 %

MATERIAL DESCRIPTION

brown well-graded SAND with silt

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY

○ **Source of Sample:** BH-6 **Sample Number:** Bulk

Remarks:
BH-6 Bulk
4-2-24
Specific Gravity= 2.646

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-7)
- Gradation and Classification
- Moisture-Density Relationship

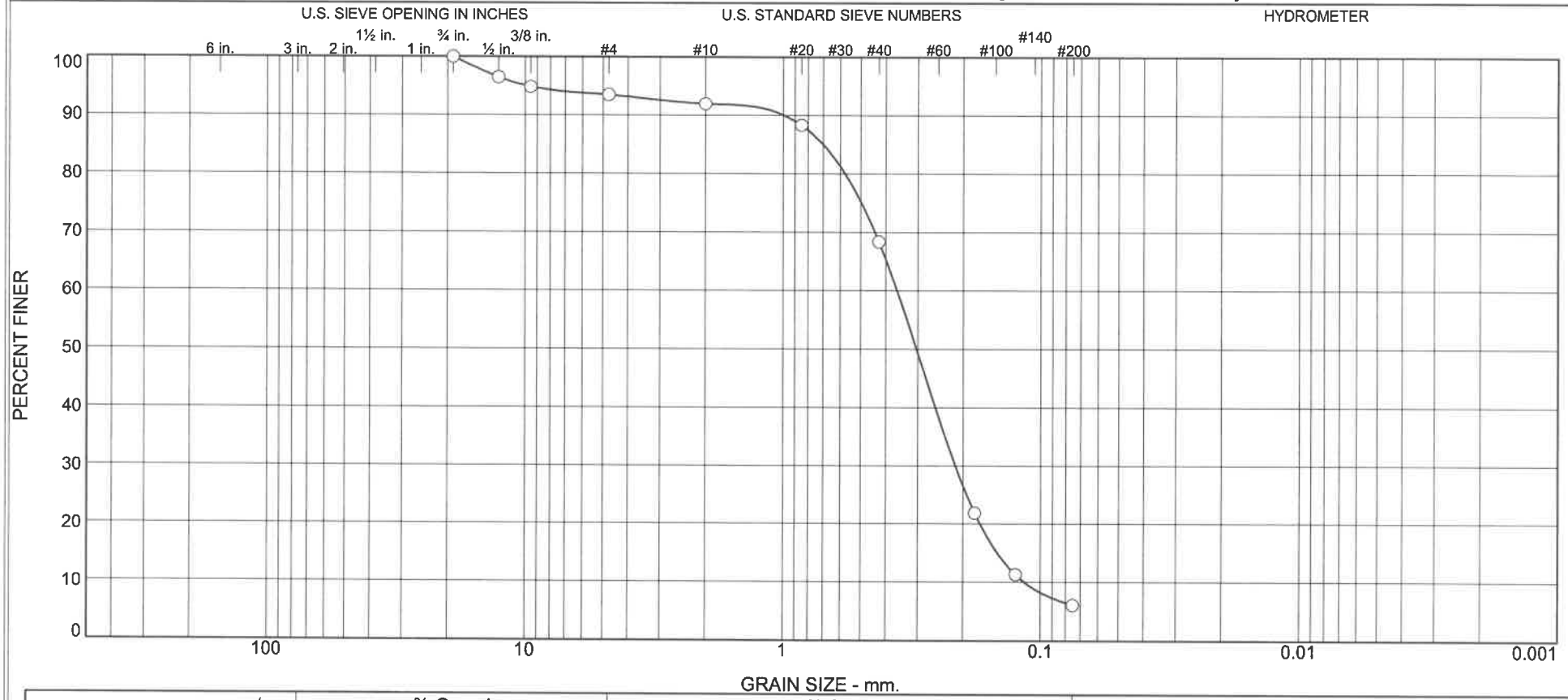
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-7 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max Dry Density (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with silt (SP-SM)*	10.2%	---	---	---	---
S-2	14-16’	brown poorly graded SAND with silt and gravel (SP-SM)*	17.7%	---	---	---	---
S-3	28-29’	brown poorly graded SAND with gravel (SP)*	14.7%	---	---	---	---
Bulk	---	brown poorly graded SAND with silt (SP-SM)	9.7%	6.1%	108.8 pcf	8.5%	2.646

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.5	1.6	23.5	62.3	6.1	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-7	Bulk		4/2/24	SP-SM	brown poorly graded SAND with silt	9.7	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

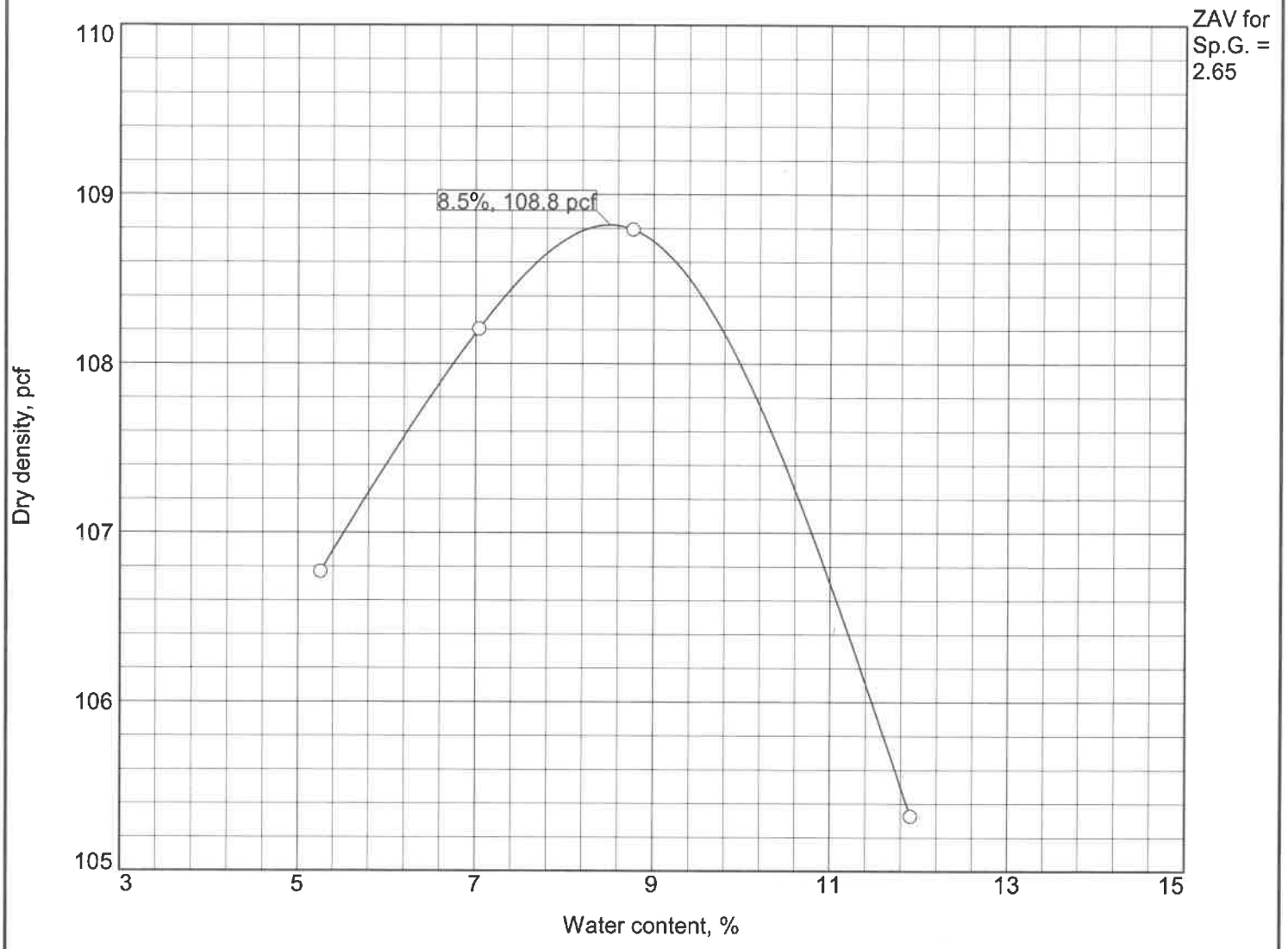
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.646

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SP-SM	A-3	9.7	2.646	NV	NP	5.2	6.1

TEST RESULTS

Maximum dry density = 108.8 pcf

Optimum moisture = 8.5 %

MATERIAL DESCRIPTION

brown poorly graded SAND with silt

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY

○ **Source of Sample:** BH-7 **Sample Number:** Bulk

Remarks:
BH-7 Bulk
4-2-24
Specific Gravity= 2.646

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-8)
- Gradation and Classifications (7 sheets)
- Moisture-Density Relationship

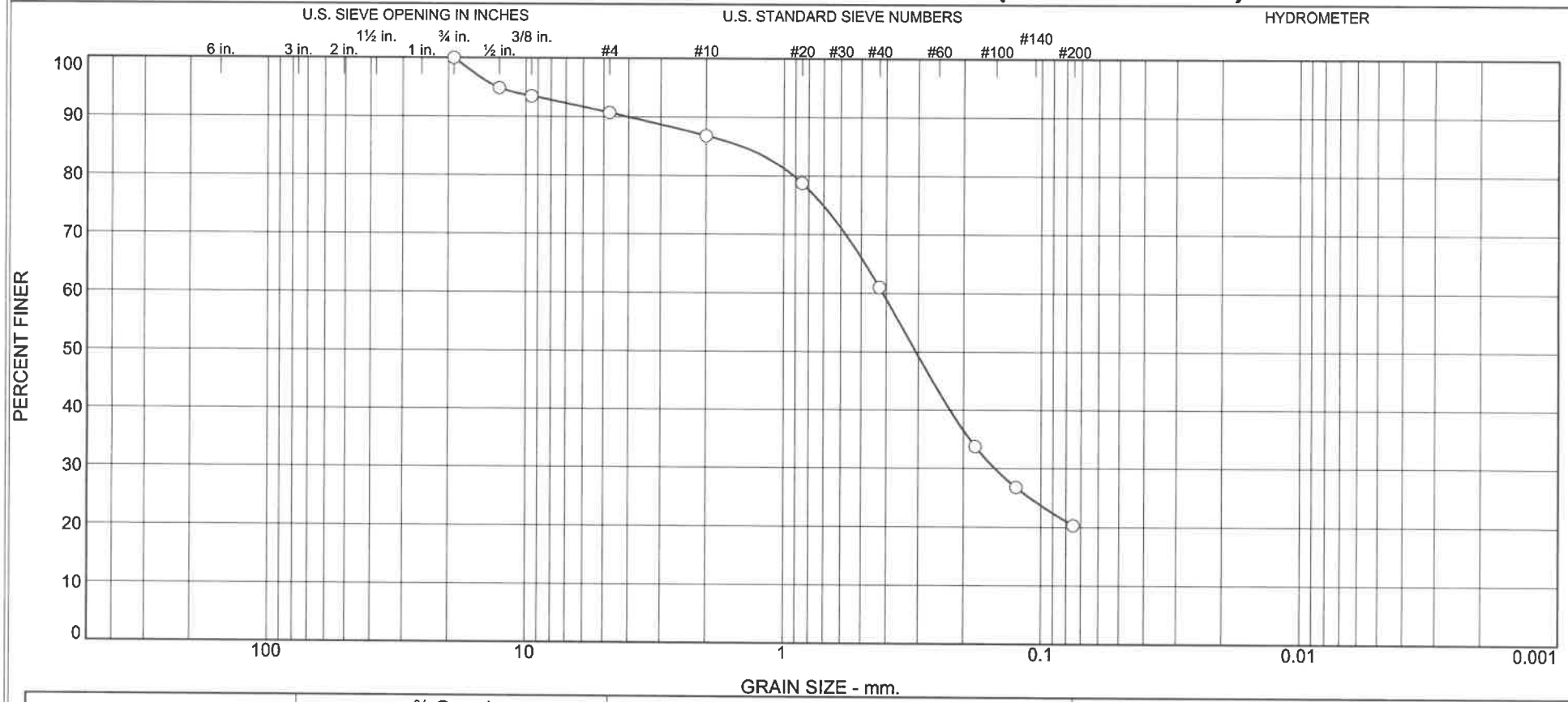
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-8 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown silty SAND (SM)	11.4%	20.3%	---	---	---
S-2	15-16’	brown poorly graded SAND with silt (SP-SM)	15.5%	5.7%	---	---	---
S-3	25-26’	brown poorly graded SAND with gravel (SP)	14.0%	1.8%	---	---	---
S-4	35-36’	brown poorly graded SAND (SP)	21.5%	2.2%	---	---	---
S-5	45-46’	brown poorly graded SAND (SP)	16.8%	2.7%	---	---	---
S-6	55-56’	brown poorly graded SAND with silt (SP-SM)	20.8%	5.6%	---	---	---
Bulk	---	dark brown/black poorly graded SAND with silt, organics, roots (SP-SM)	29.2%	10.5%	101.6 pcf	15.4%	2.522 (est.)

Note: Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.3	3.9	25.8	40.7	20.3	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-1	5'-6'	4/2/24	SM	brown silty SAND	11.4	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

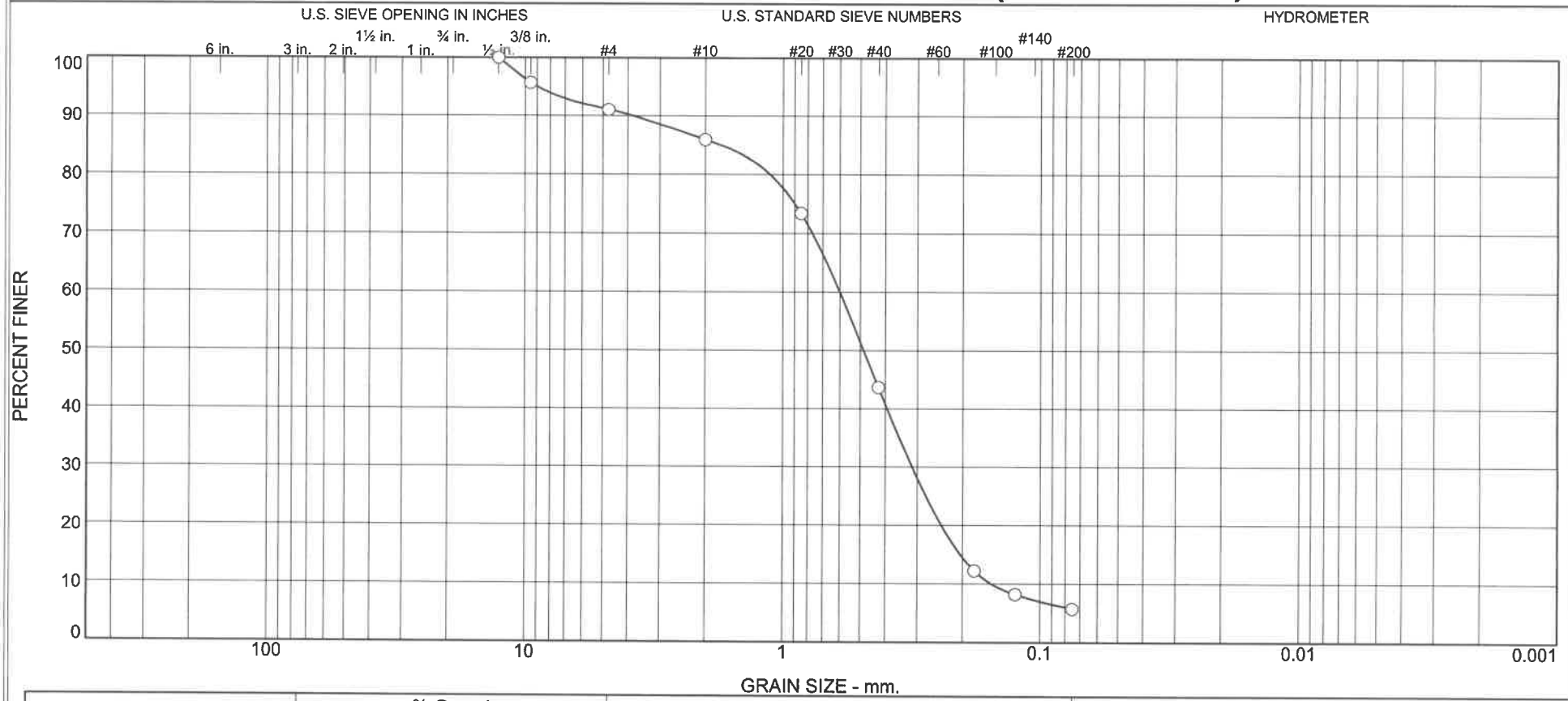
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	8.9	5.2	42.3	37.9	5.7	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-2	15'-16'	4/2/24	SP-SM	brown poorly graded SAND with silt	15.5	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

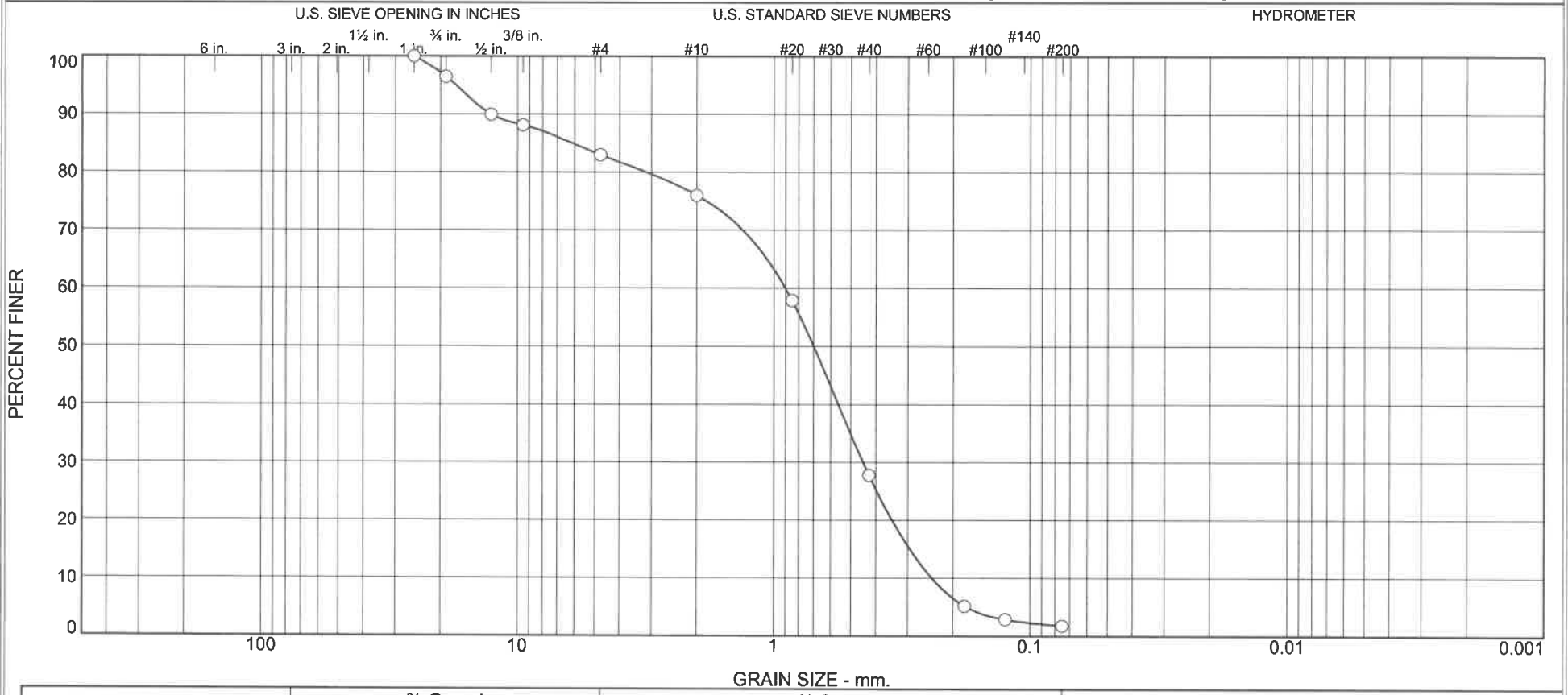
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	3.5	13.5	7.0	48.2	26.0	1.8	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-3	25'-26'	4/2/24	SP	brown poorly graded SAND with gravel	14.0	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

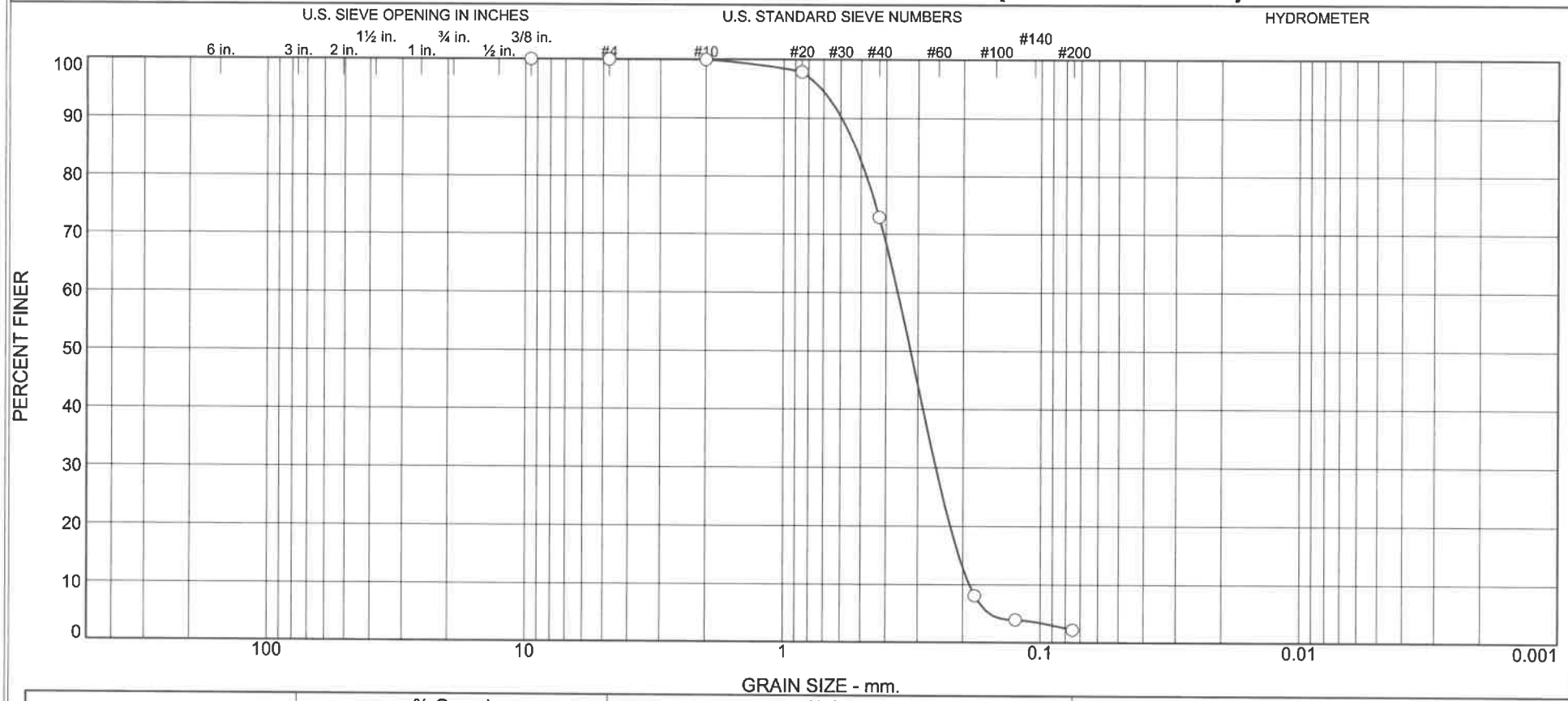
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.1	26.9	70.8	2.2	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-4	35'-36'	4/2/24	SP	brown poorly graded SAND	21.5	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

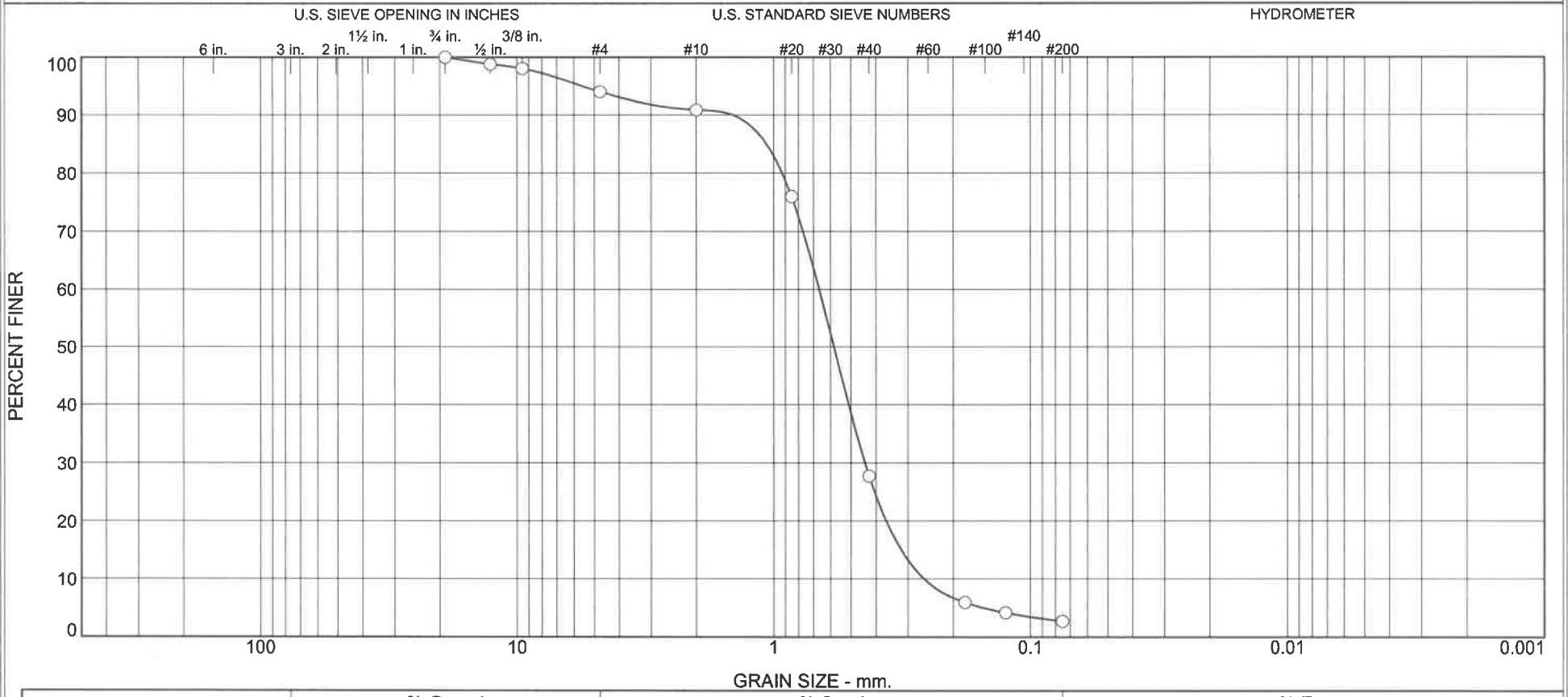
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.0	3.1	63.2	25.0	2.7	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-5	45'-46'	4/2/24	SP	brown poorly graded SAND	16.8	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

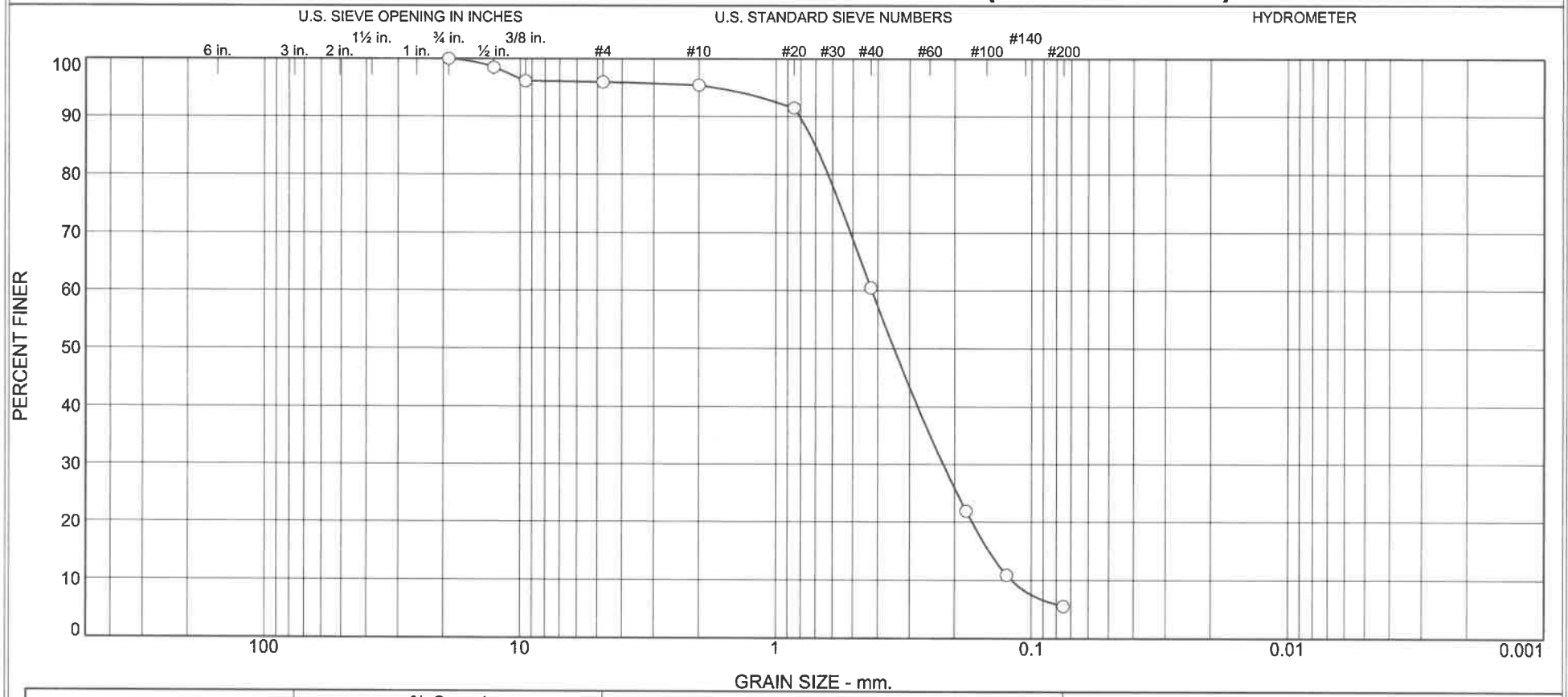
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	4.1	0.5	34.9	54.9	5.6	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	S-6	55'-56'	4/2/24	SP-SM	brown poorly graded SAND with silt	20.8	NV	NP

Client POZ Engineering and Environmental Consulting

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Sag Harbor, NY

Project No. 24042

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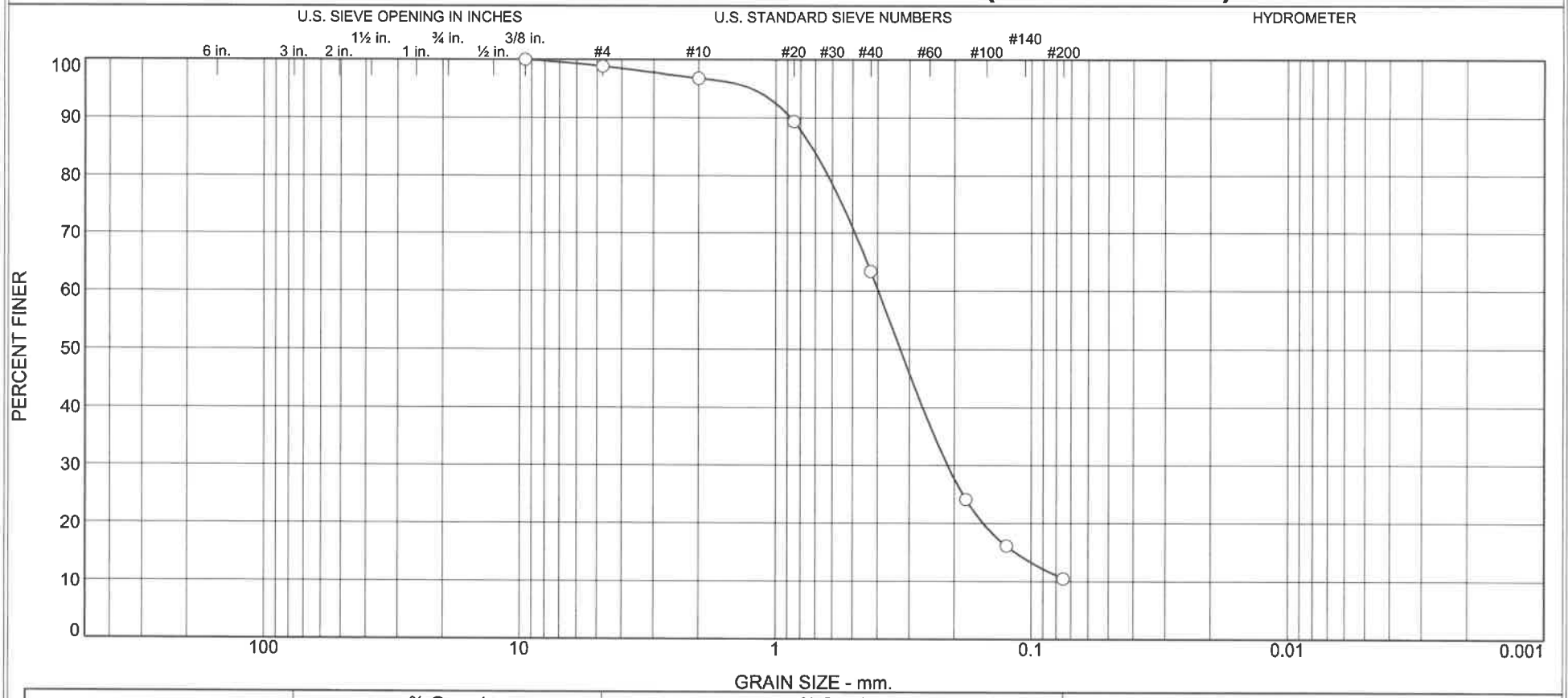
Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.2	2.0	33.4	52.9	10.5	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-8	Bulk		4/2/24	SP-SM	dark brown/black poorly graded SAND with silt	29.2	36	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

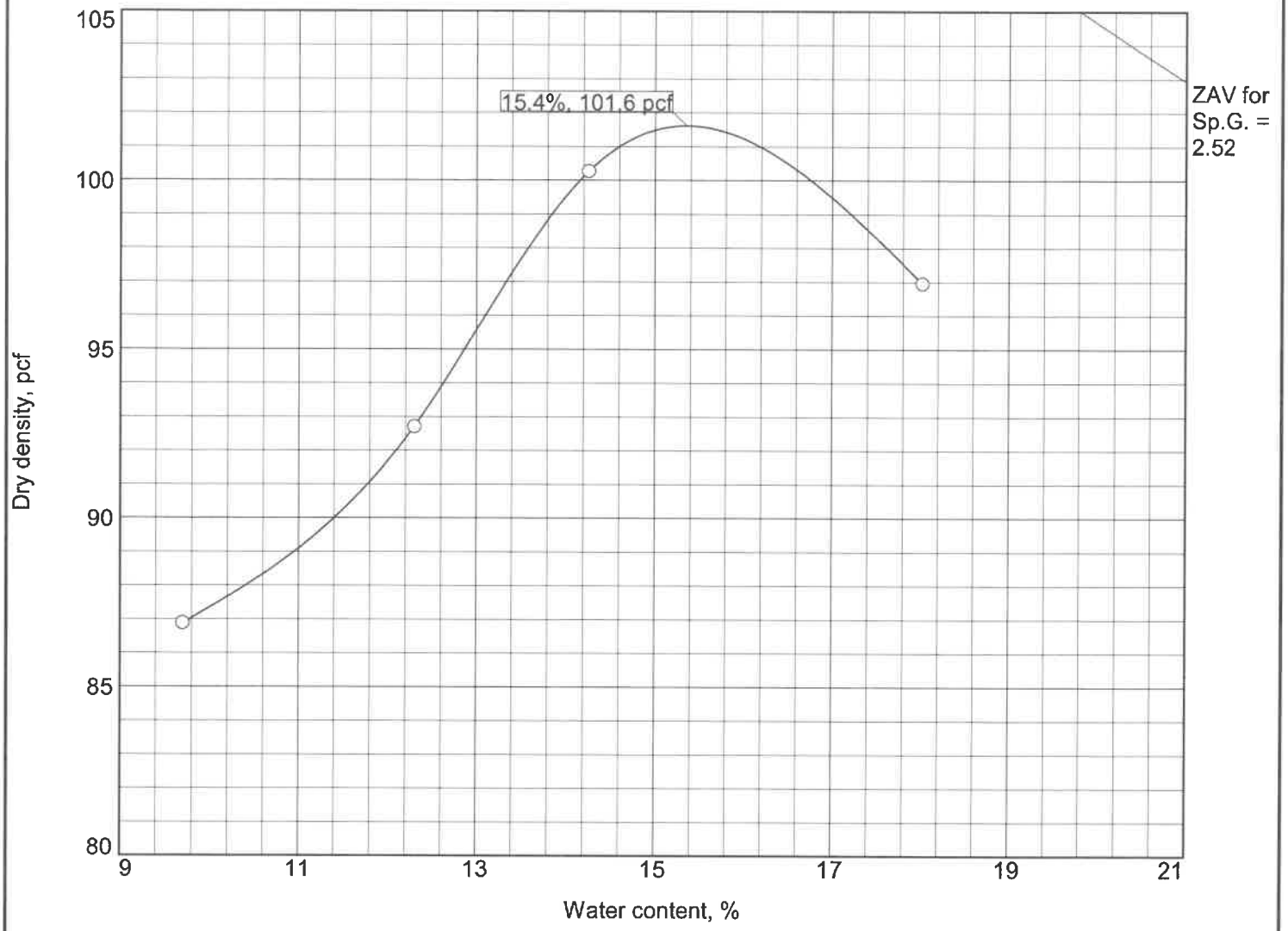
Project No. 24042

MIDLANTIC ENGINEERING

○ Plasticity Index PI= Non-Plastic
Sample includes organics, roots, glass fragments

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SP-SM	A-3	29.2	2.522	36	NP	0.0	10.5

TEST RESULTS

Maximum dry density = 101.6 pcf

Optimum moisture = 15.4 %

MATERIAL DESCRIPTION

dark brown/black poorly graded SAND with silt

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

○ **Source of Sample:** BH-8 **Sample Number:** Bulk

Remarks:

BH-8 Bulk

4-2-24

Specific Gravity= 2.522 (estimated)

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Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-9)
- Gradation and Classification
- Moisture-Density Relationship

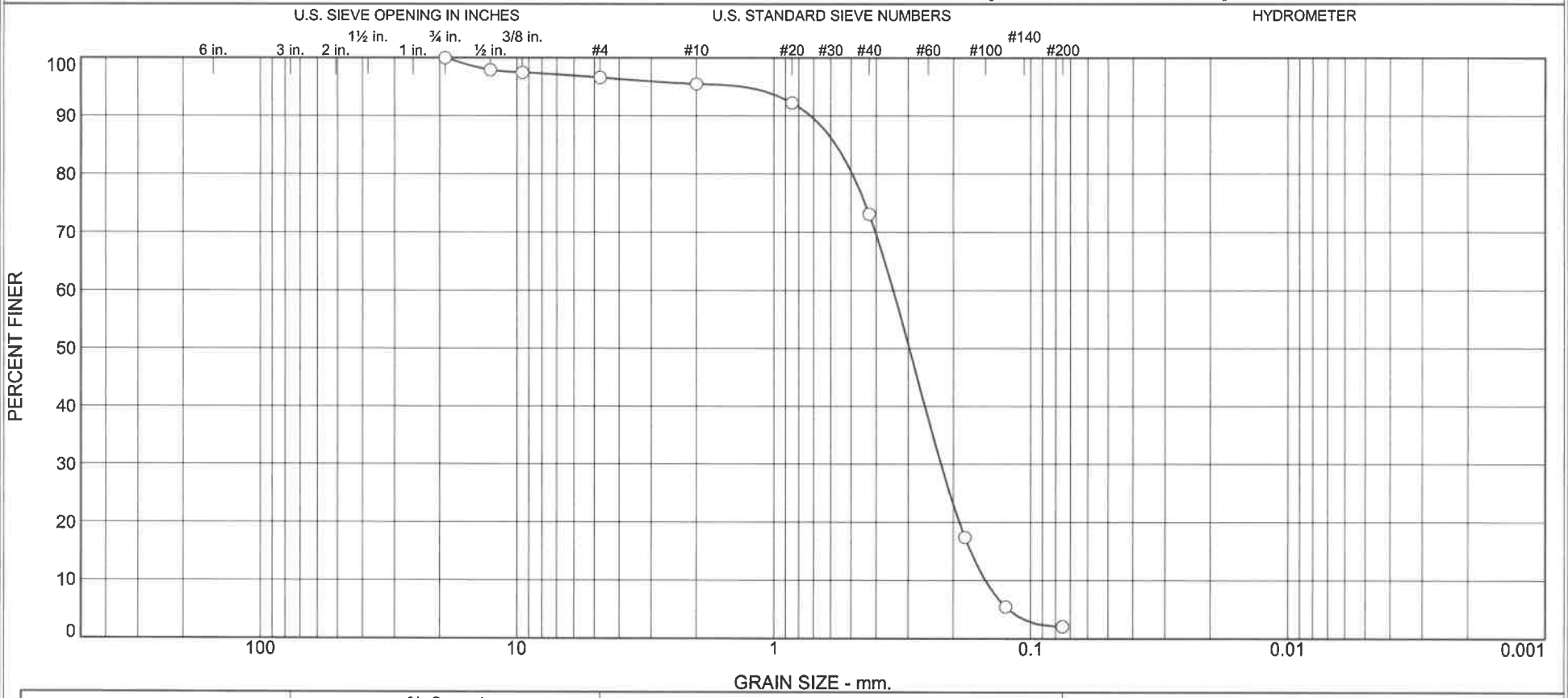
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-9 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max Dry Density (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND (SP)*	5.6%	---	---	---	---
S-2	14-15’	brown poorly graded SAND with silt (SP-SM)*	12.8%	---	---	---	---
Bulk	---	brown poorly graded SAND (SP)	5.0%	2.1%	105.2 pcf	8.7%	2.644

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.4	1.1	22.4	71.0	2.1	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-9	Bulk		4/2/24	SP	brown poorly graded SAND	5.0	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

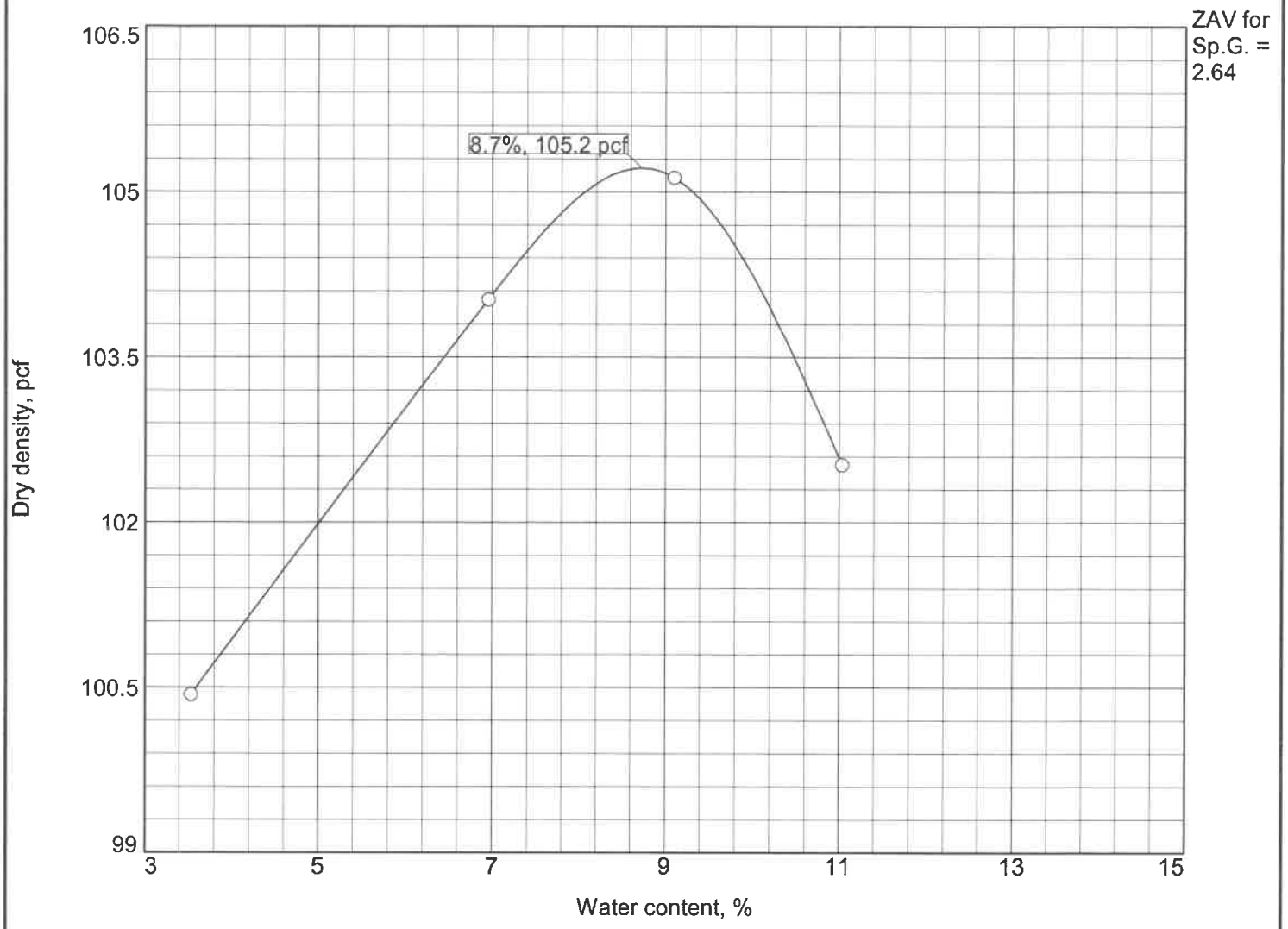
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.644

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SP	A-3	5.0	2.644	NV		2.6	2.1

TEST RESULTS

Maximum dry density = 105.2 pcf

Optimum moisture = 8.7 %

MATERIAL DESCRIPTION

brown poorly graded SAND

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY

○ **Source of Sample:** BH-9 **Sample Number:** Bulk

Remarks:
BH-9 Bulk
4-2-24
Specific Gravity= 2.644

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Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-10)
- Gradation and Classification
- Moisture-Density Relationship

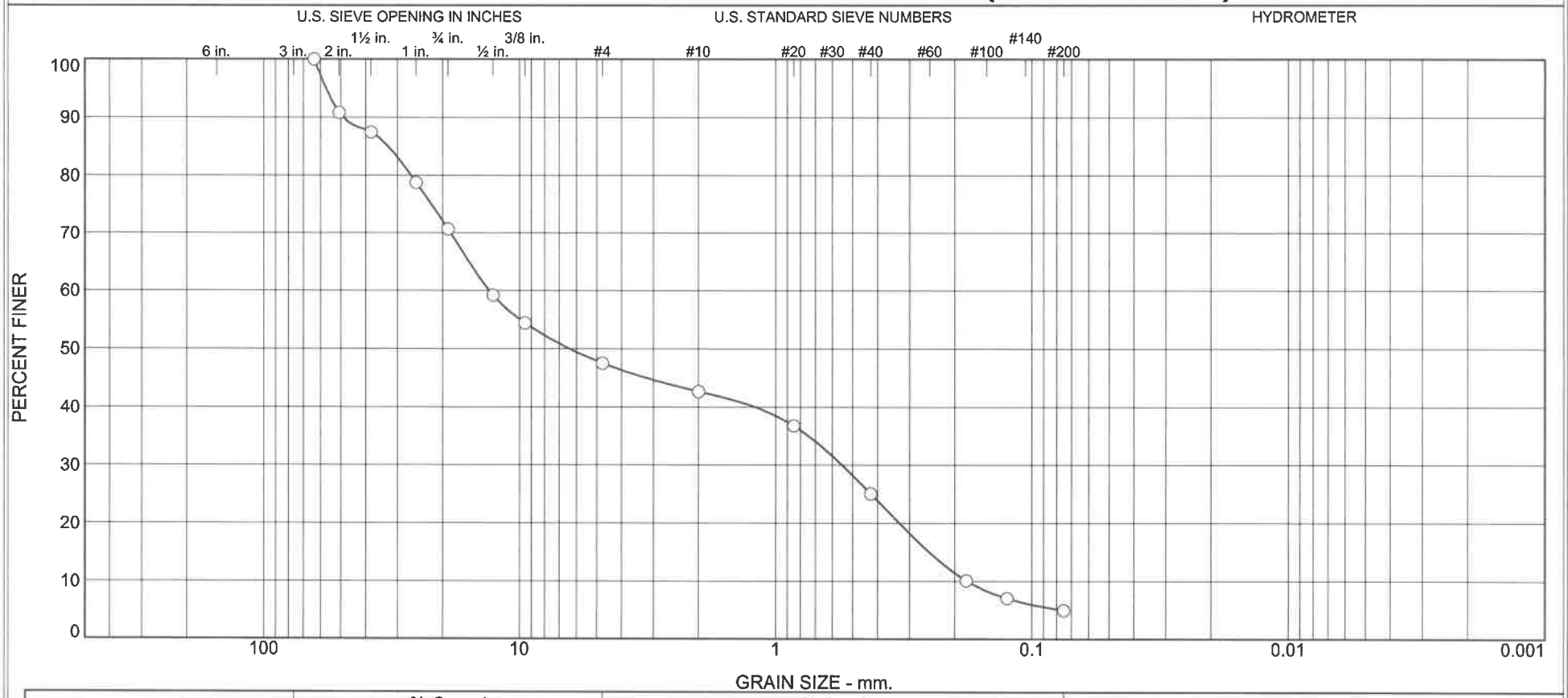
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-10 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with gravel (SP)*	6.0%	---	---	---	---
S-2	14-15’	brown poorly graded SAND with gravel (SP)*	10.7%	---	---	---	---
S-3	28-29’	brown poorly graded SAND with gravel (SP)*	12.5%	---	---	---	---
Bulk	---	brown poorly graded GRAVEL with silt and sand (GP-GM)	3.6%	---	137.1 pcf	5.7%	2.668

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	29.3	23.2	4.8	17.6	20.1	5.0	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-10	Bulk		4/2/24	GP-GM	brown poorly graded GRAVEL with silt and sand	3.6	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

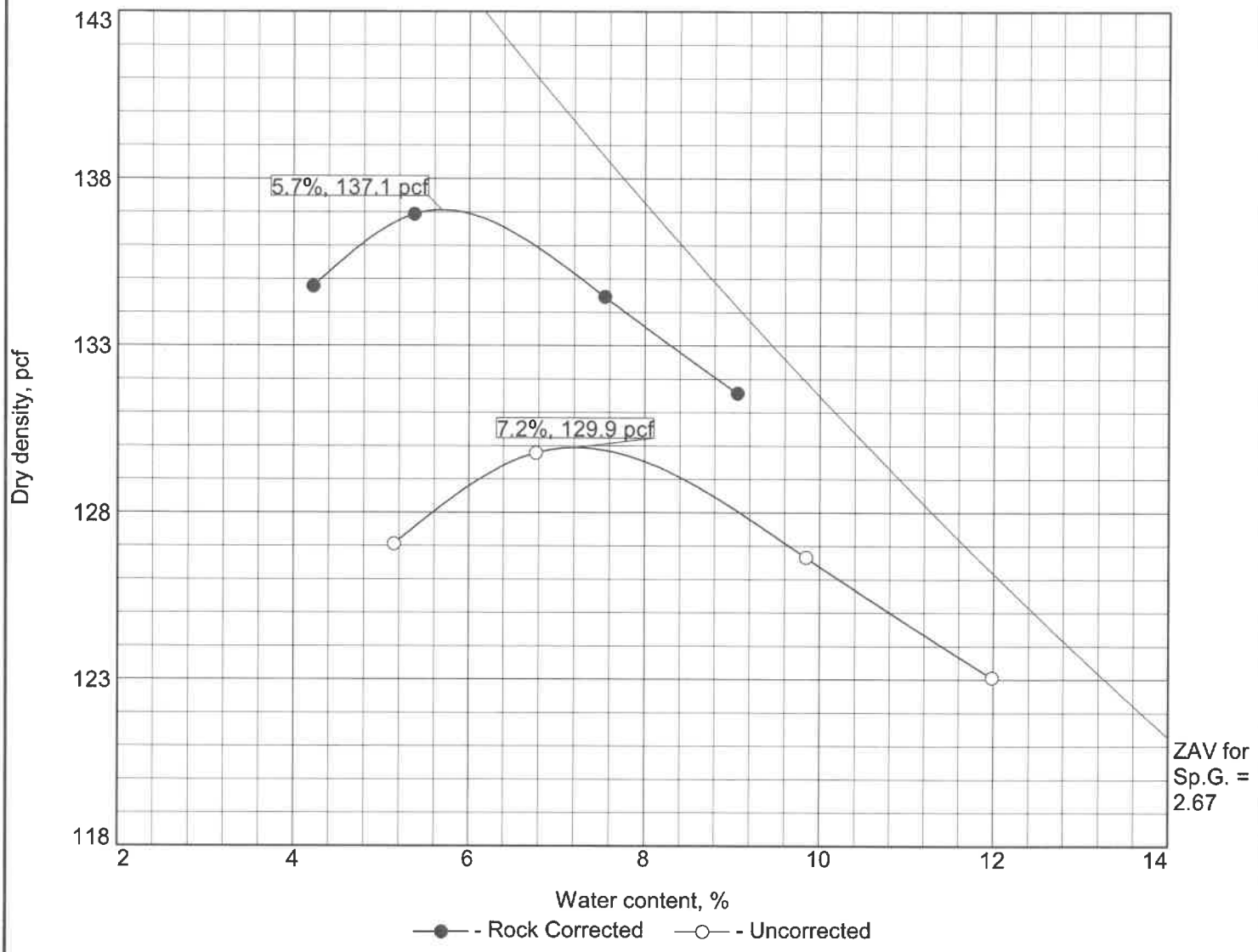
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.668

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	GP-GM	A-1-a	3.6	2.668	NV		29.3	5.0

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 137.1 pcf	129.9 pcf	brown poorly graded GRAVEL with silt and sand
Optimum moisture = 5.7 %	7.2 %	

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting
Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
○ **Source of Sample:** BH-10 **Sample Number:** Bulk

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Remarks:
BH-10 Bulk
4-2-24
Specific Gravity= 2.668

Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-11)
- Gradation and Classification
- Moisture-Density Relationship

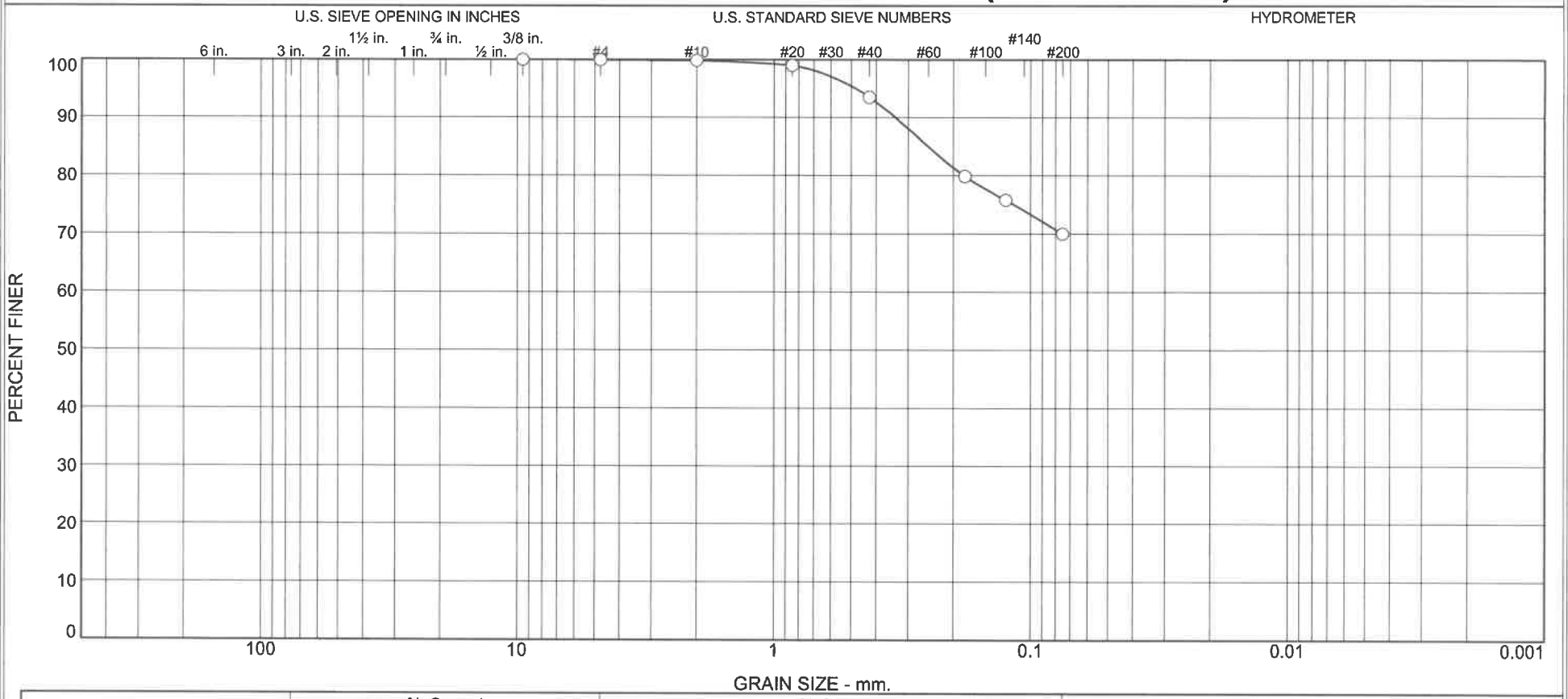
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-11 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown silty SAND (SM)*	23.7%	---	---	---	---
S-2	14-15’	brown poorly graded SAND (SP)*	10.2%	---	---	---	---
Bulk	---	brown sandy SILT (ML)	21.0%	70.0%	112.6 pcf	11.1%	2.616

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.1	0.1	6.3	23.5	70.0	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-11	Bulk		4/2/24	ML	brown sandy SILT	21.0	21	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

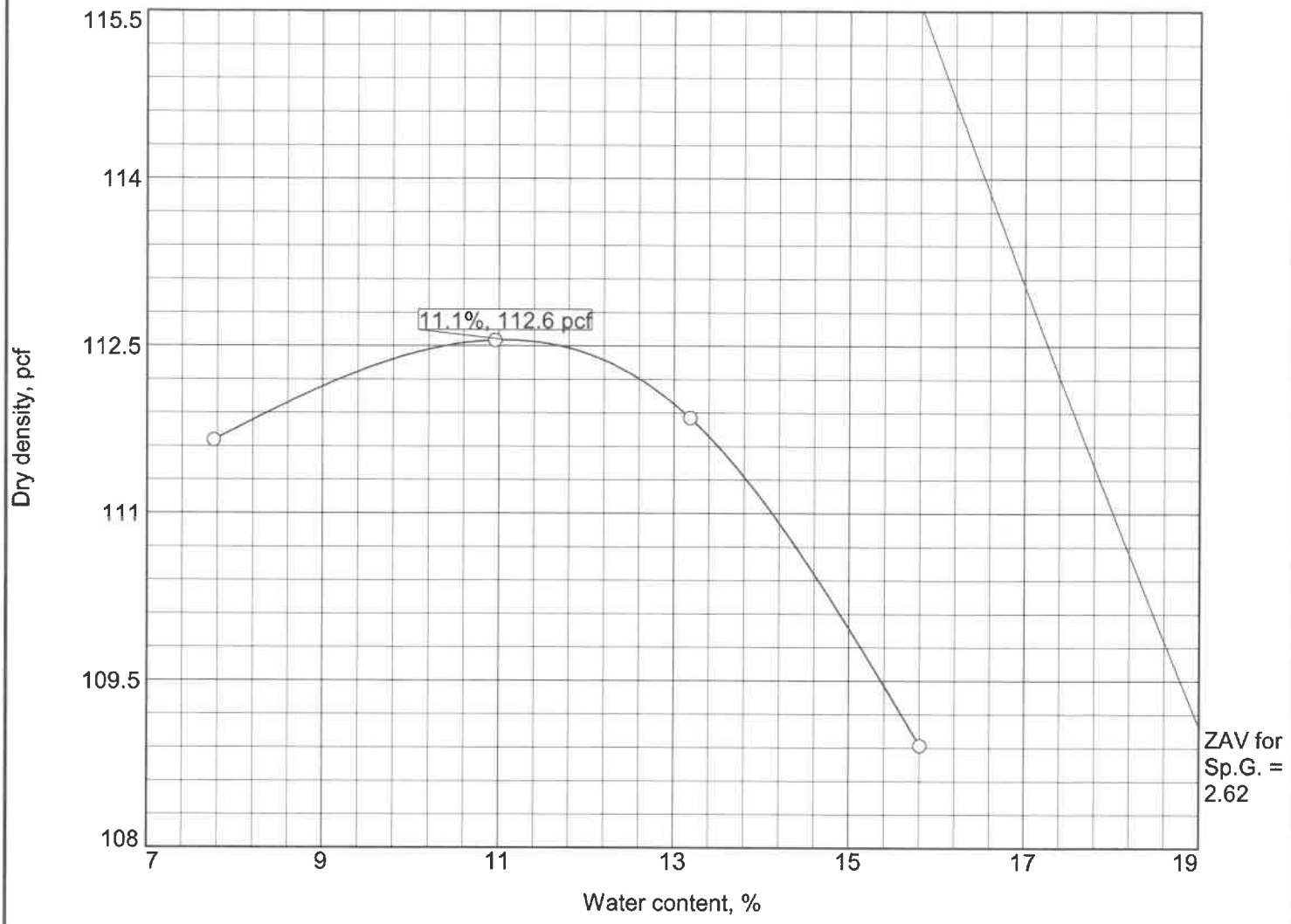
Project No. 24042

MIDLANTIC ENGINEERING

○ Plasticity Index PI= Non-Plastic
Specific Gravity= 2.616

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	ML	A-4(0)	21.0	2.616	21	NP	0.0	70.0

TEST RESULTS

Maximum dry density = 112.6 pcf

Optimum moisture = 11.1 %

MATERIAL DESCRIPTION

brown sandy SILT

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY

○ **Source of Sample:** BH-11 **Sample Number:** Bulk

Remarks:
BH-11 Bulk
4-2-24
Specific Gravity= 2.616

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Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-12)
- Gradation and Classification
- Moisture-Density Relationship

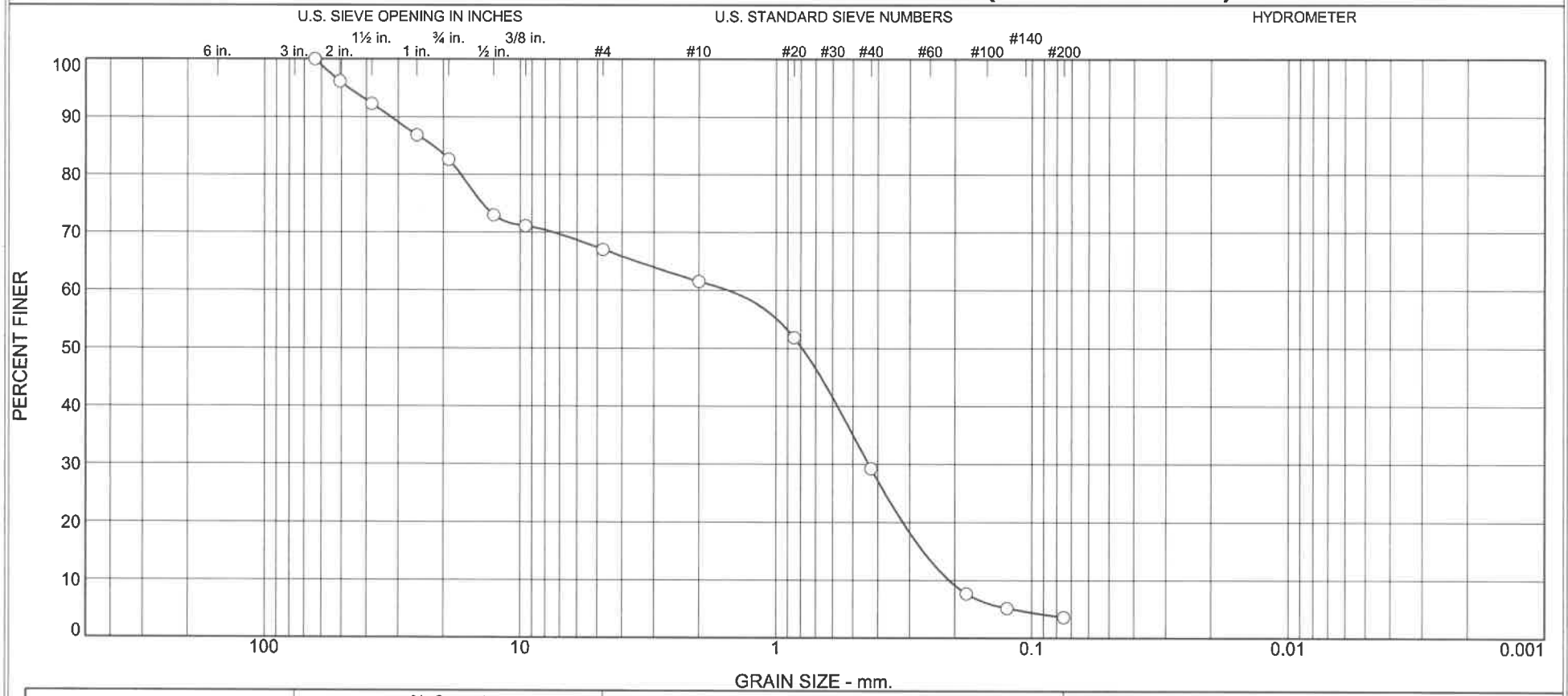
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-12 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with gravel (SP)*	6.9%	---	---	---	---
S-2	14-15’	brown poorly graded SAND with gravel (SP)*	10.2%	---	---	---	---
S-3	N/A	brown poorly graded SAND with gravel (SP)*	12.2%	---	---	---	---
Bulk	---	brown poorly graded SAND with gravel (SP)	3.3%	3.6%	125.9 pcf	6.7%	2.659

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	17.4	15.6	5.5	32.2	25.7	3.6	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-12	Bulk		4/2/24	SP	brown poorly graded SAND with gravel	3.3	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

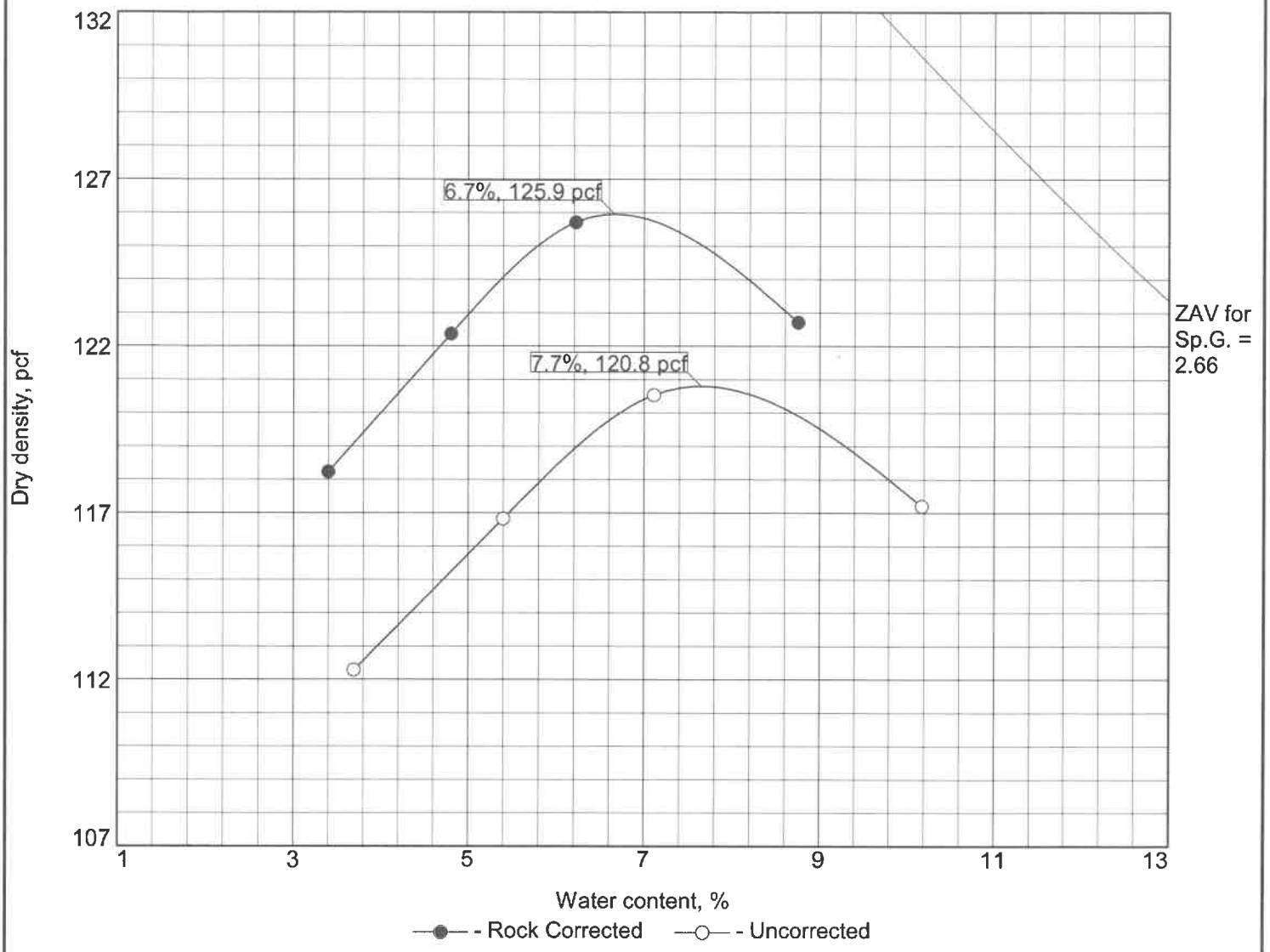
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.659

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	SP	A-1-b	3.3	2.659	NV		17.4	3.6

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 125.9 pcf	120.8 pcf	brown poorly graded SAND with gravel
Optimum moisture = 6.7 %	7.7 %	

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting
Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
○ **Source of Sample:** BH-12 **Sample Number:** Bulk

MIDLANTIC ENGINEERING

Remarks:
BH-12
Bulk
4-2-24
Specific Gravity= 2.659

Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-13)
- Gradation and Classification
- Moisture-Density Relationship

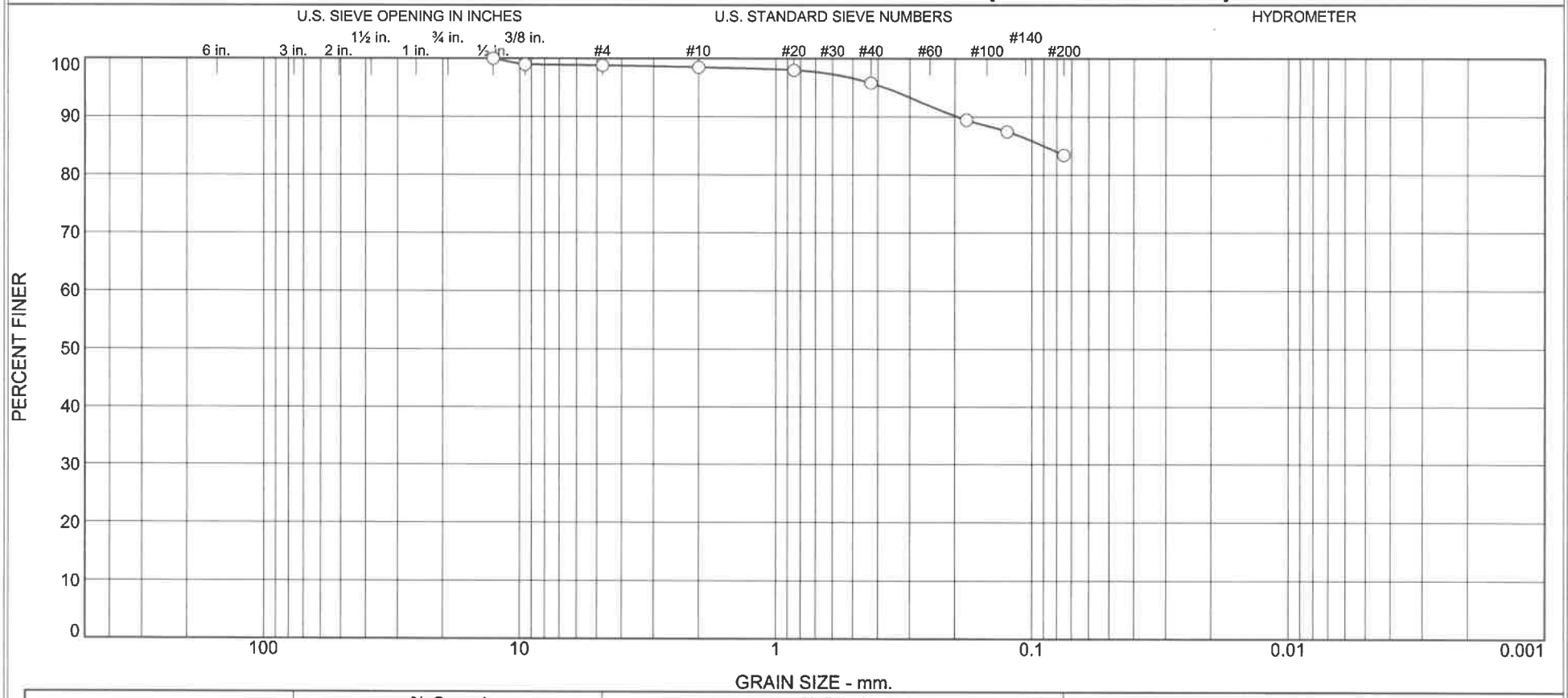
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-13 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with silt (SP-SM)*	20.1%	---	---	---	---
S-2	14-15’	brown poorly graded SAND with gravel (SP)*	12.3%	---	---	---	---
Bulk	---	brown SILT with sand (ML)	19.2%	83.4%	106.7 pcf	15.1%	2.582

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.2	0.3	2.7	12.4	83.4	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-13	Bulk		4/2/24	ML	brown SILT with sand	19.2	16	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

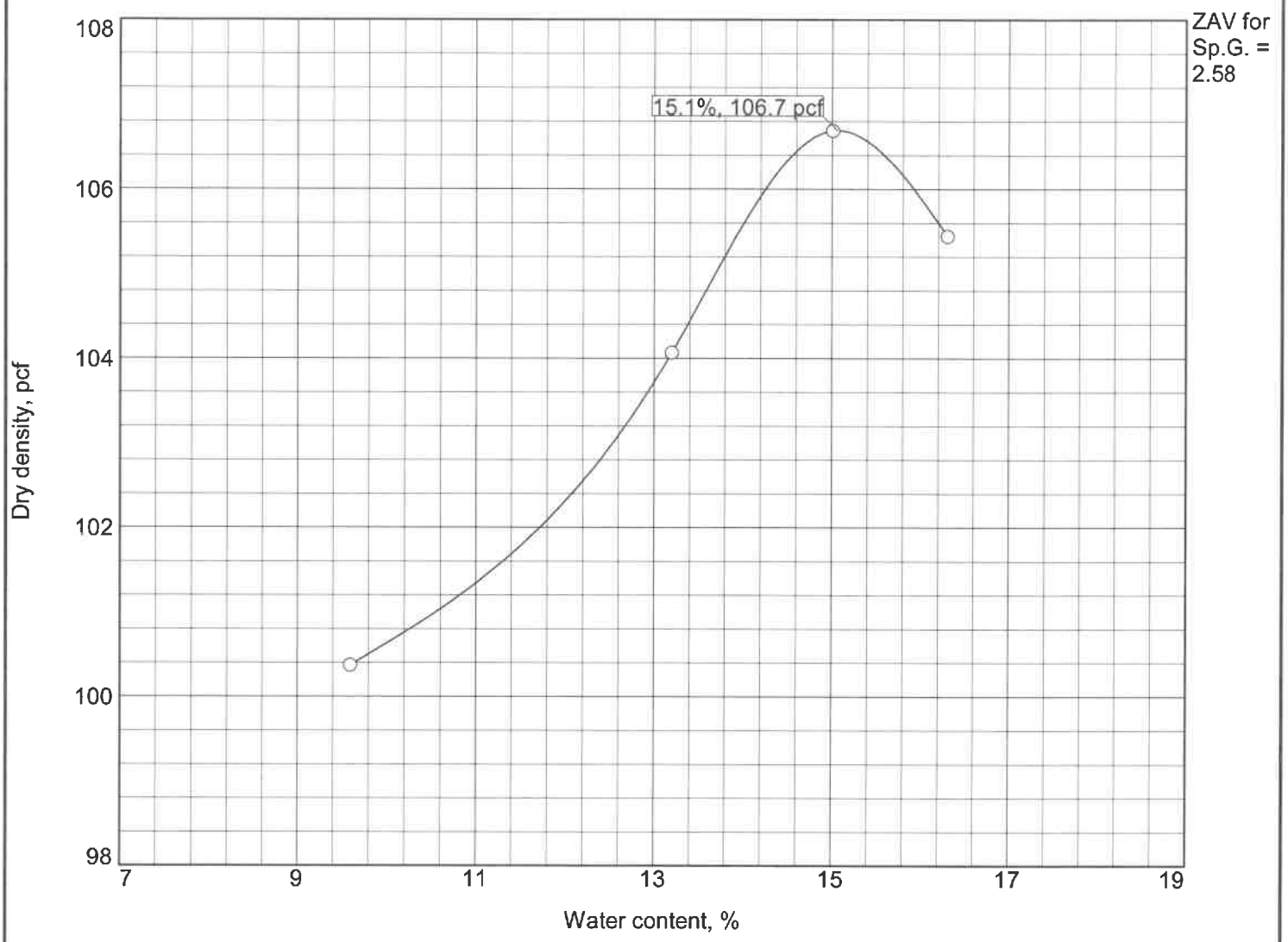
Project No. 24042

MIDLANTIC ENGINEERING

○ Plasticity Index PI= Non-Plastic
Specific Gravity= 2.582

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	ML	A-4(0)	19.2	2.582	16	NP	1.0	83.4

TEST RESULTS

Maximum dry density = 106.7 pcf

Optimum moisture = 15.1 %

MATERIAL DESCRIPTION

brown SILT with sand

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting

Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY

○ **Source of Sample:** BH-13 **Sample Number:** Bulk

Remarks:
BH-13 Bulk
4-2-24
Specific Gravity= 2.582

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

MIDLANTIC ENGINEERING INC.
120 Commerce Road • Pittston Twp., PA 18640-9552
570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-14)
- Gradation and Classification
- Moisture-Density Relationship

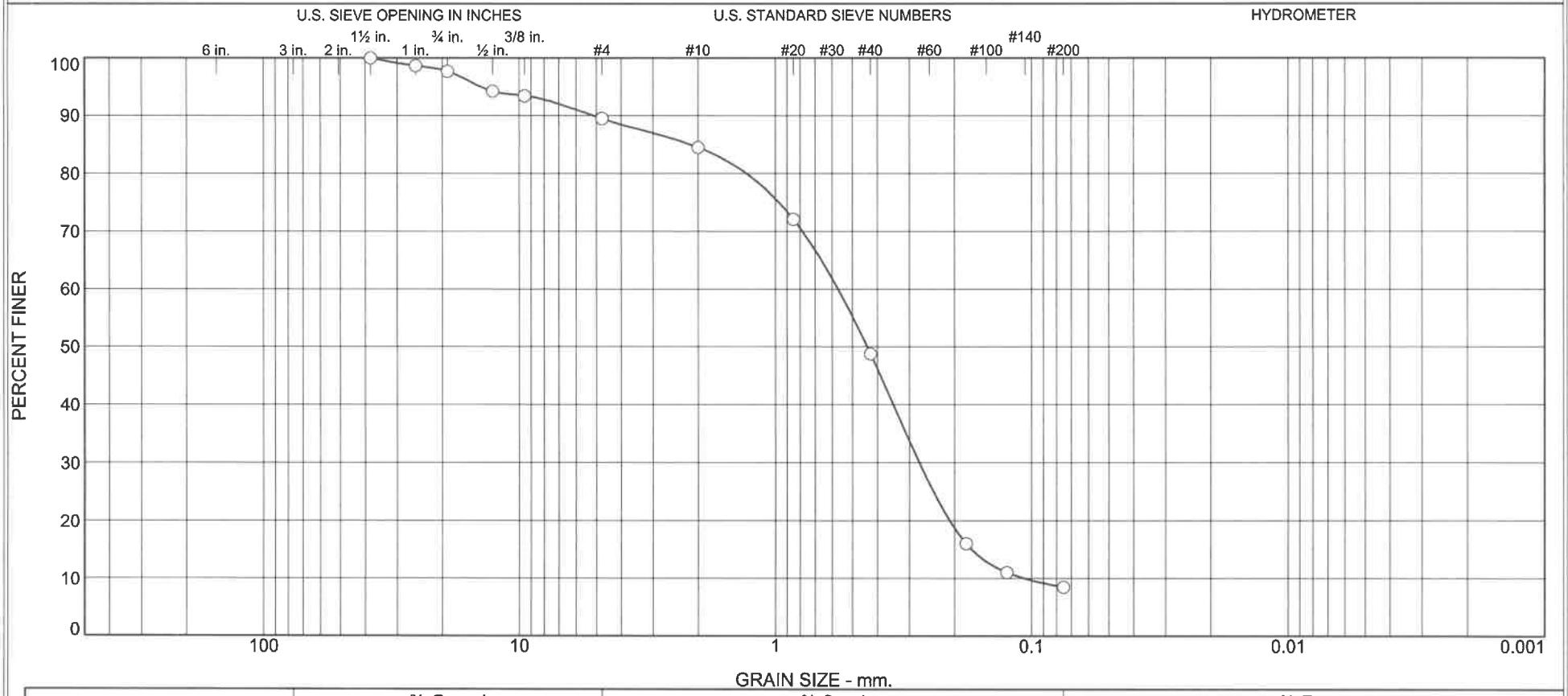
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-14 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND (SP)*	20.1%	---	---	---	---
S-2	14-15’	brown poorly graded SAND (SP)*	12.3%	---	---	---	---
S-3	28-29’	brown poorly graded SAND (SP)*	15.3%	---	---	---	---
Bulk	---	brown poorly graded SAND with silt (SP)	3.3%	8.5%	116.2 pcf	7.3%	2.626

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	2.3	8.2	5.0	35.8	40.2	8.5	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-14	Bulk		4/2/24	SP-SM	brown poorly graded SAND with silt	3.3	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

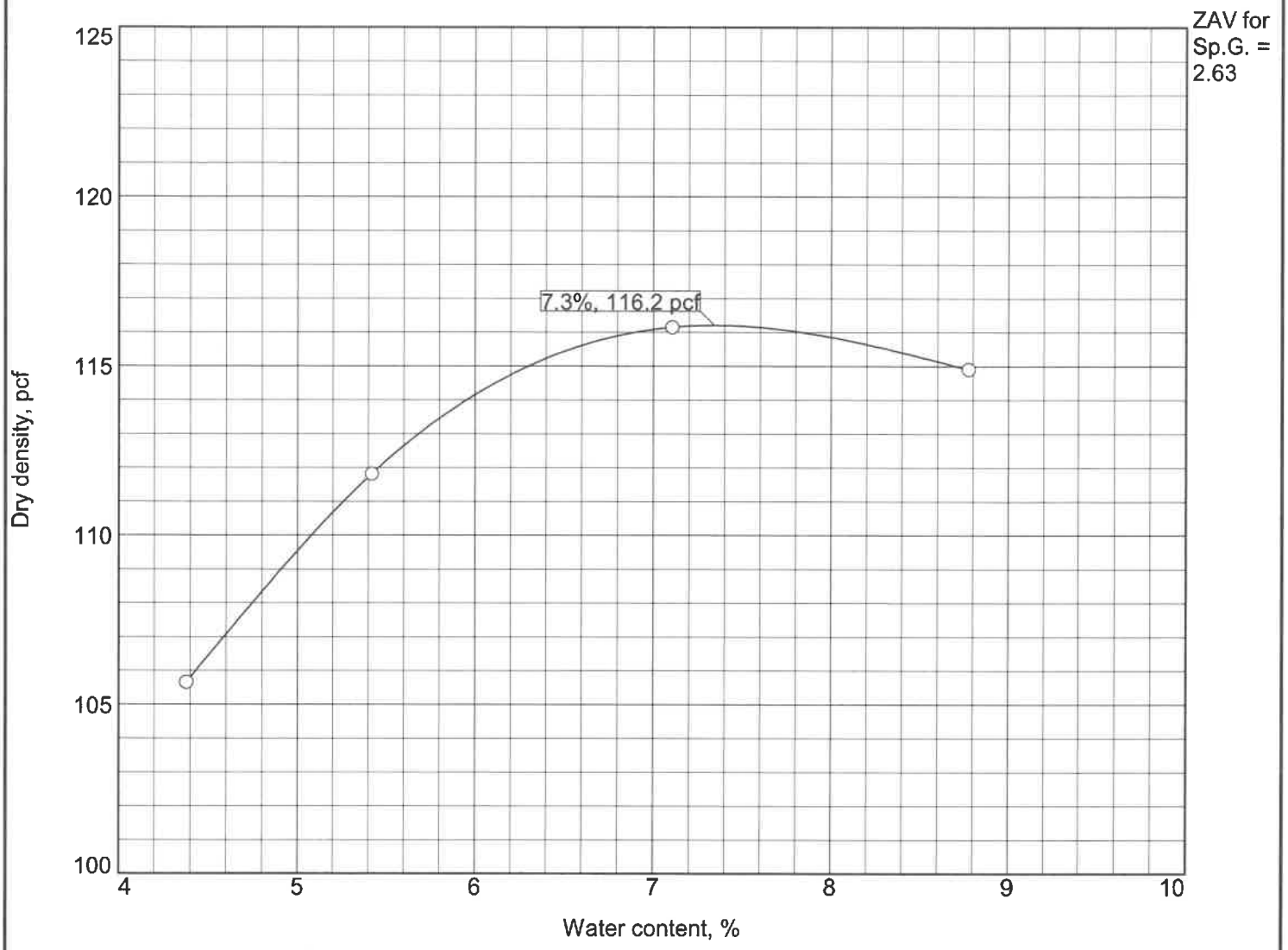
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.626

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method C Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	SP-SM	A-1-b	3.3	2.626	NV	NP	2.3	8.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 116.2 pcf Optimum moisture = 7.3 %	brown poorly graded SAND with silt

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting
Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
○ **Source of Sample:** BH-14 **Sample Number:** Bulk

Remarks:
BH-14 Bulk
4-2-24
Specific Gravity= 2.626

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

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570/655-2200 (phone) • midlaneng@aol.com

LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-15)
- Gradation and Classification
- Moisture-Density Relationship

SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-15 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	5-6’	brown poorly graded SAND with silt (SP-SM)*	8.9%	---	---	---	---
S-2	14-15’	brown poorly graded SAND with gravel (SP)*	10.5%	---	---	---	---
Bulk	---	brown silty SAND (SM)	7.6%	15.6%	109.7 pcf	7.7%	2.611

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	3.1	3.1	0.7	7.8	69.7	15.6	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-15	Bulk		4/2/24	SM	brown silty SAND	7.6	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

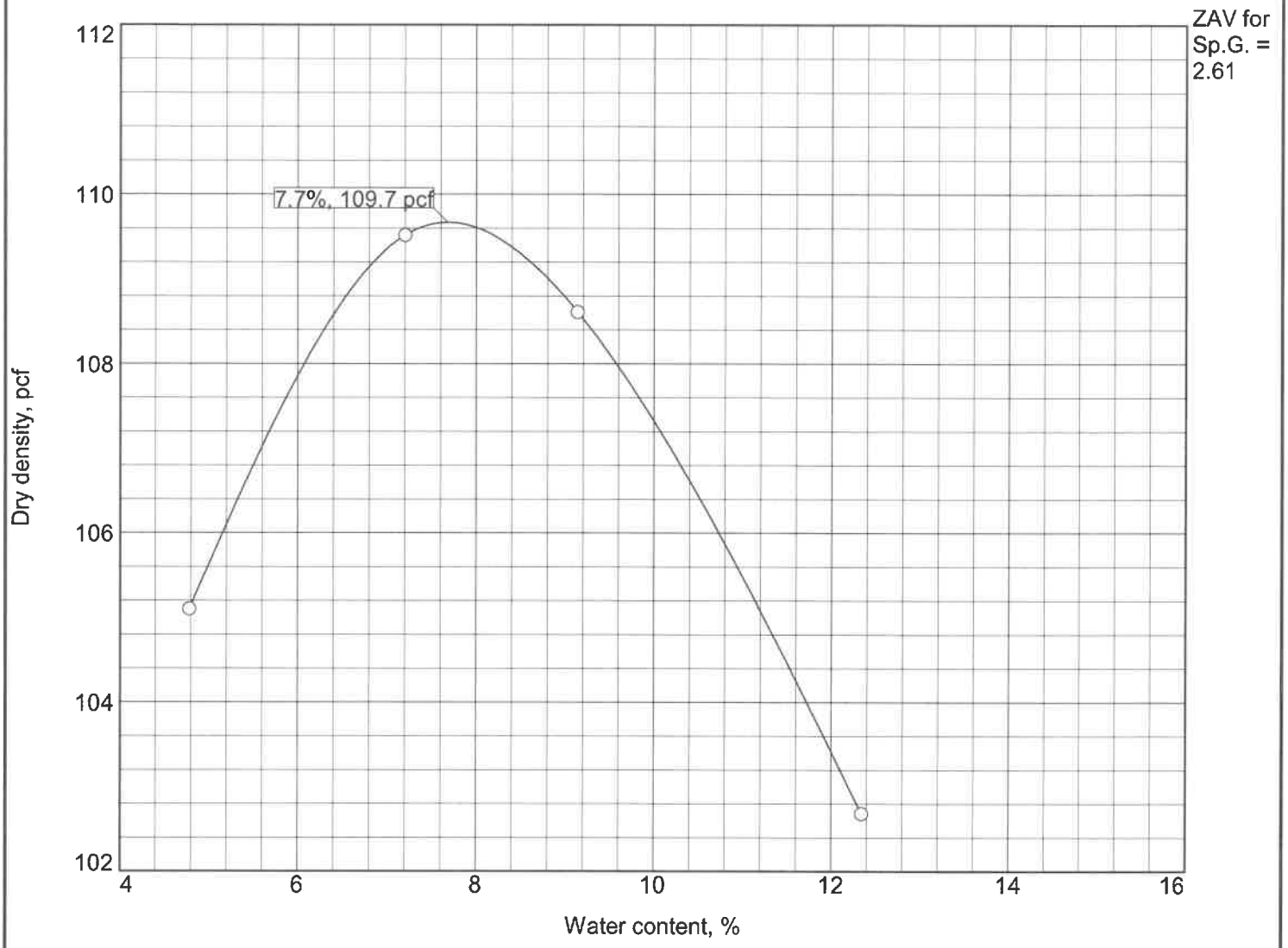
Project No. 24042

MIDLANTIC ENGINEERING

○ Specific Gravity= 2.611

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SM	A-2-4(0)	7.6	2.611	NV	NP	5.7	15.6

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 109.7 pcf Optimum moisture = 7.7 %	brown silty SAND

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting
Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
○ **Source of Sample:** BH-15 **Sample Number:** Bulk

MIDLANTIC ENGINEERING

Remarks:
BH-15 Bulk
4-2-24
Specific Gravity= 2.611

Tested By: MJ **Checked By:** TB

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LABORATORY TEST DATA - #24042

- Soil Classifications Summary (BH-16)
- Gradation and Classifications (4 sheets)
- Moisture-Density Relationship

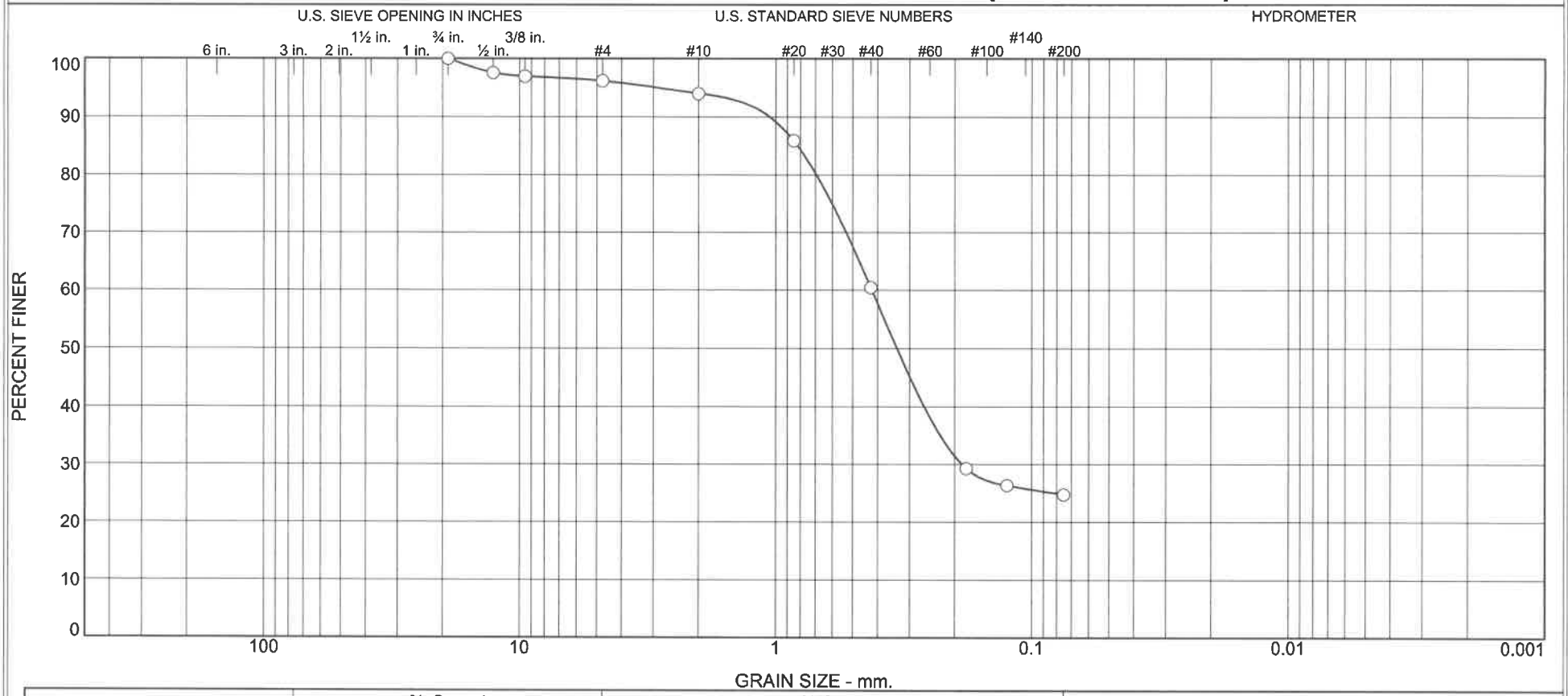
SOIL CLASSIFICATIONS SUMMARY

Results of testing are summarized in the following table, and the individual gradation and classification curves are included within this enclosure.

Test Boring BH-16 Sample No.	Soil Sample Depth	Classification (ASTM D-2487)	% Moisture (D-2216)	Combined Silt/Clay (%<#200) (D-1140)	Max. Dry Den. lbs/ft^3 (D-698)	Opt. Moisture % (D-698)	Specific Gravity (D-854)
S-1	10-11’	brown silty SAND (SM)	12.9%	24.8%	---	---	---
S-2	14-15’	brown poorly graded SAND (SP)	17.6%	4.6%	---	---	---
S-3	34-35’	brown poorly graded SAND with gravel (SP)	15.5%	3.1%	---	---	---
S-4	---	missing	---	---	---	---	---
Bulk	---	brown silty SAND (SM)	17.3%	43.3%	115.5 pcf	12.3%	2.688

Note: *Visual classification per ASTM D-2488.
Bulk sample is a composite of borehole.

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.8	2.2	33.6	35.6	24.8	

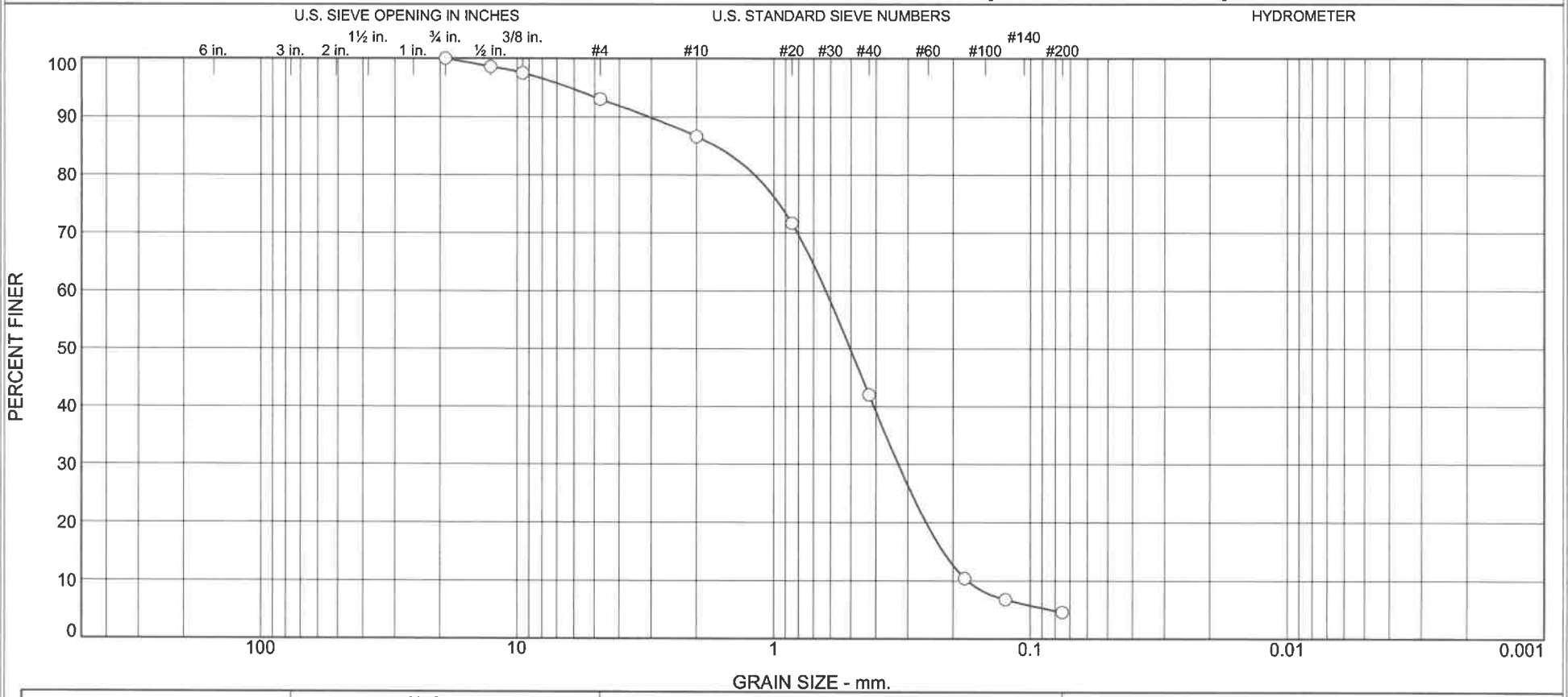
	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-16	S-1	10'-11'	4/2/24	SM	brown silty SAND	12.9	NV	NP

Client POZ Engineering and Environmental Consulting
Project PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.0	6.4	44.6	37.4	4.6	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-16	S-2	14'-15'	4/2/24	SP	brown poorly graded SAND	17.6	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

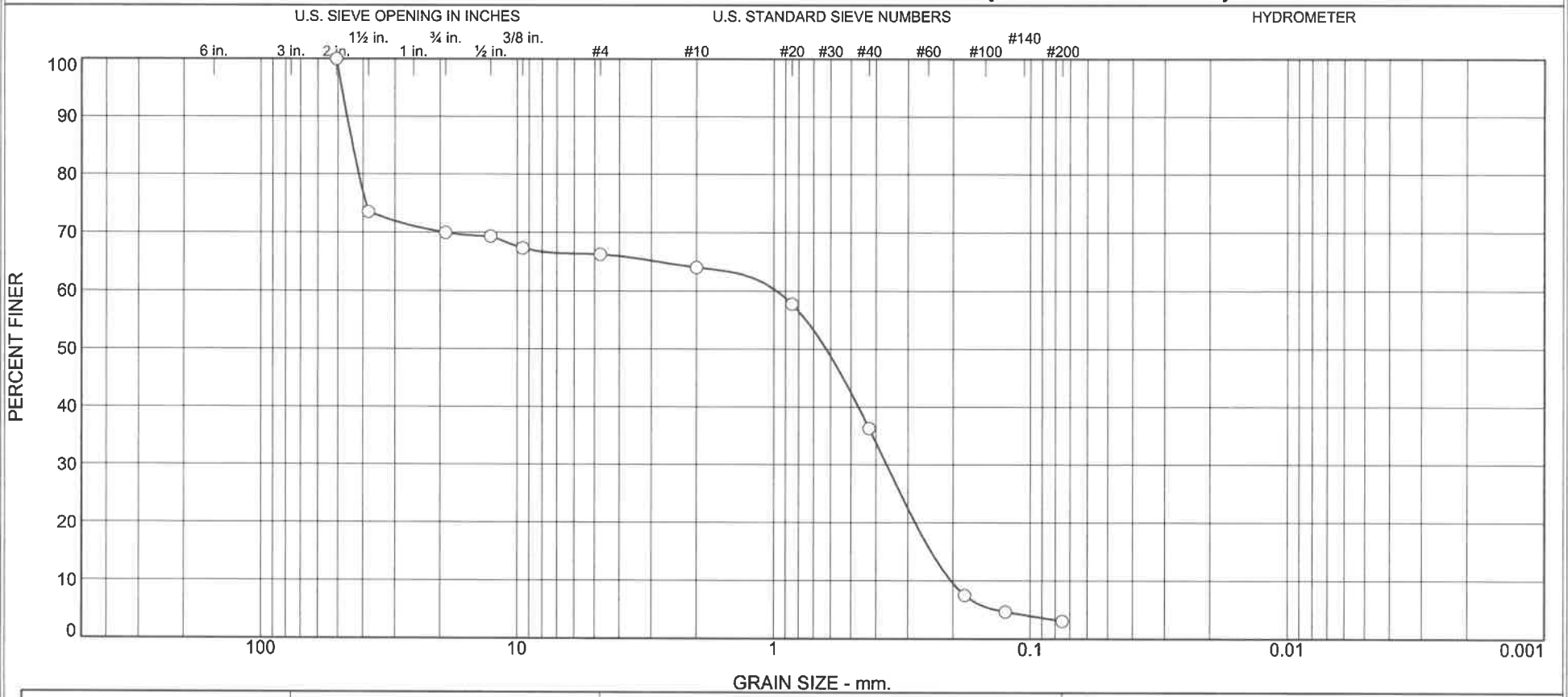
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	30.0	3.8	2.2	27.7	33.2	3.1	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-16	S-3	34'-35'	4/2/24	SP	brown poorly graded SAND with gravel	15.5	NV	NP

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

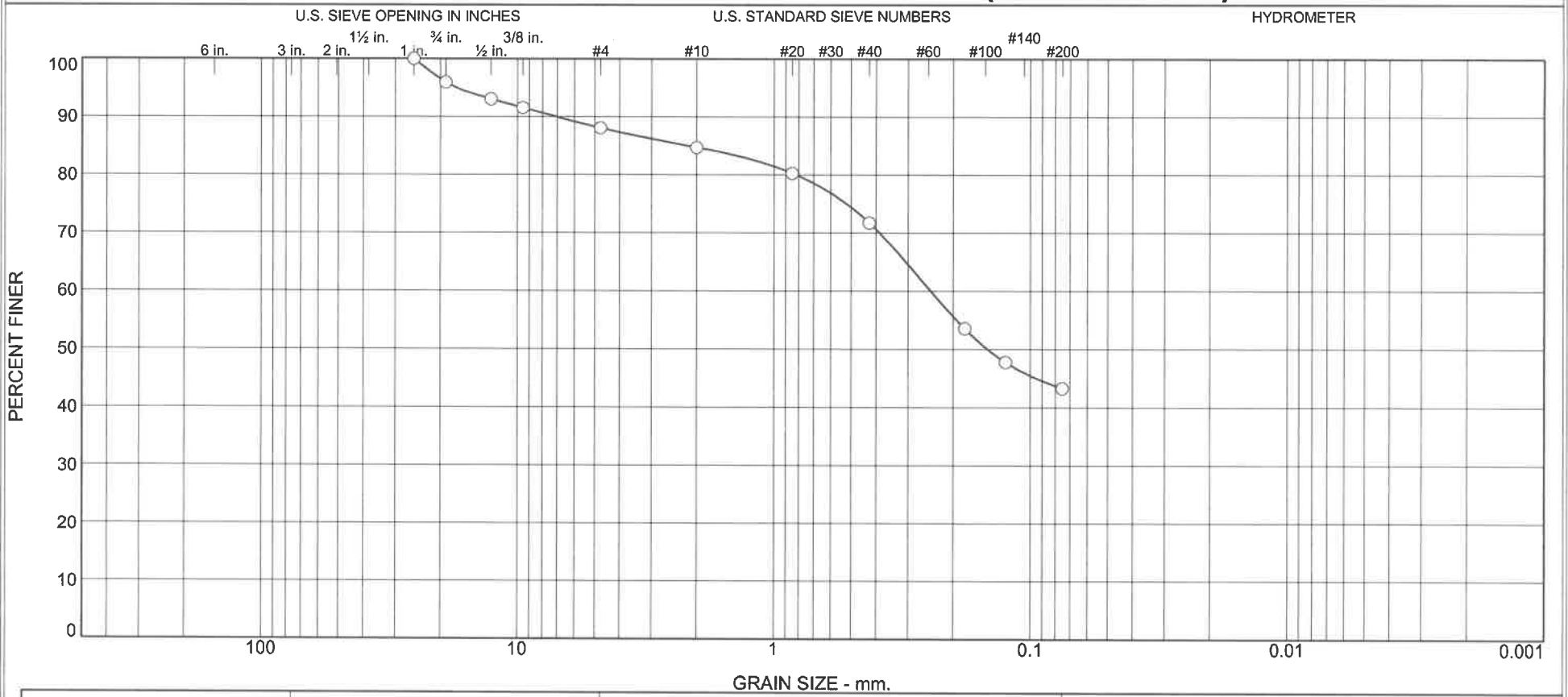
Sag Harbor, NY

Project No. 24042

MIDLANTIC ENGINEERING

Tested By: MJ **Checked By:** TB

GRADATION AND CLASSIFICATION (ASTM D2487)



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	4.1	7.8	3.4	12.9	28.5	43.3	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	BH-16	Bulk		4/2/24	SM	brown silty SAND	17.3	23	23

Client POZ Engineering and Environmental Consulting

Project PSEG-LI Bridgehampton to Buell

Sag Harbor, NY

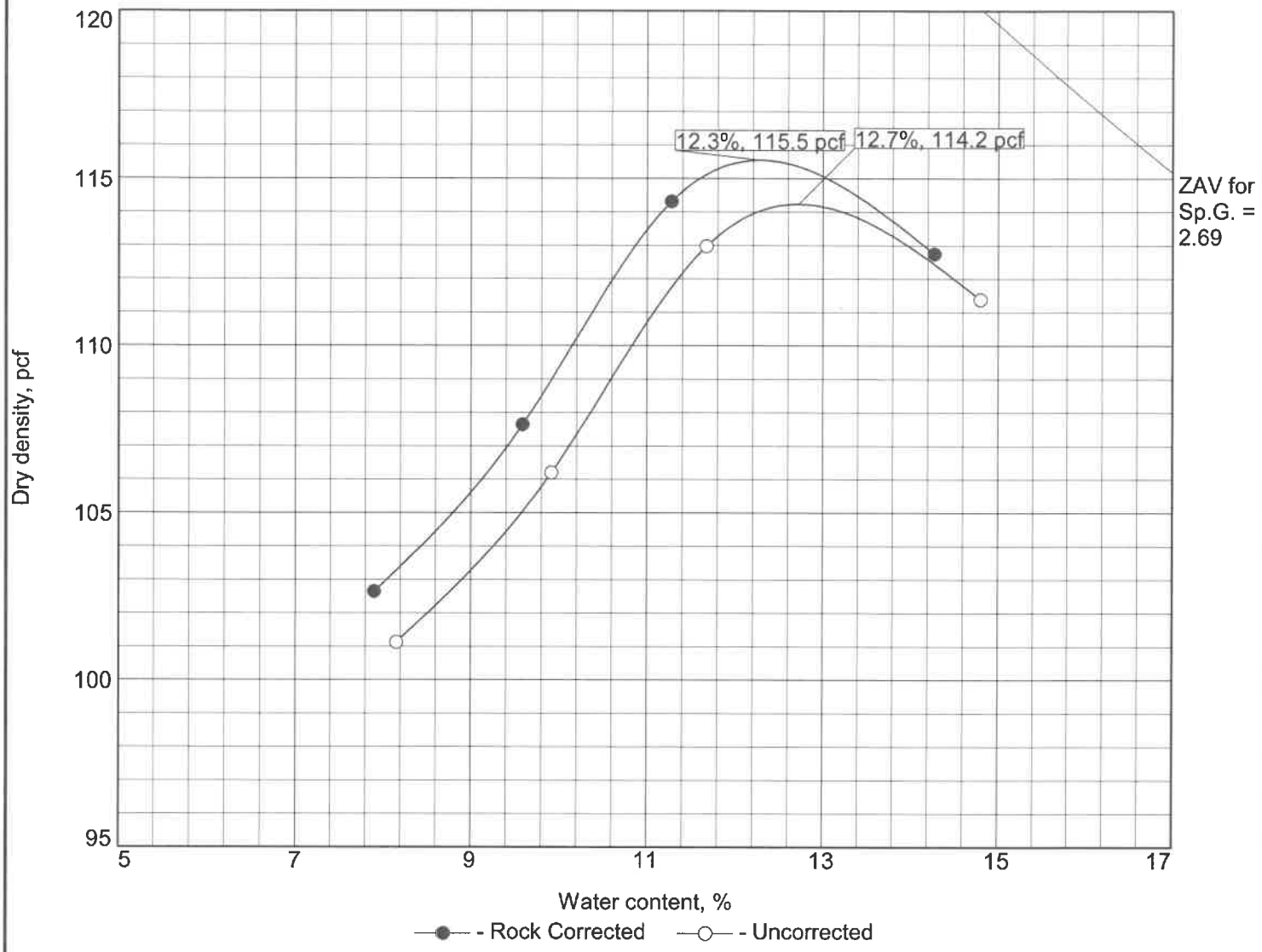
Project No. 24042

MIDLANTIC ENGINEERING

○ Plasticity Index PI= 0

Tested By: MJ **Checked By:** TB

MOISTURE-DENSITY RELATIONSHIP



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	SM	A-4(0)	17.3	2.688	23	NP	4.1	43.3

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 115.5 pcf	114.2 pcf	brown silty SAND
Optimum moisture = 12.3 %	12.7 %	

Project No. 24042 **Client:** POZ Engineering and Environmental Consulting
Project: PSEG-LI Bridgehampton to Buell
Sag Harbor, NY
○ **Source of Sample:** BH-16 **Sample Number:** Bulk

MIDLANTIC ENGINEERING

Remarks:
BH-16 bulk
4-2-24
Specific Gravity= 2.688 (estimated)

Tested By: MJ **Checked By:** TB

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March 11, 2024

POZ Engineering & Environmental Consulting, P.C.
490 North Main Street
Pittston, PA 18640
Attn: Emanuel Posluszny, P.E.

Re: Thermal Analysis of Native Soil Samples
PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

The following is the report of thermal dryout characterization tests conducted on the four (4) bulk samples and eleven (11) tube samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The tube samples were tested 'as is'. The bulk samples were tested at the 'as received' moisture content and at the specified standard Proctor dry density ***provided by POZ.*** The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 6.**

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Depth (ft)	Effort (%)	Description (POZ)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
BH01 S-1	6	Tube	Medium Brown to Orange Coarse Sand w/ Some Pebbles	60	176	14	121
BH01 S-2	13	Tube	Medium Brown to Orange Coarse Sand w/ Some Pebbles	61	170	12	125
BH02 S-1	5	Tube	Light brown sand with round pebbles	63	179	6	125
BH02 TH-2	12	100	Lighter brown sand with pebbles	74	213	5	115
BH02 TH-4	36	Tube	Very coarse pebbled sand	49	163	17	122

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Depth (ft)	Effort (%)	Description (POZ)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
BH03 S-1	5 - 6	Tube	Fine grained light and dark Brown sand	102	367	7	81
BH03 S-2	12 - 13	Tube	Fine grained light and dark Brown sand	74	341	24	84
BH04 S-1	6	Tube	Medium Brown coarse sand	70	221	8	113
BH04 S-2	13	Tube	Medium Brown coarse sand	59	215	15	112
BH05 S-1	6	Tube	Orange to Brown coarse sand	97	244	5	105
BH05 S-2	15	Tube	Medium Brown loose sand w/ small pebbles	59	188	16	119
BH05 S-3	29	Tube	Very coarse pebbly sand	64	214	13	116
BH17 S-1	6	100	Loose gray sand	61	232	15	114
BH17 S-4	15	100	Orange coarse sand	101	264	5	106
BH17 TH-4	40	95	Dark sand with gravel and cobbles	57	179	16	119

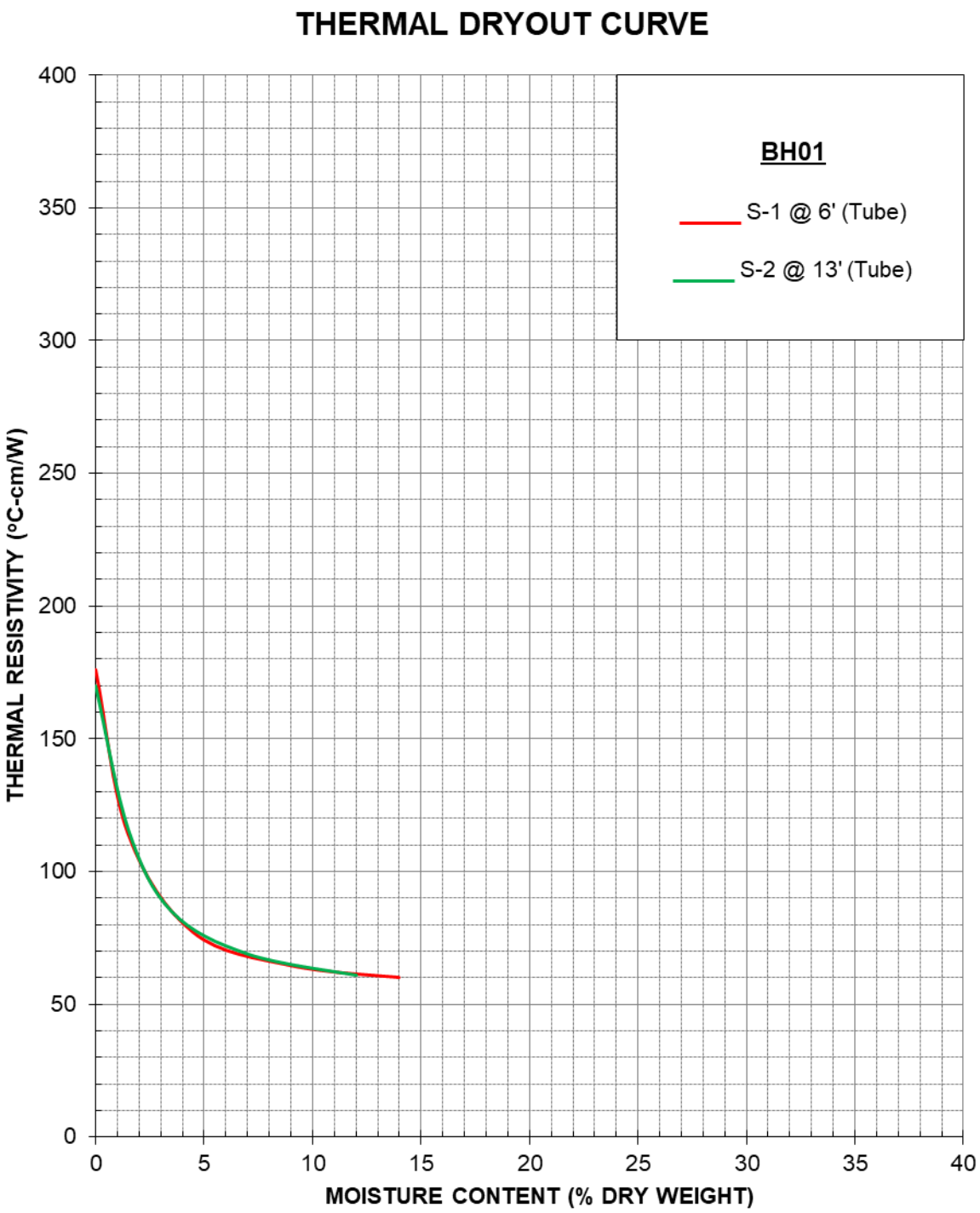
Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

The dry density figured in red could not be achieved. The samples were compacted at the best possible density at standard Proctor effort.

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel



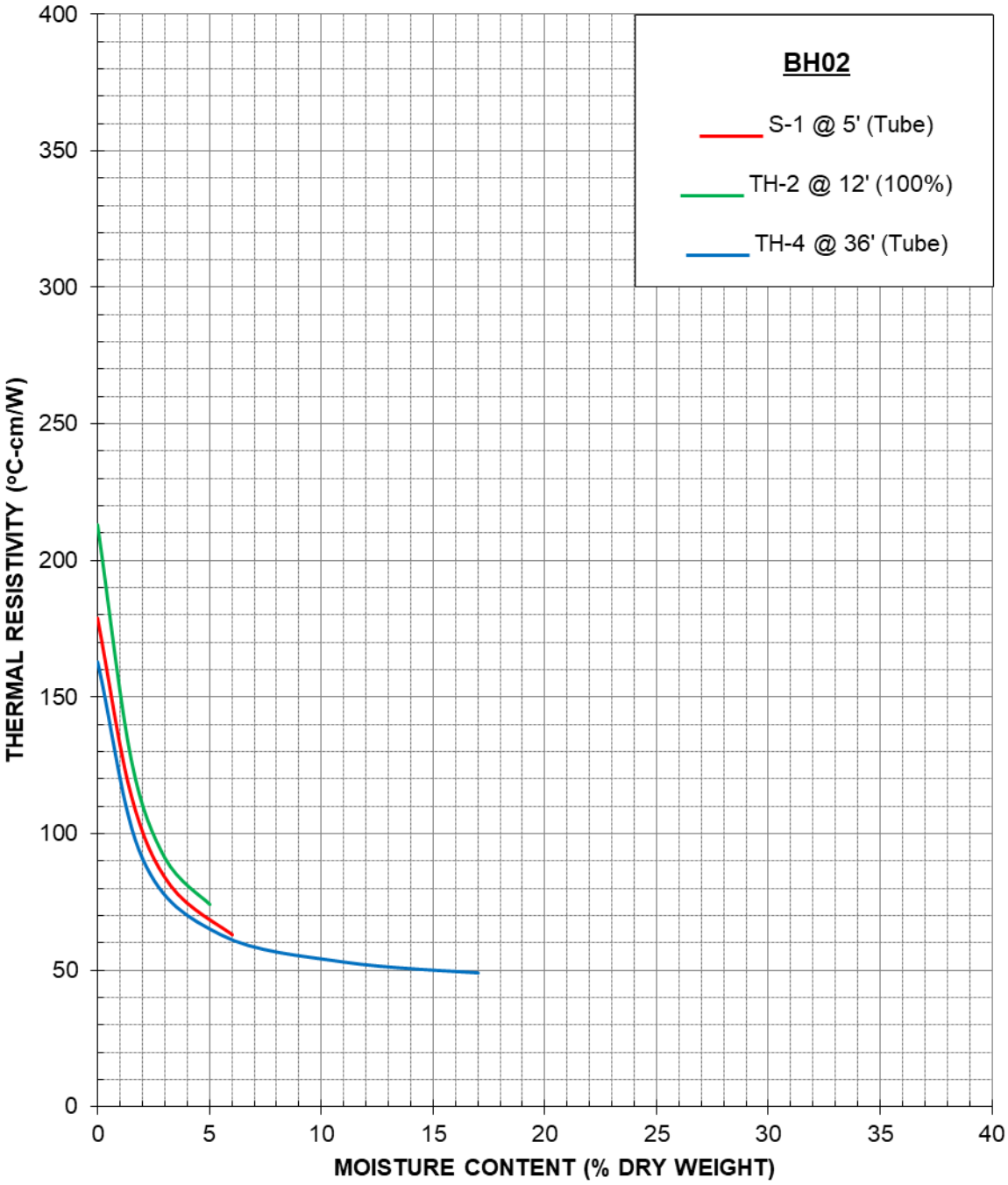
POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 1**

THERMAL DRYOUT CURVE

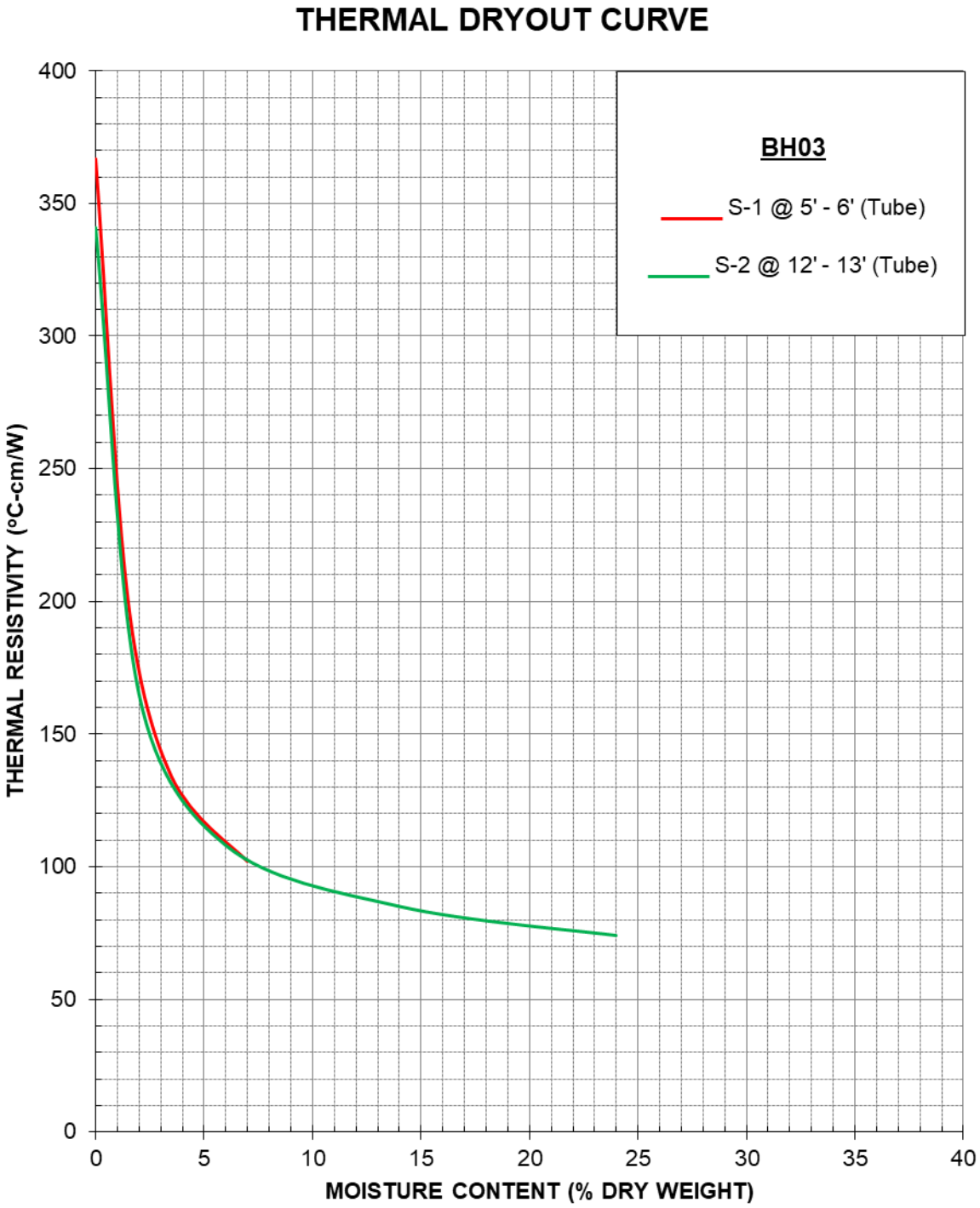


POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 2**



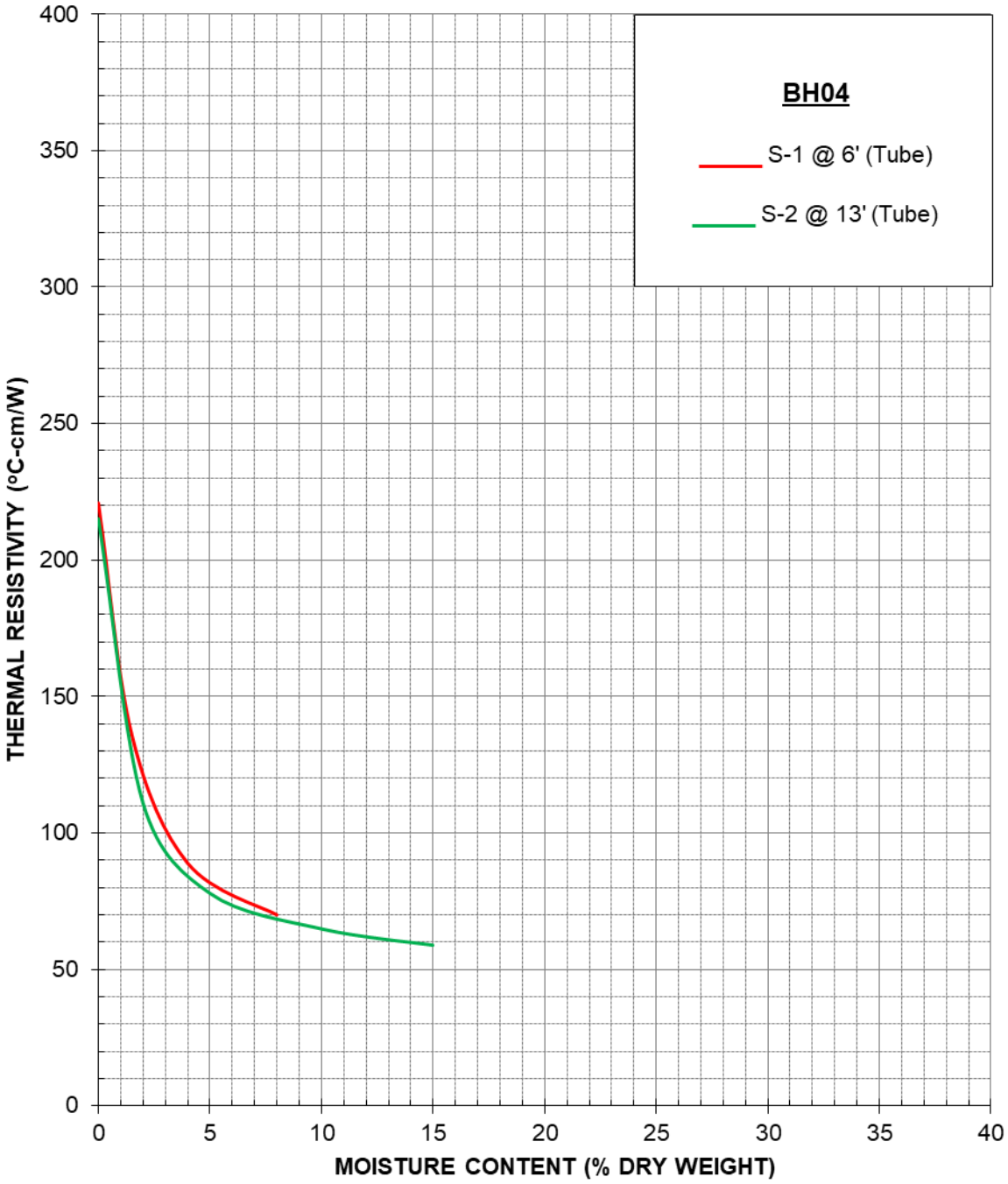
POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 3**

THERMAL DRYOUT CURVE



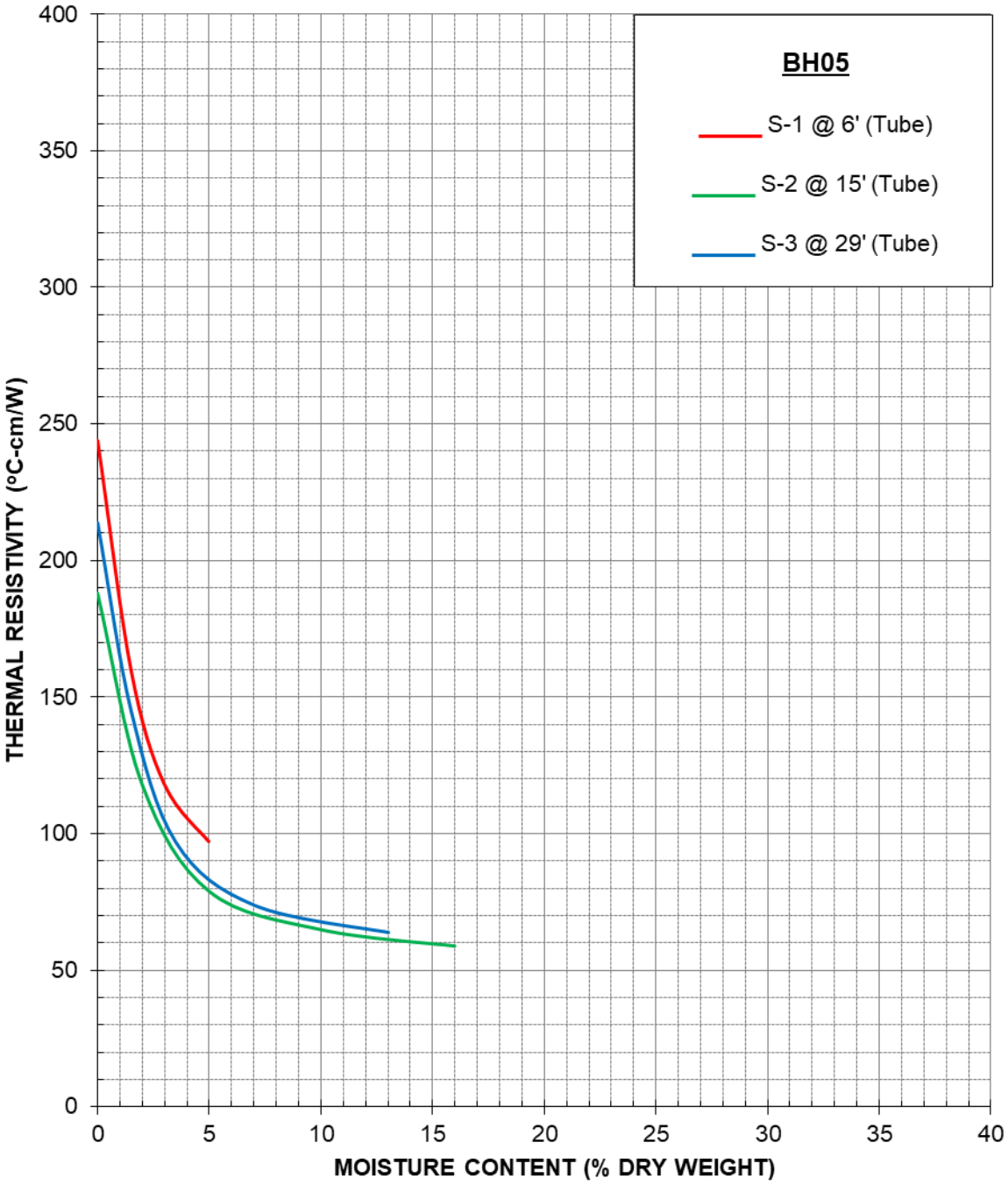
POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 4**

THERMAL DRYOUT CURVE

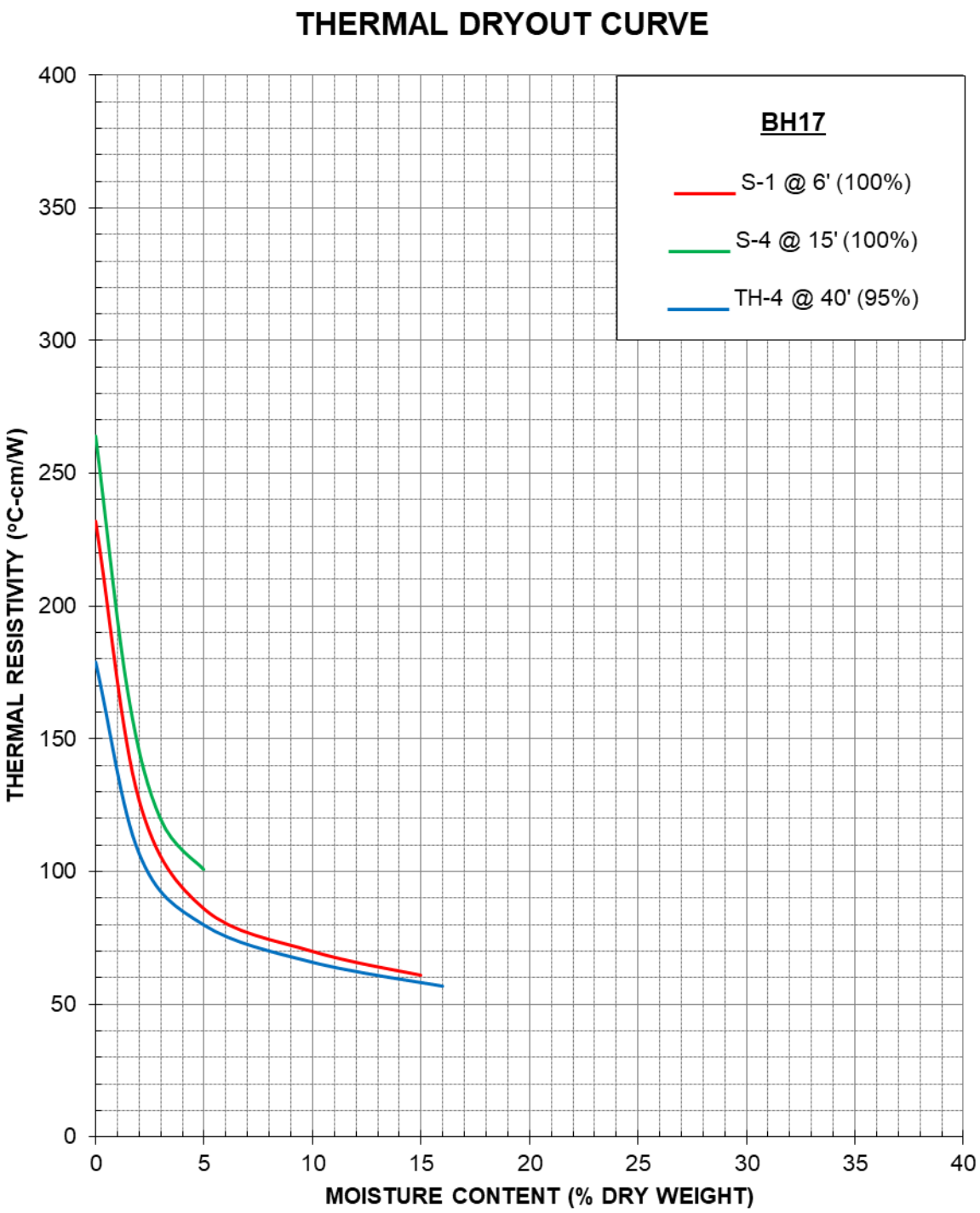


POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 5**



POZ Engineering & Environmental Consulting, P.C.

PSEG-LI Bridgehampton to Buell – Sag Harbor, Buell Long Island, NY

Thermal Analysis of Native Soil Samples

March 2024 **Figure 6**

Geotherm

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May 9, 2024

POZ Engineering & Environmental Consulting, P.C.
490 North Main Street
Pittston, PA 18640
Attn: Emanuel Posluszny, P.E.

Re: Thermal Analysis of Native Soil Samples
PSEG Bridgehampton to Buell – Sag Harbor, NY (Project No. 163671)

The following is the report of thermal dryout characterization tests conducted on the twenty-three (23) tube samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples were tested 'as is'. The tests were conducted in accordance with the **IEEE standard 442-2017**. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 11.**

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
BH-6 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	44	232	16	103
BH-6 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP-SM)	67	419	9	94
BH-7 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	55	337	13	97
BH-7 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP-SM)	54	346	18	92
BH-8 S1	6.5 - 7	Tube	Brown Silty Sand (SM)	37	108	12	128
BH-8 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	39	182	15	107
BH-9 S1	6.5 - 7	Tube	Brown Poorly Graded Sand (SP)	57	310	6	100
BH-9 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	41	138	13	129

Geotherm

Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
BH-10 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Gravel (SP)	66	204	5	118
BH-10 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	43	248	15	115
BH-11 S1	6.5 - 7	Tube	Brown Silty Sand (SM)	57	325	23	89
BH-11 S2	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	58	196	6	109
BH-12 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Gravel (SP)	78	176	5	112
BH-12 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	68	145	8	120
BH-13 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	51	340	24	96
BH-13 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP)	41	149	13	118
BH-14 S1	6.5 - 7	Tube	Brown Poorly Graded Sand (SP)	53	234	6	104
BH-14 S3	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	43	179	11	110
BH-15 S1	6.5 - 7	Tube	Brown Poorly Graded Sand with Silt (SP-SM)	67	282	9	103
BH-15 S2	15.5 - 16	Tube	Brown Poorly Graded Sand with Gravel (SP)	64	189	13	111
BH-16 S1	6.5 - 7	Tube	Brown Silty Sand (SM)	69	297	5	100
BH-16 S2	15.5 - 16	Tube	Brown Poorly Graded Sand (SP)	40	301	21	98
BH-16 S3	29.5 - 30	Tube	Brown Poorly Graded Sand with Gravel (SP)	44	178	17	104

Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

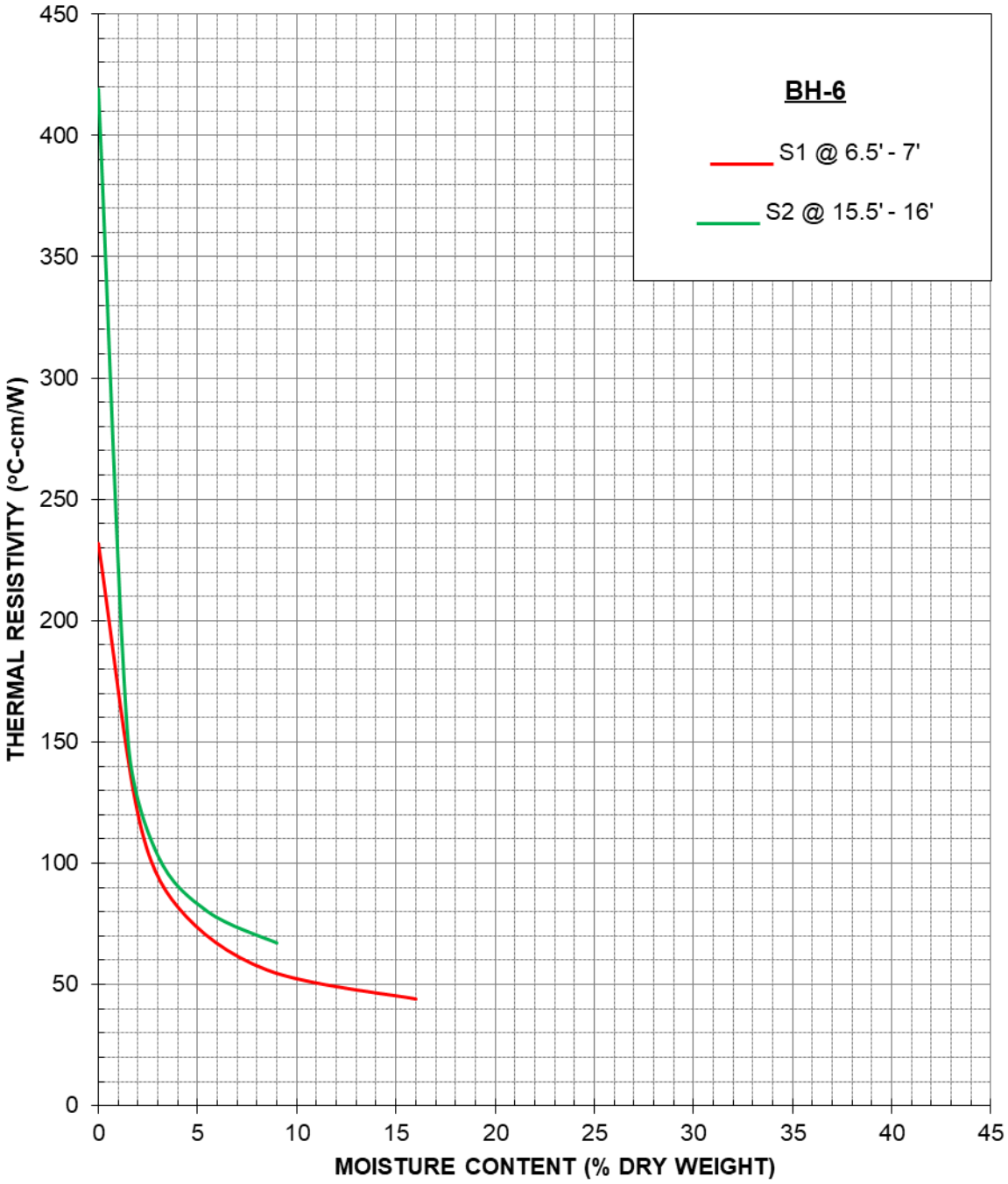
Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

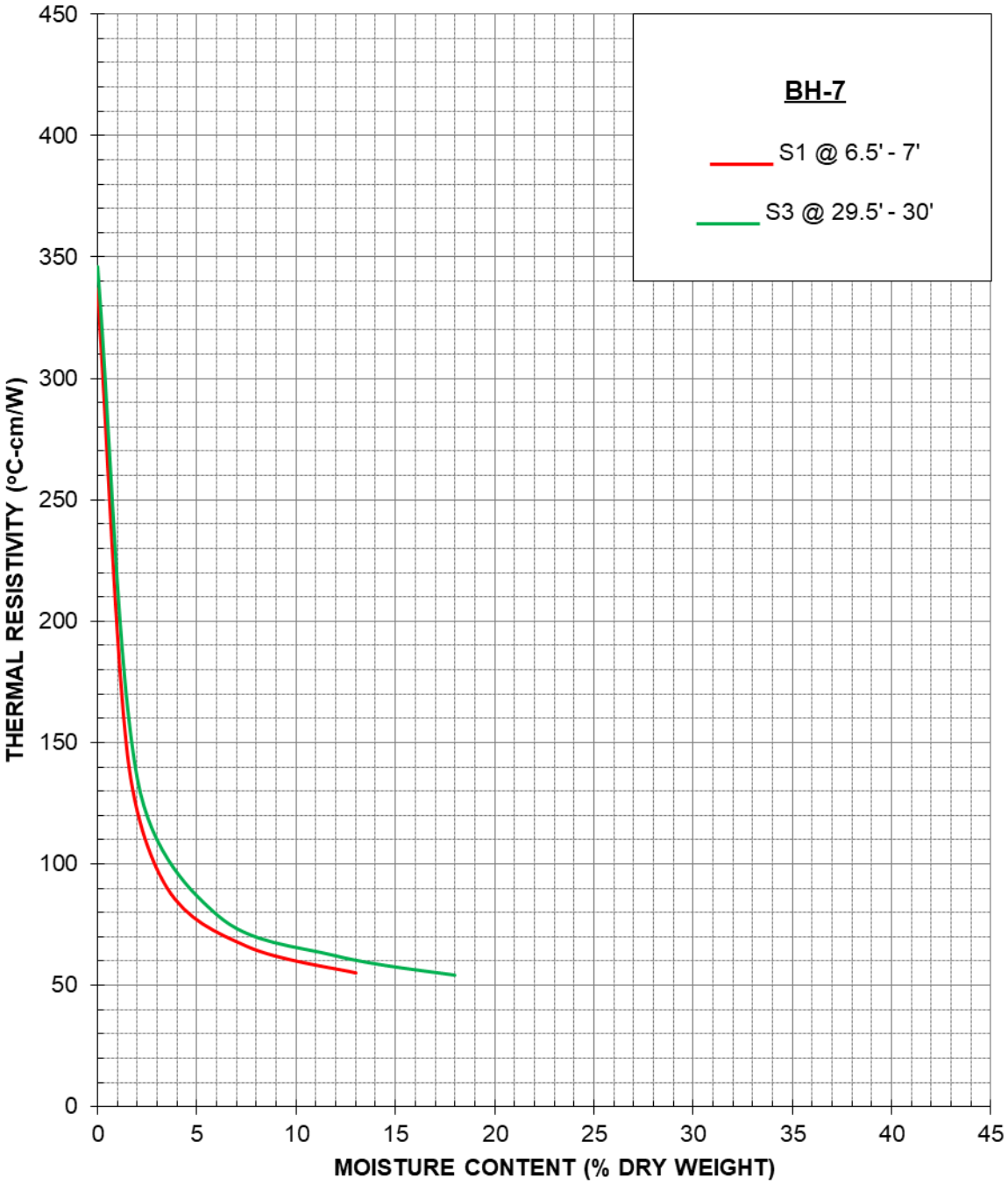
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 1**

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

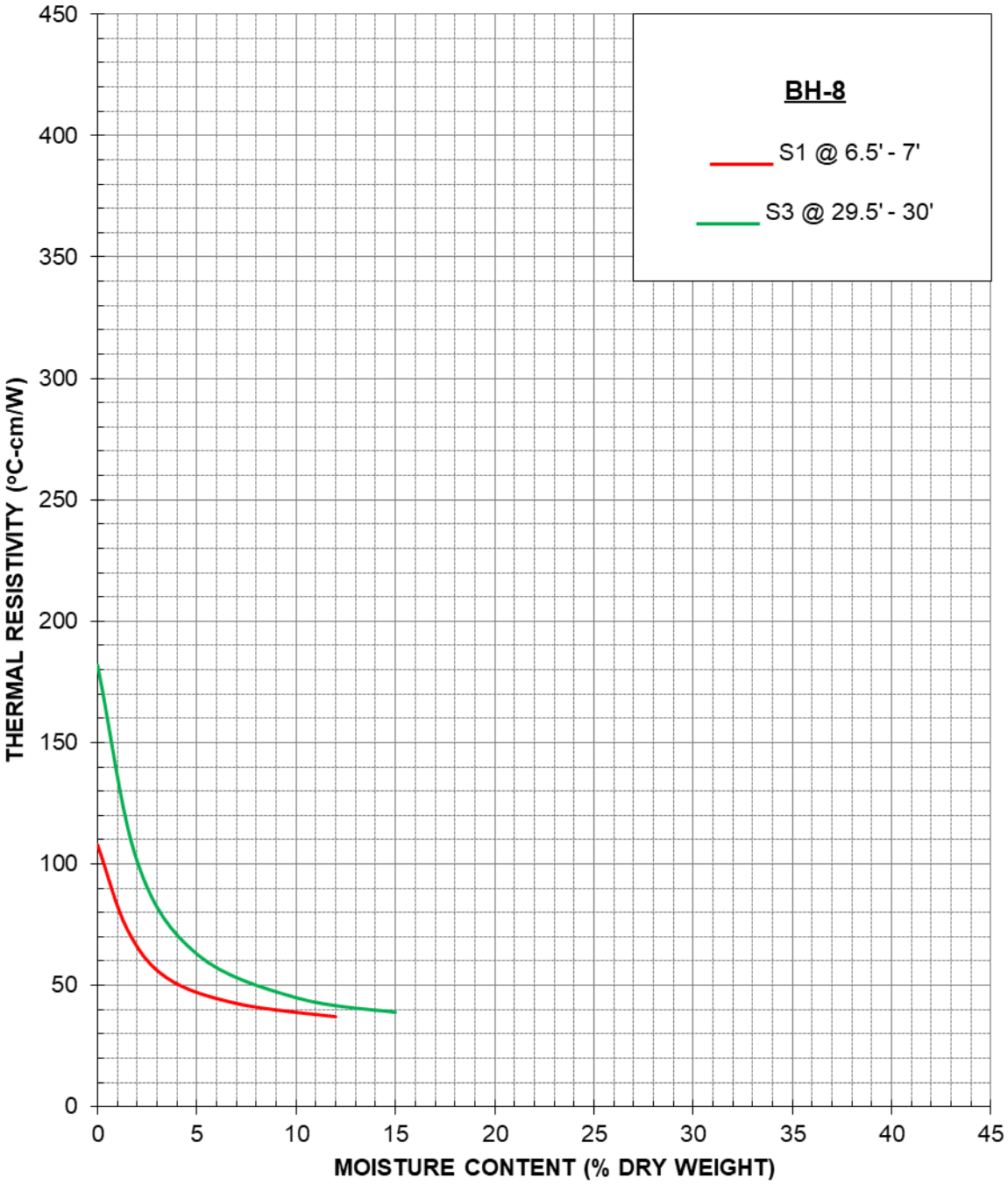
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 2**

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

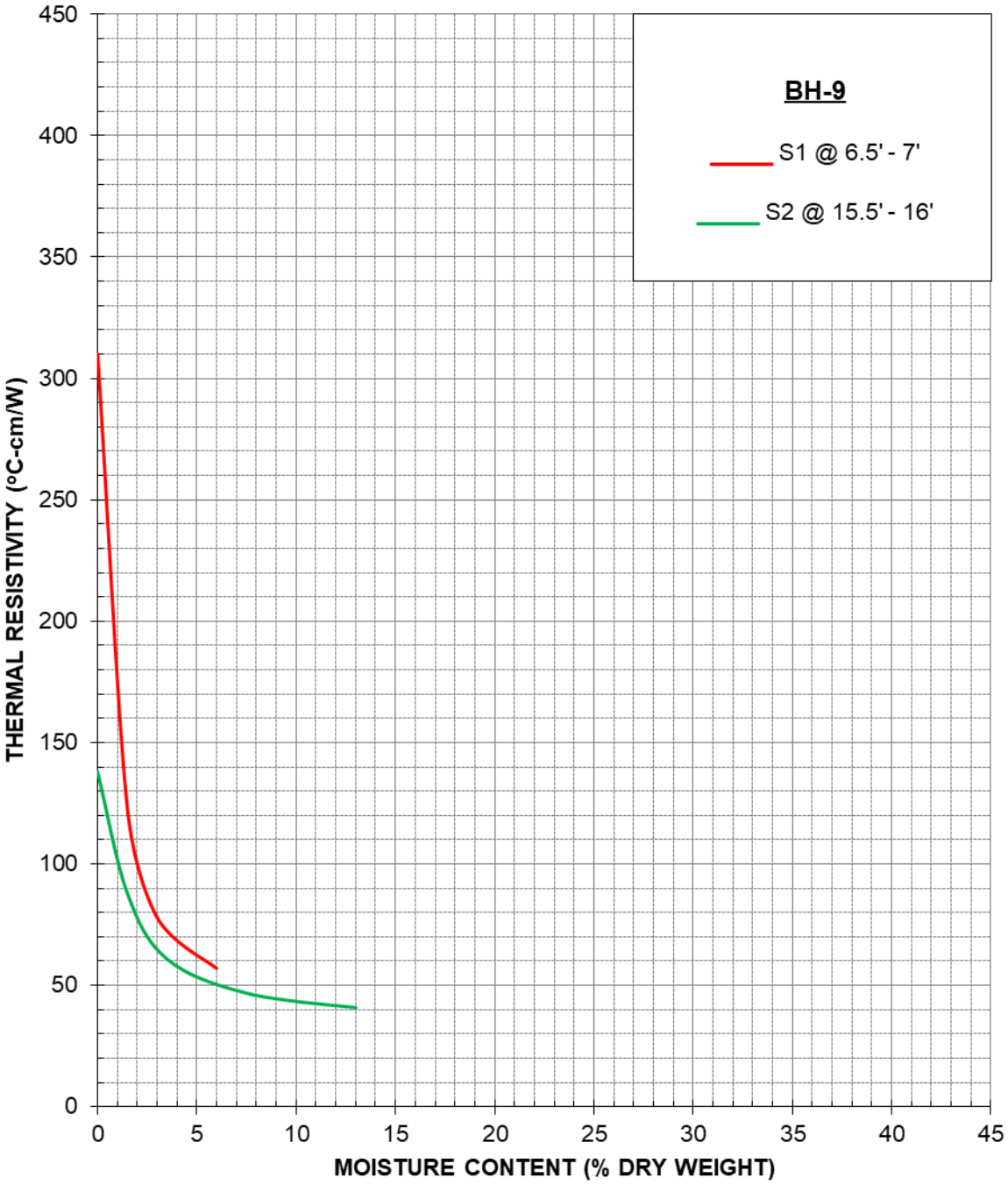
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 3**

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

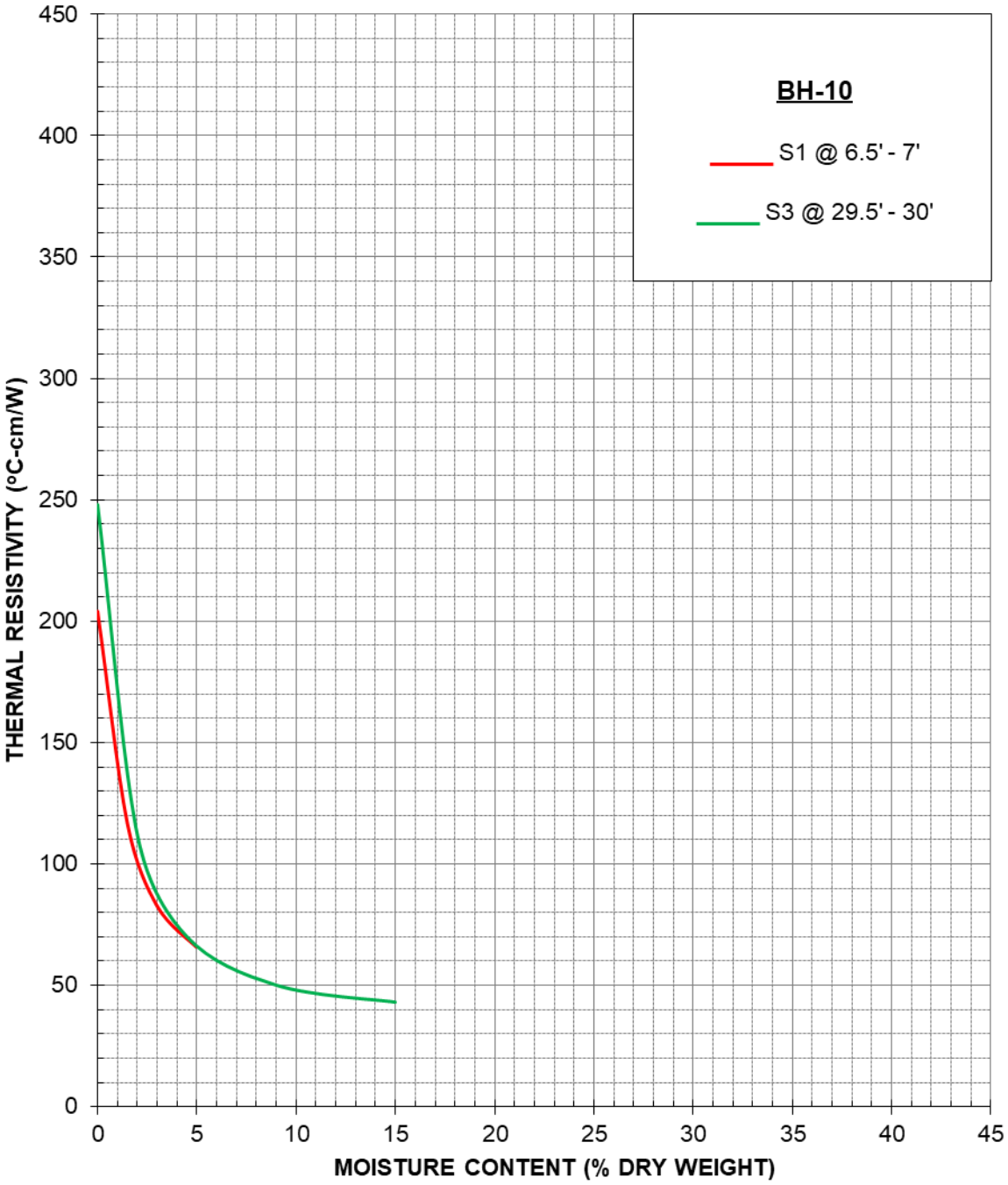
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 4**

Geotherm

THERMAL DRYOUT CURVES



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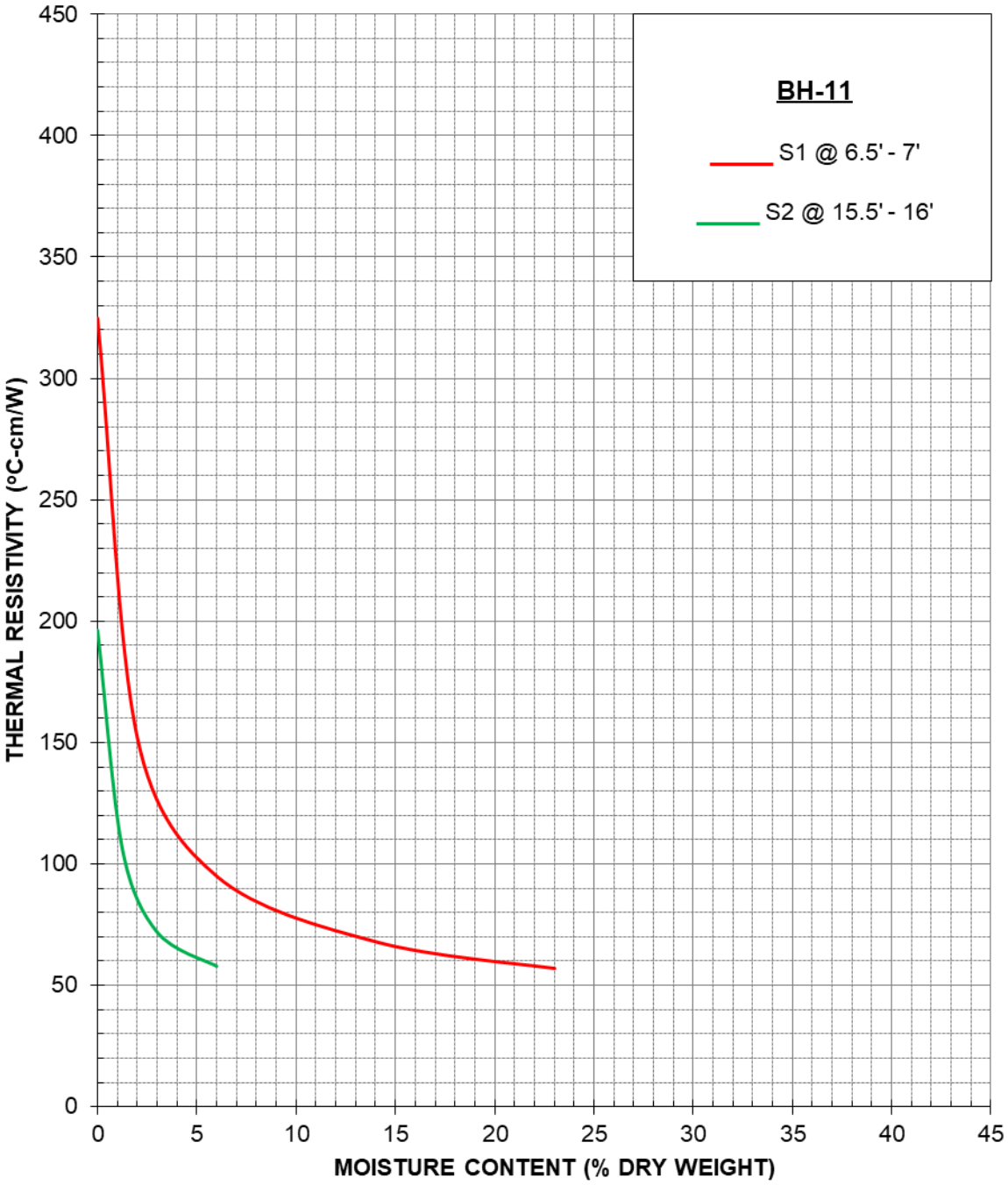
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 5**

Geotherm

THERMAL DRYOUT CURVES



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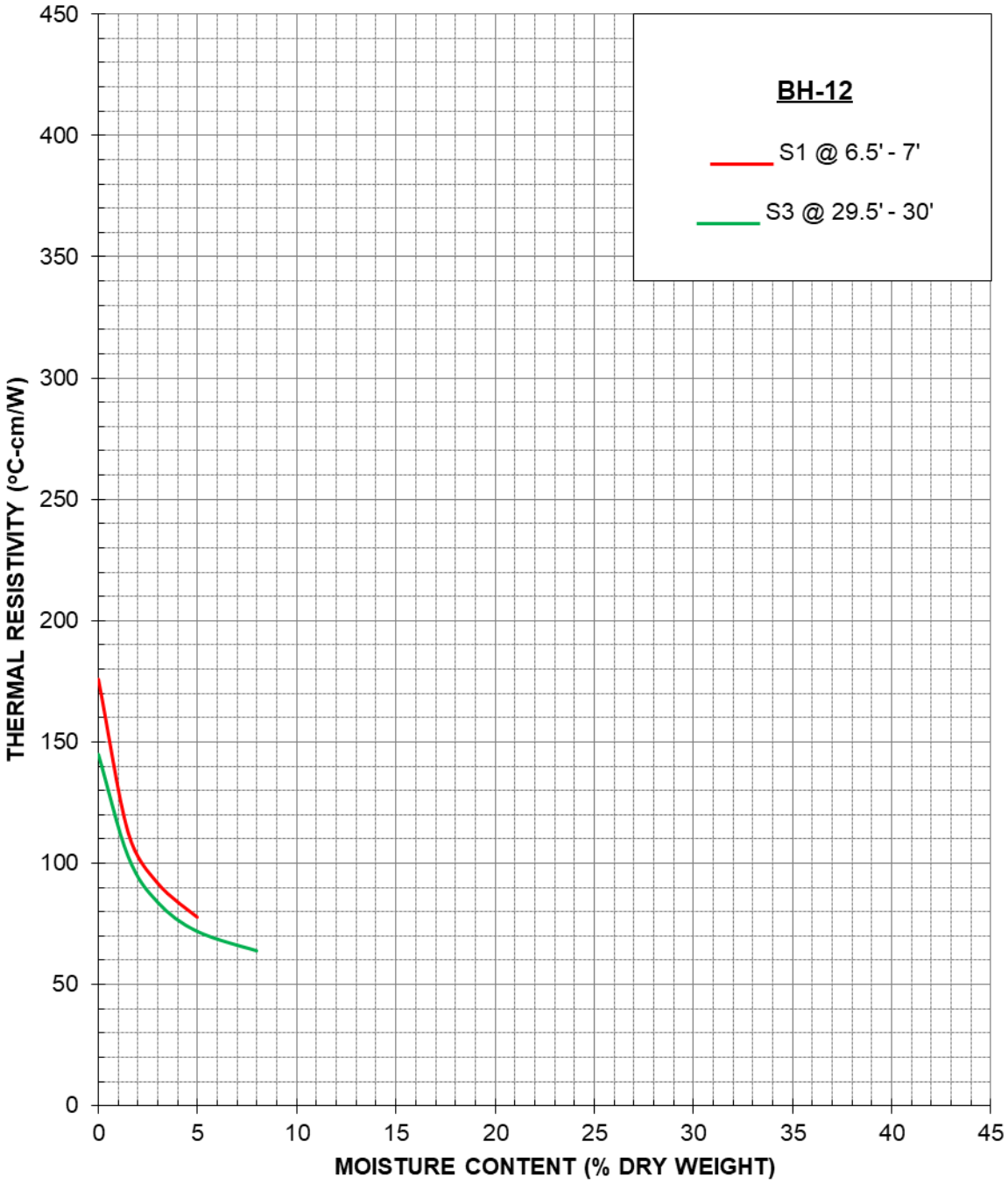
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 6**

Geotherm

THERMAL DRYOUT CURVES



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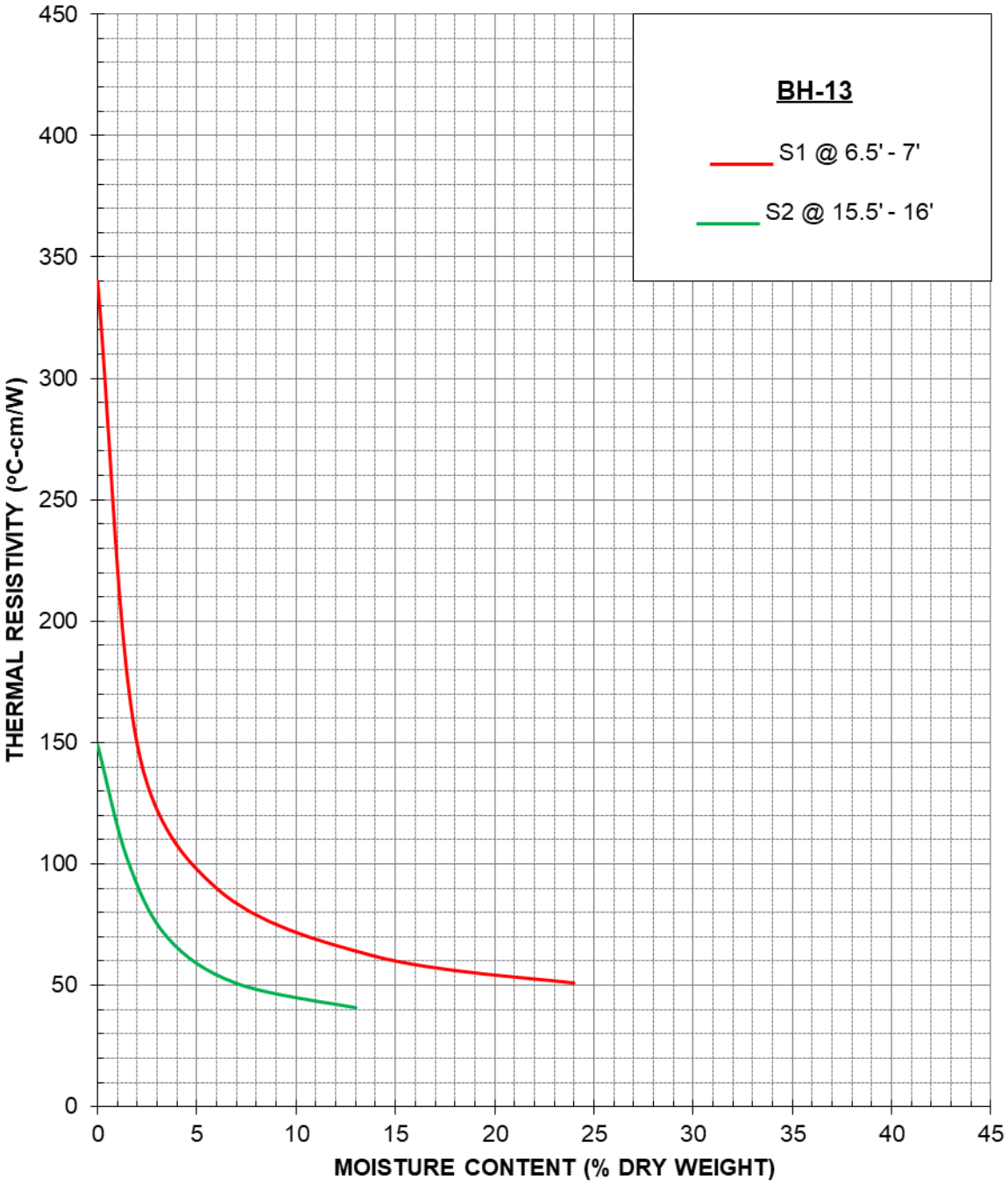
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 7**

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

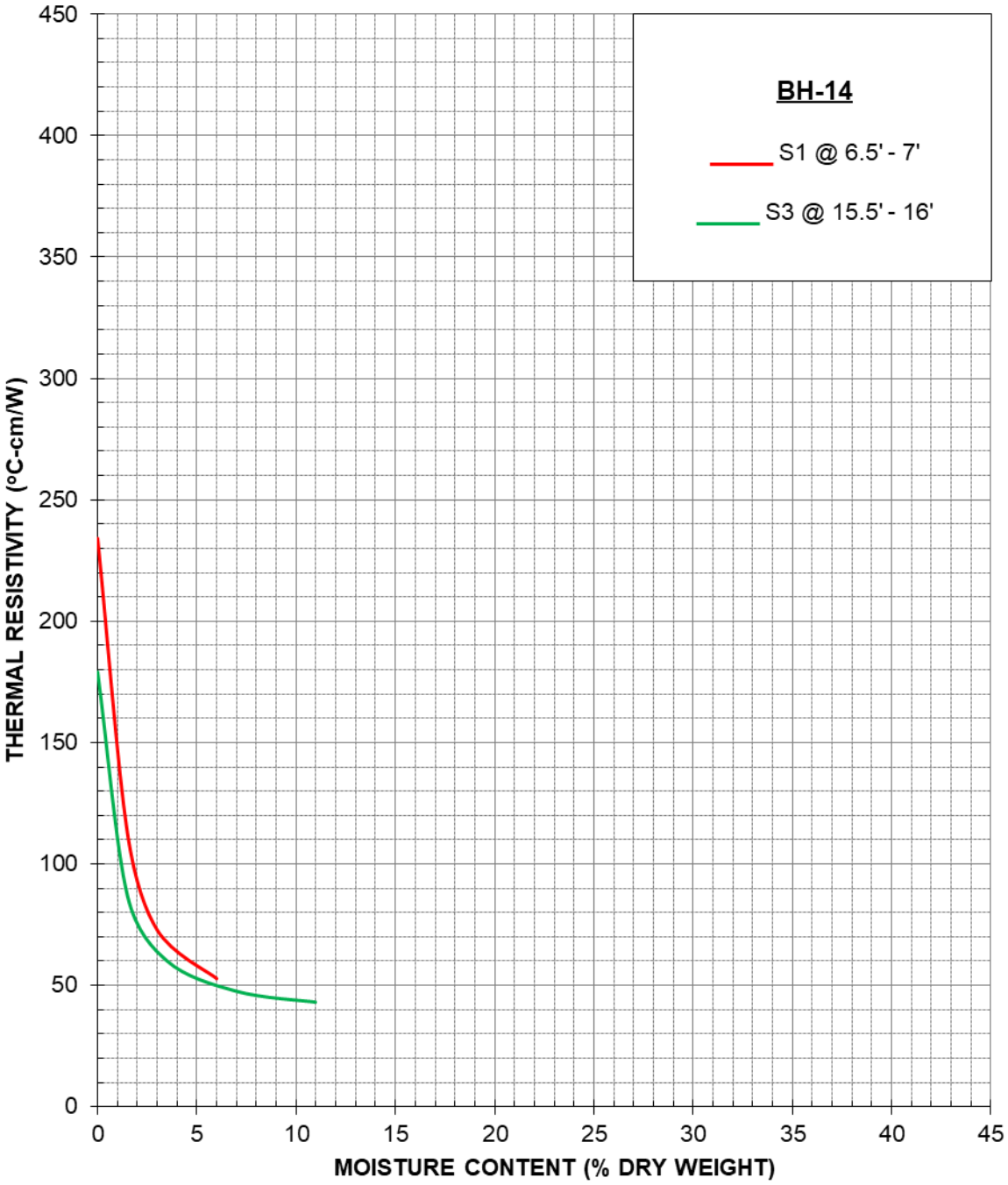
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 8**

Geotherm

THERMAL DRYOUT CURVES



POZ Engineering & Environmental Consulting, P.C. (Project No. 163671)

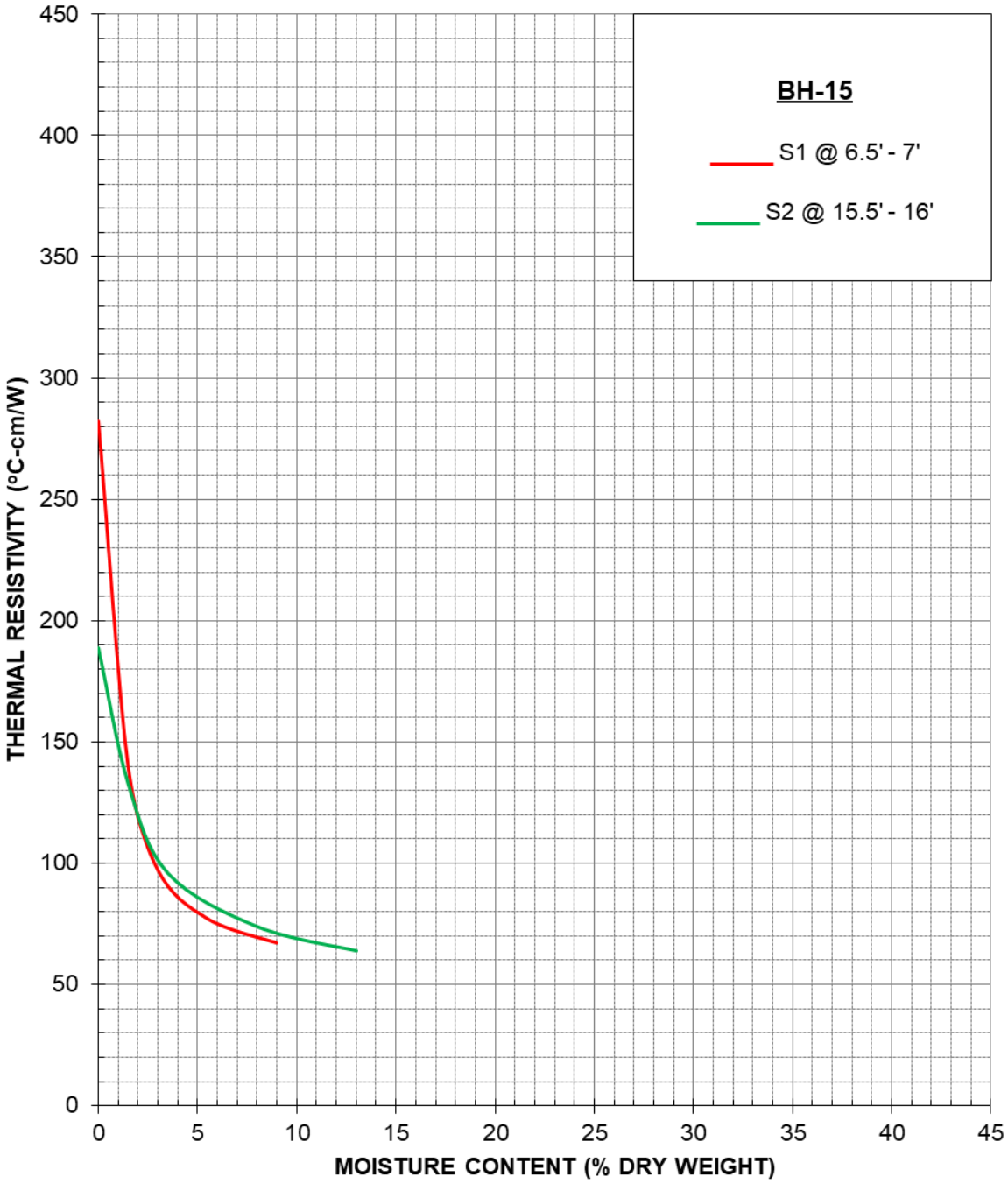
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 9**

Geotherm

THERMAL DRYOUT CURVES



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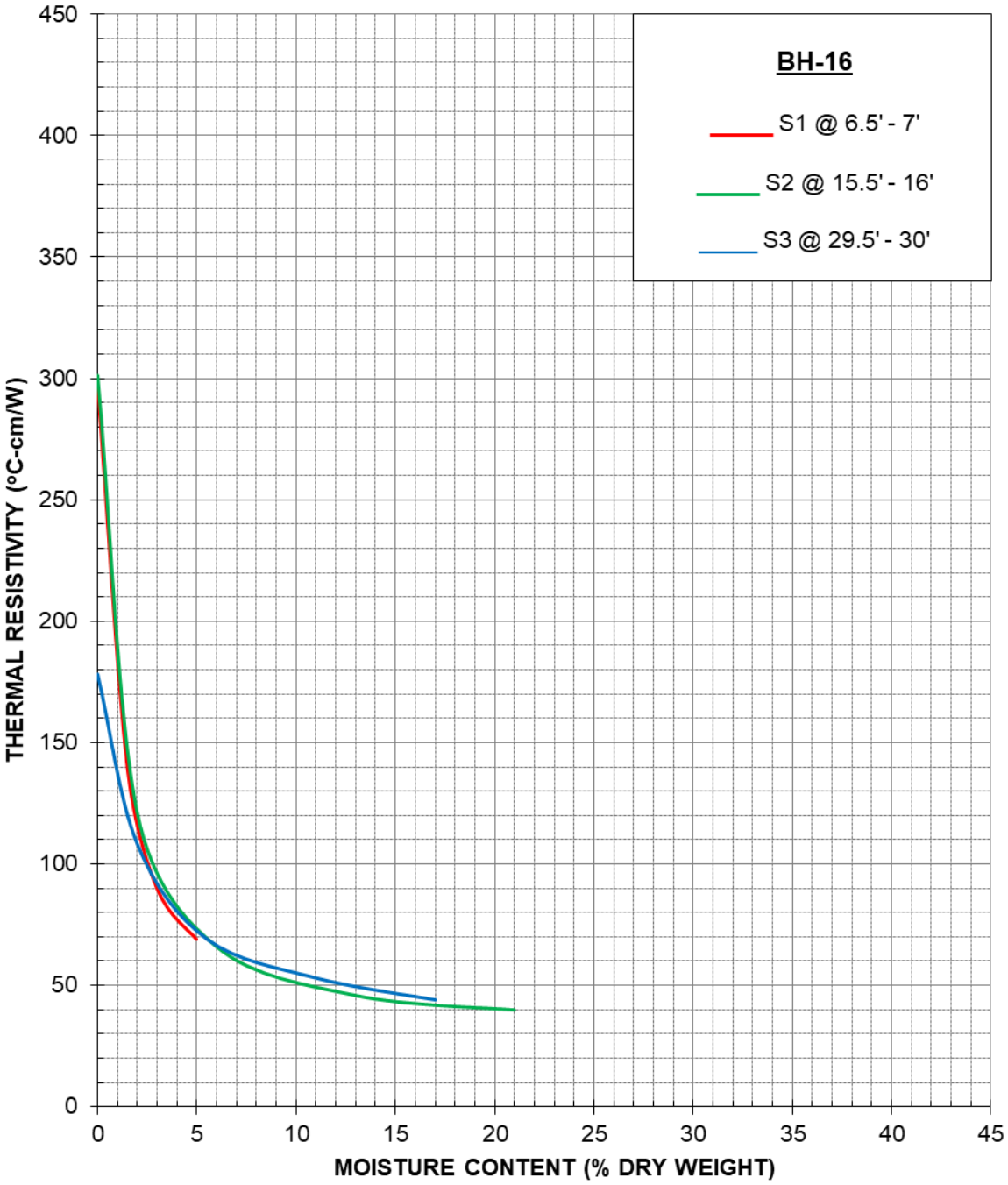
PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 10**

Geotherm

THERMAL DRYOUT CURVES



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PSEG-Bridgehampton to Buell – Sag Harbor, NY

Thermal Analysis of Native Soil Samples

May 2024 **Figure 11**

TABLE #1 - SUMMARY TABLE OF TRENCHLESS BOREHOLES

BH2 Strata	moisture	Sample#	Depth Interval (ft)	Penetration (ft)	Recovery	Percent Recovered	6"	12"	18"	24"	N	USCS	NM%	Pene TSF	Deg	Nc	Nq	Nd	Density
Light bwn sand with gravel	d	S-1	5-7	2	2	100%	6	8	10	5	15	SW			35	57.8	41.1	47.3	115
Light bwn sand with gravel	d	S-2	12-14	2	2	100%			25	50	75	SW			35	57.8	41.1	47.3	115
unstratified light bwn sand w/ gravel	W	SS-1	15-17	2			17	22	26	29	55	SW	14.4		35	57.8	41.1	47.3	115
Med Bwn Sand	w	SS-2	20-22	2			20	29	30	34	64	SP-SM	14.4		45	106.8	93.8	148.5	122
light brwn coarse sand	w	TH-3	25-27	2		25%	21	18	22	50	72	SP-SM	13.1		45	106.8	93.8	148.5	122
med coarse Bwn Sand	**w**	SS-3	30-32	2			19	17	23	33	56	SP-SM	13.9		45	106.8	93.8	148.5	122
Very coarse pebbly sand	**W**	TH-4	35-37	2		20%		37	54	50	104	SP-SM			45	106.8	93.8	148.5	125
Med loose brwn sand	w	SS-4	40-42	2					44	50	94	SP-SM			45	106.8	93.8	148.5	122
Orange loose sand	**w**	TH-5	45-47	2		25%			50	50	100	SP-SM			45	106.8	93.8	148.5	122
Light orange loose sand	**w**	SS-5	50-52	2			50	35	39	49	88	SP-SM	21.5		45	106.8	93.8	148.5	122
light coarse sand with pebbles	**w**	TH-6	55-57	2			27	35	48	50	98	SW			35	57.8	41.1	47.3	115
med coarse Bwn Sand	**w**	SS-6	60-62	2			18	31	30	41	71	SW	12.4		35.0	57.8	41.1	47.3	115
BH8 Strata	**moisture**	**Sample#**	**Depth Interval (ft)**	**Penetration (ft)**	**Recovery**	**Percent Recovered**	**6"**	**12"**	**18"**	**24"**	**N**	**USCS**	**NM%**	**Pene TSF**	**Deg**	**Nc**	**Nq**	**Nd**	**Density**
Coarse brw clayey sand	D	S-1	5-7	2		75%	11	22	25	28	53	SM	11.4	4	41	106.8	93.8	148.5	128
Brw coarse sand / pebbles	w	S-2	15-17	2		50%	7	11	12	10	22	SP-SM	15.5	1.5	35	57.8	41.4	47.3	112
Brw coarse sand / pebbles	w	S-3	25-27	2	1	50%	11	12	12	13	25	SP	14	0.5	30	37.2	22.5	20.1	107
Brw coarse sand / pebbles	w	S-4	34-36	2	1	50%	7	15	20	20	40	SP	21.5	0.5	35	57.8	41.4	47.3	112
Light Brw coarse sand	w	S-5	45-47	2	1	50%	11	16	24	20	44	SP	16.8	1.5	35	57.8	41.4	47.3	112
Light Brw coarse sand	**w**	S-6	55-57	2			16	19	25	20	45	SP-SM	20.8	2.5	35	57.8	41.4	47.3	112
BH16 Strata	**moisture**	**Sample#**	**Depth Interval (ft)**	**Penetration (ft)**	**Recovery**	**Percent Recovered**	**6"**	**12"**	**18"**	**24"**	**N**	**USCS**	**NM%**	**Pene TSF**	**Deg**	**Nc**	**Nq**	**Nd**	**Density**
Dkr bwn sand w/ pebbles	D	S-1	10-12	2	2	100%	20	20	18	17	35	SM	0.5		33	48.1	32.2	33.3	100
Drk Orange Coarse sand	d	S-2	14-16	2	1	50%	17	20	29	28	57	SM	2.5		32	44	28.5	28	98
Drk bwn coarse sand w/ pebbles	w	S-3	34-36	2	1	50%	24	23	21	23	44	SP	1		28	31.6	17.8	14.6	104
BH17 Strata	**moisture**	**Sample#**	**Depth Interval (ft)**	**Penetration (ft)**	**Recovery**	**Percent Recovered**	**6"**	**12"**	**18"**	**24"**	**N**	**USCS**	**NM%**	**Pene TSF**	**Deg**	**Nc**	**Nq**	**Nd**	**Density**
loose gray sand	M	S-1	5-7	2	2	100%	3	5	5	6	11	SM			40	95.7	81.3	121.5	114
strat dk fine gr & orange crs sand	m	S-2	7-9	2	2	100%	4	5	7	7	14	SM	15.4		40	95.7	81.3	121.5	114
Gry Clay & med brw sand	M	TH-1	9-12	2	2	100%	10	12	16	18	34	SP-SM			32	44	28.5	28	106
Orange coarse sand	M	S-3	12-14	2	2	100%	5	10	11	17	28	SP-SM	5.7		32	44	28.5	28	106
Orange coarse sand	M	S-4	14-16	2	2	100%	16	15	20	24	44	SP-SM			32.0	44	28.5	28	106
Very dense unstrat sand & gravel	**M**	TH-2	19-21	2		75%				50	50	SP	8.4	2.75	40.0	95.7	81.3	121.5	114
strat med brwn sand & gravel	**w**	S-5	25-27	2		80%	12	16	19	20	39	SP			40.0	95.7	81.3	121.5	114
unstrat orange sand & gravel	w	TH-3	29-31	2	1.6	80%						SP	15.5	3.1	40.0	95.7	81.3	121.5	114
strat bwn sand & gravel	**w**	S-6	35-37	2			49	29	22	19	41	SW	15.2		38.0	77.5	61.5	82.3	119
Dark sand w/ gravel	**w**	TH-4	39-41	2		40%	26	20	20	21	41	SW			38.0	77.5	61.5	82.3	119
unstrat dark bwn sand	**w**	S-7	43-45	2			15	11	24	26	50	SP	16.2		40.0	95.7	81.3	121.5	114
Dark bwn coarse sand	**w**	S-8	47-49	2			30	20	20	21	41	SP-SM	14.7		33.0	48.1	32.2	33.3	106
Brownish gray coarse sand	**w**	S-9	51-53	2			17	20	21	13	34	SP-SM	15.9		33.0	48.1	32.2	33.3	106
Brownish gray coarse sand	**w**	S-10	58-60	2			14	14	19	21	40	SW-SM	16.4		33.0	48.1	32.2	33.3	106

APPENDIX D

Soil Report NRCS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Suffolk County, New York

May 13, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 21, Sep 6, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 10, 2023—May 11, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
At	Atsion sand	22.1	2.1%
Bd	Berryland mucky sand	1.0	0.1%
CpA	Carver and Plymouth soils, 0 to 3 percent slopes	259.7	24.5%
CpC	Carver and Plymouth soils, 3 to 15 percent slopes	428.8	40.5%
CpE	Carver and Plymouth soils, 15 to 35 percent slopes	17.8	1.7%
CuB	Cut and fill land, gently sloping	212.7	20.1%
CuC	Cut and fill land, sloping	12.5	1.2%
De	Deerfield loamy fine sand, 0 to 3 percent slopes	14.9	1.4%
Gp	Gravel pits	1.7	0.2%
MkC	Montauk loam, 8 to 15 percent slopes	1.6	0.2%
PlA	Plymouth loamy coarse sand, 0 to 3 percent slopes	20.1	1.9%
PlB	Plymouth loamy coarse sand, 3 to 8 percent slopes	23.3	2.2%
PlC	Plymouth loamy coarse sand, 8 to 15 percent slopes	2.4	0.2%
SwA	Swansea muck, 0 to 1 percent slopes, coastal lowland	11.2	1.1%
Tm	Tidal marsh	3.0	0.3%
Ur	Urban land	4.8	0.5%
W	Water	9.6	0.9%
We	Wareham loamy sand	12.1	1.1%
Totals for Area of Interest		**1,059.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some

observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The

pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Suffolk County, New York

At—Atsion sand

Map Unit Setting

National map unit symbol: 9x65
Elevation: 0 to 100 feet
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Atsion, poorly drained, and similar soils: 50 percent
Atsion, somewhat poorly drained, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Atsion, Poorly Drained

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oa - 2 to 4 inches: highly decomposed plant material
A - 4 to 14 inches: sand
Bh - 14 to 19 inches: loamy sand
Bs - 19 to 31 inches: sand
C - 31 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Atsion, Somewhat Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oa - 2 to 4 inches: highly decomposed plant material
A - 4 to 14 inches: sand
Bh - 14 to 19 inches: loamy sand
Bs - 19 to 31 inches: sand
C - 31 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Wareham

Percent of map unit: 10 percent
Landform: Depressions
Hydric soil rating: Yes

Deerfield

Percent of map unit: 5 percent
Hydric soil rating: No

Berryland

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Bd—Berryland mucky sand

Map Unit Setting

National map unit symbol: 9x67
Elevation: 0 to 250 feet

Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Berryland and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berryland

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Acid sandy marine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oa - 2 to 10 inches: highly decomposed plant material
A - 10 to 15 inches: mucky sand
Bh - 15 to 20 inches: sand
Bs - 20 to 30 inches: sand
BC - 30 to 40 inches: sand
C - 40 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Muck

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Atsion

Percent of map unit: 5 percent

Landform: Depressions
Hydric soil rating: Yes

Wareham

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

CpA—Carver and Plymouth soils, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2zggv
Elevation: 0 to 180 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Carver and similar soils: 50 percent
Plymouth, loamy coarse sand, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Carver

Setting

Landform: Moraines, outwash plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oe - 2 to 3 inches: moderately decomposed plant material
A - 3 to 7 inches: coarse sand
E - 7 to 10 inches: coarse sand
Bw1 - 10 to 15 inches: coarse sand
Bw2 - 15 to 28 inches: coarse sand
BC - 28 to 32 inches: coarse sand
C - 32 to 67 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand
Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Haven

Percent of map unit: 5 percent
Landform: Moraines, outwash plains, outwash terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

CpC—Carver and Plymouth soils, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2zggw
Elevation: 0 to 340 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Carver and similar soils: 50 percent
Plymouth, loamy coarse sand, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Carver

Setting

Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oe - 2 to 3 inches: moderately decomposed plant material
A - 3 to 7 inches: coarse sand
E - 7 to 10 inches: coarse sand
Bw1 - 10 to 15 inches: coarse sand
Bw2 - 15 to 28 inches: coarse sand
BC - 28 to 32 inches: coarse sand
C - 32 to 67 inches: coarse sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand
Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Haven

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

CpE—Carver and Plymouth soils, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2zggy
Elevation: 0 to 390 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Carver and similar soils: 45 percent
Plymouth, loamy coarse sand, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Carver

Setting

Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
Oe - 2 to 3 inches: moderately decomposed plant material
A - 3 to 7 inches: coarse sand
E - 7 to 10 inches: coarse sand
Bw1 - 10 to 15 inches: coarse sand
Bw2 - 15 to 28 inches: coarse sand
BC - 28 to 32 inches: coarse sand
C - 32 to 67 inches: coarse sand

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand
Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Montauk, sandy variant

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: F149BY009MA - Well Drained Dense Till Uplands
Hydric soil rating: No

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Haven

Percent of map unit: 5 percent

Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

CuB—Cut and fill land, gently sloping

Map Unit Setting

National map unit symbol: 9x6k
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Cut and fill, gently sloping: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill, Gently Sloping

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: No

Minor Components

Haven, graded

Percent of map unit: 5 percent
Hydric soil rating: No

Plymouth

Percent of map unit: 5 percent
Hydric soil rating: No

Riverhead, graded

Percent of map unit: 5 percent
Hydric soil rating: No

Carver

Percent of map unit: 5 percent
Hydric soil rating: No

CuC—Cut and fill land, sloping

Map Unit Setting

National map unit symbol: 9x6l
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Cut and fill, sloping: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill, Sloping

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: No

Minor Components

Plymouth

Percent of map unit: 10 percent
Hydric soil rating: No

Carver

Percent of map unit: 10 percent
Hydric soil rating: No

Haven, graded

Percent of map unit: 5 percent
Hydric soil rating: No

Riverhead, graded

Percent of map unit: 5 percent
Hydric soil rating: No

De—Deerfield loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2xfg8
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Outwash terraces, outwash deltas, outwash plains, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 7 percent
Landform: Outwash terraces, kame terraces, outwash deltas, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Wareham

Percent of map unit: 5 percent

Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sudbury

Percent of map unit: 2 percent
Landform: Outwash plains, kame terraces, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Ninigret

Percent of map unit: 1 percent
Landform: Kame terraces, outwash plains, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, concave
Hydric soil rating: No

Gp—Gravel pits

Map Unit Setting

National map unit symbol: 9x6t
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Pits, gravel: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

MkC—Montauk loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w80k
Elevation: 0 to 390 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 195 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Montauk and similar soils: 84 percent
Minor components: 16 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Montauk

Setting

Landform: Recessionial moraines, hills, ground moraines, drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 4 inches: loam
Bw1 - 4 to 26 inches: loam
Bw2 - 26 to 34 inches: sandy loam
2Cd - 34 to 72 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F149BY009MA - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Greenbelt

Percent of map unit: 10 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, base slope, crest, interfluve
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Sutton

Percent of map unit: 2 percent
Landform: Hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Charlton, sandy substratum

Percent of map unit: 2 percent
Landform: Terminal moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Riverhead

Percent of map unit: 2 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

PIA—Plymouth loamy coarse sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2zgh0
Elevation: 0 to 260 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Plymouth, loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand

Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Carver

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Montauk, sandy variant

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: F149BY009MA - Well Drained Dense Till Uplands
Hydric soil rating: No

Barnstable

Percent of map unit: 5 percent
Landform: Moraines on outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Ecological site: F149BY011MA - Well Drained Till Uplands
Hydric soil rating: No

PIB—Plymouth loamy coarse sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2zggz
Elevation: 0 to 290 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Plymouth, loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand
Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY006NY - Well Drained Outwash
Hydric soil rating: No

Carver

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Montauk, sandy variant

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: F149BY009MA - Well Drained Dense Till Uplands
Hydric soil rating: No

Barnstable

Percent of map unit: 5 percent
Landform: Moraines on outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex

Ecological site: F149BY011MA - Well Drained Till Uplands
Hydric soil rating: No

PIC—Plymouth loamy coarse sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2yldy
Elevation: 0 to 310 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Plymouth, loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plymouth, Loamy Coarse Sand

Setting

Landform: Outwash plains, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Crest, side slope, head slope, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Parent material: Siliceous sandy and gravelly glaciofluvial deposits and/or sandy and gravelly supraglacial meltout till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
A - 2 to 3 inches: loamy coarse sand
E - 3 to 5 inches: coarse sand
Bhs - 5 to 7 inches: cobbly loamy coarse sand
Bw1 - 7 to 11 inches: cobbly loamy coarse sand
Bw2 - 11 to 22 inches: gravelly coarse sand
BC - 22 to 31 inches: gravelly coarse sand
C1 - 31 to 43 inches: gravelly coarse sand
C2 - 43 to 66 inches: coarse sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Minor Components

Riverhead

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Hydric soil rating: No

Montauk, sandy variant

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: F149BY009MA - Well Drained Dense Till Uplands
Hydric soil rating: No

Carver

Percent of map unit: 5 percent
Landform: Outwash plains, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F149BY005MA - Dry Outwash
Hydric soil rating: No

Barnstable

Percent of map unit: 5 percent
Landform: Moraines on outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, side slope, crest, tread
Down-slope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Hydric soil rating: No

SwA—Swansea muck, 0 to 1 percent slopes, coastal lowland

Map Unit Setting

National map unit symbol: 2trl3
Elevation: 0 to 160 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 190 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Swansea and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swansea

Setting

Landform: Bogs, marshes, swamps
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material over loose sandy and gravelly glaciofluvial deposits

Typical profile

Oa - 0 to 36 inches: muck
Cg - 36 to 79 inches: coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 17.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B/D
Ecological site: F144AY043MA - Acidic Organic Wetlands
Hydric soil rating: Yes

Minor Components

Freetown

Percent of map unit: 10 percent
Landform: Bogs, marshes, swamps
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rainberry

Percent of map unit: 5 percent
Landform: Kettles, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Tm—Tidal marsh

Map Unit Setting

National map unit symbol: 9x83
Elevation: 250 to 2,400 feet
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Tidal marsh and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tidal Marsh

Setting

Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Depth to water table: About 0 inches
Frequency of flooding: Frequent

Frequency of ponding: Frequent

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydric soil rating: Yes

Minor Components

Dune land

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Ur—Urban land

Map Unit Setting

National map unit symbol: 9x84
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

W—Water

Map Unit Setting

National map unit symbol: 9x85
Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

We—Wareham loamy sand

Map Unit Setting

National map unit symbol: 9x88
Elevation: 100 to 1,000 feet

Mean annual precipitation: 45 to 50 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 150 to 225 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Wareham, poorly drained, and similar soils: 50 percent
Wareham, somewhat poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wareham, Poorly Drained

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial or deltaic deposits

Typical profile

Oa - 0 to 3 inches: highly decomposed plant material
H1 - 3 to 7 inches: loamy sand
H2 - 7 to 9 inches: loamy sand
H3 - 9 to 32 inches: loamy sand
H4 - 32 to 60 inches: stratified very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 6 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F149BY008MA - Very Wet Outwash
Hydric soil rating: Yes

Description of Wareham, Somewhat Poorly Drained

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial or deltaic deposits

Typical profile

Oa - 0 to 3 inches: highly decomposed plant material
H1 - 3 to 7 inches: loamy sand
H2 - 7 to 9 inches: loamy sand
H3 - 9 to 32 inches: loamy sand
H4 - 32 to 60 inches: stratified very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F149BY008MA - Very Wet Outwash
Hydric soil rating: No

Minor Components

Walpole

Percent of map unit: 5 percent
Hydric soil rating: No

Atsion

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Berryland

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

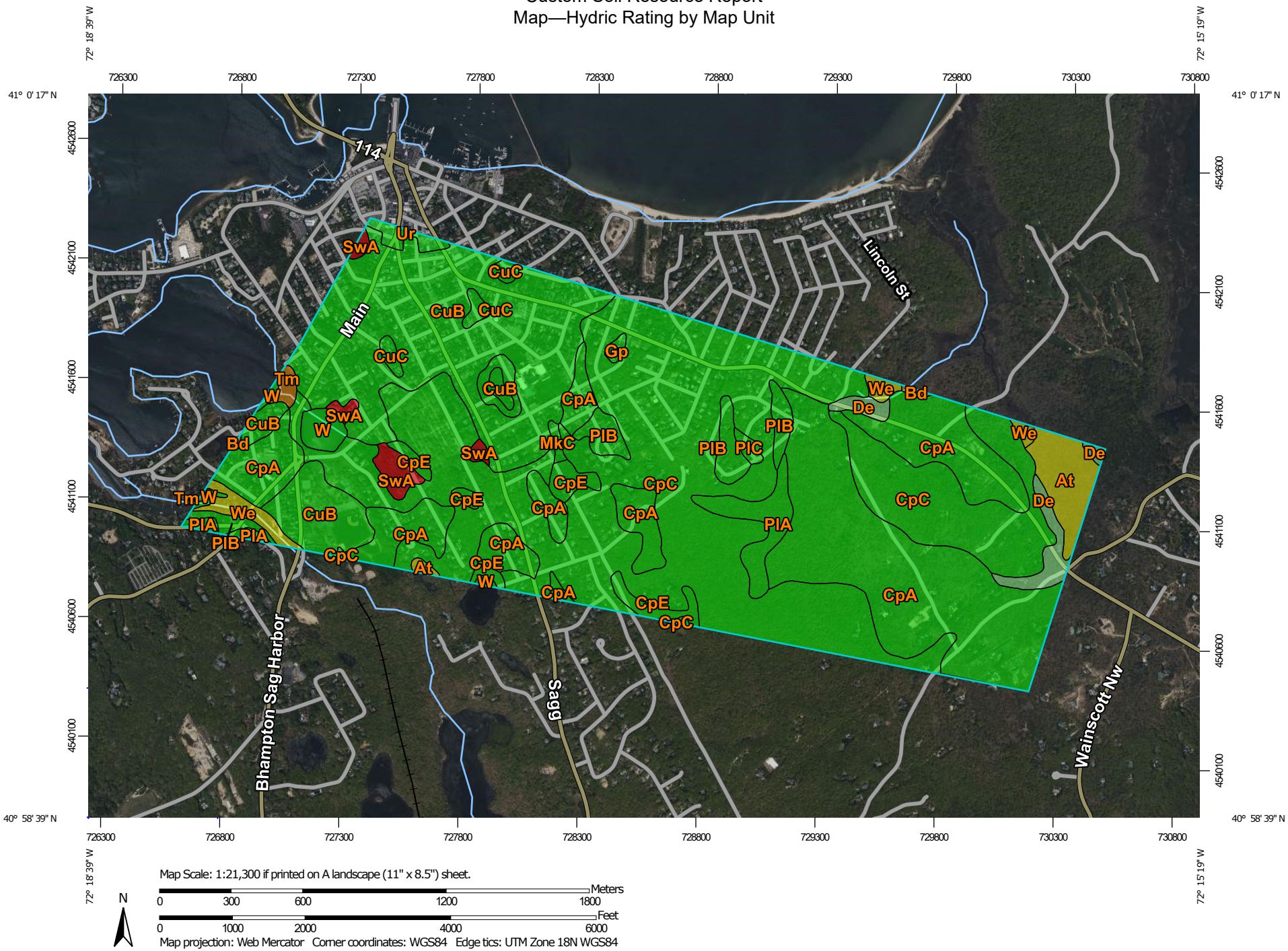
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Map—Hydric Rating by Map Unit



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 21, Sep 6, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 10, 2023—May 11, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
At	Atsion sand	65	22.1	2.1%
Bd	Berryland mucky sand	95	1.0	0.1%
CpA	Carver and Plymouth soils, 0 to 3 percent slopes	0	259.7	24.5%
CpC	Carver and Plymouth soils, 3 to 15 percent slopes	0	428.8	40.5%
CpE	Carver and Plymouth soils, 15 to 35 percent slopes	0	17.8	1.7%
CuB	Cut and fill land, gently sloping	0	212.7	20.1%
CuC	Cut and fill land, sloping	0	12.5	1.2%
De	Deerfield loamy fine sand, 0 to 3 percent slopes	5	14.9	1.4%
Gp	Gravel pits	0	1.7	0.2%
MkC	Montauk loam, 8 to 15 percent slopes	0	1.6	0.2%
PlA	Plymouth loamy coarse sand, 0 to 3 percent slopes	0	20.1	1.9%
PlB	Plymouth loamy coarse sand, 3 to 8 percent slopes	0	23.3	2.2%
PlC	Plymouth loamy coarse sand, 8 to 15 percent slopes	0	2.4	0.2%
SwA	Swansea muck, 0 to 1 percent slopes, coastal lowland	100	11.2	1.1%
Tm	Tidal marsh	95	3.0	0.3%
Ur	Urban land	0	4.8	0.5%
W	Water	0	9.6	0.9%
We	Wareham loamy sand	60	12.1	1.1%
Totals for Area of Interest			**1,059.5**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX E

Groundwater Data

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FIGURE #1 - WELL LOCATION MAP IN PROJECT AREA.

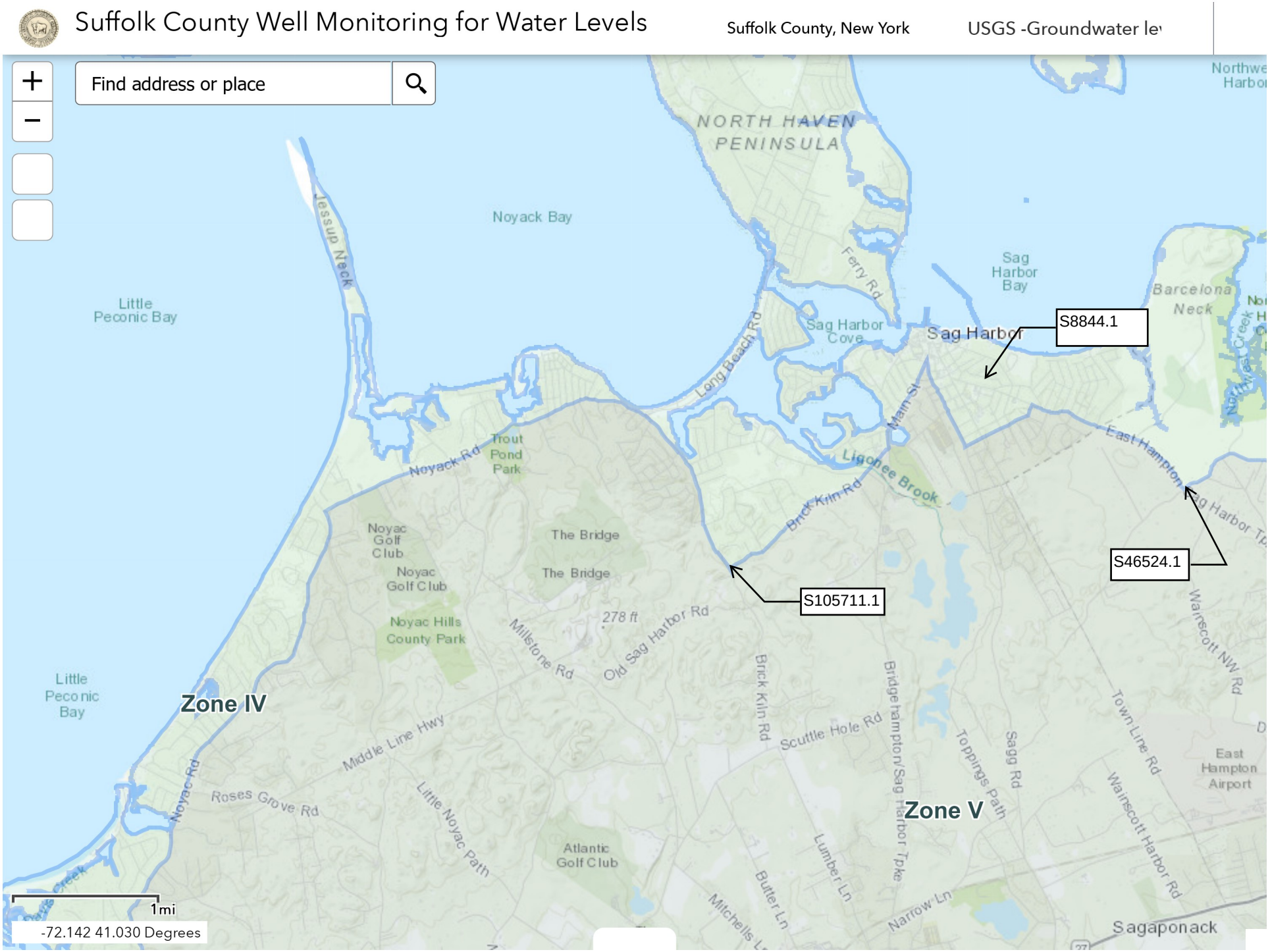


EXHIBIT #1 WATER TABLE DATA FOR WELL S105711.1

National Water Information System: Web Interface

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for New York

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 405844072191702

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

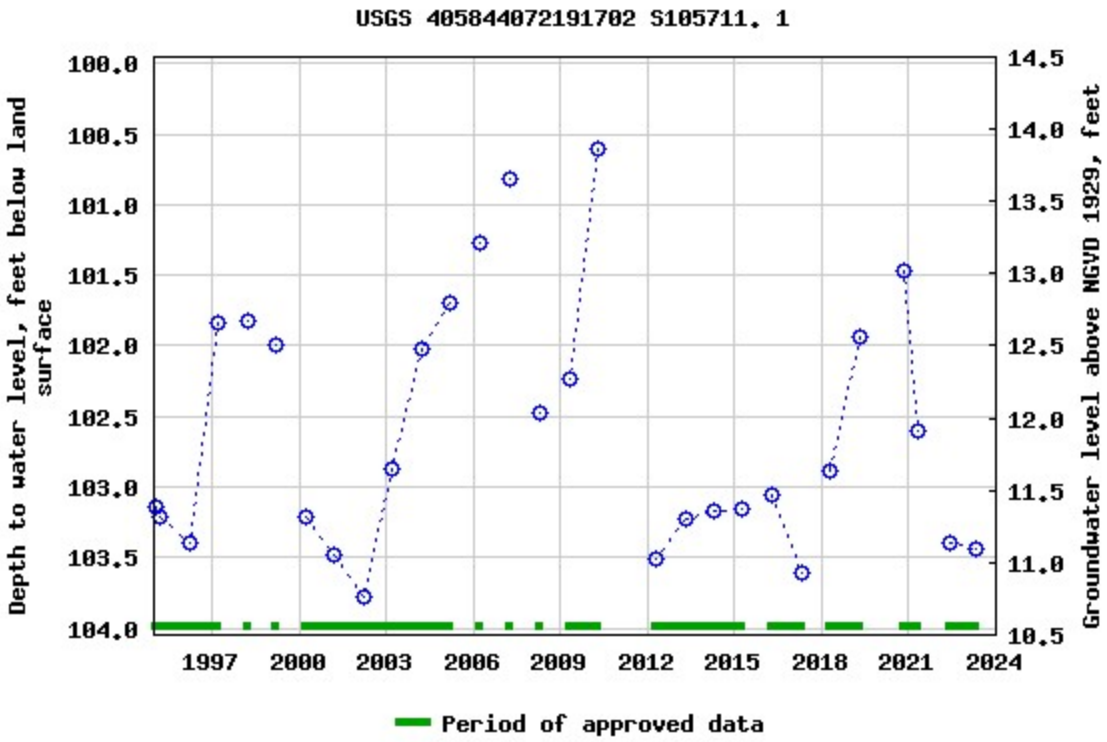
USGS 405844072191702 S105711. 1

Available data for this site Groundwater: Field measurements | GO

Suffolk County, New York
Hydrologic Unit Code 02030202
Latitude 40°58'44.8", Longitude 72°19'15.5" NAD83
Land-surface elevation 114.5 feet above NGVD29
The depth of the well is 392 feet below land surface.
The depth of the hole is 398 feet below land surface.
This well is completed in the Northern Atlantic Coastal Plain aquifer system (S100NATLCP) national aquifer.
This well is completed in the Magothy Aquifer (211MAGT) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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Page Last Modified: 2024-05-14 10:24:38 EDT
0.58 0.49 nadww01

EXHIBIT #2 - WATER TABLE DATA FOR WELL S8844.1

National Water Information System: Web Interface

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for New York

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =
- 405948072172101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

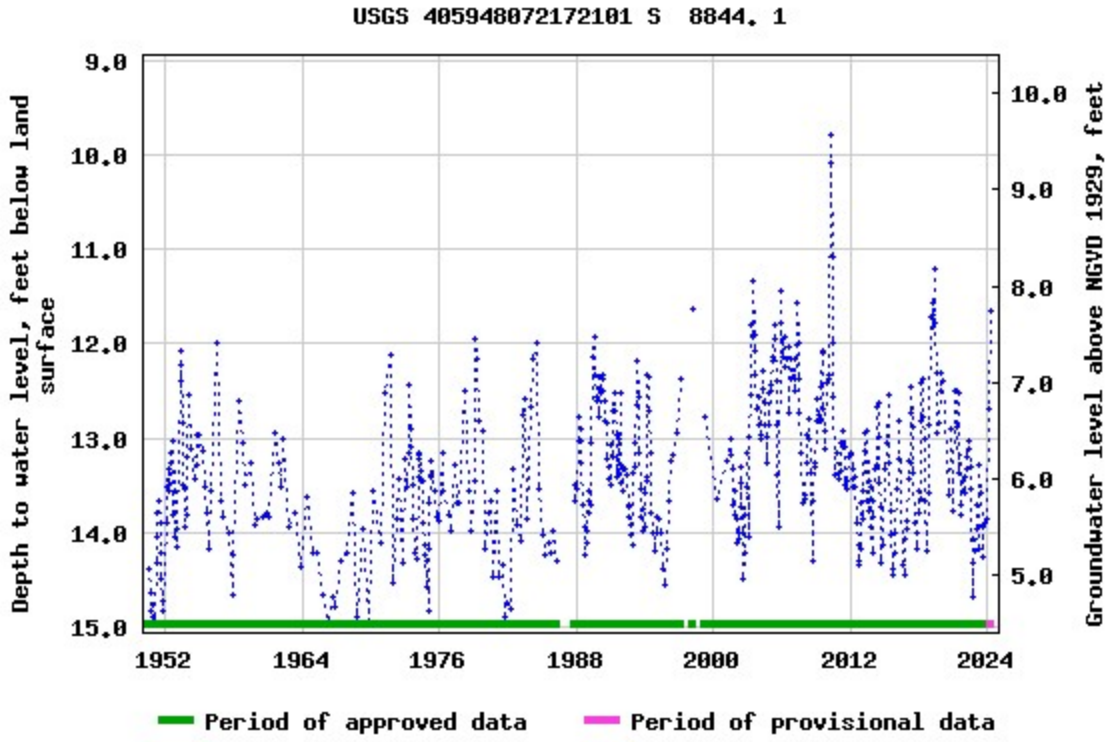
USGS 405948072172101 S 8844. 1

Available data for this site Groundwater: Field measurements GO

Suffolk County, New York
Hydrologic Unit Code 02030202
Latitude 40°59'48.8", Longitude 72°17'11.4" NAD83
Land-surface elevation 19.4 feet above NGVD29
The depth of the well is 85 feet below land surface.
This well is completed in the Northern Atlantic Coastal Plain aquifer system (S100NATLCP) national aquifer.
This well is completed in the Glacial Aquifer, Upper (112GLCLU) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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Page Contact Information: New York Water Data Maintainer
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0.76 0.62 nadww01

EXHIBIT #3 GROUNDWATER MONITORING WELL

National Water Information System: Web Interface

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- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
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Groundwater levels for New York

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 405906072153501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

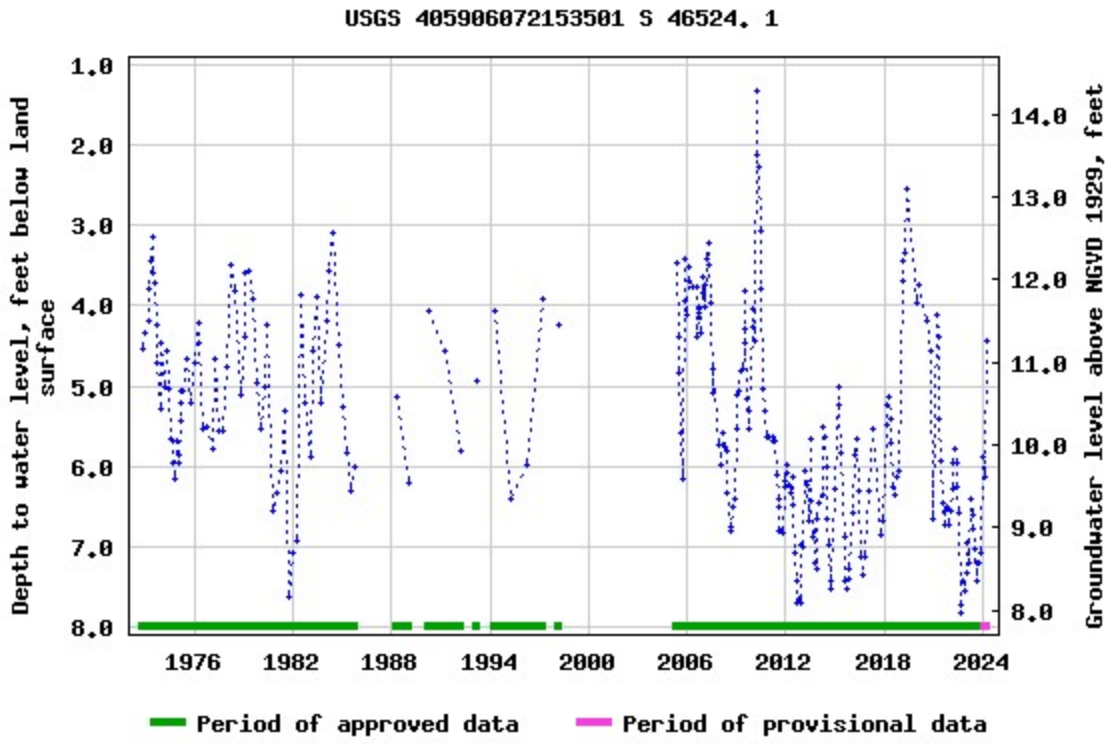
USGS 405906072153501 S 46524. 1

Available data for this site Groundwater: Field measurements GO

Suffolk County, New York
Hydrologic Unit Code 02030202
Latitude 40°59'06.9", Longitude 72°15'31.9" NAD83
Land-surface elevation 15.7 feet above NGVD29
The depth of the well is 17 feet below land surface.
This well is completed in the Northern Atlantic Coastal Plain aquifer system (S100NATLCP) national aquifer.
This well is completed in the Glacial Aquifer, Upper (112GLCLU) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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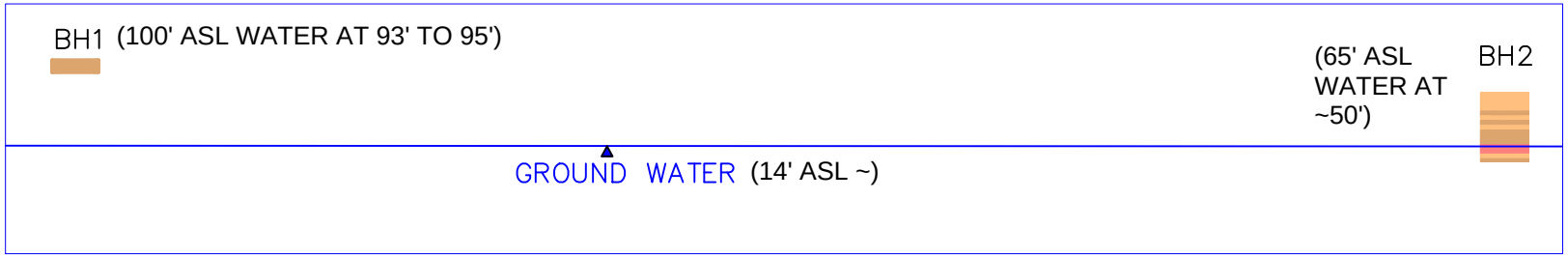
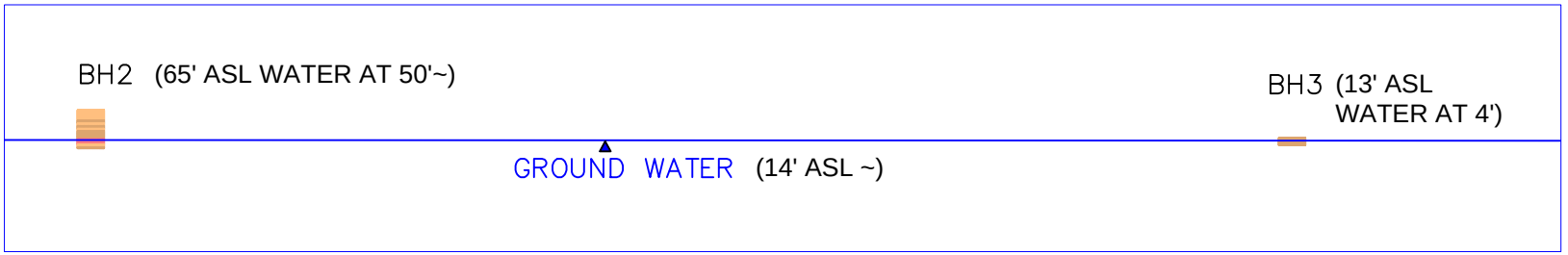
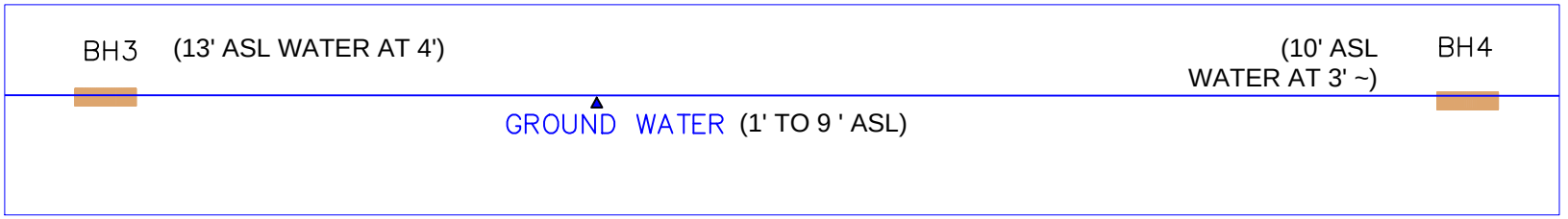


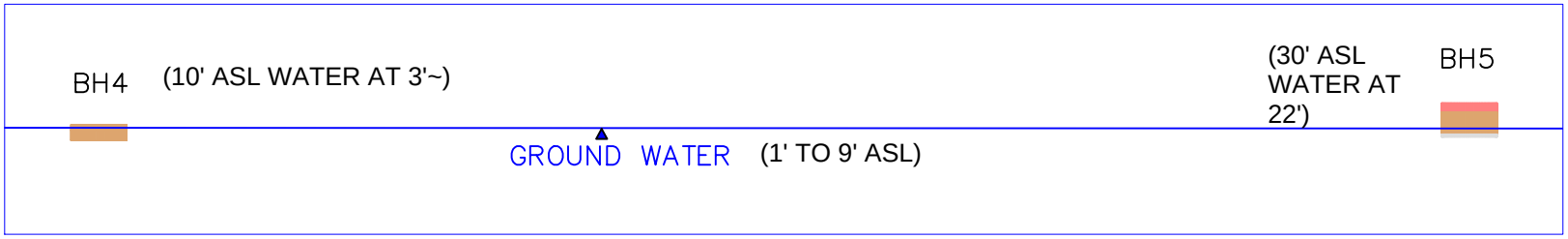
BH 1 and 2



BH 2 and 3



BH 3 and 4



BH 4 and 5

FIGURE #1 – GROUNDWATER LEVELS AS PER USGS

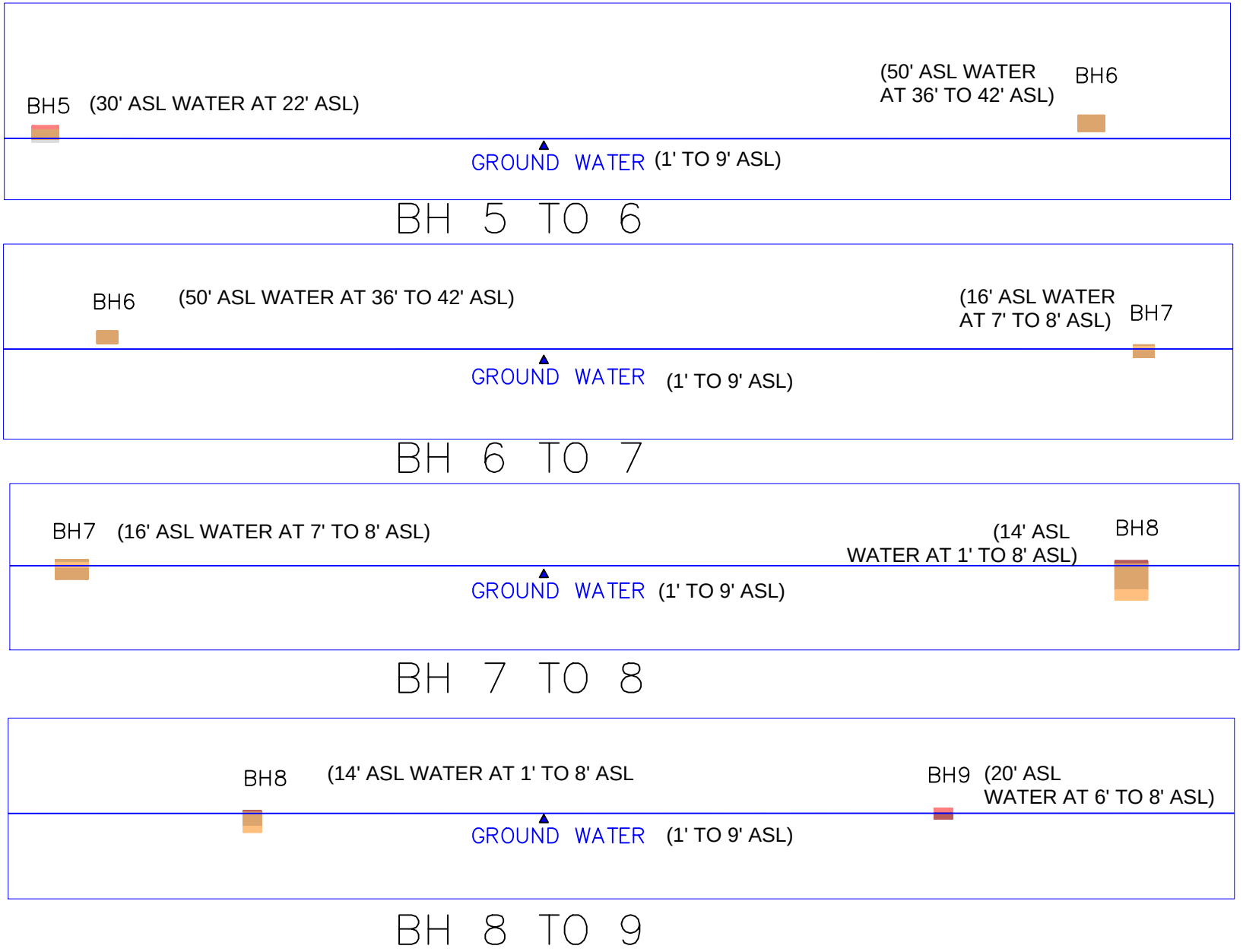
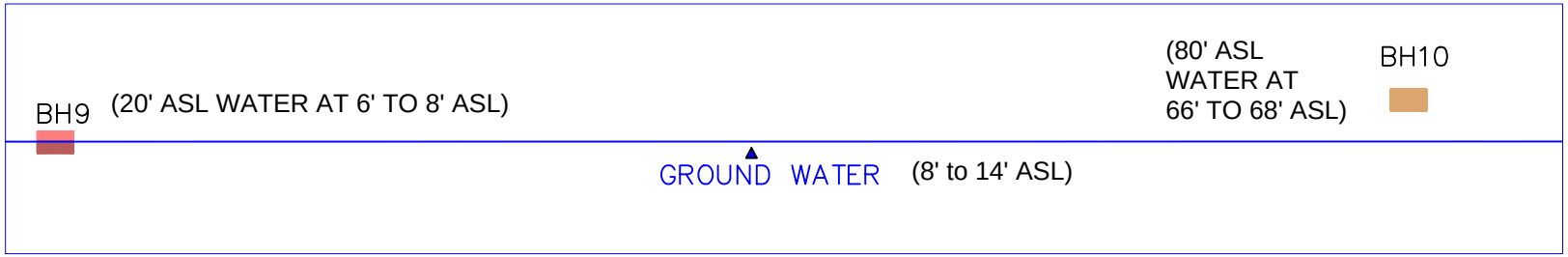
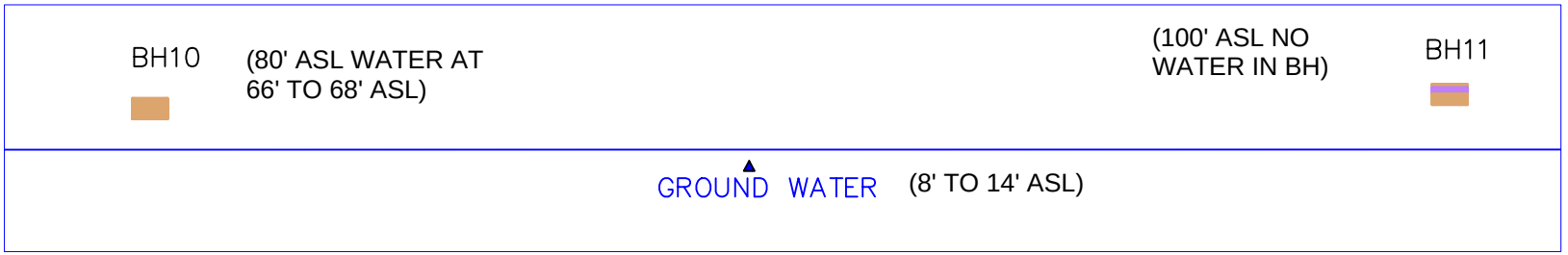


FIGURE #2 – GROUNDWATER LEVELS AS PER USGS

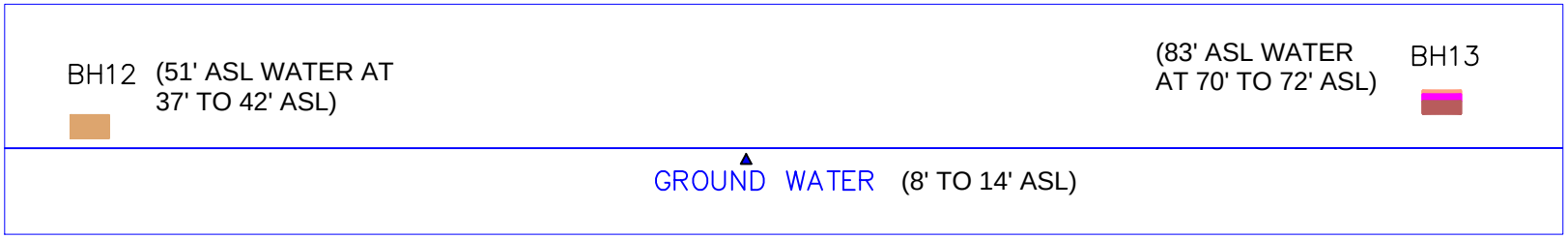


BH 9 TO 10



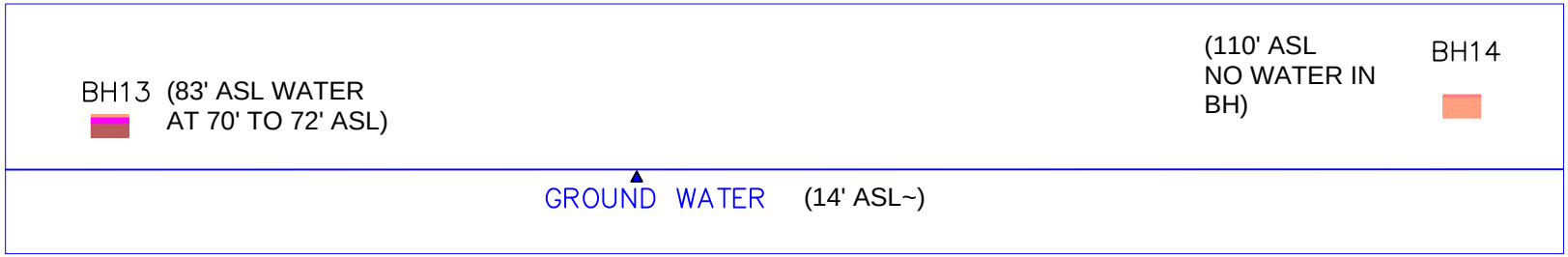
BH 10 TO 11

BH 11 TO 12

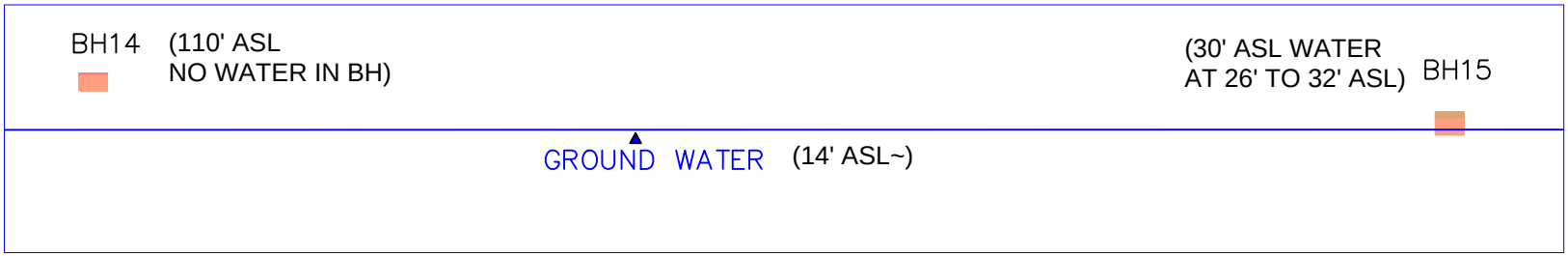


BH 12 TO 13

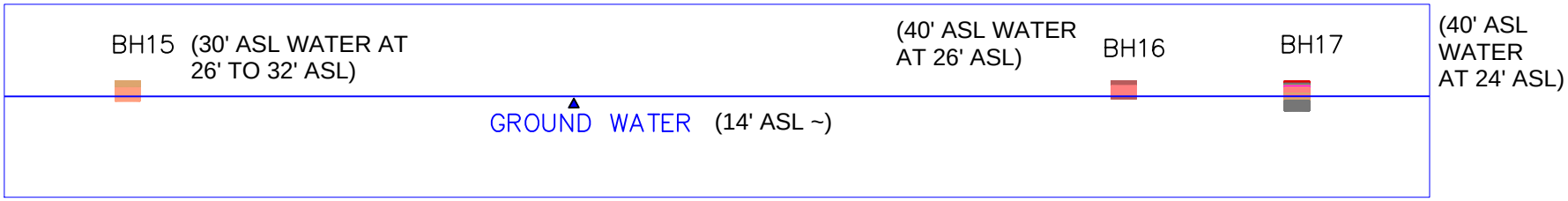
FIGURE #3 – GROUNDWATER LEVELS AS PER USGS



BH 13 TO 14



BH 14 TO 15



BH 15 TO 17

FIGURE #4 – GROUNDWATER LEVELS AS PER USGS