VINEYARD MID-ATLANTIC

CONSTRUCTION AND OPERATIONS PLAN

VOLUME II APPENDIX

JANUARY 2025



PREPARED BY:

Epsilon ASSOCIATES INC.

SUBMITTED BY:

VINEYARD MID-ATLANTIC LLC

VINEYARD MID-ATLANTIC

VINEYARD OFFSHORE

PUBLIC VERSION

Vineyard Mid-Atlantic COP

Appendix II-B13 Benthic Factual Reports

- Appendix II-B13(1) – TDI Brooks & TRC 2022 OCS-A 0544 Lease Area Benthic Factual Report
- Appendix II-B13(2) - Geo SubSea & TDI Brooks 2023 Benthic Factual Report Vineyard Mid-Atlantic Offshore Export Cable Corridor

Prepared by:
TDI Brooks International and Geo SubSea

Prepared for:
Vineyard Mid-Atlantic LLC



January 2025

Revision	Date	Description
0	March 2024	Initial submission.
1	September 2024	Updated to remove the Jones Beach B Approach from the Project Design Envelope (PDE).
2	November 2024	Updated to remove the Long Beach Approach from the PDE.
2	January 2025	Resubmitted without revisions.

Appendix II-B13(1)

TDI Brooks & TRC 2022 OCS-A 0544 Lease Area Benthic Factual Report

Benthic Factual Report

OCS-A 0544 Lease Area

May 2023

Vineyard Mid-Atlantic

Prepared For:

TDI-Brooks International, Inc.
14391 South Dowling Road
College Station, Texas 77845

Prepared By:

TRC Environmental Corporation
404 Wyman Street, Suite 375
Waltham, Massachusetts 02451



TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
2.0 METHODS 2-1
2.1 Field Survey 2-1
2.1.1 Underwater Video Transects 2-1
2.1.2 Grab Sampling 2-3
2.2 Lab Analysis 2-5
2.2.1 Grain Size Analysis 2-5
2.2.2 Benthic Infaunal Analysis 2-6
2.3 Video Data Post-Processing 2-7
2.3.1 Objectives 2-7
2.3.2 Methods 2-7
2.4 Benthic Infauna Data Post-Processing 2-9
2.4.1 Taxonomic Composition 2-9
2.4.1.1 Resolution of Taxonomic Ambiguity 2-9
2.4.1.2 Macrofaunal Density 2-9
2.4.2 Richness, Diversity, Evenness 2-9
2.4.2.1 Taxa Richness 2-9
2.4.2.2 Shannon Diversity 2-10
2.4.2.3 Pielou's Evenness 2-10
3.0 RESULTS 3-1
3.1 Video Analysis 3-1
3.2 Grab Sample Analysis 3-5
3.2.1 Grain Size Analysis 3-5
3.2.2 Benthic Infauna Community Analysis 3-6
4.0 CMECS CLASSIFICATIONS 4-1
4.1 Video Transects 4-1
4.2 Grab Sample Stations 4-1
5.0 SUMMARY 5-1
6.0 REFERENCES 6-1

TABLES

Table 1. Ranked Abundance of Invertebrate Taxa in Lease Area Video Transects.....3-2
Table 2. Ranked Abundance of Top 5 Vertebrate Species of Lease Area Transects.....3-4
Table 3. Summary of Grain Size Analysis of Lease Area Samples.....3-5
Table 4. Summary of Key Statistics from the Lease Area Sample Analysis 3-6
Table 5. Relative Abundance of Taxa Encountered in Lease Area Samples.....3-9
Table 6. Most Widespread Taxa Encountered in Lease Area Samples.....3-9
Table 7. Summary of NMFS-Modified CMECS Classifications of Lease Area Transects 4-1
Table 8. Lease Area Benthic Grab Sample Substrate Classifications.....4-4

FIGURES

Figure 2.1-1. Underwater Video Transect Locations....2-2
Figure 2.1-2. Box Corer on Deck of R/V Brooks McCall....2-3
Figure 2.1-3. Benthic Grab Sample Locations....2-4
Figure 2.1-4. Sampling Technique with Core Liners in Box Corer....2-5
Figure 3.1-1. *Doryteuthis pealeii* in 544LA22-VT020....3-2
Figure 3.2-1. Lease Area Benthic Infaunal Grab Sample Locations by Taxa Richness....3-7
Figure 3.2-2. Lease Area Benthic Infaunal Grab Sample Locations by Total Organism Density....3-8
Figure 4.1-1. NMFS-Modified CMECS Decision Tree (Geologic Substrate)....4-2
Figure 4.1-2. NMFS Modified CMECS Decision Tree (Biogenic Substrate)....4-3
Figure 4.2-1. Benthic Infaunal Sampling Locations by CMECS Substrate Group....4-4

APPENDICES

Appendix A: Underwater Video Track Lines
Appendix B: Benthic Grab Sampling Field Log
Appendix C: Underwater Video Field Log
Appendix D: Abundance of Macrofauna by Phylum
Appendix E: Benthic Lab Analysis
Appendix F: Underwater Video Abundance of Fauna and Anthropogenic Gear
Appendix G: Underwater Video Representative Image
Appendix H: Benthic Grab Representative Deck Images
Appendix I: Benthic Grab Camera Images
Appendix J: Particle Size Distribution from Grabs
Appendix K: Grain Size Analysis
Appendix L: Grab Summary Results
Appendix M: Underwater Video Summary Results
Appendix N: CMECS Classifications Maps for Video Surveys
Appendix O: List of Data Submitted

ACRONYM LIST

ACFOR	Abundant, Common, Frequent, Occasional, and Rare
BMCC	RV Brooks McCall
BOEM	Bureau of Ocean Energy Management
CMECS	Coastal and Marine Ecological Classification Standard
DGPS	Differential Geographic Positioning System
GIS	Geographic Information System
GSS	Geo SubSea LLC
HDPE	High-density Polyethylene
LPIL	Lowest Practical Identification Limit
MSIR	Marine Site Investigation Report
NMFS	National Marine Fisheries Service
OCS	Outer Continental Shelf
QA	Quality Assurance
QC	Quality Control
ROV	Remotely Operated Vehicle
RPMC-G	Remove Parent or Merge Children – Group
SD	Standard Deviation
TDI-Brooks	TDI-Brooks International, Inc.
USBL	Ultra-Short Baseline

1.0 Introduction

TDI-Brooks International, Inc. (TDI-Brooks), with primary support from TRC (collectively, the benthic environmental survey team) conducted a benthic environmental survey in support of Vineyard Mid-Atlantic LLC's (the Proponent) proposal to develop, construct, and operate offshore renewable wind energy facilities in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0544 (Lease Area). This survey was conducted from August 26, 2022 to September 3, 2022 and included the collection and analysis of underwater video transects, still imagery, and benthic grabs from the Lease Area.

The general roles and responsibilities of TDI-Brooks and TRC were as follows:

- TDI-Brooks
    - Overall project management
    - Survey vessel and equipment supplier
    - Collection and laboratory analysis of benthic grain size samples
    - Collection of underwater imagery
    - Reporting
- TRC
    - Collection and laboratory analysis of benthic infaunal samples
    - Support collection of underwater video transects
    - Interpretation of underwater imagery
    - Support TDI-Brooks with data deliverables and reporting

This *Benthic Factual Report* documents the approach and methodology used by the benthic environmental survey team to collect and process the benthic grab samples and imagery. Additionally, it compiles the grab sampling results and benthic imagery for the purpose of characterizing the benthic community and habitat in the sampled locations.

2.0 Methods

2.1 Field Survey

TDI-Brooks mobilized the *RV Brooks McCall* (*BMCC*) in August of 2022 in Fall River, Massachusetts to provide benthic environmental survey support associated with the Proponent's development and installation activities. TRC supported TDI-Brooks with onboard collection of benthic infaunal samples and underwater video transects.

2.1.1 Underwater Video Transects

Video imagery was collected from the *BMMC* with a small commercial inspection Remotely Operated Vehicle (ROV), the Deep Trekker REVOLUTION (refer to TDI-Brooks Field Report #22-4342 for full technical specifications [TDI-Brooks 2022]). The ROV was equipped with 6 ½ HP thrusters, two 1,000 Lumen LED floodlights, a 1080p HD integrated camera, a GoPro Hero 9, and scaling lasers that were video calibrated to provide a 10 cm scale. A TDI-Brooks pilot controlled the ROV integrated camera's field of view which was angled forward or slightly downward. The ROV was controlled with an integrated control box via the ROV's tether. A USBL (ultra-short baseline) acoustic tracking system interfaced with a DGPS (differential geographic positioning system) system was used to track the location of the ROV on the seafloor. A multi-beacon transponder mounted on the ROV was used to relay signals to the USBL system. To navigate the ROV, the USBL/DGPS system was connected to a laptop running WinFrog navigation software on the vessel. Real-time positions of the vessel and ROV were recorded in one second intervals.

Underwater video transects (35 total) were collected during 24-hour operations on four consecutive days (August 31, 2022 to September 3, 2022). Transects were targeted for 300 meters in length with 10-20 meter lead-ins for ROV approach (Figure 2.1-1). Video transects ranged from 15-34 minutes in duration, dependent on environmental conditions and habitat complexity.

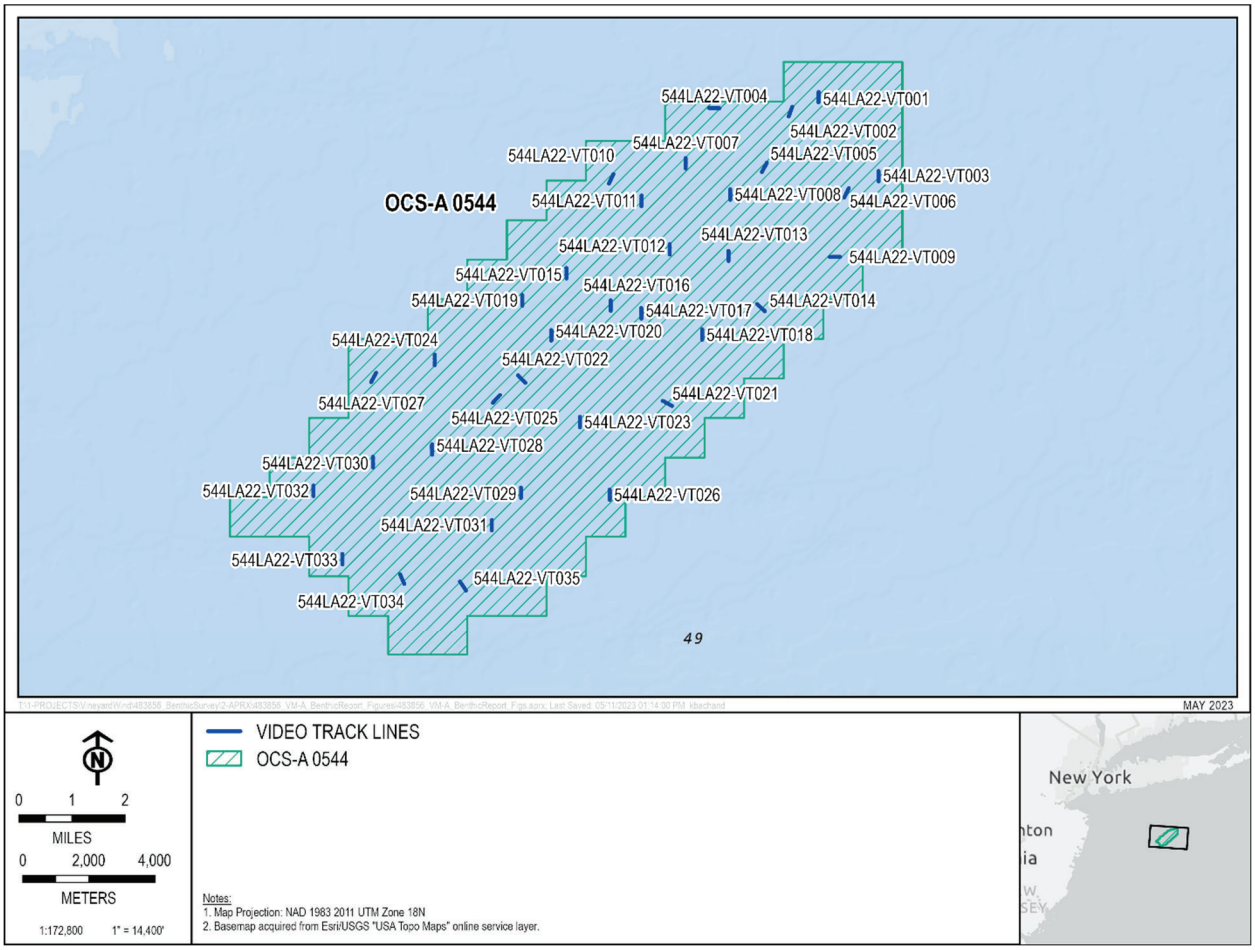


Figure 2.1-1. Underwater Video Transect Locations

At each station, the ROV was towed by the vessel in drift mode slightly above the seafloor at speeds ranging from 0.01 to 1.18 knots. Video imagery was monitored in real time to ensure data quality. Video imagery was obtained using digitally recorded built-in camera feed and GoPro recordings.

Onboard data processing and storage was handled by trained personnel. Imagery and associated positional data were reviewed to ensure accurate recording of metadata. The metadata are descriptive data sources composed of information that is used to process the images. Backup data were also collected (and later used for further quality checks). Several quality control (QC) conventions (i.e., decision rules) were required to address the imagery quality and transect performance. Weather, sea state (e.g., currents), and underwater visibility constrained the acceptability of the ROV video transects. The acceptable limits were defined by processing capabilities and ensured a consistent standard for all imagery collected. Unacceptable imagery was either rejected or aborted onboard based on environmental or technical complications by trained imagery analysts and/or ROV operators. The rejected and/or aborted transects were re-attempted either immediately after retrieving the ROV or at a later point when conditions improved.

The locations and orientations of each video transect are depicted in Figure 2.1-1 and Appendix A. Field logs of each video transect are provided in Appendix C.

2.1.2 Grab Sampling

The benthic grab samples collected from the *BMCC* were obtained using a 0.25 m^2,50 cm deep, box corer (Figure 2.1-2). A GoPro Hero 9 was mounted to the box corer and recorded in situ HD video for each benthic sample location. Grain size and infaunal samples were collected from different portions of the box corer.

Benthic grab samples were collected in the Lease Area from August 31, 2022, to September 3, 2022.

The locations of each grab sample are depicted in Figure 2.1-3. Note that closely clustered grab sample locations are represented by one icon and label in Figure 2.1-3 (e.g., grabs 544LA22-GB001A, 544LA22-GB001B, and 544LA22-GB001C are shown as 544LA22-GB001) as these sampling locations are not distinguishable at the scale shown.

Field logs of each benthic grab sample are provided in Appendix B.

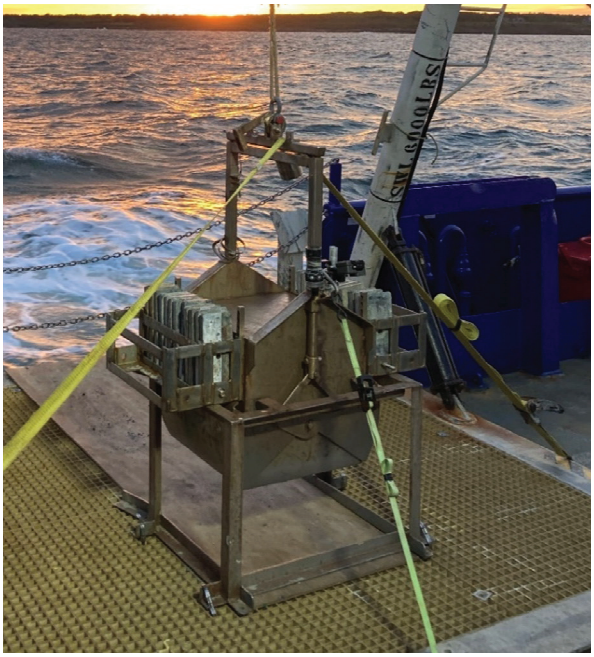


Figure 2.1-2. Box Corer on Deck of R/V Brooks McCall

Grain Size Samples

A total of 65 grain size samples were attempted and successfully collected from 35 benthic grab stations. Of the 35 benthic grab stations, 15 included three replicate grain size samples. The other 20 sediment grab stations included just one grab sample. Thirty-five of the grain size samples were co-located with infaunal samples. Grain size samples were collected from the top 3 cm of sediment retained within the benthic grab sampler.

After retrieval, each sample was examined for quality and a decision was made to accept or reject the sample based on representativeness of the grab. Sample grabs showing evidence of uneven penetration (i.e., angled sample) or washout were rejected as unrepresentative and incomplete; in these cases, the grab was redeployed until an acceptable sample was retained.

Undisturbed sample material was photographed from above on deck, then extracted by TDI-Brooks and placed in labeled and sealed plastic bags for grain size analysis.

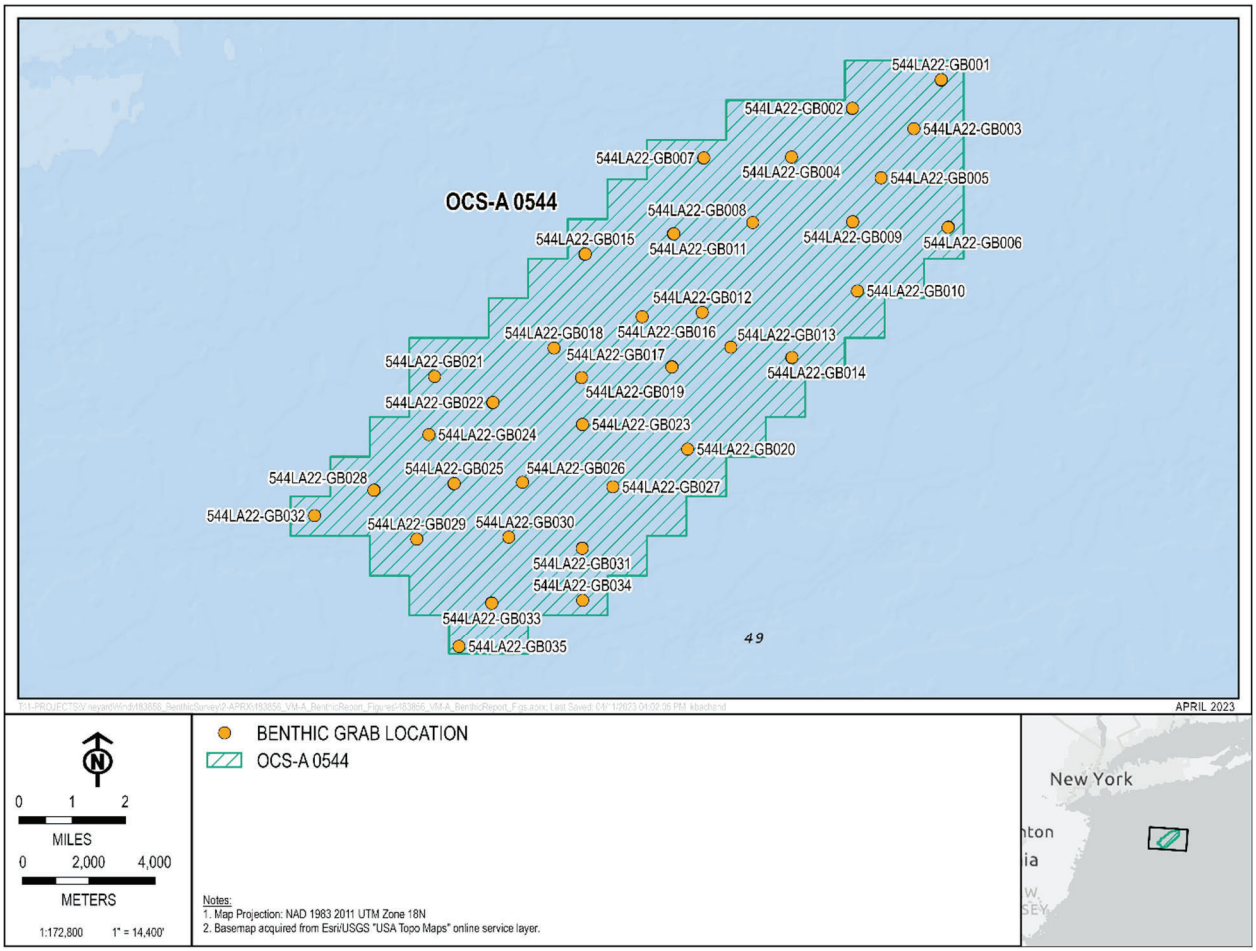


Figure 2.1-3. Benthic Grab Sample Locations

Infaunal Grab Samples

After retrieval, each sample was examined for quality and a decision was made to accept or reject the sample based on representativeness of the grab. The target recovery for infaunal grab samples was 10 cm. Sample grabs that did not retain at least 8 cm of material or showed evidence of uneven penetration (i.e., angled sample) were rejected as unrepresentative and incomplete; in these cases, the grab was redeployed until an acceptable sample was retained. Duplicate samples were taken for each location, with one to be processed and another kept in storage as a backup.

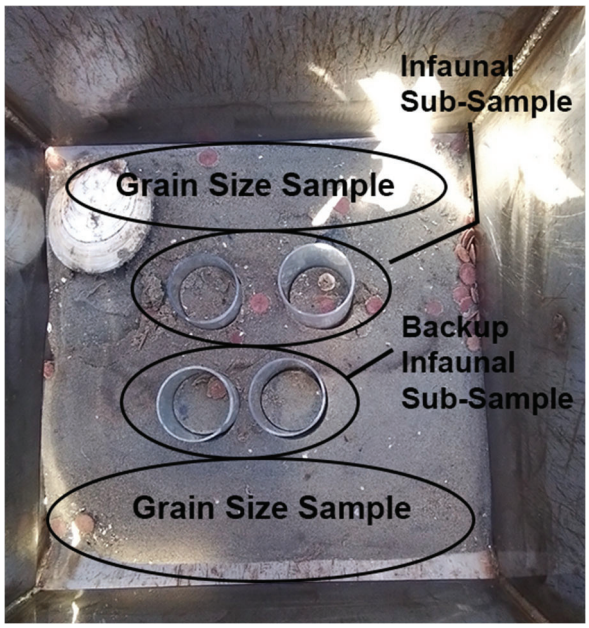


Figure 2.1-4. Sampling Technique with Core Liners in Box Corer
Photograph from 544LA22-GB016

Once an acceptable sample was retrieved, undisturbed sample material was photographed from above on deck. Then a set area was subsampled from each infaunal grab sample, for which a plastic core liner was used as a reference. The diameter of the core liner used for field subsampling was 6.99 cm (2.75 in). Two core liners were used to collect each subsample and two core liners were used to collect each backup subsample from the box corer sampler (Figure 2.1-4). The area of all subsamples analyzed was 76.639 cm^2, except for 544LA22-GB001A (38.319 cm^2) and 544LA22-GB003 (45.983 cm^2), due to the bulk of the material collected from those grabs.

Field descriptions of sample recovery and sediment type (i.e., grain size) were recorded for each grab sample. Additionally, the presence of large or abundant organisms was noted. Depending on the depth of the material retained in the sampler, the top 8-10 cm of sediment in one side of the grab was removed using the two core liners and a stainless-steel spoon (to prevent loss of material from the core liners). Infaunal sub-sample material was transferred to a 500-µm bucket sieve and gently rinsed to remove fine sediments. Sieved sub-samples were then fixed in a solution containing 10% buffered formalin in seawater. This procedure was repeated on the other side of the sampler to obtain a backup infaunal sub-sample. Fixed samples were stored on the survey vessel in high-density polyethylene (HDPE) quart-size sample jars and labeled with the project name, sample identification code, sampling date, preservative, and the initials of the collector. Preserved samples were returned to TRC offices for storage and laboratory analysis of benthic infauna.

2.2 Lab Analysis

2.2.1 Grain Size Analysis

Grain size analysis was completed by TDI-Brooks' geotechnical laboratory. Samples were dried at 110 ± 5 °C in an oven overnight and were then disaggregated in a ceramic mortar by either a rubber pestle or a ceramic pestle, depending on the hardness of the aggregates.

A gradation-representative specimen of the dried, disaggregated sample was weighed, then sieved through a sieve stack (with sieve number and order per client's request). The specimen-bearing sieve stack then was securely mounted on a mechanic shaker and was shaken for 10 minutes. Afterwards, sediment retained on each sieve and collected in the bottom pan were separately collected into pre-weighed tins and weighed. The mass of sediment retained on each sieve and collected in the bottom pan was then calculated by subtracting the tin mass from the total mass of sediment and tin. The sum of retained sediment mass was compared against the initial specimen mass for QC purpose. A retest was conducted if mass change was over 5% of the initial specimen mass.

2.2.2 Benthic Infaunal Analysis

Upon receipt at TRC's infaunal analysis laboratory, each sample was logged in and decanted through a 500-µm sieve. Samples were gently rinsed in the sieve to remove the formalin fixative and any additional fine sediment that remained after the initial field sieving process. Once thoroughly rinsed, each sample was returned to a labeled jar and preserved with 70% ethanol for storage. Once preserved, primary subsamples proceeded to the sorting stage. Backup subsamples were held but not processed further.

For sorting, the contents of each sample were examined using a high-power dissecting microscope (7X to 45X magnification) and high-intensity gooseneck fiber optic lamp. Organisms found during the sorting process were removed with forceps and placed in 70% ethanol. Each vial was labeled with the project name, collection date and sample identification number. All residue (sediment and organic matter) from the sorted and unsorted portion of each sample was placed in a separate labeled container and re-preserved in 70% ethanol.

Sorted organisms were subsequently identified by a qualified taxonomist to the lowest practical taxonomic level using a dissecting microscope and readily available taxonomic keys and references (e.g., Bartholomew, 2001; Martinez, 2003; Pollock, 1998; Abbott and Morris, 1995; Weiss, 1995; Gosner, 1978; Bousfield, 1973; Gosner, 1971; Smith, 1964; Pettibone, 1963). Temporary slide mounts were prepared for oligochaete worms, capitellid polychaetes, and certain amphipod taxa as necessary to improve the taxonomic precision of identification for these groups. Slide-mounted organisms were identified under a compound microscope capable of 64X to 1600X magnification.

For quality assurance and control (QA/QC) purposes, a second qualified staff member (quality assurance officer) re-sorted 10% of the samples (or one, whichever was greater) analyzed by each sorter to ensure organisms were being adequately removed from the samples. The quality assurance officer checked the sorted sample material for remaining organisms and calculated an efficiency rating (E) using the following formula:

$$E = 100 \times \frac{n_a}{n_a + n_b}$$

Where n_a is the number of individuals originally sorted and verified as identifiable organisms by the QC checker and n_b is the number of organisms recovered by the QC checker. If the original

sorter achieved E < 90% (i.e., less than 90% of the organisms in the sample removed), corrective action was taken to ensure greater sorting efficiency for other samples sorted by the same individual. Corrective action includes but is not necessarily limited to, additional training on organism recognition and re-sorting of sample material.

2.3 Video Data Post-Processing

2.3.1 Objectives

Underwater videos were used to estimate relative species abundance of macro-organisms, identify point substrates (standalone boulder or anthropogenic gear), classify bottom types, and mark any notable habitat features on each 300-meter transect line.

2.3.2 Methods

The ROV footage was loaded into a Microsoft Access-based software tool for time-stamped entry of video annotations. Each video was viewed in its entirety two times to focus on different annotations. The first viewing was focused on fauna, biogenic features, point substrates, and miscellaneous event notes, while the second viewing was focused on video quality, classification of continuous substrates (see Section 4.0 for more details on Coastal and Marine Ecological Classification Standard (CMECS) classifications), and identification of seafloor feature overlays (e.g., bedforms). After the videos were annotated, they were then then manually shifted to match the DAT file position during export to Geographic Information System (GIS).

Identification of fauna was completed to the Lowest Practical Identification Limit (LPIL) for video imagery by marine taxonomists. To ensure accurate and consistent fauna identifications, video analysts consulted taxonomic reference guides (e.g., Kells and Carpenter 2011; Martinez 2003). Although the target identification level for fish and macroinvertebrates was genus/species, some identifications were left at a higher taxonomic level, especially if a specimen could not be confidently identified due to video quality, obscured diagnostic features, or other complicating factors.

Observations of fauna and biogenic features were directly enumerated when consisting of one or two individuals at the time of annotation. Observations of larger faunal aggregations were binned into groups consisting of 3-5, 6-10, 11-50, and more than 50 individuals. To estimate total individuals observed along the linear transect, the number of occurrences in each bin was multiplied by the midpoint of the bin, except for the largest bin. For example, a species observed three times in the 3-5 bin would be estimated as 12 individuals.

Overall faunal relative abundance was also categorized by the ACFOR scale (abundant, common, frequent, occasional, and rare) for each major taxa group. This was completed to provide a generalized characterization of taxa distribution in the video transects. The ACFOR method is a semi-quantitative scale often used for the rapid assessment of species composition and abundance. The following category definitions were used for evaluation of underwater video transects:

- Abundant: observed in high densities (individuals per unit area) over the majority of the transect. An example of this would be the extensive fields of the common sand dollar (*Echinarachnius parma*) observed along some transects dominated by sand.
- Common: observed many times over the course of the transect, but in moderate densities.
- Frequent: observed several times over the course of the transect, but in low densities or patchy distribution of high-density occurrences.
- Occasional: observed multiple times over the course of the transect in very low densities (one to two individuals per occurrence) or infrequent patchy distribution of moderate density occurrences.
- Rare: present, but infrequently observed over the course of the transect (typically limited to a single individual).

Video analysts assigned substrate types and percent cover estimates based on the National Marine Fisheries Service (NMFS) 2021 guidelines, defined in "Updated Recommendations for Mapping Fish Habitat" guidance dated March 29, 2021 (also see Section 4.0 for substrate class, subclass, group, subgroup, biogenic class, biogenic subclass, and/or shell type classifications used).

The results of the video analysis were integrated with GIS mapping to produce a 300m transect line displaying layers of characterized habitats, fauna, point substrate features, seafloor feature overlays, and visibility for the surveyed transects within the Lease Area.

2.4 Benthic Infauna Data Post-Processing

Benthic macroinvertebrate data were corrected for taxonomic ambiguity and used to calculate summary metrics to describe the surveyed environment.

2.4.1 Taxonomic Composition

2.4.1.1 Resolution of Taxonomic Ambiguity

Macroinvertebrate data are complicated by the presence of immature or damaged specimens, which often prevent the identification of all organisms to the same taxonomic level (Cuffney et al. 2007, Meredith et al., 2019). These conditions result in datasets that contain abundances associated with multiple levels within the taxonomic hierarchy (e.g., abundances associated with the polychaete worm *Paraonis sp.* As well as the parent family of that genus, Paraonidae). To resolve these ambiguous parent-child pairs while preserving taxa richness and abundance to the extent possible, we employed the Remove Parent or Merge Children – Group (RPMC-G) method described in Cuffney et al. (2007). This method involves the removal of an ambiguous parent taxon if its abundance is less than the sum of abundance(s) reported from its taxonomic children. If abundance of a parent taxon exceeds that of its taxonomic children, then the children are merged with the parent. As the derivation of abundance and richness metrics should not be decoupled (Cuffney et al. 2007), the RPMC-G resolved dataset was used for calculation of all metrics presented below.

2.4.1.2 Macrofaunal Density

Macrofaunal density is a measure of abundance expressed as an estimate of the number of individuals per unit area. Although macrofaunal density can reflect the productivity of marine habitats (Taylor 1998), it may also serve as an indication of stress or disturbance at a location (Dean 2008). Consequently, the density of benthic organisms may increase or decrease in response to different types of stress (e.g., thermal or chemical pollution, sediment deposition, physical abrasion or displacement) (Dean 2008, Thrush and Dayton 2002).

The density of benthic organisms responds to disturbance as mitigated by the tolerance (or preference) of a given organism to the particular source of disturbance. However, density may vary substantially over small areas or short periods of time and should therefore be interpreted cautiously. For this study, macrofaunal density is expressed as the number of organisms per square meter.

2.4.2 Richness, Diversity, Evenness

2.4.2.1 Taxa Richness

Taxa richness is the number of different taxa that are found within a given area or community and is widely accepted as a good assessment measure of diversity (Magurran 2003). As detailed above, taxonomic ambiguity in the dataset was resolved following the RPMC-G method (Cuffney et al. 2007) and this resolved dataset was used to calculate the taxa richness of each sample.

2.4.2.2 Shannon Diversity

The Shannon diversity index is a univariate summary measure of diversity that is influenced by both the number of taxa in a sample and the evenness of organism distribution between taxa, and is calculated as follows:

$$\text{Shannon Diversity Index } (H') = 1 \sum_{i=1}^{n} p_i \ln p_i$$

Where p_i is the proportion of total individuals represented by taxa I, ln is the natural log, and n is the number of taxa. Lower Shannon diversity index values indicate lower diversity (samples with only one taxa will have a Shannon diversity index of 0), and higher values indicate increasing diversity. Diversity increases both with greater taxa richness and with greater uniformity in the distribution of organisms between taxa. PRIMER v6 was used to calculate Shannon diversity using enumeration data for each sample.

2.4.2.3 Pielou's Evenness

Pielou's evenness is a univariate summary measure of the evenness of organism distribution between different taxa within a sample, and is calculated as follows:

$$\text{Pielou's evenness } (J') = \frac{H'}{\ln S}$$

Where H' is the Shannon diversity index value and $\ln S$ is the maximum possible Shannon diversity index value (H'_{max}). Pielou's evenness is constrained between 0 and 1, with higher values indicating greater evenness (in a sample where all taxa are represented at the same density Pielou's evenness would equal 1). PRIMER v6 was used to calculate Pielou's evenness using enumeration data for each sample.

3.0 Results

3.1 Video Analysis

High-resolution digital video of the seafloor was successfully collected along 35 transects within the Lease Area. These video transects were analyzed to identify fauna and flora present along each 300m transect line. All fauna were identified to the LPIL by comparing multiple observations within all video data. Image based identification of marine fauna via oblique field of view video footage is often hindered by poor visibility and a complex underwater light field. In some cases, the LPIL had to remain in a broad taxa grouping due to the inability to see required details of genus or species identification. A full list of observed organisms by the LPIL per transect is included in Appendix F. Non-motile fauna observations are based on number of times an individual or group was seen. For motile species, due to continuous video imagery and lack of scale in the field of view, the raw binned counts of species were used in abundance data for invertebrate and vertebrate observations, similarly to the non-motile fauna counts. However, using the binned counts for motile species abundance may cause an inflation in number of individuals, due to the chance of the same individual(s) being observed more than once. Binned observations were used to calculate relative abundance of the top five most commonly observed vertebrate species.

Overall observations that were parsed into features or continuous quality measures were made for each transect. The features included biogenic features, those structures produced by biota such as empty shells with growth, polychaete tubes, and burrows. Another feature type observed in the video analysis was anthropogenic items. A list of these items and which transects they occurred in can be found in Appendix F. The continuous quality measures ranked the visibility (i.e., low visibility) along each transect which would in turn affect identification abilities and accuracies within the video. Visibility was marked as low visibility if turbidity and marine snow decreased the line of sight by half (usually caused by high bottom currents). No visibility included periodic black out footage (i.e., no light), extreme ROV orientation loss, and temporary debris blocking camera view.

The depth range of the surveyed area was 40 to 46 meters. The relative abundance of invertebrate and vertebrate fauna in Lease Area video transects are summarized in Table 1 and Table 2. There was no flora observed in the Lease Area transects. The most common invertebrates observed were echinoderms and crustaceans. Common sand dollars (*Echinarachnius parma*) were the most abundantly observed echinoderm and were present in every transect. Common sand dollars were seen in large quantities across the seafloor in both overlapping high-density groups and as dispersed individuals. Other echinoderms were also occasionally observed, including sea cucumbers (Dendrochirotida), the northern sea star (*Asterias rubens*), and blood stars (*Henricia* spp.). The most common crustaceans observed were hermit crabs (*Pagurus* spp.) and walking crabs (non-swimming crabs, *Cancer* spp.). Further identification of most walking crabs is unreliable since lower-level taxonomic determination requires close examination of internal or minute features. Walking crabs and hermit crabs were observed in every transect. Barnacles (Cirripedia) were also occasionally observed. Cephalopods were observed in the Lease Area but not included in the percent of observations table (Table 1), as they are considered highly motile fauna. However, the long-finned squid (*Doryteuthis pealeii*) was seen frequently throughout eleven Lease Area transects (Figure 3.1-1). Single individuals of this species were observed several times throughout the transects, two groups of three individuals were reported, and one group of 50+ of juvenile individuals was observed.



Figure 3.1-1. *Doryteuthis pealeii* in 544LA22-VT020

Table 1. Ranked Abundance of Invertebrate Taxa in Lease Area Video Transects

Taxa Group	Rank	% of Invertebrate Observations in Lease Area	ACFOR Abundance
Echinodermata	1	93.75%	Abundant – Common sand dollars observed in high densities over entire transect, sea cucumbers and sea stars usually seen as individuals occasionally throughout the transect.
Crustacea	2	4.14%	Common – Observed many times over the course of the transect in moderate density groups of hermit crabs. and walking crabs.

Table 1. Ranked Abundance of Invertebrate Taxa in Lease Area Video Transects (continued)

Taxa Group	Rank	% of Invertebrate Observations in Lease Area	ACFOR Abundance
Gastropoda	3	0.83%	Frequent – Observed several times throughout the transect in low densities as well as patchy distributions of high-density groups of sea snails.
Bivalves	4	0.51%	Frequent – Observed several times throughout the transect in low densities.
Porifera	5	0.33%	Frequent – Observed several times throughout the transect in low densities.
Non-Scleractinia Anthozoa	6	0.20%	Occasional – Observed multiple times throughout the transect in very low densities.
Annelids	7	0.10%	Occasional – Observed multiple times throughout the transect in very low densities.
Hydrozoa	8	0.05%	Rare – Present, but infrequently observed throughout the transect.
Nudibranchia	9	0.06%	Occasional – Observed multiple times throughout the transect in very low densities.
Bryozoa	10	0.01%	Rare - Present, but infrequently observed throughout the transect.

Table 2. Ranked Abundance of Top 5 Vertebrate Species of Lease Area Transects

Vertebrate Species	Rank	% of Vertebrate Observations in Lease Area*	ACFOR Abundance
American Butterfish (*Peprilus triacanthus*)	1	76.01%	Abundant – Observed in high densities over the course of the transects, occasionally having lower density groups multiple times.
Lizardfish (*Snyodus* spp.)	2	11.68%	Frequent – Observed several times throughout the transects in low densities.
Witch Flounder (*Glyptocephalus cynoglossus*)	3	4.85%	Frequent – Observed several times throughout the transects in low densities.
Little Skate (*Leucoraja erinaceus*)	4	1.59%	Occasional – Observed multiple times over the course of the transects in very low densities, sometimes only seen once in multiple transects.
Smooth Skate (*Malacoraja senta*)	5	1.35%	Occasional – Observed multiple times over the course of the transects in very low densities, sometimes only seen once in multiple transects.
*Total does not add up to 100% due to only representing top 5 most common vertebrate observations. Additionally, raw observation counts of motile fauna may cause inflated numbers.			

Vertebrates were observed less frequently than invertebrates. The most common vertebrate observed, the American Butterfish (*Peprilus triacanthus)*, was recorded in ten transects. This species was most frequently seen in large groups of 11 to greater than 50 individuals but was also occasionally observed in small groups. Lizardfish (*Snyodus* spp.) were observed in 28 transects and were often seen in small groups (one to two individuals), dispersed throughout the transects. A full species observation list can be found in Appendix F. Anthropogenic gear was observed five times in the Lease Area. This gear is described and paired with estimated time stamps in Appendix F.

Summaries of the number of invertebrates and vertebrates observed on each video transect are provided in Appendix M. A list of geospatial data submitted with this report is provided in Appendix O.

3.2 Grab Sample Analysis

A total of 65 samples were collected and analyzed for grain size. Samples collected from 35 of these stations were assigned NMFS-modified CMECS classifications by TRC and analyzed for benthic infaunal community composition (see Sections 3.2.2 and 4.2). The remaining samples were assigned CMECS classifications by Geo SubSea LLC (GSS) for the separate Marine Site Investigation Report (MSIR). A list of geospatial data submitted with this report is provided in Appendix O.

3.2.1 Grain Size Analysis

A total of 65 grab samples were collected within the Lease Area and analyzed for grain size. Results of the analysis of these samples are summarized in Table 3 and Appendix J. Grain size analysis results for infaunal grab samples and grain size only grab samples are presented in Appendix K.

Samples collected from within the Lease Area were composed primarily of sand, with percentages ranging from a low of 89.9% at site 544LA22-GB010 to a high of 99.7% at site 544LA22-GB015A. Gravel-sized shell and gravel substrates generally accounted for low percentages of material in samples (<4.1% and <9% in any sample, respectively). Mud substrates were present in all 65 samples but accounted for a very low percentage of sample material (averaging 0.12%).

Table 3. Summary of Grain Size Analysis of Lease Area Samples

	Sediment Percentage			
	Gravel	Sand	Mud	Gravel-Size Shell
Average	0.89	97.96	0.12	1.03
Minimum	0.00	89.93	0.01	0.00
Maximum	8.98	99.74	1.55	4.03

3.2.2 Benthic Infauna Community Analysis

Results of the analysis of benthic grab samples collected from within the Lease Area in 2022 are presented below and in Appendices D, E, and L.

Taxa Richness

Overall, 47 taxa of benthic fauna were observed in the 35 grab samples analyzed from the Lease Area in 2022 (Table 4). Taxa richness per sample ranged from 0 to 10, and mean taxa richness was 6 ± 2.6 (mean ± SD, Table 4). Taxa richness per sample was variable throughout the Lease Area, and no consistent spatial patterns were apparent (Figure 3.2-1).

Table 4. Summary of Key Statistics from the Lease Area Sample Analysis

Statistic	Value
Number of Samples	35
Mean Density per m^2 (±1 SD)	1,695 ± 987
Mean Taxa Richness (±1 SD)	6 ± 2.6
Total Number of Taxa	47
Number of Taxa Observed by Phylum	
Annelida	26
Arthropoda	8
Chordata	0
Cnidaria	0
Echinodermata	1
Mollusca	11
Nemertea	1
Percent of Total Abundance by Phylum	
Annelida	58.9%
Arthropoda	6.4%
Chordata	0.0%
Cnidaria	0.0%
Echinodermata	21.8%
Mollusca	7.5%
Nemertea	5.4%

*All metrics calculated after taxonomic ambiguity in the dataset was resolved using the RPMC-G method described in Cuffney et al. (2007)

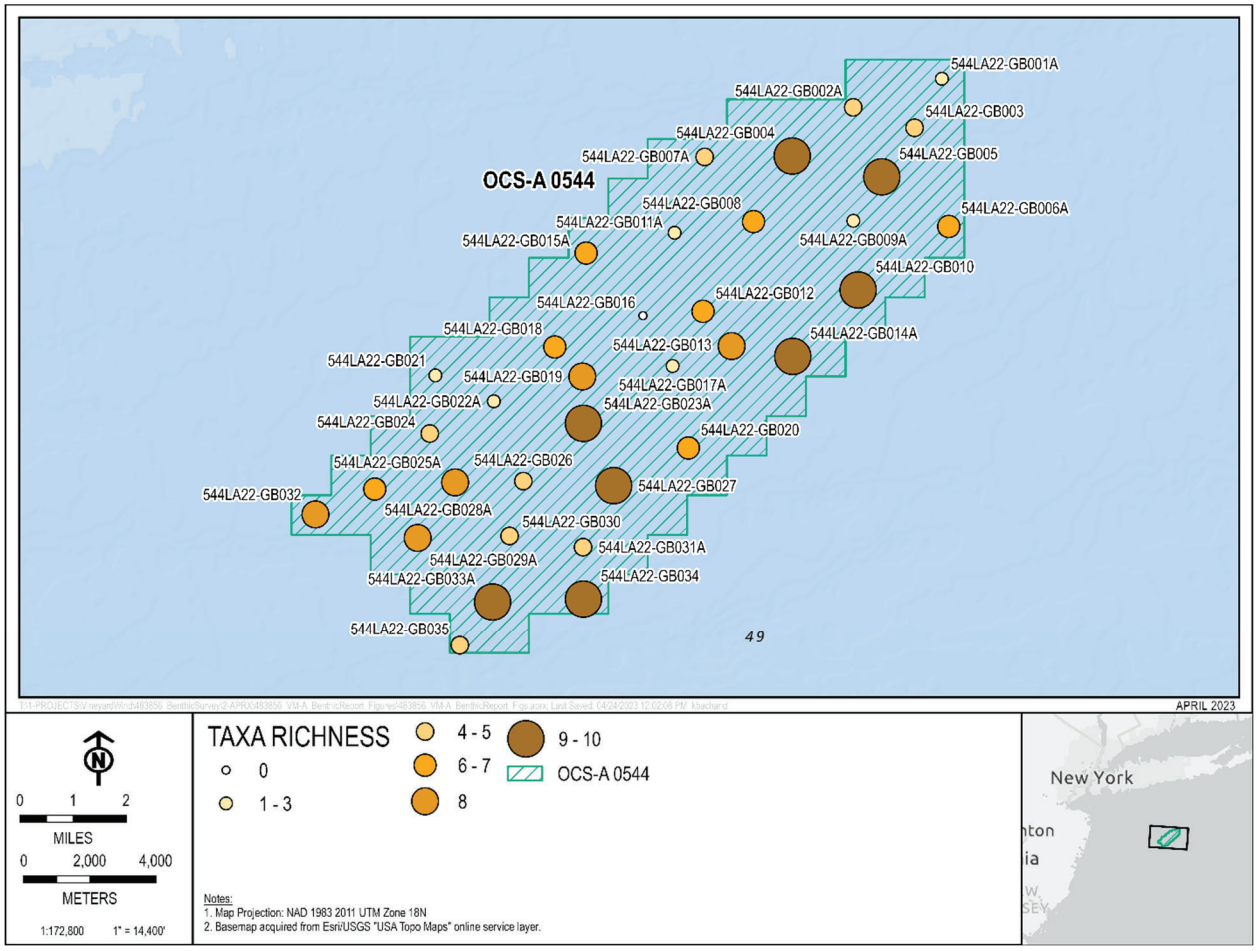


Figure 3.2-1. Lease Area Benthic Infaunal Grab Sample Locations by Taxa Richness

Evenness and Diversity

Pielou's evenness averaged 0.86 in samples collected from the Lease Area. Evenness ranged from a low of 0.55 at sample 544LA22-GB001A to a high of 1.0 at sample 544LA22-GB022A (note that Pielou's evenness was not calculated for sample 544LA22-GB016, which contained no organisms). No consistent spatial patterns in Pielou's evenness were apparent within the Lease Area.

The Shannon diversity index averaged 1.46 in the Lease Area samples, ranging from a low of 0 at sample 544LA22-GB016 (sample contained no organisms) to a high of 2.16 at sample 544LA22-GB014A. No consistent spatial patterns in the Shannon diversity index were observed within the Lease Area.

Macrofaunal Density

The mean macrofaunal density for samples collected from the Lease Area was 1,695 ± 987 (mean ± SD) individuals/m^2 (Table 4). The highest macrofaunal density (4,567 individuals/m^2) was found at sample 544LA22-GB019, while macrofaunal density was lowest (0 individuals/m^2) at sample

544LA22-GB016 (Figure 3.2-2). Of the 35 samples analyzed, 27 were characterized by densities of 1,000 individuals/m^2 or more (77% of samples). Similar to taxa richness, consistent spatial patterns in total organism density were not apparent in the Lease Area (Figure 3.2-2). Both the lowest density and highest density samples were located in the central portion of the Lease Area (Figure 3.2-2).

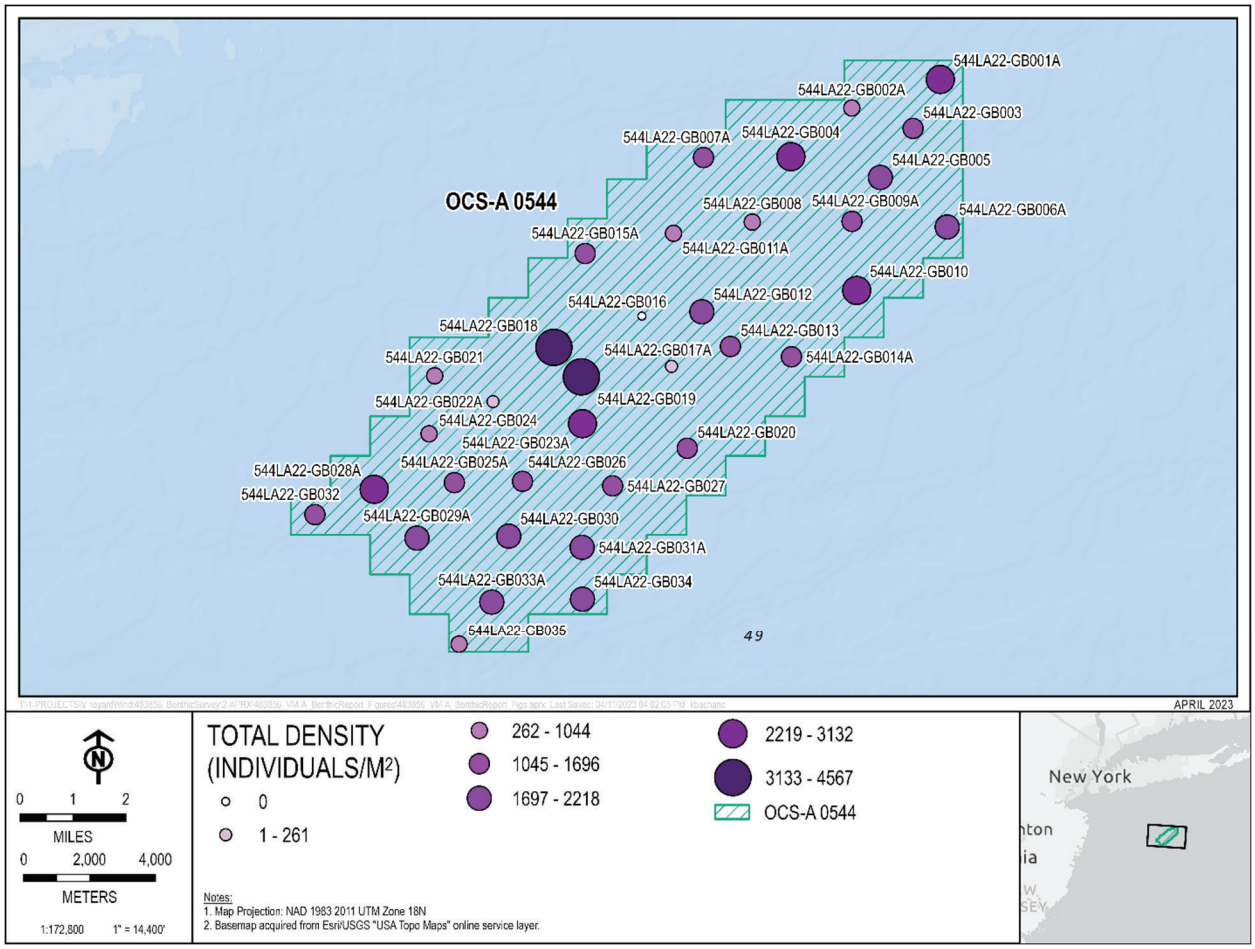


Figure 3.2-2. Lease Area Benthic Infaunal Grab Sample Locations by Total Organism Density

Community Composition

The benthic macrofaunal assemblage documented in the analyzed samples consisted of annelids, echinoderms, mollusks, arthropods, and nemertean ribbon worms (Table 4).

The most speciose phylum was Annelida, which contributed over 55% of the taxa documented in the analyzed samples. Mollusks and arthropods accounted for approximately 23% and 17% of taxa in Lease Area samples, respectively. Annelids accounted for the greatest percentage of total organism abundance of any phylum (nearly 59%), followed by echinoderms and mollusks (approximately 21.7% and 7.5%, respectively, Table 4).

The most abundant taxon in Lease Area samples was the common sand dollar (*Echinarachnius parma*), which accounted for over 21% of all individuals identified. The polygordiid polychaete *Polygordius* sp., goniadid polychaetes, and the lumbrinerid polychaete *Scoletoma* sp. were the next most abundant taxa, each accounting for more than 7% of all organisms (Table 5).

Table 5. Relative Abundance of Taxa Encountered in Lease Area Samples

Scientific Name	Common Name	Relative Abundance (%)	Average Density per Sample (#/m^2)
Echinarachnius parma	Common Sand Dollar	21.8	718
Polygordius sp.	Polygordiid Polychaete	15.6	618
Goniadidae	Goniadid Polychaete	9.7	522
Scoletoma sp.	Lumbrinerid Polychaete	7.0	217
Nemertea	Nemertean Ribbon Worm	5.4	215
Lumbrinerides acuta	Lumbrinerid Polychaete	4.4	290
Naididae w/ hair chaeta	Oligochaete Worm	4.0	235
Nephtys sp.	Nephtyid Polychaete (Catworm)	3.3	217
Byblis serrata	Ampeliscid Amphipod	2.4	179
Glycera sp.	Glycerid Polychaete	2.3	232
*Includes taxa accounting for ≥ 2% of total abundance			

No taxa indicative of sensitive habitats (hard bottom areas, cold water coral reefs, seagrass beds, etc.) were observed in the Lease Area benthic grab samples.

The most widespread taxa (i.e., observed in the most samples) were the lumbrinerid polychaete *Scoletoma* sp., and the common sand dollar, which were present in 54% and 51% of samples, respectively (19 and 18 samples). Nemertean ribbon worms, the polygordiid polychaete *Polygordius* sp., and goniadid polychaetes were also widespread, and occurred in at least 30% of samples (11 samples, Table 6). Other relatively widely distributed taxa included naidid oligochaete worms with hair chaetae, the lumbrinerid polychaete *Lumbrinerides acuta*, and *Nephtys* sp. catworms (all found in at least 25% of samples). A total of 20 unique taxa (found in only one sample) were present in the 35 infaunal grab samples collected from within the Lease Area (accounting for approximately 41% of observed taxa).

Table 6. Most Widespread Taxa Encountered in Lease Area Samples

Scientific Name	Common Name	Number of Samples Containing this Taxon
Scoletoma sp.	Lumbrinerid Polychaete	19
Echinarachnius parma	Common Sand Dollar	18
Nemertea	Nemertean Ribbon Worm	15
Polygordius sp.	Polygordiid Polychaete	15
Goniadidae	Goniadid Polychaete	11

Table 6. Most Widespread Taxa Encountered in Lease Area Samples (continued)

Scientific Name	Common Name	Number of Samples Containing this Taxon
Naididae w/ hair chaeta	Oligochaete Worm	10
Lumbrinerides acuta	Lumbrinerid Polychaete	9
Nephtys sp.	Nephtyid Polychaete (Catworm)	9
Byblis serrata	Ampeliscid Amphipod	8
Cyclocardia borealis	Northern Cardita Clam	8
*Includes taxa observed in ≥ 8 samples (≥ 23% of samples)		

Taxa observed in the grab samples collected from the Lease Area are typical of soft-sediment habitats. The common sand dollar accounted for the highest percentage of total organism abundance of any taxa and was widespread throughout the Lease Area (occurring in over 50% of samples). As their name suggests, common sand dollars are found on sandy substrates, where they traverse the bottom and feed on detritus and particulate matter collected from the sediment (Gosner 1978). In the western north Atlantic, common sand dollars are found from New Jersey to Labrador, in waters ranging from the shallow subtidal to over a mile (1,609m) in depth (Martinez 2003). The polygordiid polychaete *Polygordius* sp. was also widespread and abundant in the samples analyzed. *Polygordius* sp. are associated with coarse sandy sediments and are often dominant members of macrofaunal communities on inner continental shelf waters along the East Coast of the United States (Ramey et al. 2006, Ramey 2008). Other polychaetes observed in Lease Area samples are also characteristic of soft sediment habitats. Lumbrinerid polychaetes, including *Scoletoma* sp. and *Lumbrinerides acuta*, are predatory worms which burrow in soft sediments ranging from mud to coarse sand (Pettibone 1963). The goniadid polychaete *Goniadella gracilis* is also frequently encountered in soft sediment habitats including mud, fine to coarse sand, and fine gravel (Pettibone 1963). Similarly, catworms (*Nephtys* sp. polychaetes) are predators that occur in a variety of soft sediment habitats ranging from mud to coarse sand and shell (Pettibone 1963). Additionality, the ampeliscid amphipod *Byblis serrata*, observed in over 20% of samples, constructs tubes in medium to coarse sand habitats from Cape Cod to North Carolina (Bousfield 1973).

The infaunal sampling results align with expectations, given the CMECS habitat classifications for samples collected within the Lease Area; 34 of the 35 samples were classified as fine unconsolidated substrates under the CMECS framework (see Section 4.2.1).

4.0 CMECS Classifications

4.1 Video Transects

Benthic habitats in the 35 analyzed video transects were classified in accordance with NMFS 2021 guidelines, defined in "Updated Recommendations for Mapping Fish Habitat" guidance dated March 29, 2021. This guidance modifies the Coastal and Marine Ecological Classification Standard (CMECS) for use in classifying benthic habitats for offshore wind projects. A simplified graphic depicting the NMFS-modified CMECS approach is presented as a decision tree in Figures 4.1-1 and 4.1-2. Classifications were determined based on visual observations in the transect videos. Representative images of benthic habitats are provided in Appendix G.

The most common bottom type characterized in the Lease Area was sand, found in 10,470 m out of the approximately 12,573 m of total sampled Lease Area transects. Muddy sand was also frequently characterized. These results are presented in Table 7. Mapped substrates for each transect are provided in Appendix N. A list of geospatial data submitted with this report is provided in Appendix O.

Table 7. Summary of NMFS-Modified CMECS Classifications of Lease Area Transects

CMECS Substrate Group	% of Total Lease Area Transect Length*	# of Transects Observed
Sand	83.3%	32
Muddy Sand	12.3%	5
Gravelly	3.6%	6
Gravel Mixes	0.5%	2
Shell	0.1%	1
*Total may not add up to 100% due to poor visibility in some segments. Bottom type in these segments remained uncharacterized.		

4.2 Grab Sample Stations

Infaunal grab sample stations were also classified according to the NMFS-modified CMECS approach. Unlike the video transects, grab sample classifications relied heavily on the grain size analysis, which provided detailed breakdowns on the percent composition (by weight) of gravel, sand, mud, and shell (as gravel-sized shell fragments). However, visual inspection of in situ imagery was also used to inform classifications that required an estimate of percent cover. Photographs of each grab sample are provided in Appendices H and I.

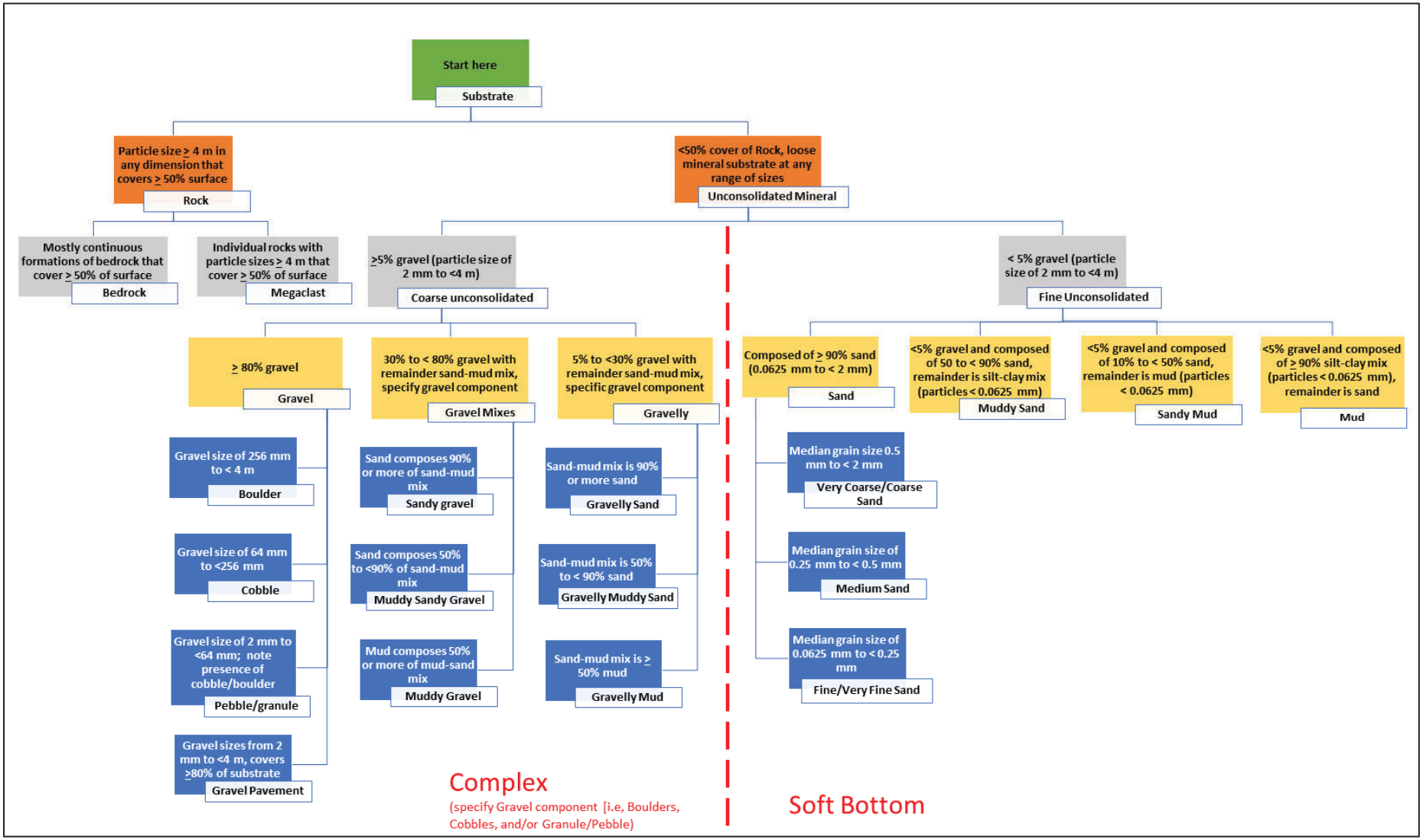


Figure 4.1-1. NMFS-Modified CMECS Decision Tree (Geologic Substrate)

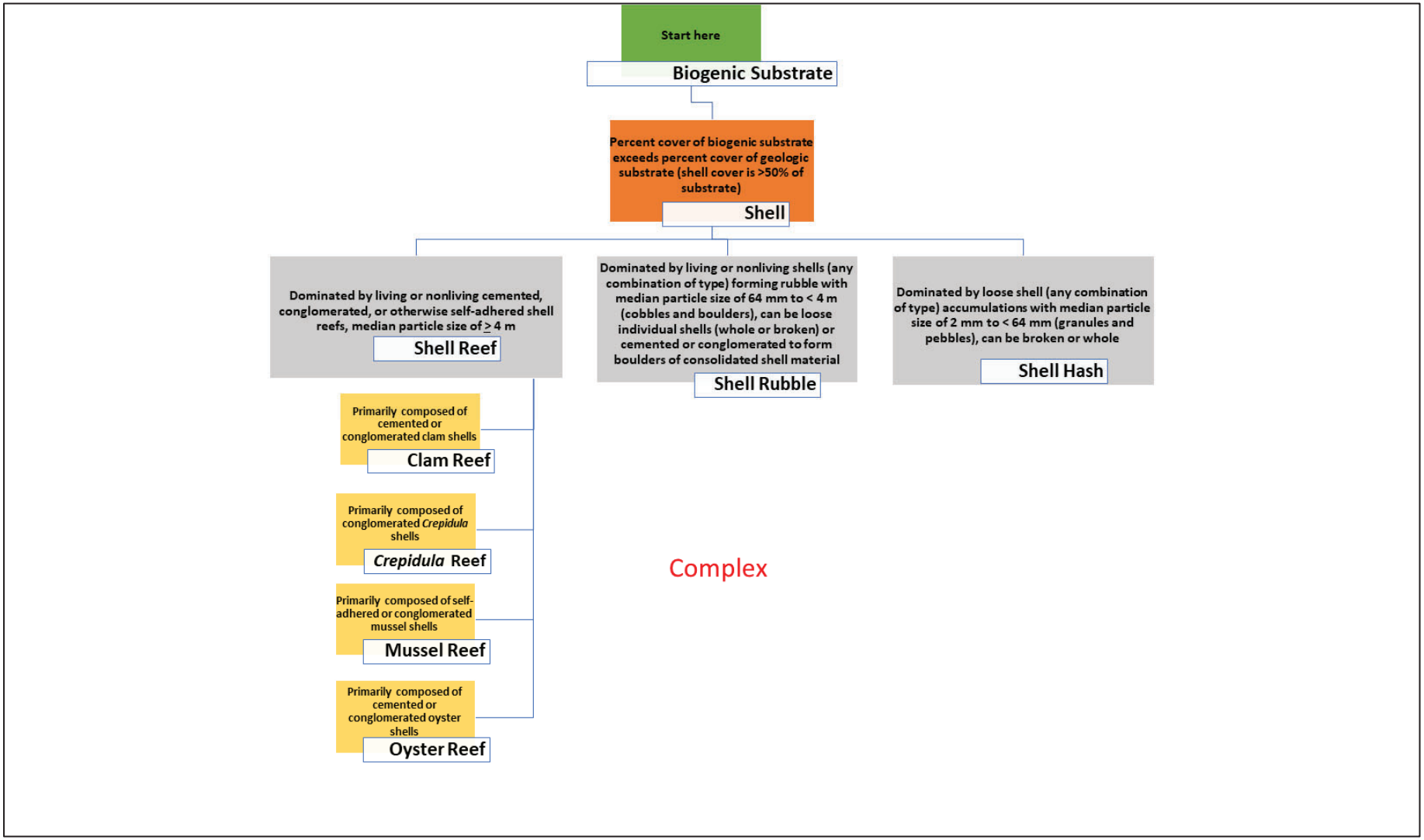


Figure 4.1-2. NMFS Modified CMECS Decision Tree (Biogenic Substrate)

Results of the benthic grab NMFS-modified CMECS classifications within the Lease Area are presented in Figure 4.2-1 and summarized in Table 8.

Table 8. Lease Area Benthic Grab Sample Substrate Classifications

CMECS Substrate Group	CMECS Substrate Subgroup(s)	No. of Locations	% of Locations
Sand	Medium Sand to Coarse/Very Coarse Sand	34	97%
Gravelly	Gravelly Sand	1	3%
Gravel Mixes	N/A	0	0%
Muddy Sand	N/A	0	0%
Total		**35**	**100%**

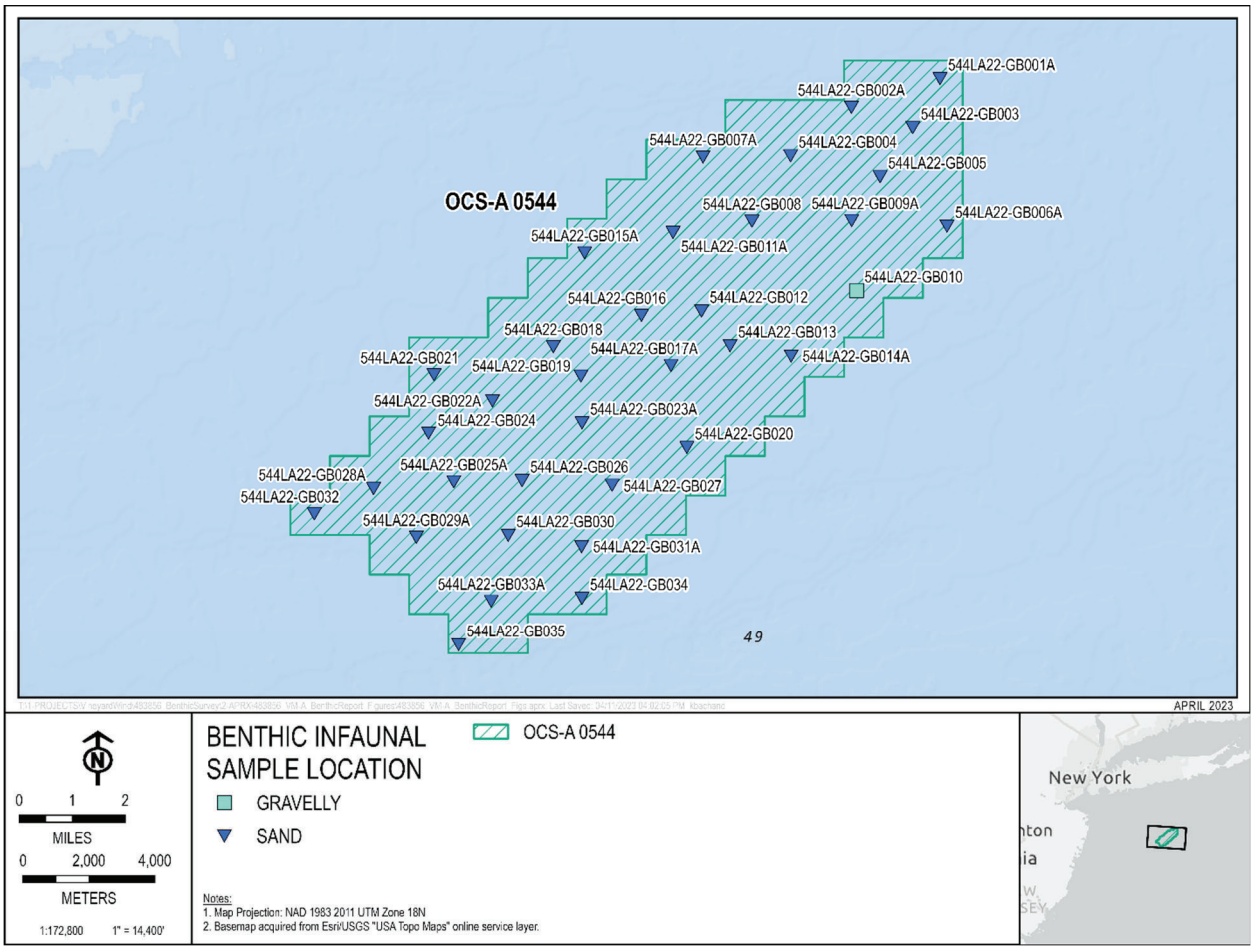


Figure 4.2-1. Benthic Infaunal Sampling Locations by CMECS Substrate Group

5.0 Summary

Approach

A benthic field survey was completed from August to September 2022 to collect site-specific benthic community and habitat data within the Vineyard Mid-Atlantic OCS-A 0544 Lease Area.

Benthic imagery transects were collected at a total of 35 locations. Sixty-five benthic grab replicate samples were collected at 35 stations and processed for grain size analysis. Each of these grab samples also included collection of video imagery. Out of the 65 total samples, 35 samples (one at each station) were also sampled for infauna.

These data were used to characterize the fauna of the benthic community and describe benthic habitats in sampled portions of the Vineyard Mid-Atlantic Lease Area.

Overall Conditions

The benthic ROV video transect results indicated seafloor habitats are dominated by fine unconsolidated substrate types, especially sand, with occasional occurrences of muddy sand. However, gravel mixes and gravelly substrates were also present, with gravel compositions of pebble/granule. Biogenic substrates, in the form of shell hash, were also present in a small number of transects. Based on the benthic imagery collected, sand, muddy sand, gravelly, and gravel mix substrates often hosted common sand dollars (*Echinarachnius parma*) at the sediment water interface as well as hermit crabs (*Pagurus* spp.) and walking crabs (*Cancer* spp.).

Nearly all benthic grab samples were classified as sand substrates (97% of samples). Gravelly substrates were observed at just one grab sample location (3% of samples). Though documented in a small number of benthic imagery transects, muddy sand and gravel mixes substrates were not present at any of the 35 benthic grab sample locations. Mud and sandy mud substrates were not observed in any of the benthic imagery transects or grab samples. Therefore, these types of soft bottom habitats are anticipated to be very rare. Gravelly substrates were only observed in one of the grab samples, although they were evident in multiple benthic imagery transects.

A total of 47 marine invertebrate taxa, including annelids, echinoderms, mollusks, arthropods, and nemertean ribbon worms were found in the 35 macrofaunal grab samples collected during the 2022 benthic survey program. Taxa identified in grab samples collected from the Lease Area were typical of soft-sediment coastal shelf habitats of the northeastern US coast. Widespread or abundant organisms included the common sand dollar, polychaete worms (e.g., *Polygordius* sp., *Scoletoma* sp., *Lumbrinerides acuta, Nephtys* sp., and Goniadidae), oligochaete worms, amphipods (e.g., *Byblis serrata*), nemertean ribbon worms, and the northern cardita clam (*Cyclocardia borealis*).

6.0 References

Abbott, R.T. and P.A. Morris. 1995. Shells of the Atlantic and Gulf Coasts and the West Indies. Boston, MA: Houghton Mifflin Company.

Bartholomew, A. 2001. Polychaete Key for Chesapeake Bay and Coastal Virginia.

Bousfield, E.L. 1973. Shallow-water Gammaridean Amphipoda of New England. Ithaca, NY: Cornell University Press.

Cuffney, T. F., M.D. Bilger, and A. M. Haigler. 2007. Ambiguous taxa: effects on the characterization and interpretation of invertebrate assemblages. Journal of the North American Benthological Society 26, no. 2: 286-307.

Dean, H. K. 2008. The use of polychaetes (Annelida) as indicator species of marine pollution: a review. International Journal of Tropical Biology, 56(Supplement 4): 11-38.

Gosner, K.L. 1971. Guide to Identification of Marine and Estuarine Invertebrates: Cape Hatteras to the Bay of Fundy. New York: John Wiley and Sons, Inc.

Gosner, K.L. 1978. The Peterson Field Guide Series. A Field Guide to the Atlantic Seashore from the Bay of Fundy to Cape Hatteras. Boston, MA: Houghton Mifflin Company.

Kells, V. and Carpenter, K. and 2011. A Field Guide to Coastal Fishes: From Maine to Texas. Baltimore, MD: The John Hopkins University Press

Magurran, A.E. 2003. Measuring Biological Diversity. Malden, MA: Blackwell Publishing Ltd.

Martinez, A.J. 2003. Marine Life of the North Atlantic, Canada to New England. Rockport, ME: Down East Books.

Meredith, C.S., A.S Trebitz, and J.C. Hoffman. 2019. Resolving taxonomic ambiguities: effects on rarity, projected richness, and indices in macroinvertebrate datasets. Ecological indicators, 98: 137-148.

National Marine Fisheries Service Greater Atlantic Fisheries Office Habitat Conservation and Ecosystem Services Division. March 2021. Coastal and Marine Ecological Classification Standard (CMECS) Substrate Classifications: Modifiers for EFH Assessments, PDF pages 16-20.

Pettibone, M.H. 1963. Marine Polychaete Worms of the New England Region, Part 1, Families Aphroditidae through Trochochaetidae. Bulletin of the U.S. National Museum, 227: 1-356.

Pollock, L.W. 1998. A Practical Guide to the Marine Animals of Northeastern North America. New Brunswick, NJ: Rutgers University Press.

Ramey P.A. 2008. Life history and population dynamics of a dominant polychaete, *Polygordius jouinae*, in inner continental shelf sands of the Mid-Atlantic Bight, USA. Marine Biology, 154: 443–452.

Ramey, P. A., Fiege, D., and B.S. Leander. 2006. A new species of *Polygordius* (Polychaeta: Polygordiidae): from the inner continental shelf and in bays and harbours of the north-eastern United States. Journal of the Marine Biological Association of the United Kingdom, 86(5), 1025-1034.

Smith, R.I. 1964. Keys to the Marine Invertebrates of the Woods Hole Region: a manual for the identification of the more common marine invertebrates. Woods Hole, MA: Marine Biological Laboratory.

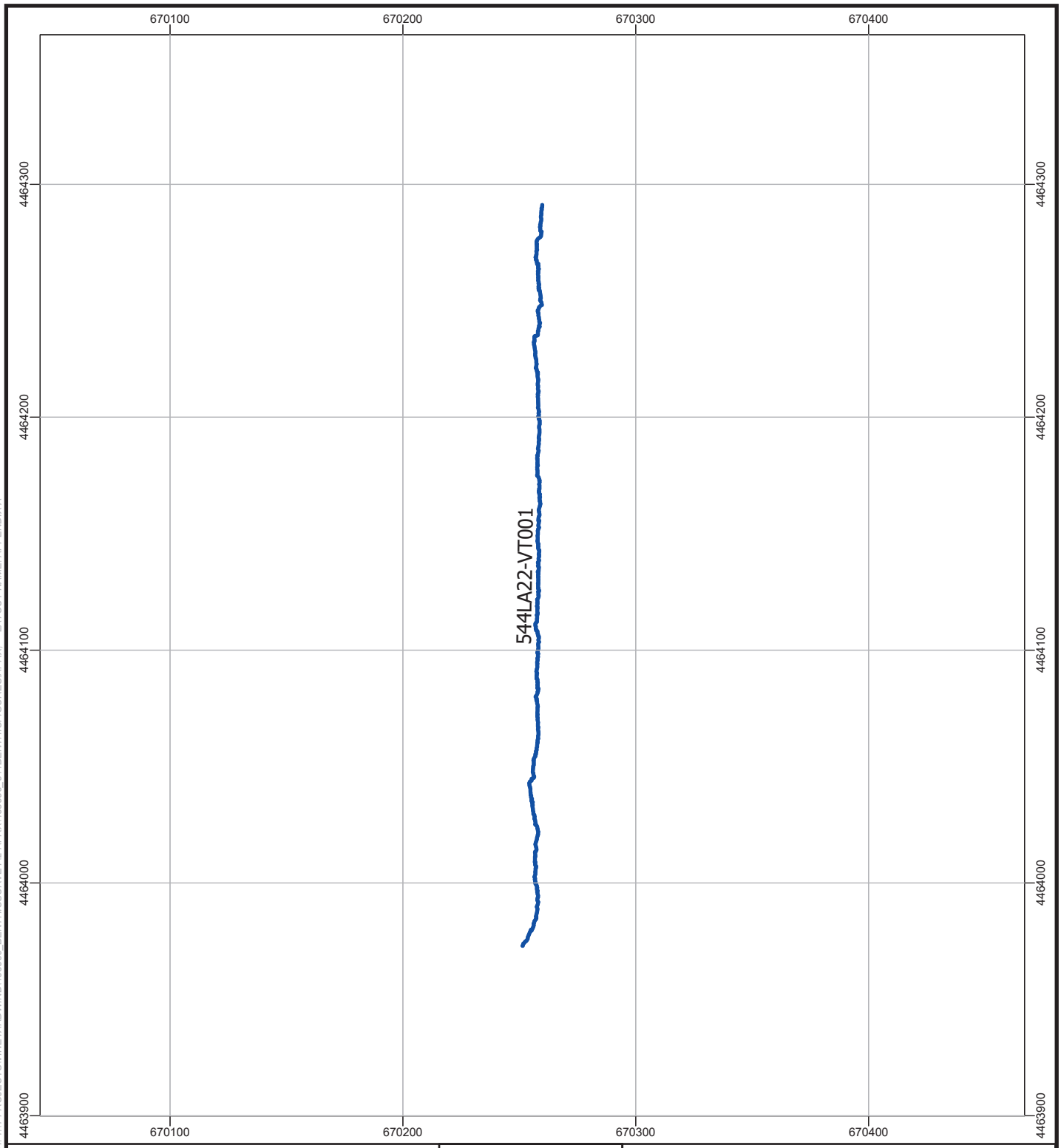
Taylor, R.B. 1998. Density, biomass and productivity of animals on four subtidal rocky reef habitats: the importance of small mobile invertebrates. Marine Ecology Progress Series, 172(37): 37-51.

TDI Brooks International, Inc. [TDI-Brooks]. 2022. TDI-Brooks Field Report #22-4342. Prepared for Vineyard Mid-Atlantic.

Thrush, S.F. and Dayton, P.K. 2002. Disturbance to Marine Benthic Habitats by Trawling and Dredging: Implications for Marine Biodiversity. Annual Reviews. *Annual Review of Ecology and Systematics*, 2002, Vol. 33 (2002), pp. 449-473

Weiss, H.M. 1995. Marine Animals of Southern New England and New York. Identification Keys to Common Nearshore and Shallow Water Macrofauna. Bulletin 115 of the State Geological and Natural History Survey of Connecticut. Connecticut Department of Environmental Protection.

Appendix A: Underwater Video Track Lines



Video Track Lines

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

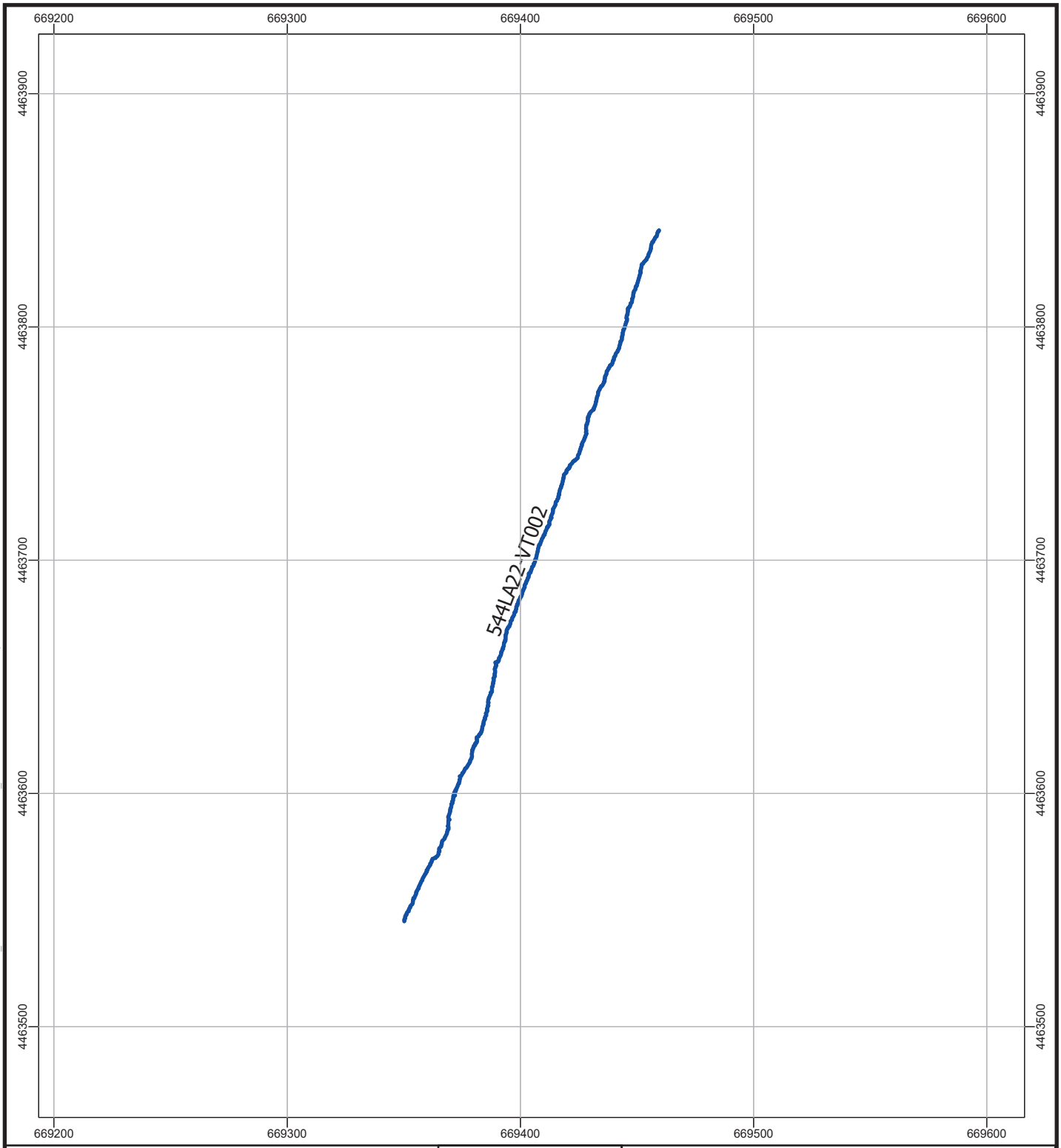
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT001

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

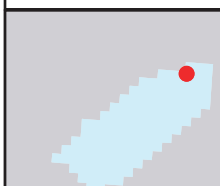
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

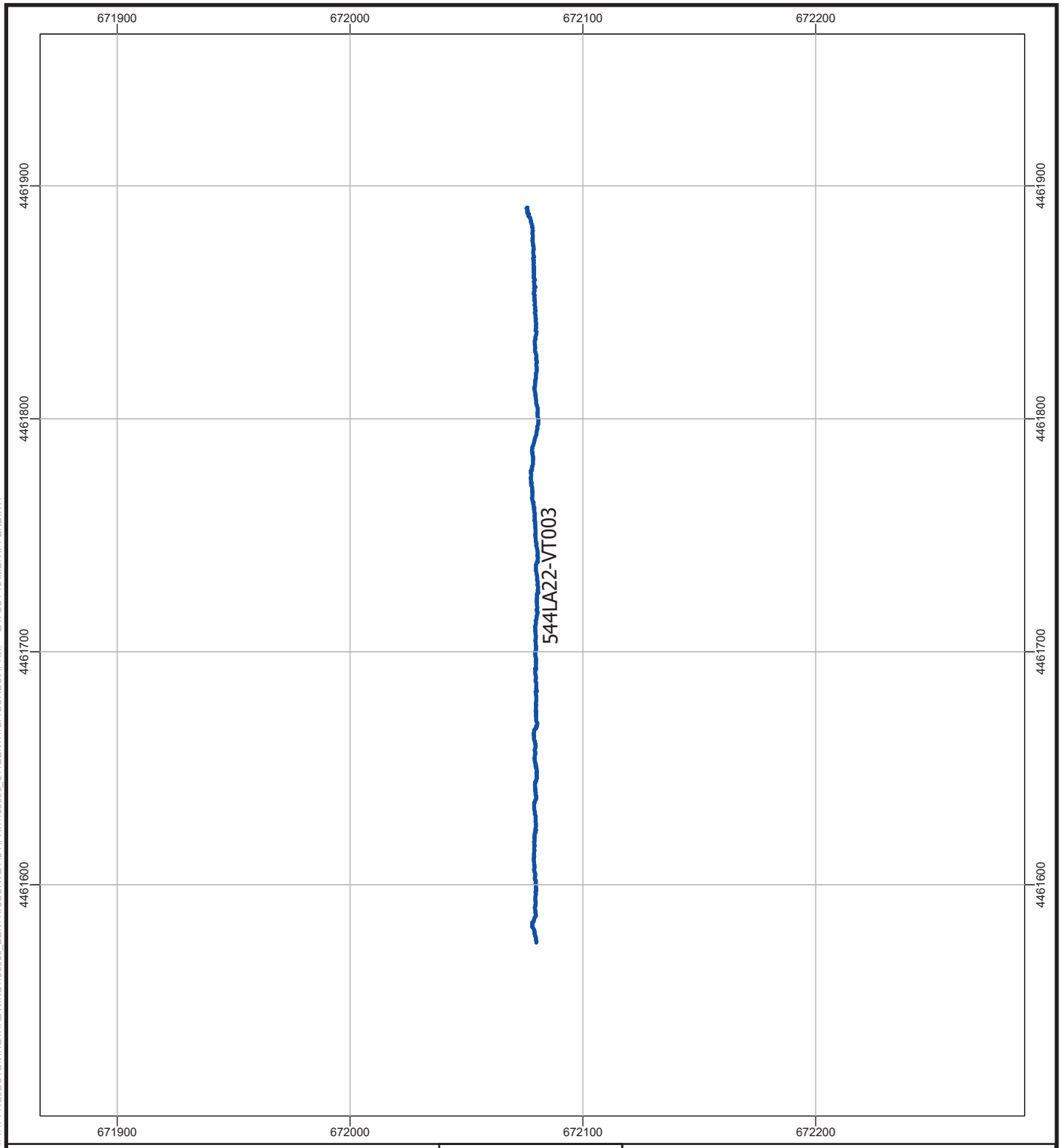
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT002

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

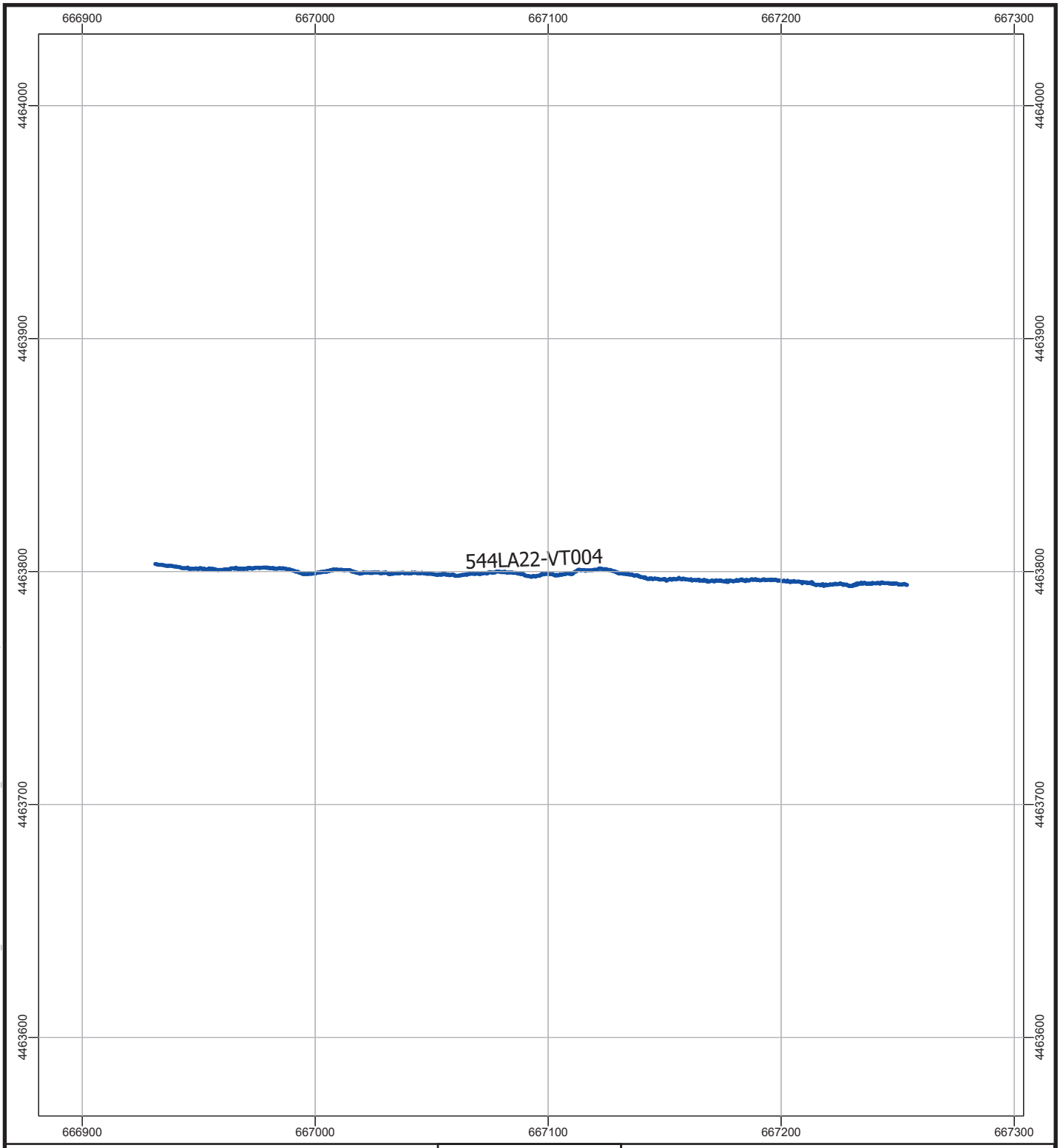
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT003

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

N

0 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

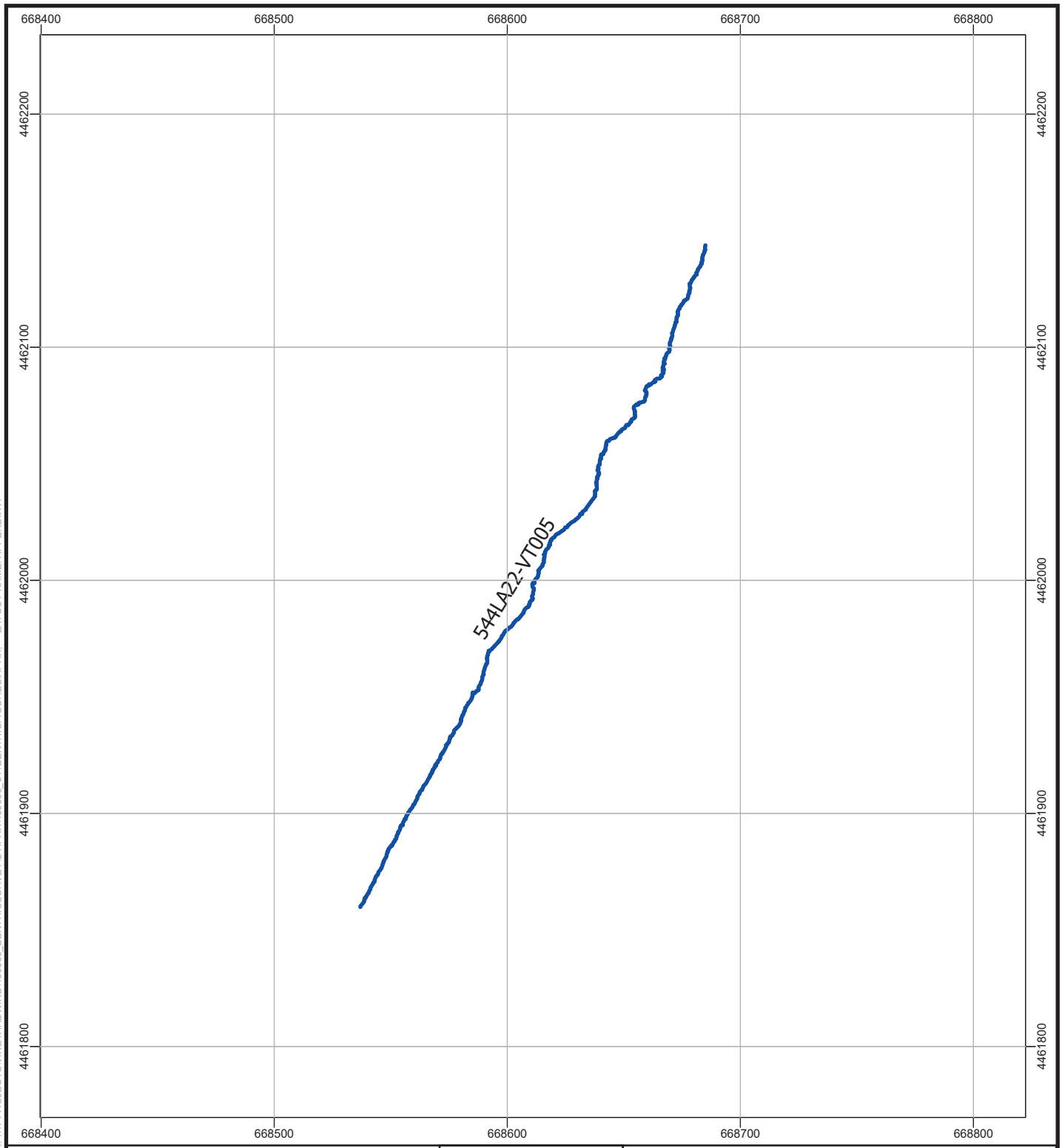
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT004

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

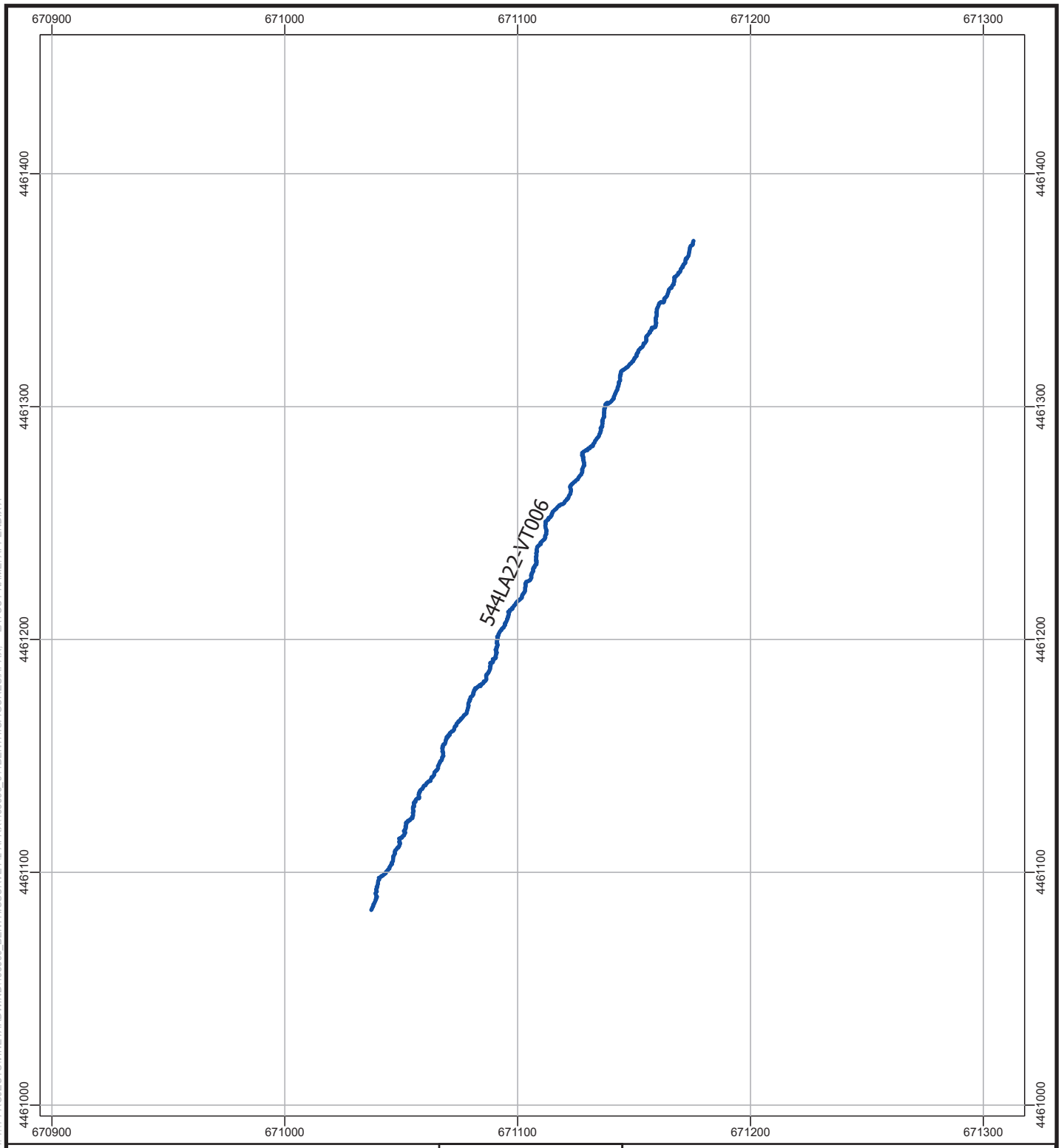
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT005

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

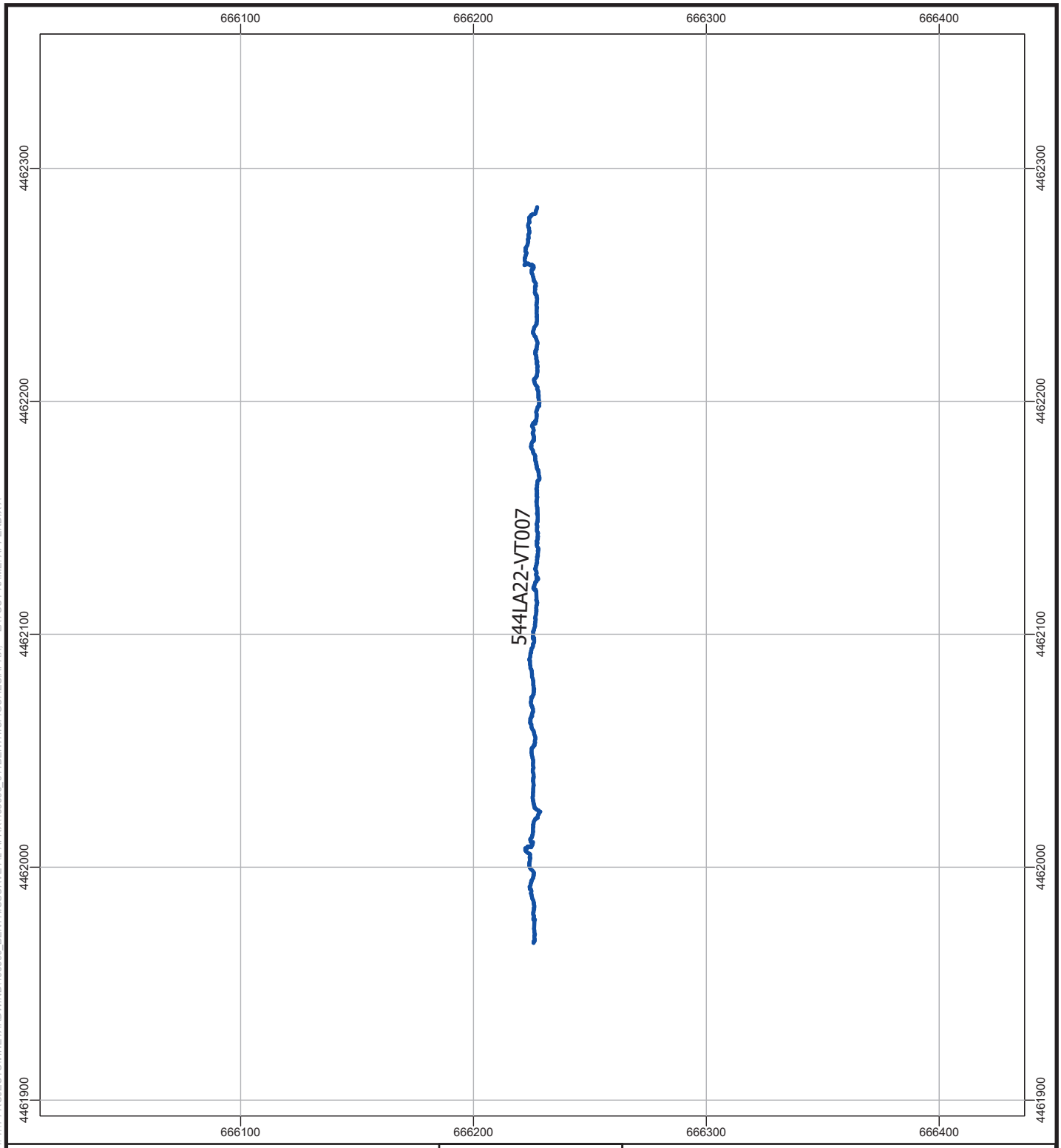
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT006

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; -- LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

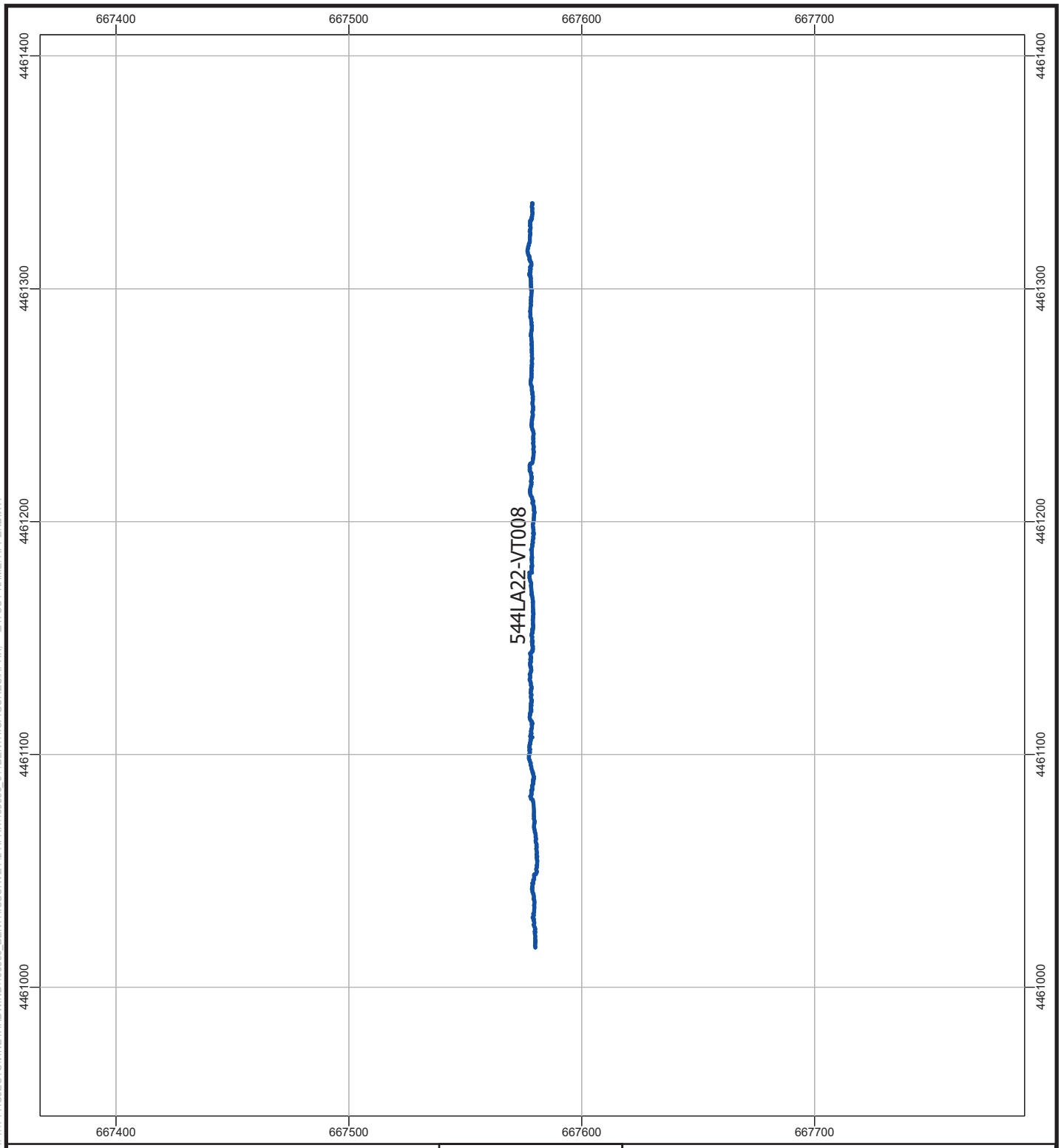
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT007

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES: 544 LEASE AREA

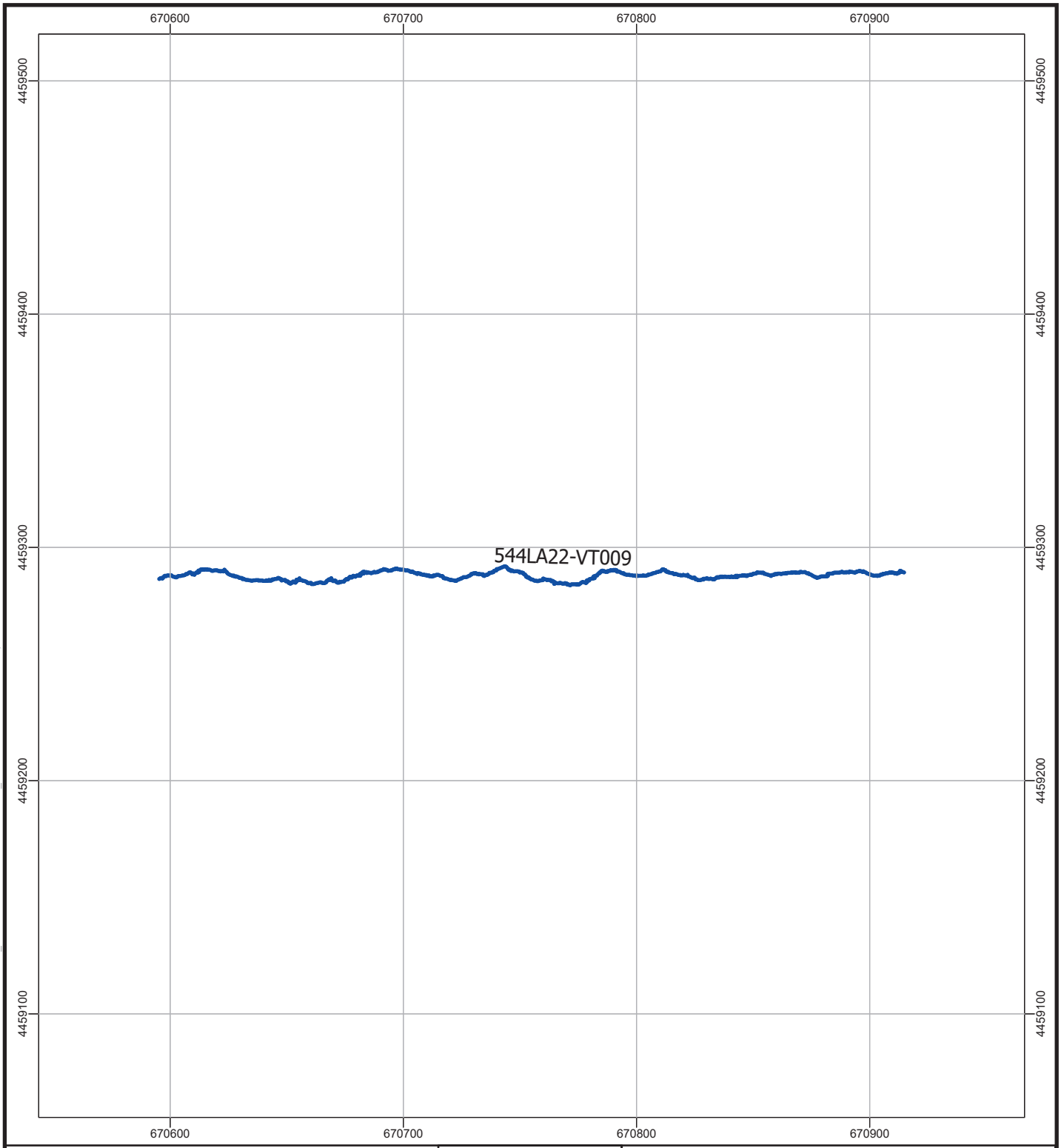
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT008

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\12-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

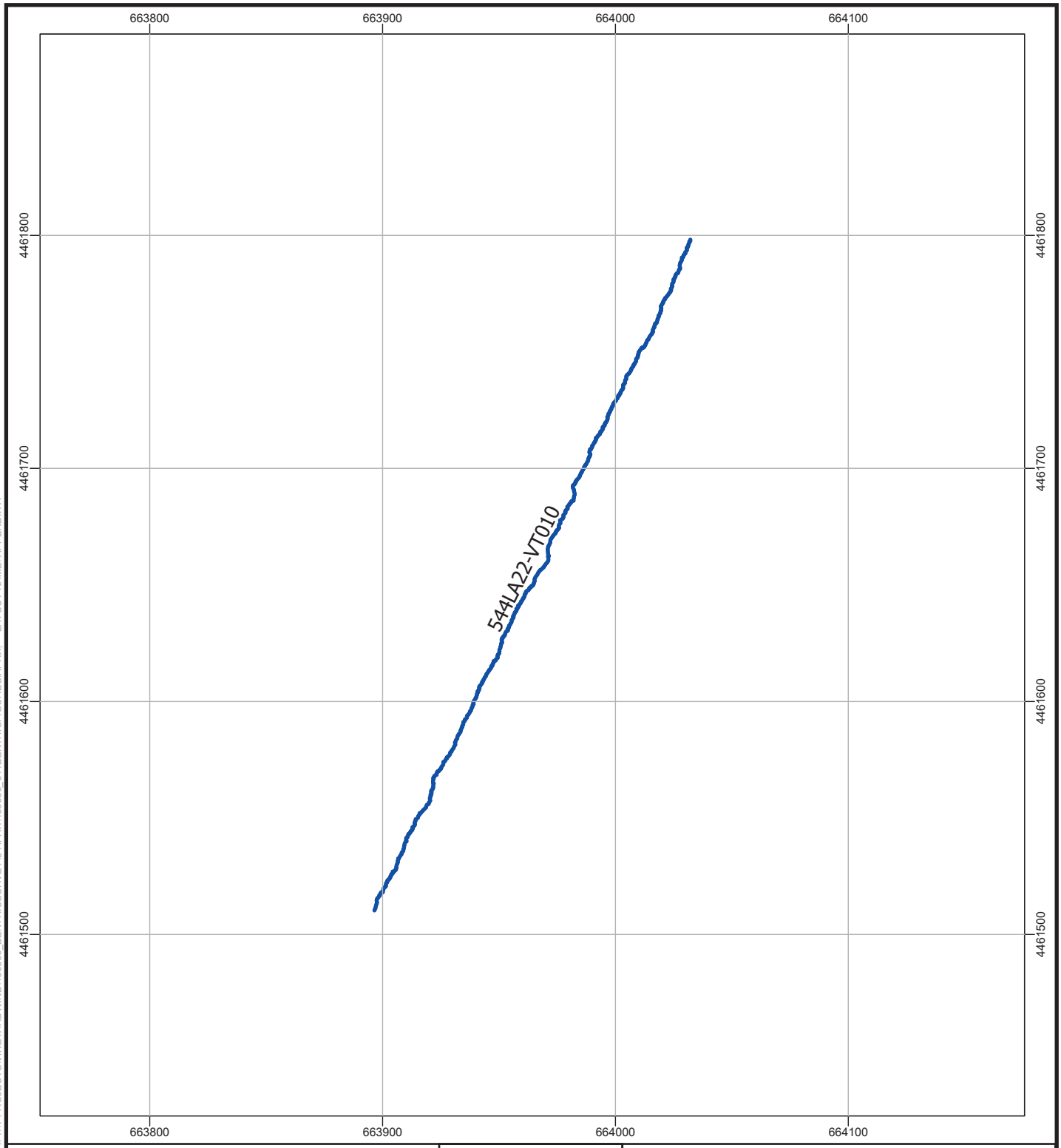
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT009

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

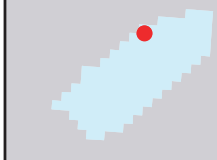
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

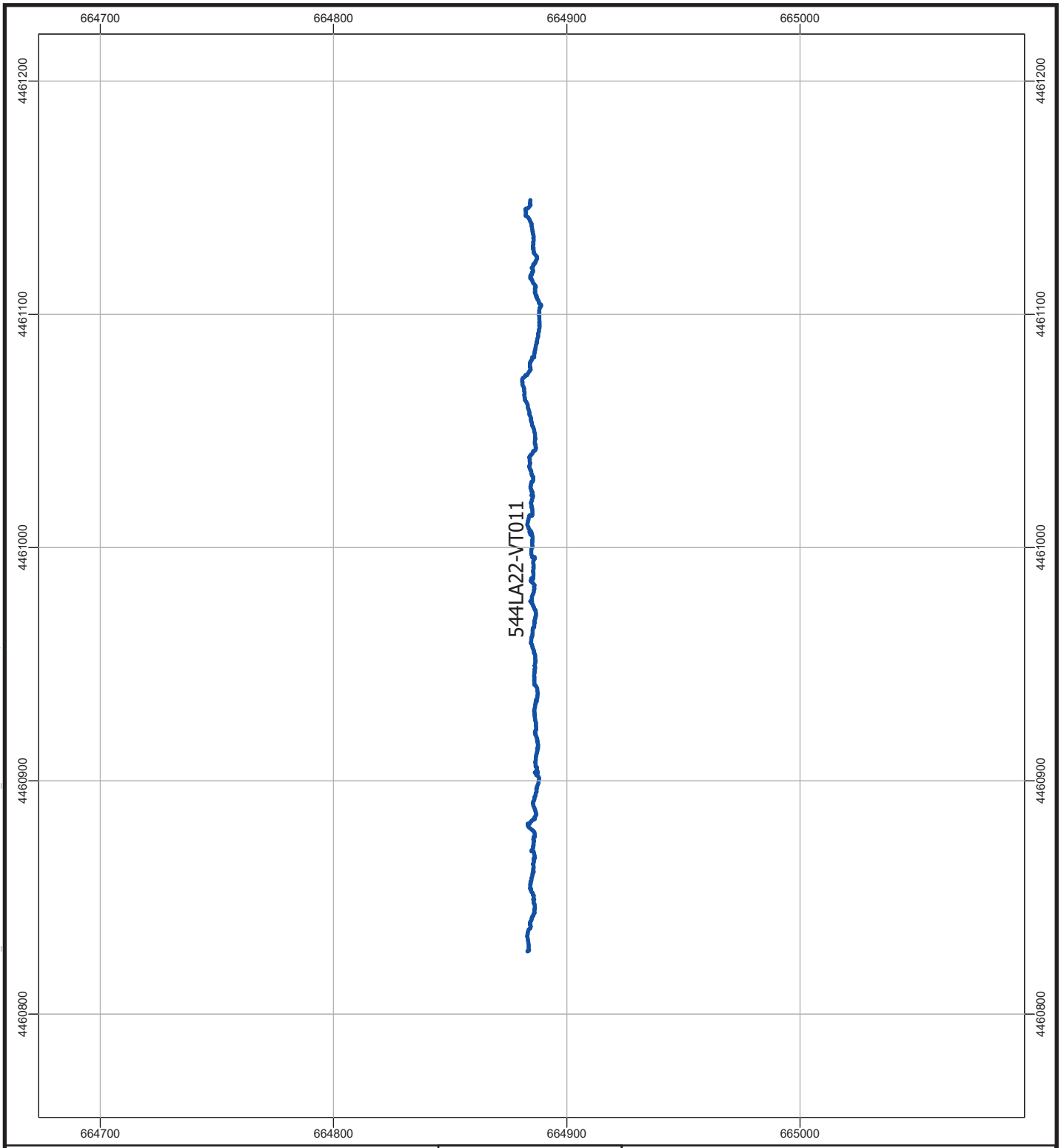
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT010

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

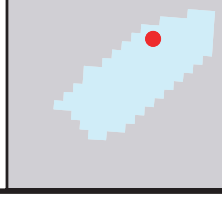
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

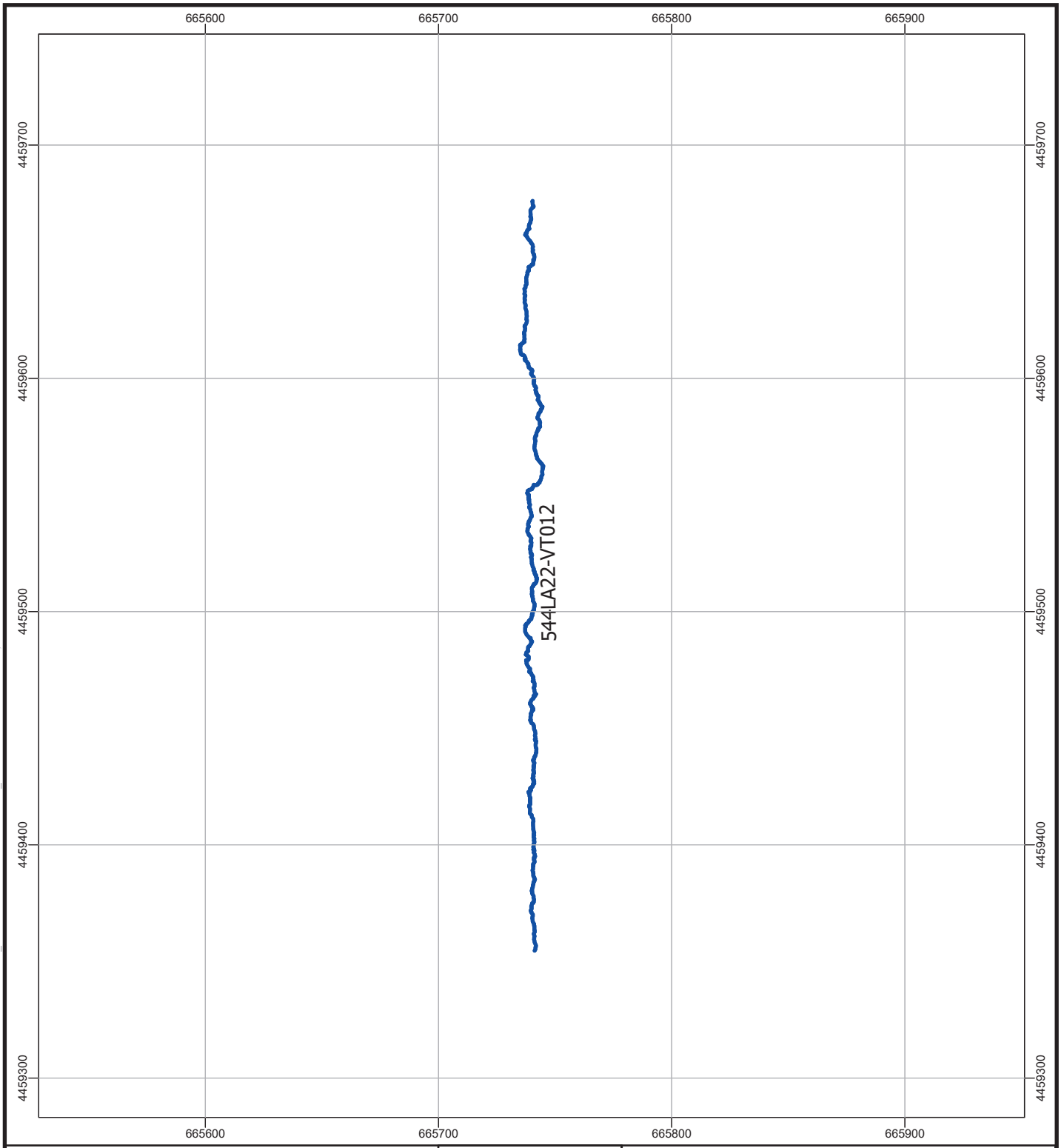
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT011

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

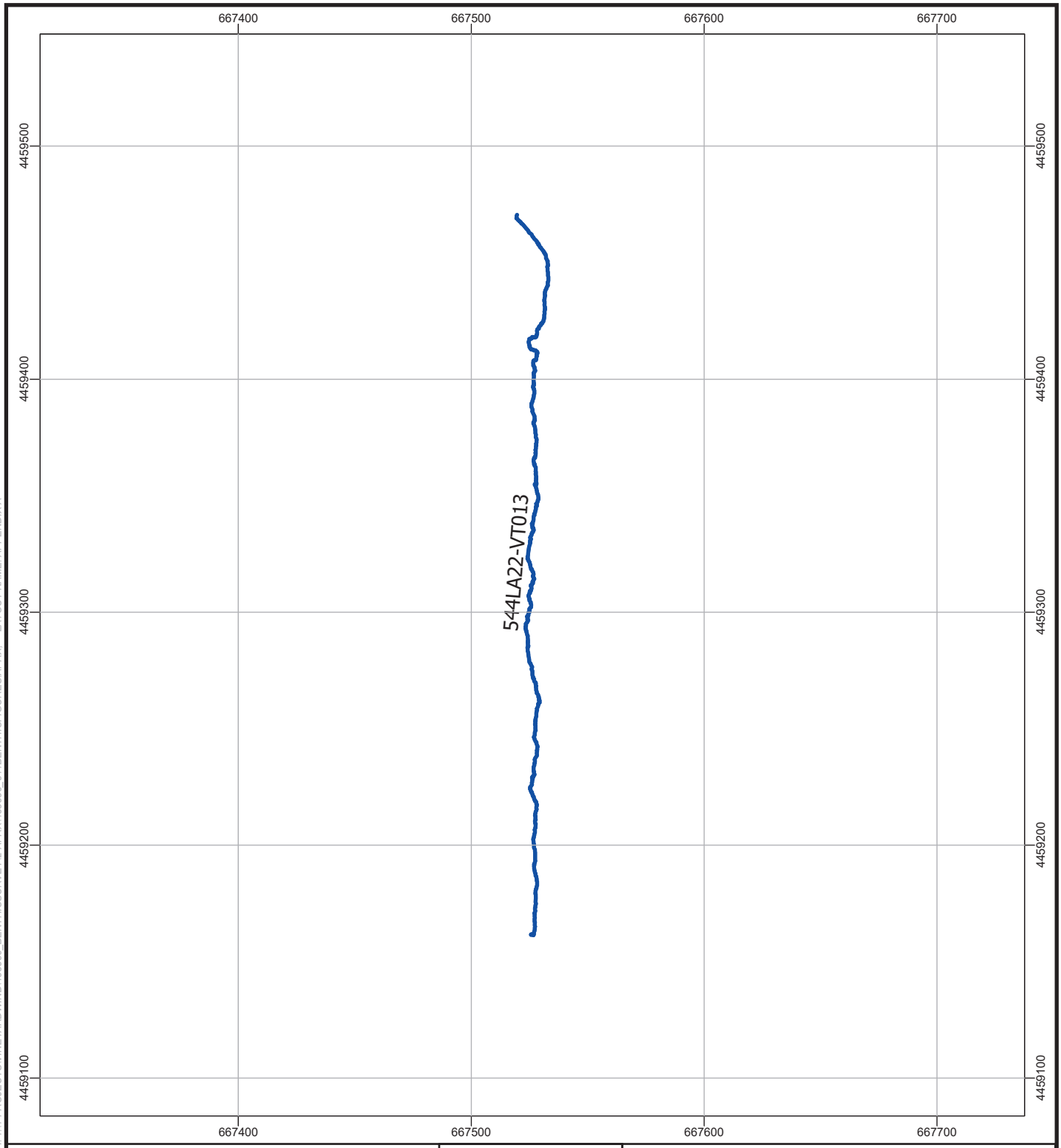
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT012

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

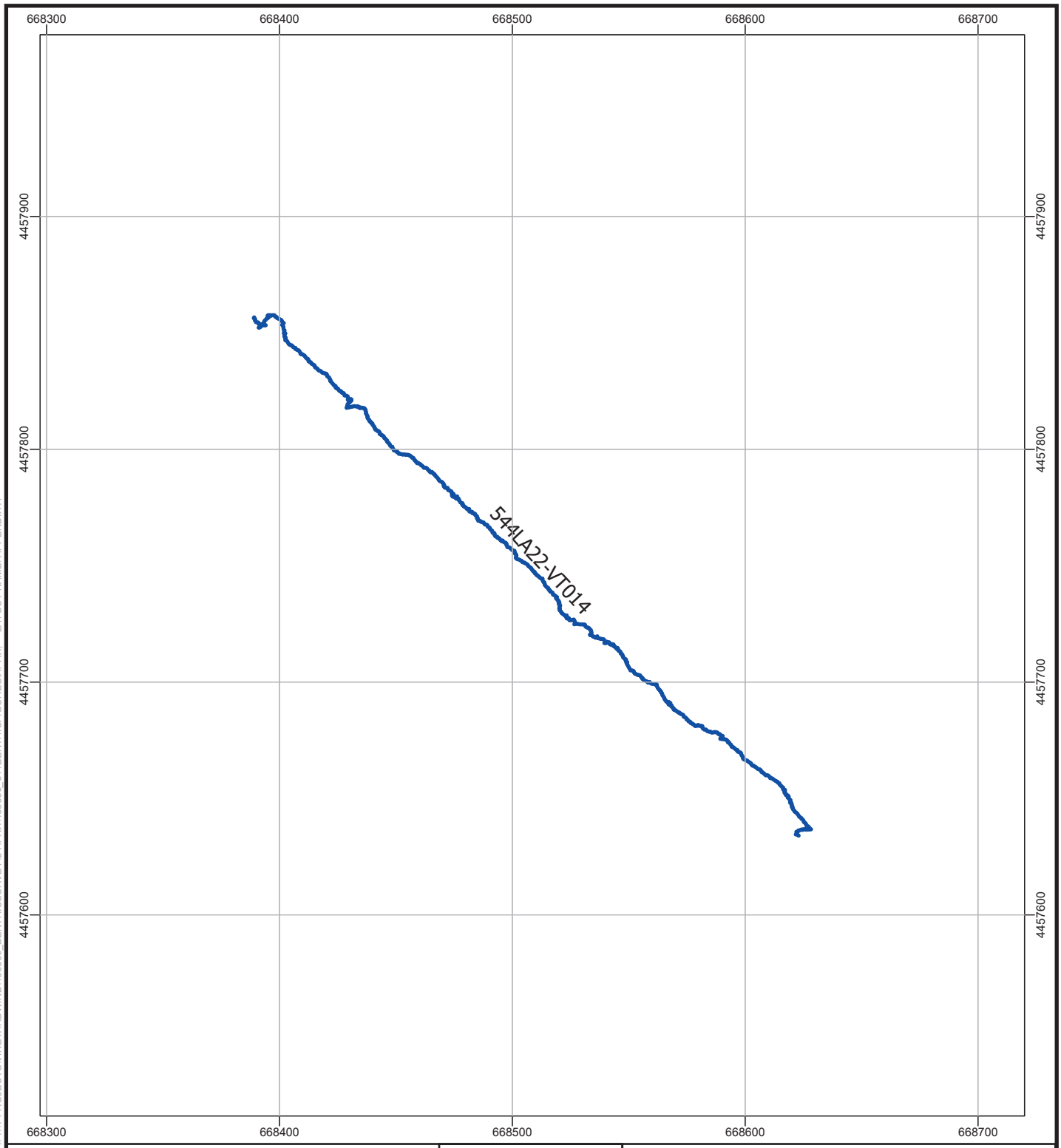
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT013

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

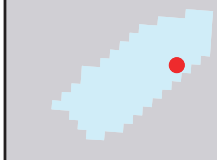
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

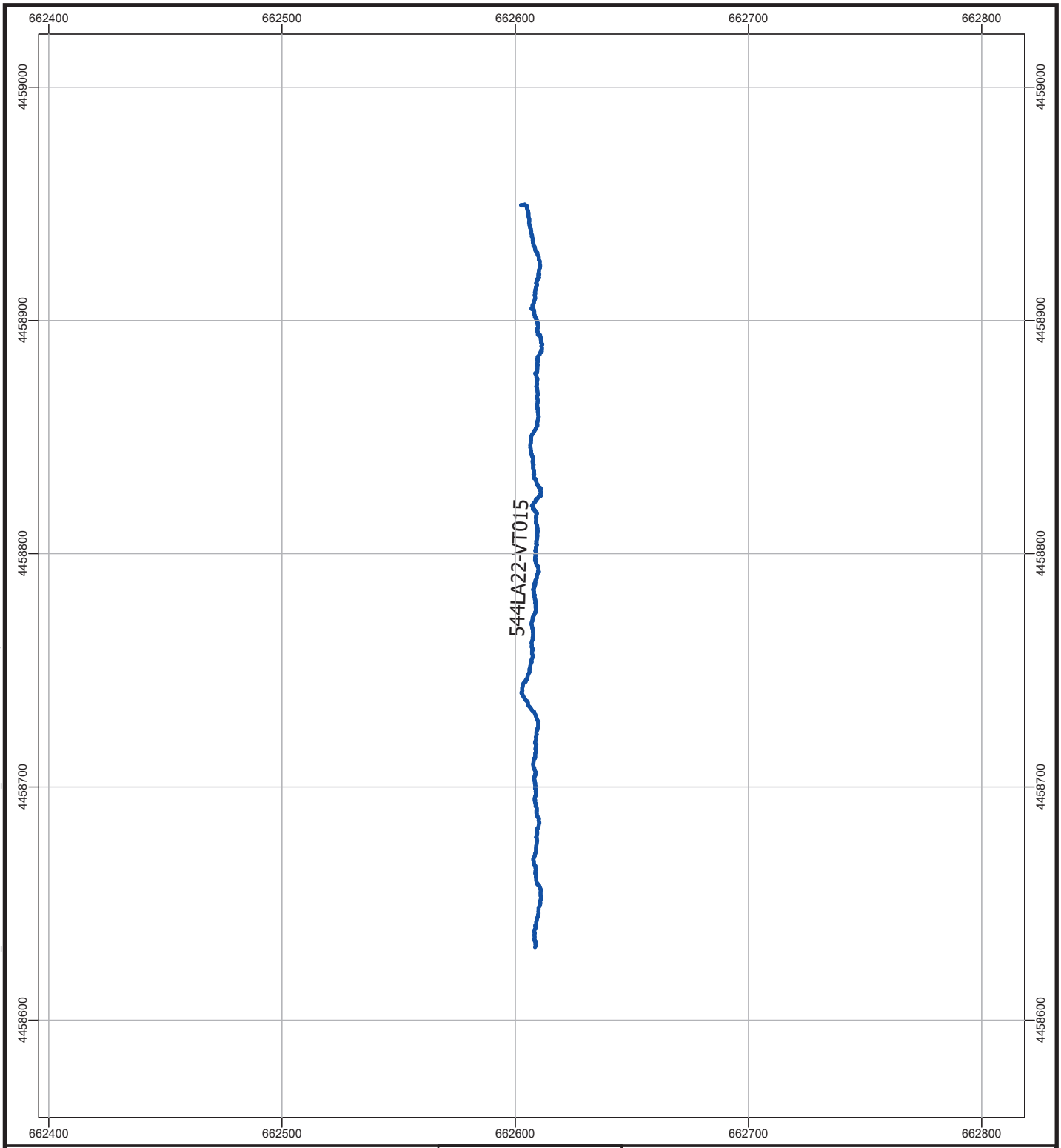
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT014

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

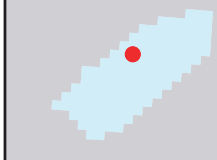
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

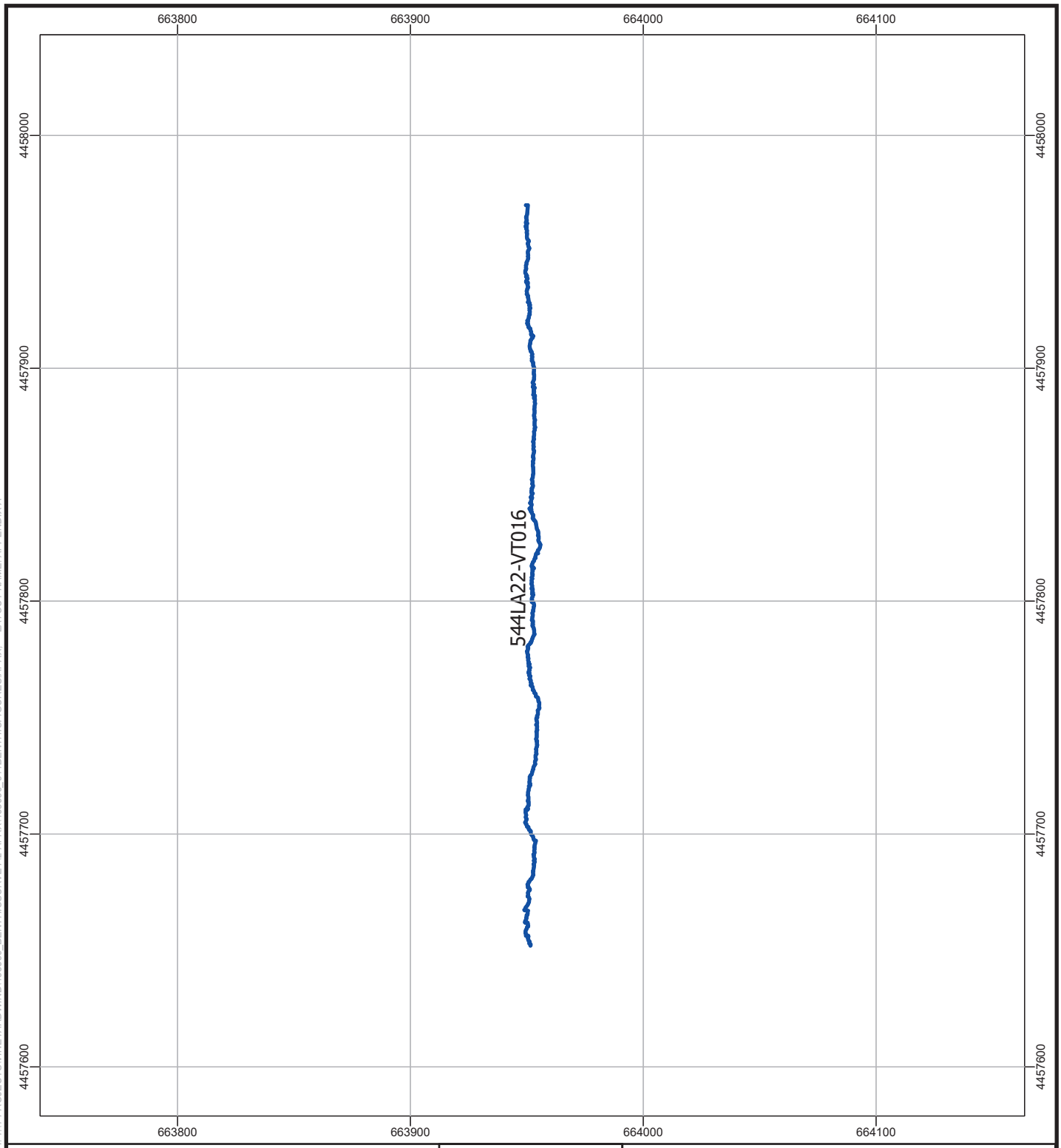
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT015

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

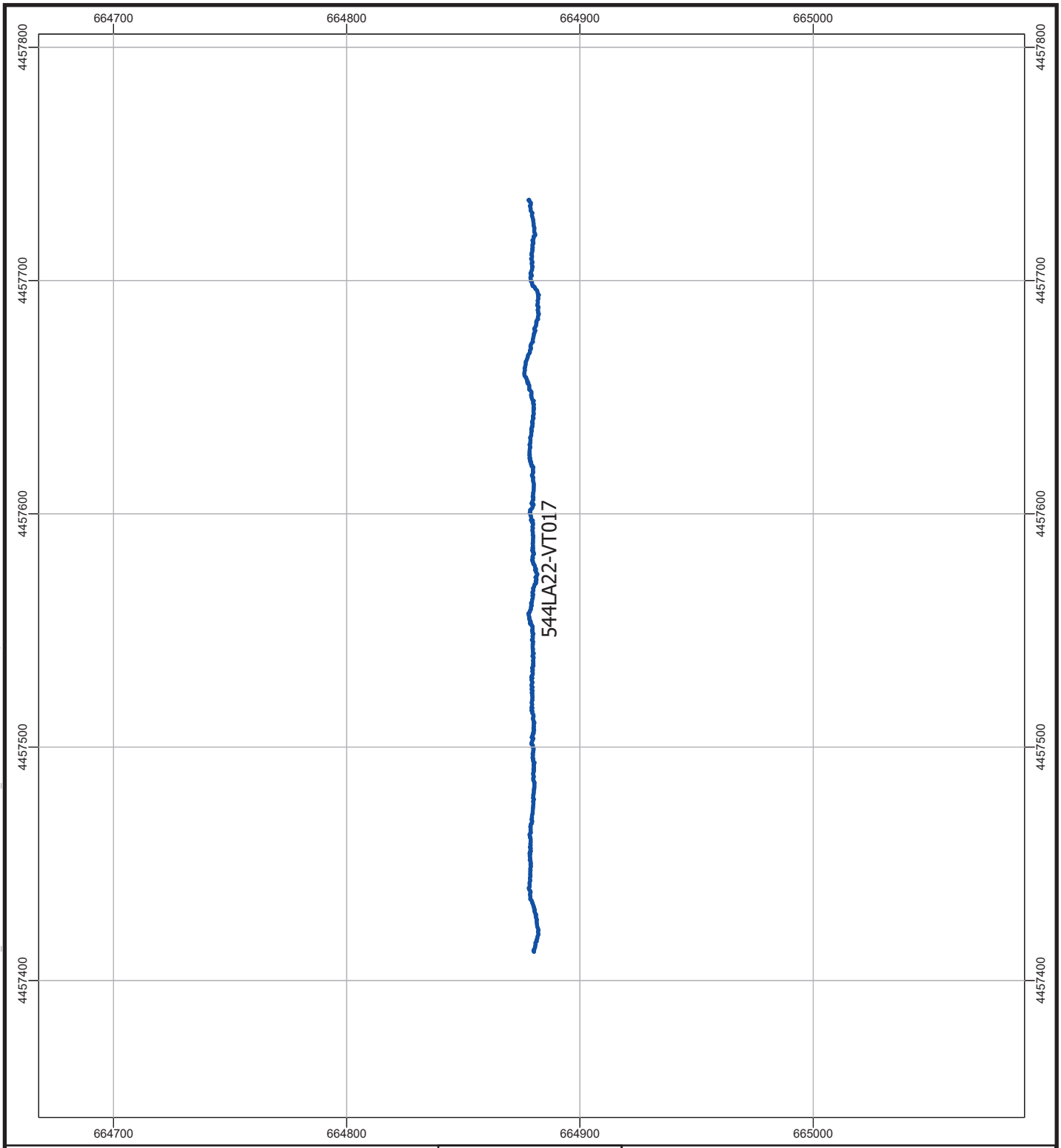
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT016

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

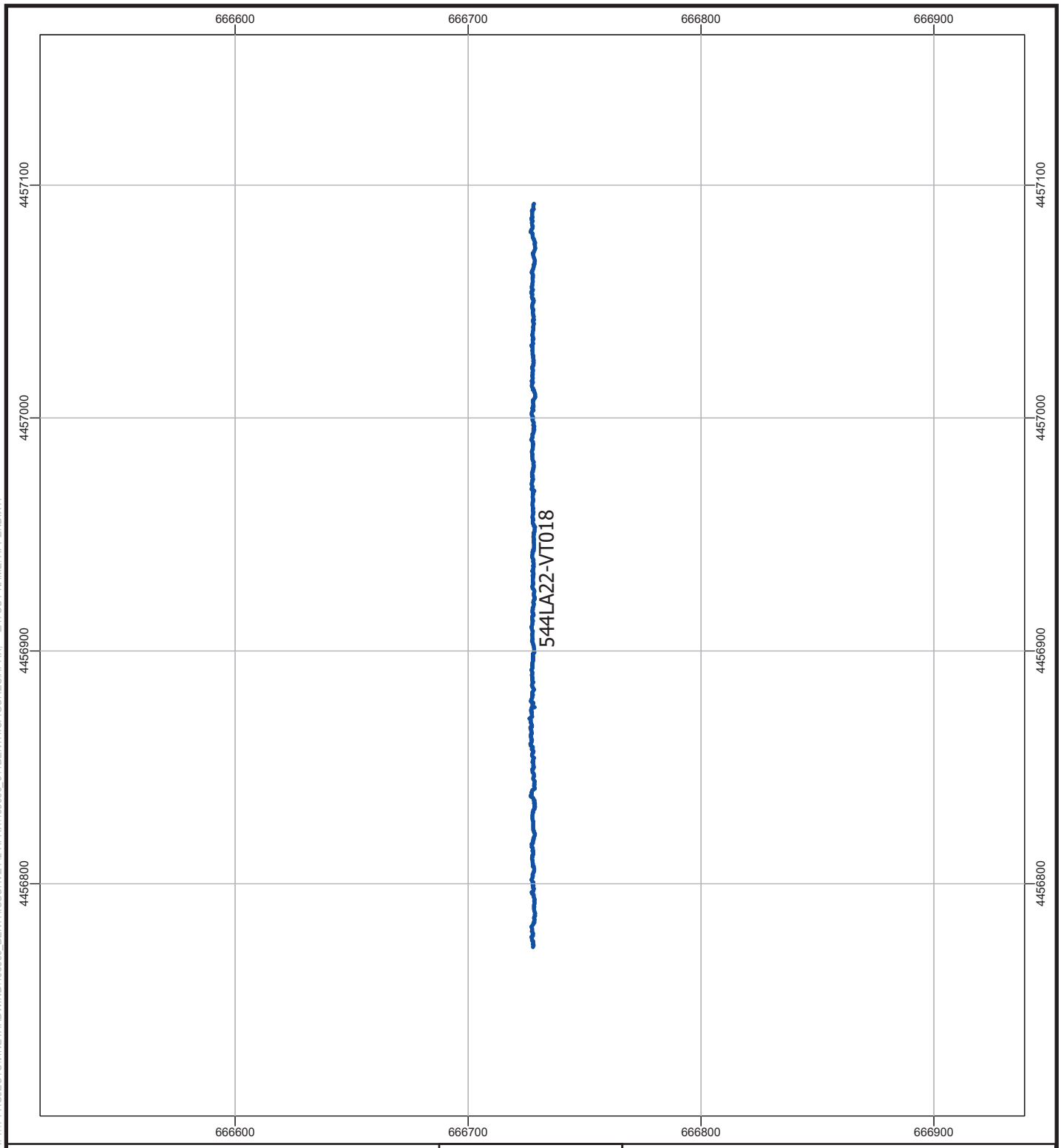
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT017

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; -- LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

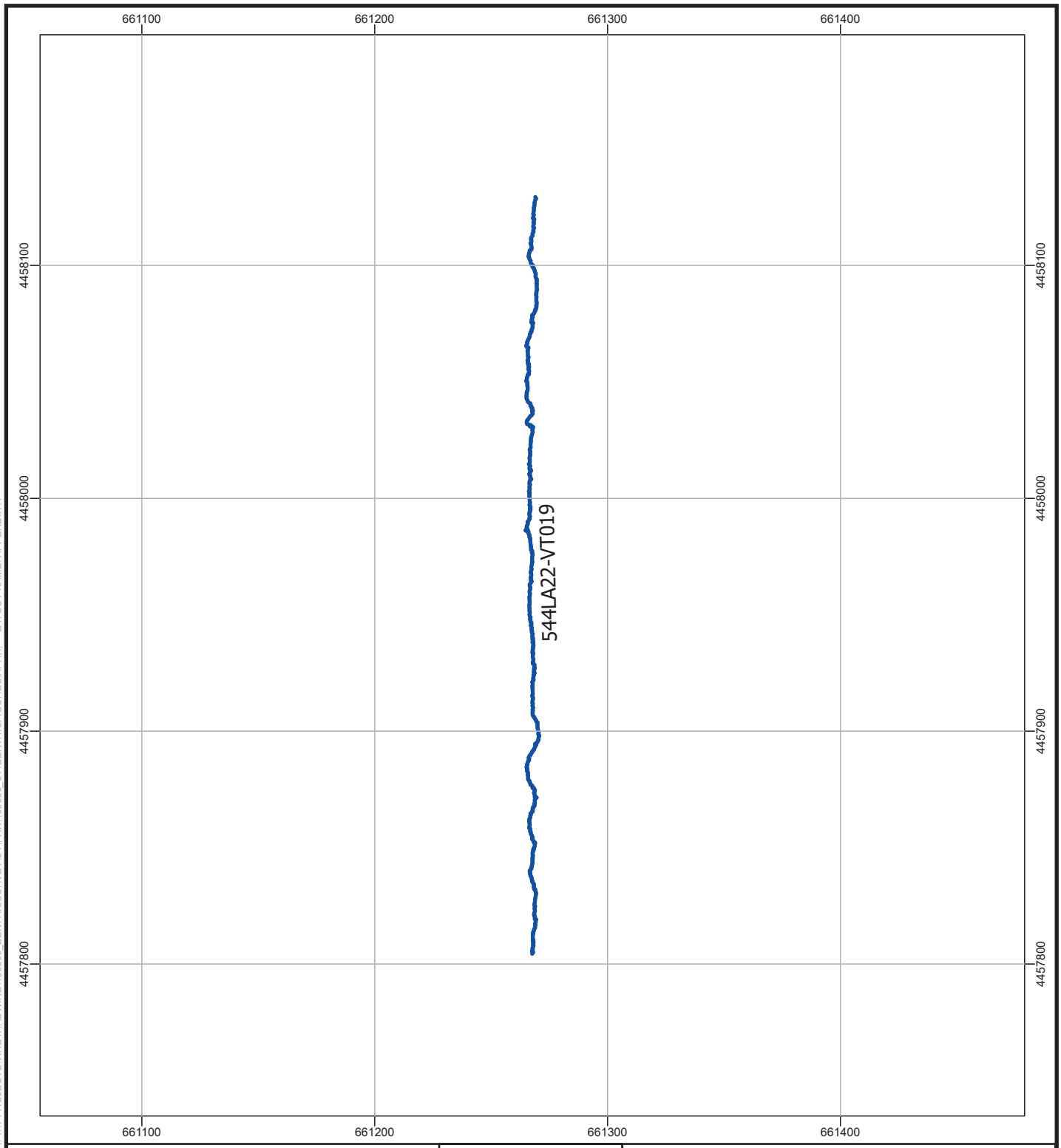
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT018

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

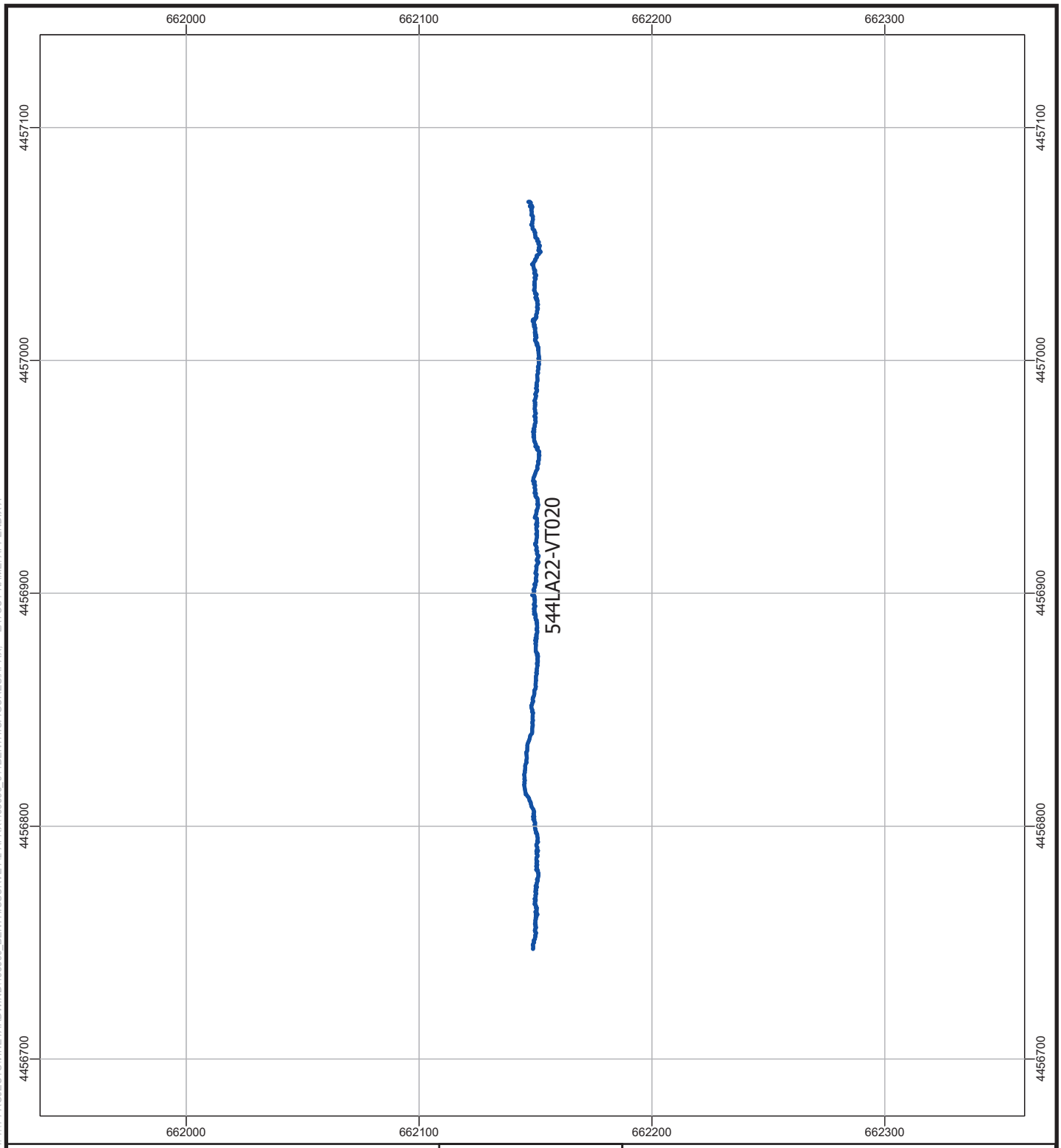
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT019

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

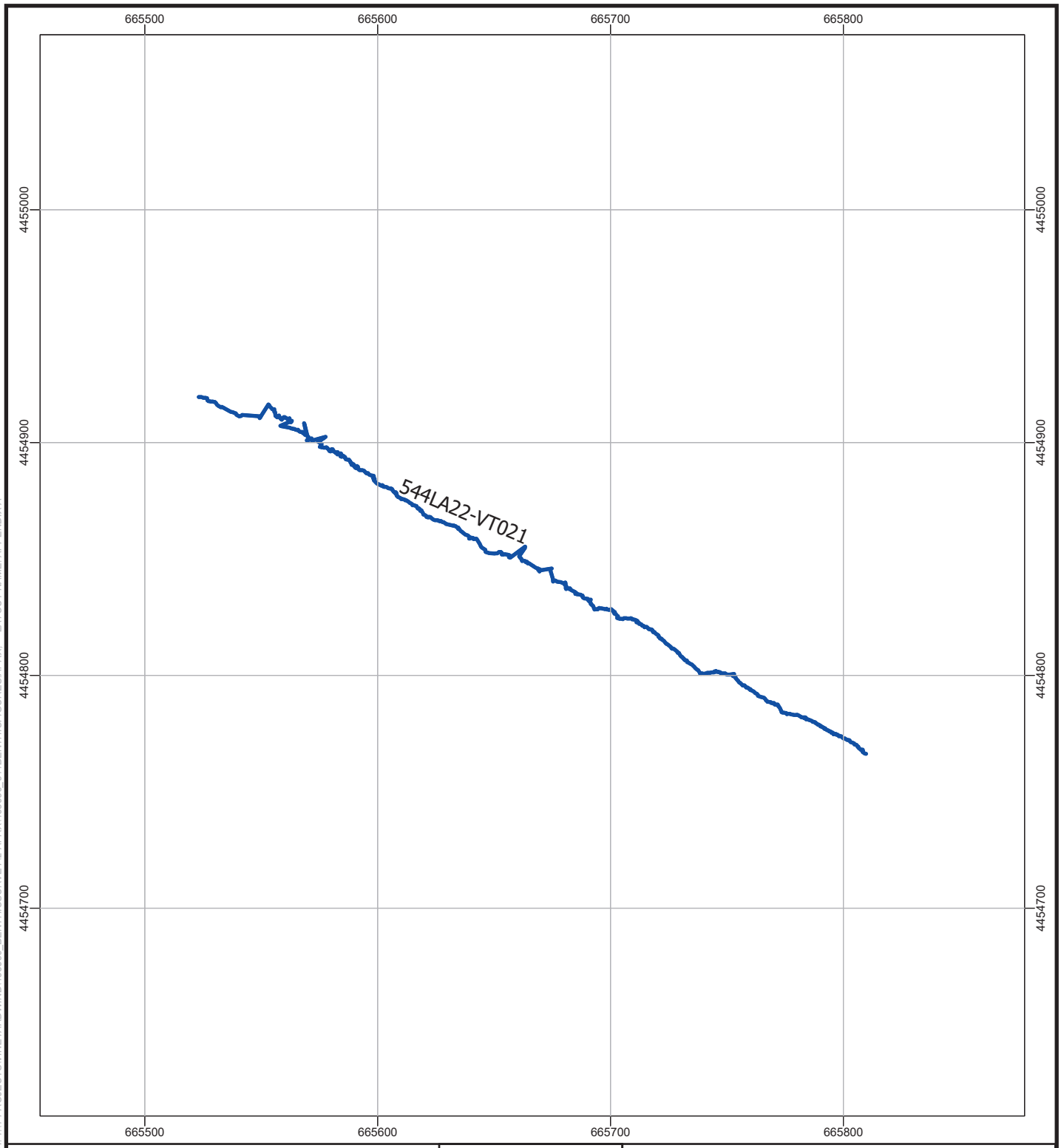
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT020

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

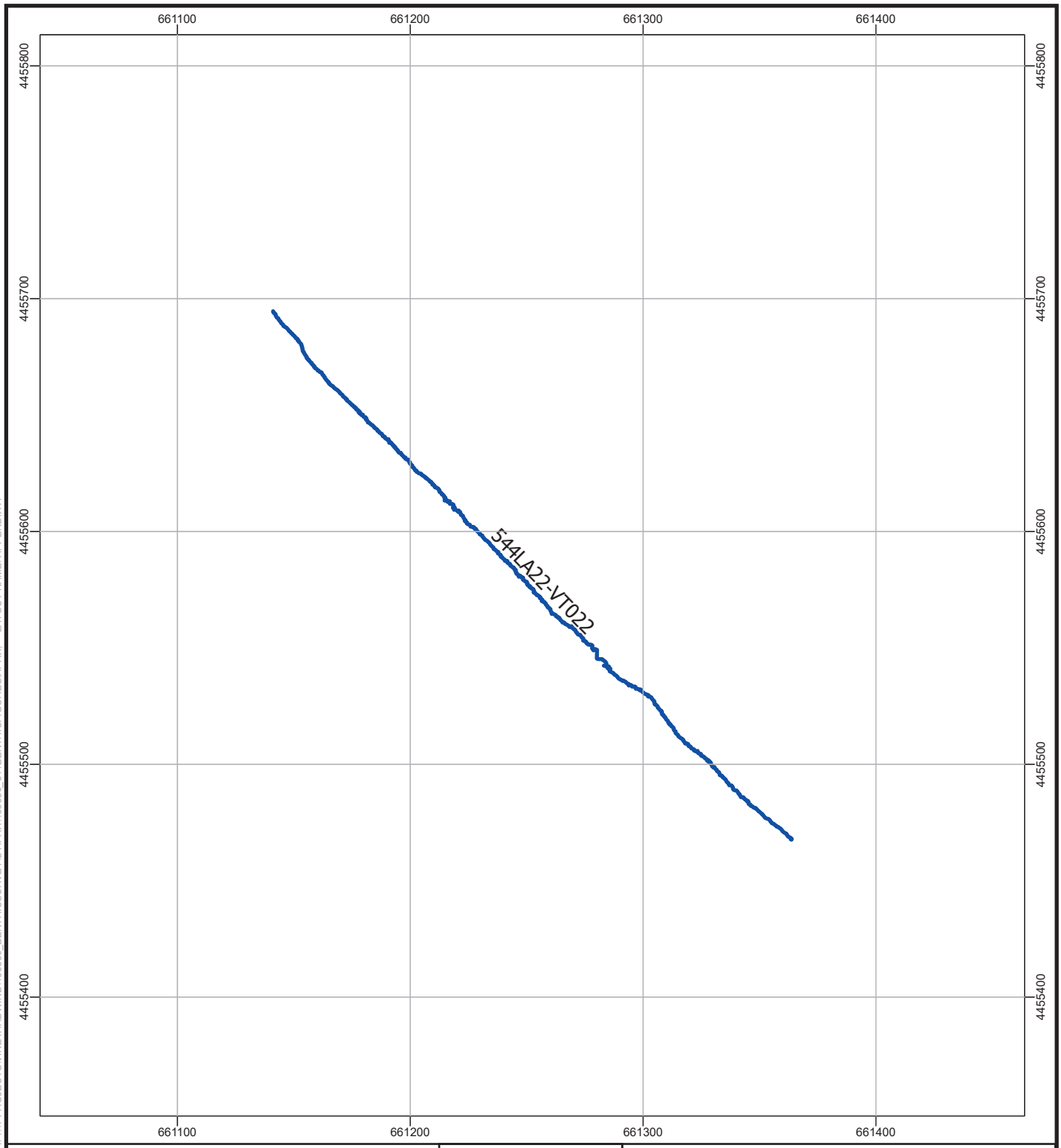
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT021

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

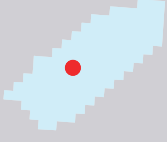
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

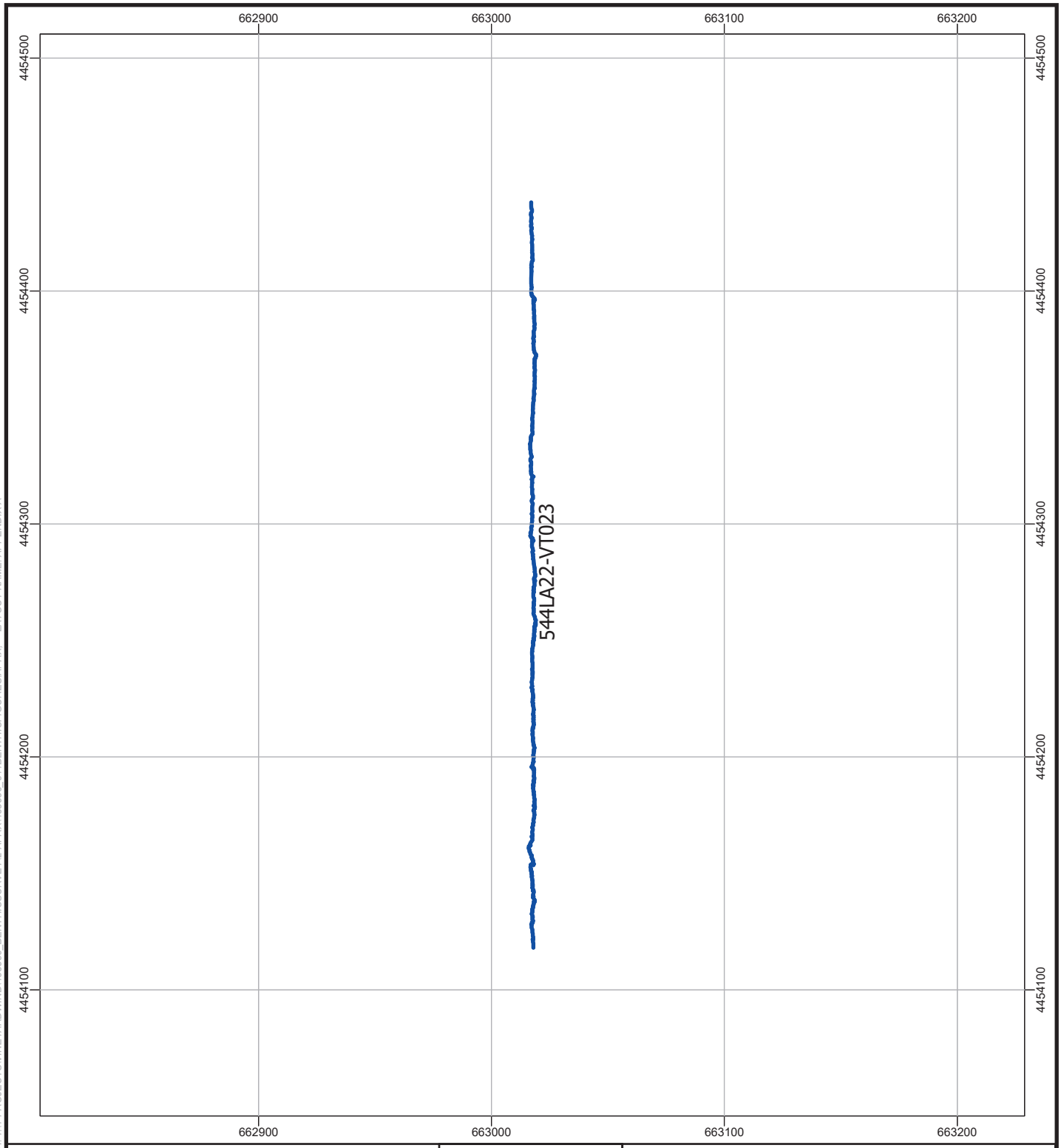
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT022

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

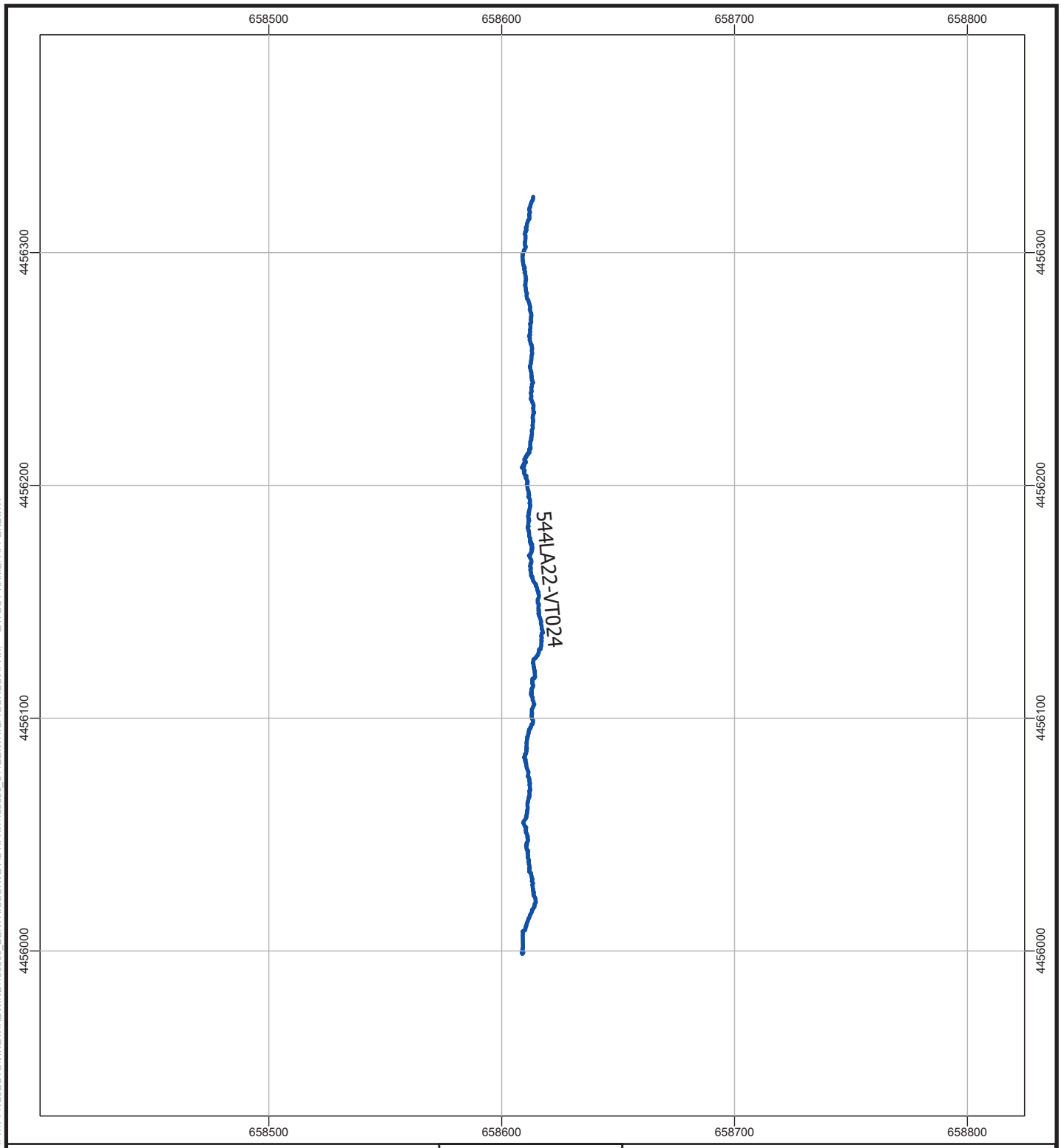
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT023

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

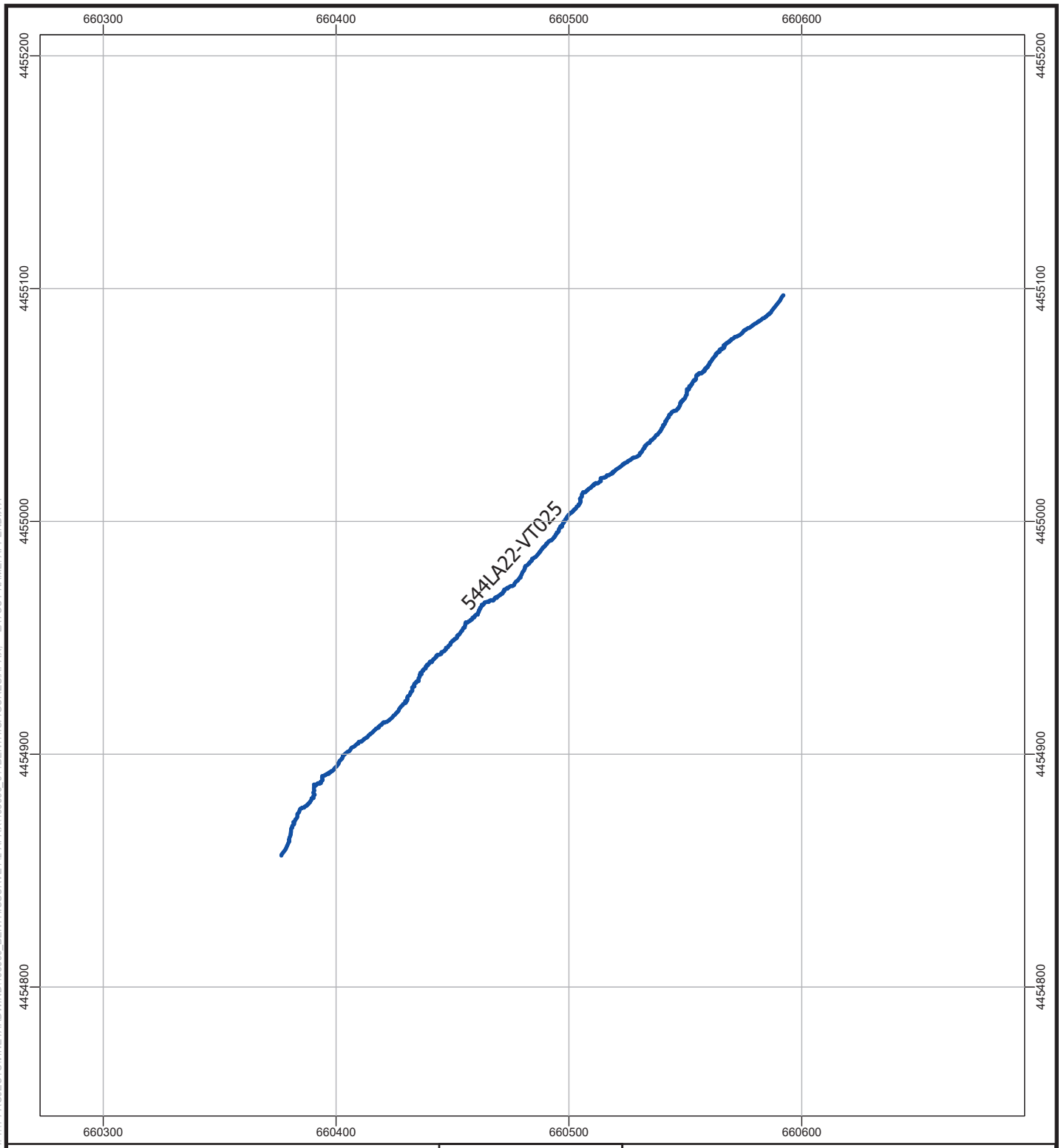
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT024

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 50

METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

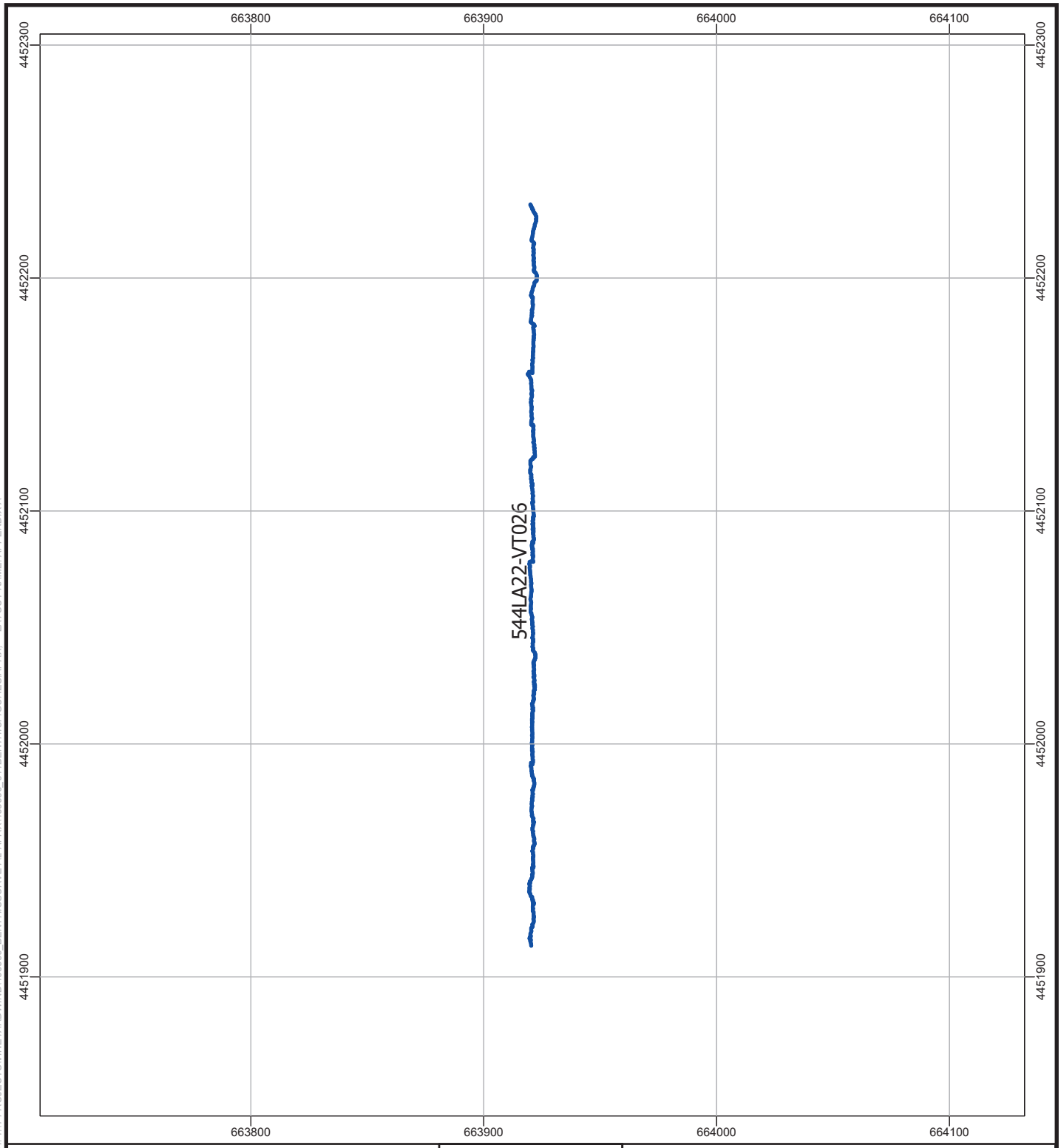
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT025

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

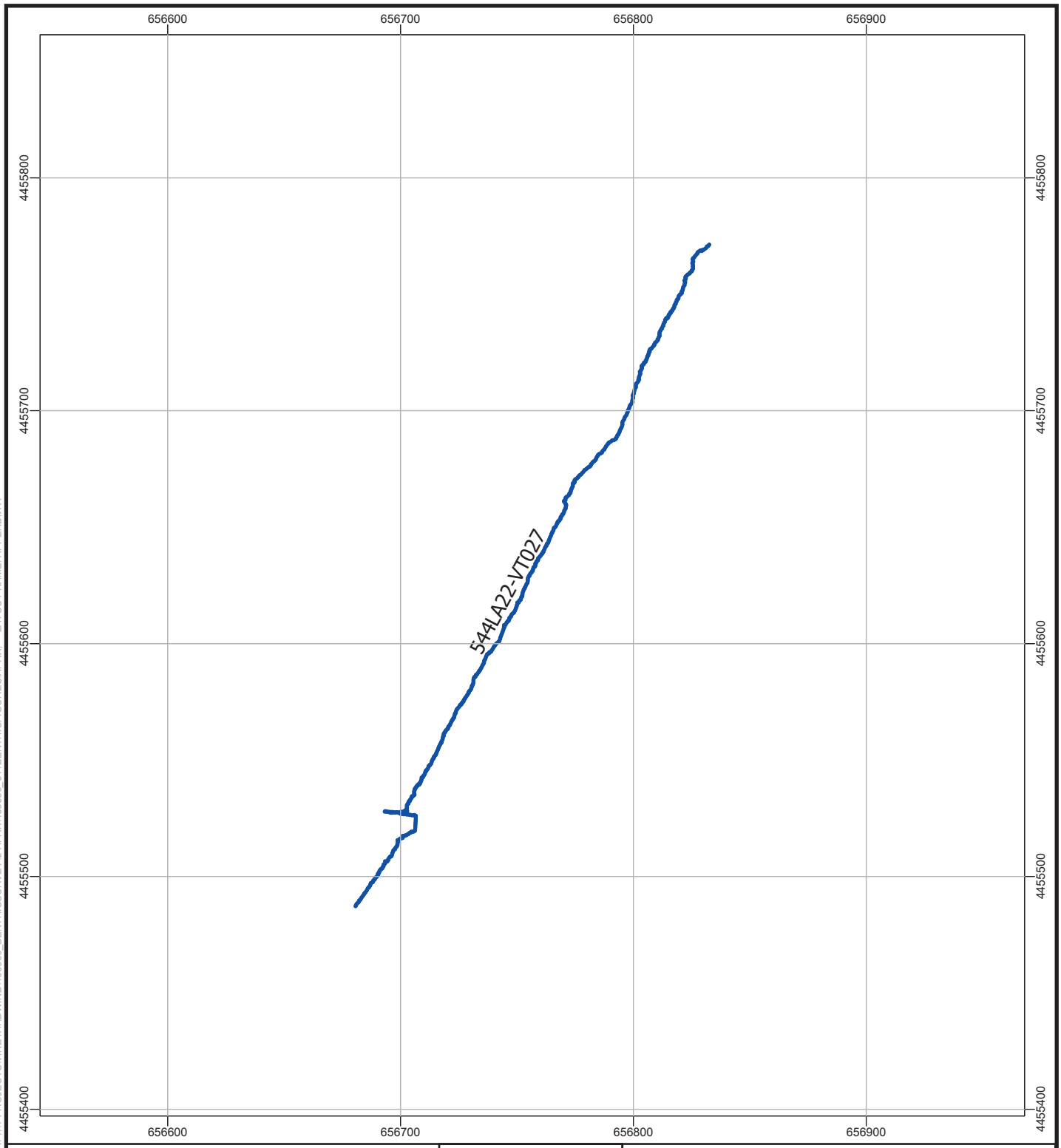
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT026

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

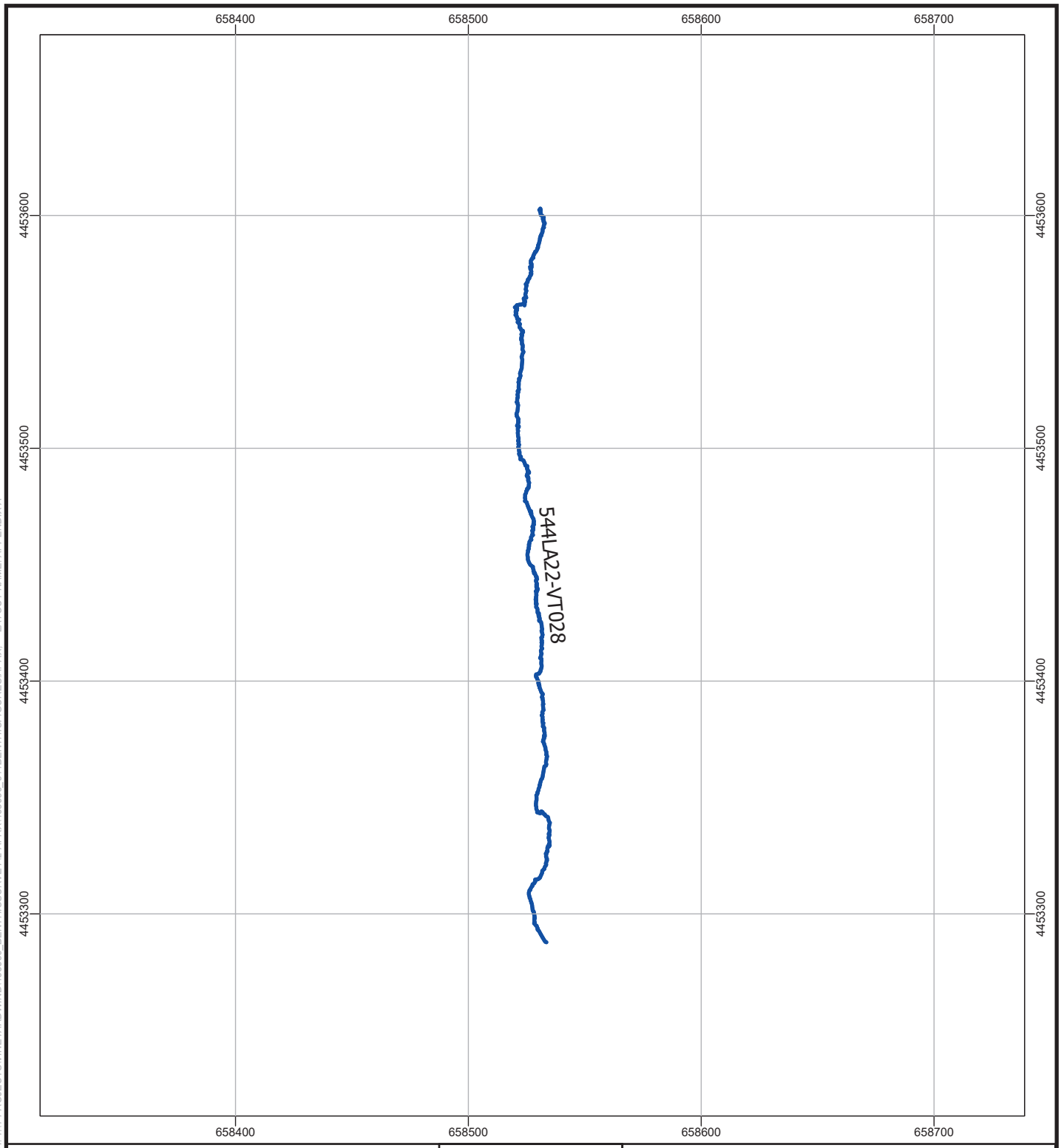
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT027

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

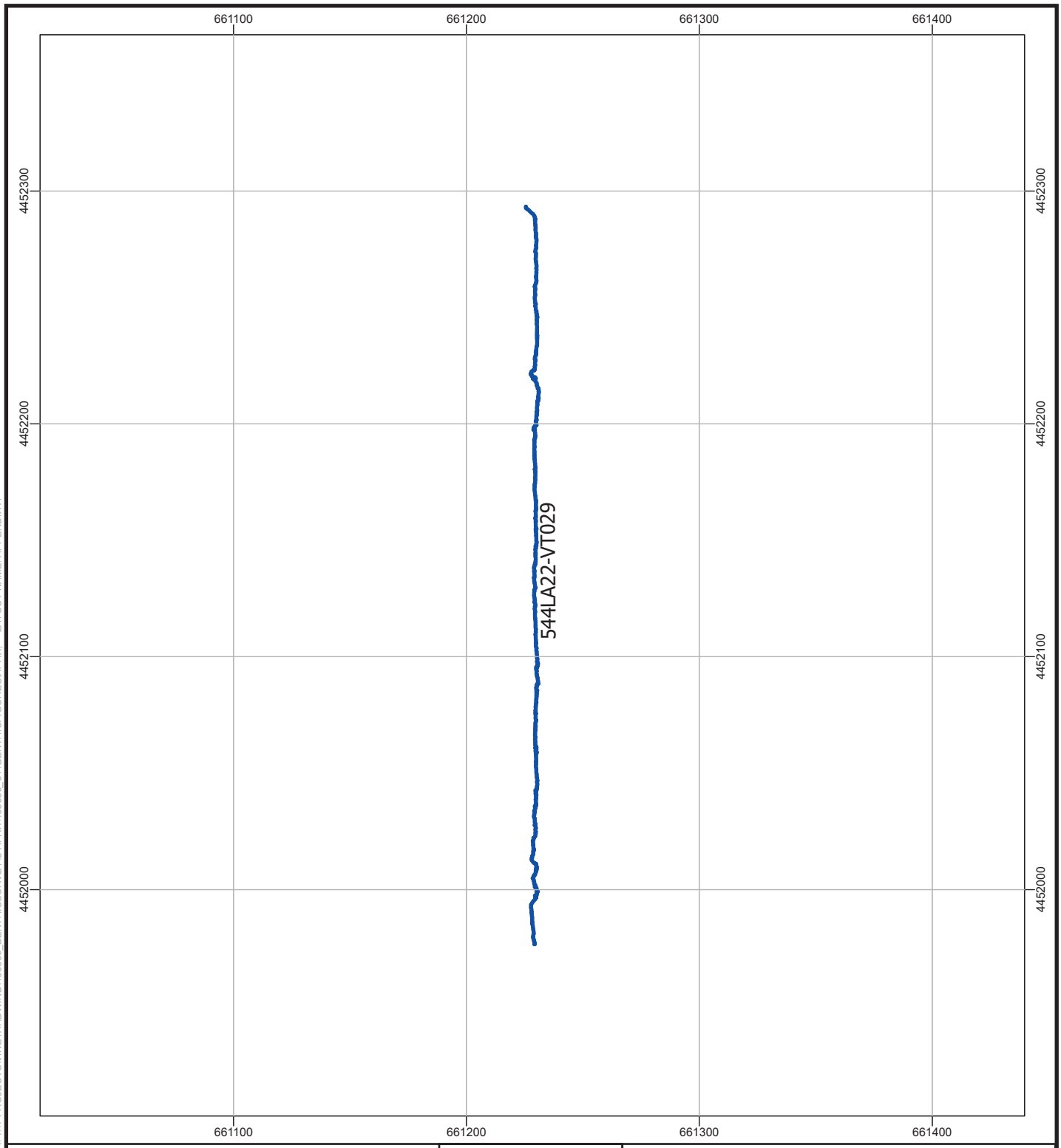
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT028

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

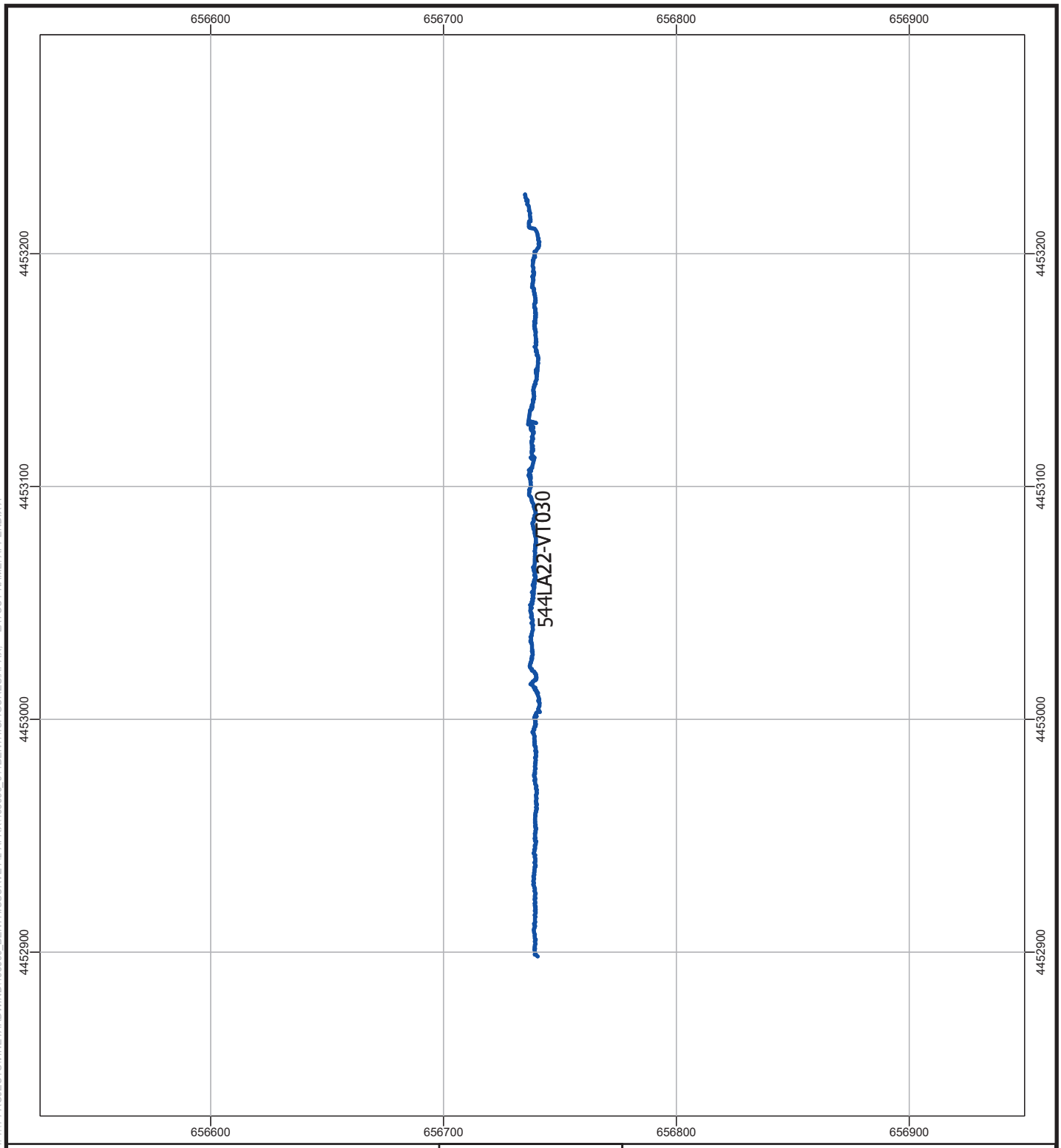
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT029

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

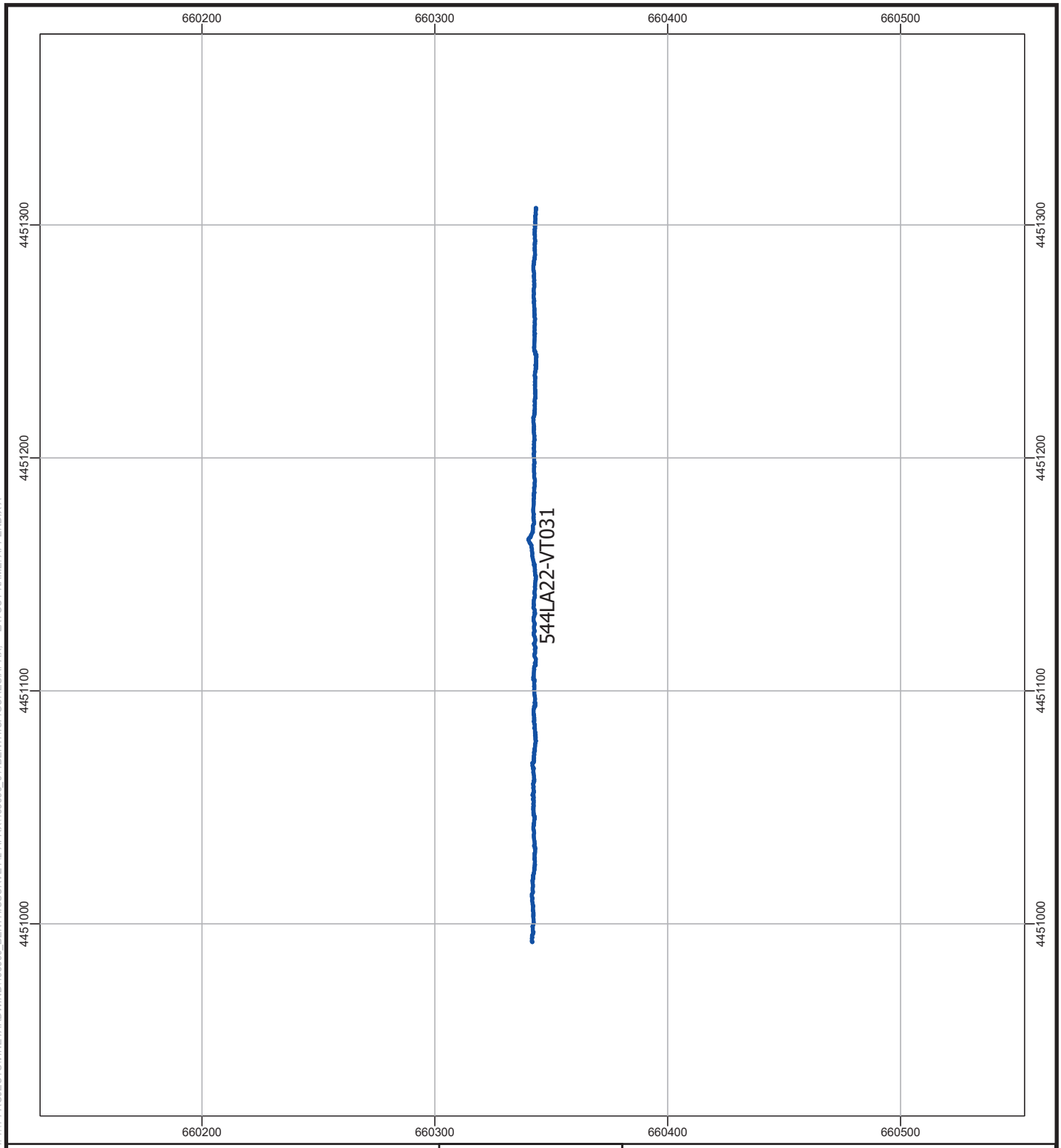
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT030

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

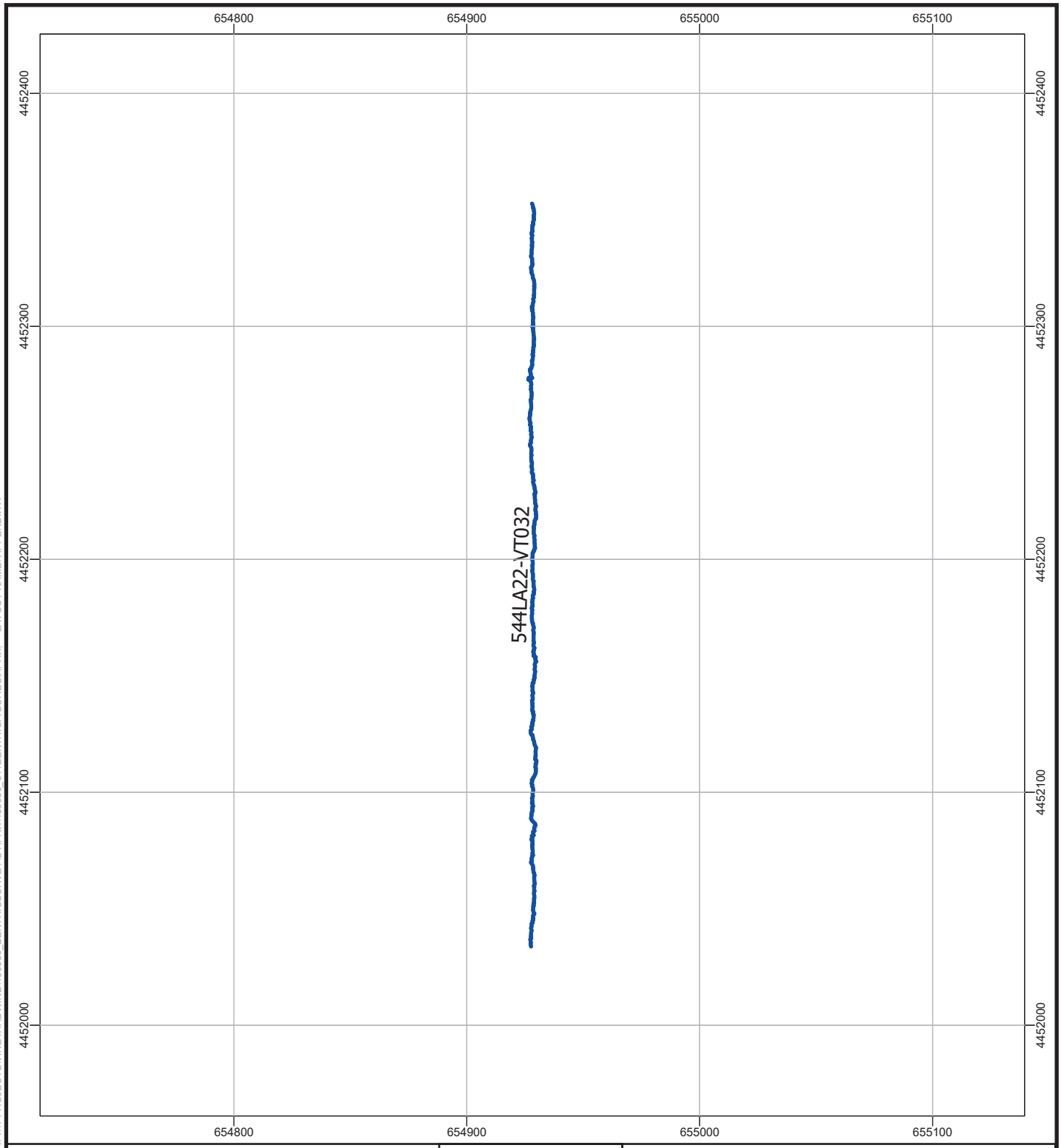
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT031

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

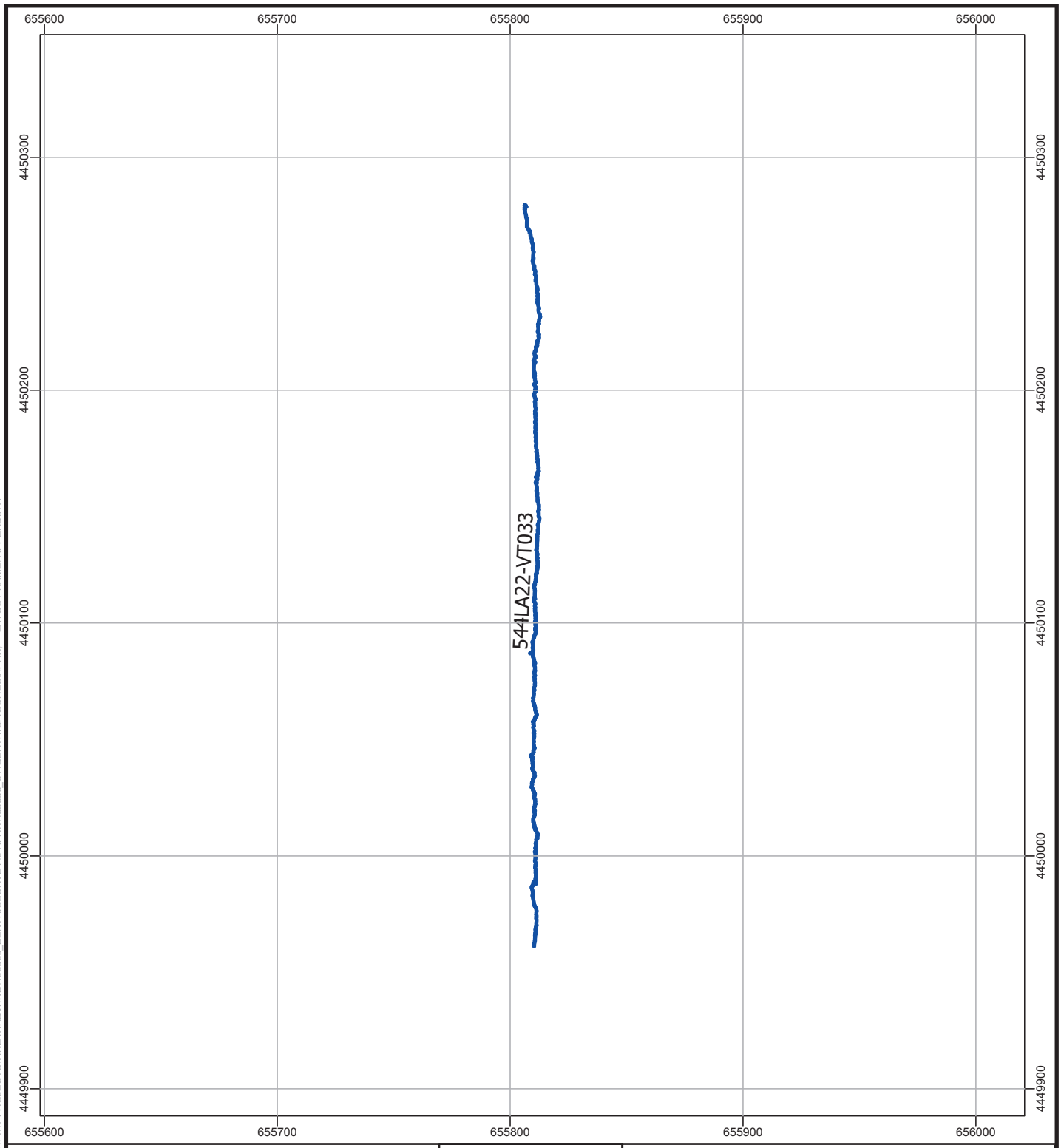
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT032

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

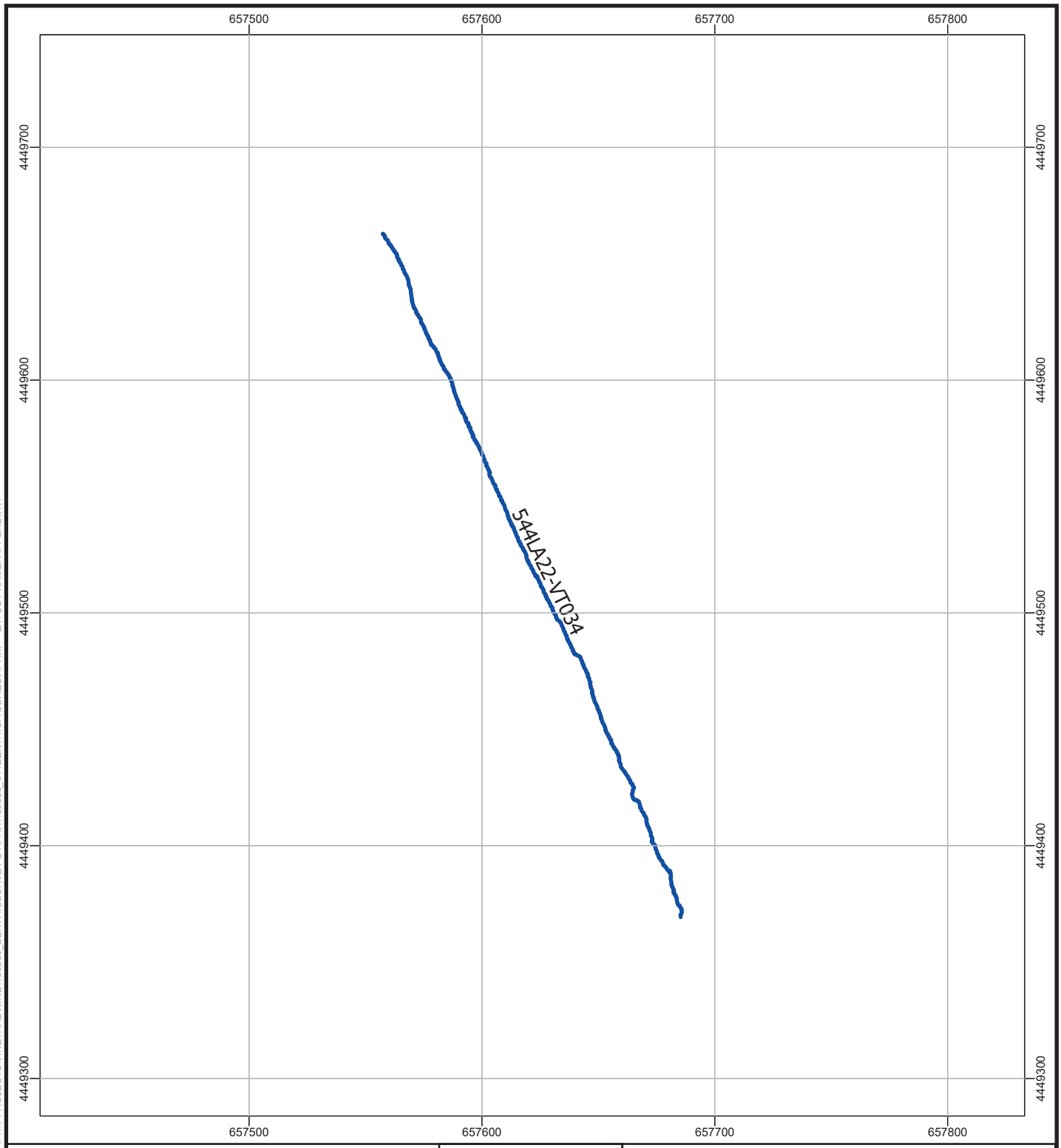
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT033

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

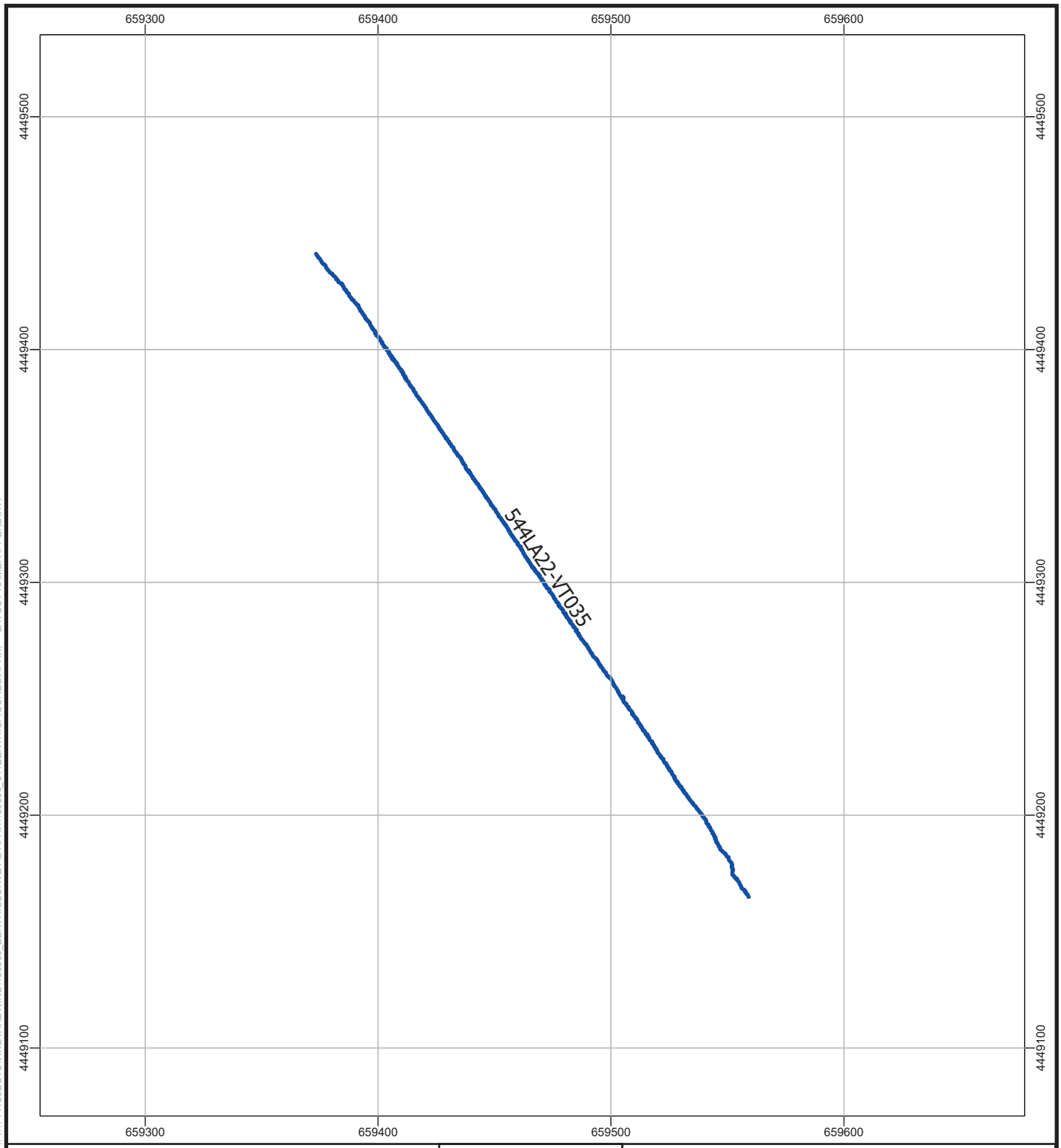
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT034

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A



Video Track Lines

0 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
UNDERWATER VIDEO TRACK LINES:
544 LEASE AREA

DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix A
Transect: 544LA22-VT035

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

-- SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARDWIND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX A

Appendix B: Benthic Grab Sampling Field Log

Sample ID	Sort SEQ	X	Y	Date Sample was taken	Depth (m)	Description	Accepted/ Rejected?	If rejected give a brief reason, Special Processing, Procedure Deviations, or Other comments
544LA22-GB01A	1	672116	4464617	8/31/2022	42.4	Dark brown, medium grained SAND with shell fragments(10YR 2/1)	Accepted	
544LA22-GB01B	1	672116	4464617	8/31/2022	42.4	Dark brown, medium grained SAND (10YR 4/1)	Accepted	
544LA22-GB01C	1	672116	4464617	8/31/2022	42.4	Dark brown, medium grained SAND (10YR 5/2)	Accepted	
544LA22-GB02A	2	669424	4463751	8/31/2022	42.4	Medium grained, brownish gray SAND (5GY 4/1)	Accepted	
544LA22-GB02B	2	669424	4463751	8/31/2022	42.4	Medium grained, dark gray SAND (5GY 4/1)	Accepted	
544LA22-GB02C	2	669424	4463751	8/31/2022	42.4	Medium grained, dark gray SAND (5GY 4/1)	Accepted	
544LA22-GB03	3	671290	4463135	8/31/2022	42.4	Brown, medium grained SAND (10YR 5/2)	Accepted	
544LA22-GB04	4	667579	4462283	8/31/2022	40.2	Brown, medium grained SAND (10YR 4/2)	Accepted	
544LA22-GB05	5	670299	4461648	9/1/2022	43.1	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB06A	6	672329	4460151	8/31/2022	43.5	Dark gray, medium grained SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB06B	6	672329	4460151	8/31/2022	43.5	Dark gray, medium grained SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB06C	6	672329	4460151	8/31/2022	43.5	Dark gray, medium grained SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB07A	7	664919	4462247	9/1/2022	40.9	Dark brown, medium grained SAND (10YR 4/2)	Accepted	
544LA22-GB07B	7	664919	4462247	9/1/2022	40.9	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB07C	7	664919	4462247	9/1/2022	40.9	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB08	8	666409	4460296	9/1/2022	42.3	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB09A	9	669436	4460319	8/31/2022	43.2	Medium grained, dark gray SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB09B	9	669436	4460319	8/31/2022	43.2	Medium grained, dark brown/gray SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB09C	9	669436	4460319	8/31/2022	43.2	Medium grained, brown/gray SAND with shell fragments (5GY 4/1)	Accepted	
544LA22-GB10	10	669574	4458221	8/31/2022	43.2	Medium grained, brown SAND with shell fragments (7.5YR 3/4)	Accepted	
544LA22-GB011A	11	664004	4459955	9/1/2022	41.3	Dark brown, medium grained SAND with shell fragments(10YR 4/2)	Accepted	
544LA22-GB011B	11	664004	4459955	9/1/2022	41.3	Dark brown, medium grained SAND with shell fragments(10YR 6/1	Accepted	
544LA22-GB011C	11	664004	4459955	9/1/2022	41.3	Brown, medium grained sand with shell fragments (10YR 4/3)	Accepted	
544LA22-GB12	12	664879	4457572	9/1/2022	43.2	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB13	13	665740	4456518	9/1/2022	43.8	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB014A	14	667591	4456202	9/1/2022	43.7	Dark gray, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB014B	14	667591	4456202	9/1/2022	43.7	Dark brown, medium grained SAND (10YR 4/3)	Accepted	
544LA22-GB014C	14	667591	4456202	9/1/2022	43.7	Dark brown, medium grained SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB015A	15	661320	4459338	9/1/2022	41.1	Dark gray, medium grained SAND (7.5R 4/1)	Accepted	
544LA22-GB015B	15	661320	4459338	9/1/2022	41.1	Dark gray, medium grained SAND (2.5Y 4/2)	Accepted	
544LA22-GB015C	15	661320	4459338	9/1/2022	41.1	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB16	16	663054	4457437	9/2/2022	43.7	Grayish brown, medium Sand with shell fragments and sand dollars (10YR5/1)	Accepted	
544LA22-GB017A	17	663954	4455925	9/2/2022	43.2	Grayish brown, medium Sand with shell fragments and sand dollars (10YR6/1)	Accepted	
544LA22-GB017B	17	663954	4455925	9/2/2022	43.1	Grayish brown, medium Sand with shell fragments (10YR5/1)	Accepted	
544LA22-GB017C	17	663954	4455925	9/2/2022	43.4	Grayish brown, medium Sand with shell fragments (10YR5/1)	Accepted	
544LA22-GB18	18	660382	4456493	9/2/2022	43.0	Brownish gray, medium grained SAND with sand dollars and shell fragments (10y4/1)	Accepted	
544LA22-GB19	19	661220	4455602	9/2/2022	42.3	Brownish gray, medium grained SAND with shell fragments (10y5/2	Accepted	
544LA22-GB20	20	664432	4453429	9//2022	42.5	Grayish brown, medium Sand with shell fragments (10YR5/1)	Accepted	
544LA22-GB21	21	656759	4455636	9/2/2022	41.3	Dark gray, medium SAND with shell fragments(2.5Y 4/2)	Accepted	
544LA22-GB022A	22	658525	4454843	9/2/2022	42.1	Dark gray, medium SAND with shell fragments(2.5Y 3/2)	Accepted	
544LA22-GB022B	22	658525	4454843	9/2/2022	42.1	Dark brown, medium SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB022C	22	658525	4454843	9/2/2022	42.1	Dark brown, medium SAND with shell fragments (10YR 4/1)	Accepted	
544LA22-GB023A	23	661249	4454177	9/2/2022	44.3	Grayish brown, medium Sand with shell fragments (10YR5/1)		

Sample ID	Sort SEQ	X	Y	Date Sample was taken	Depth (m)	Description	Accepted/ Rejected?	If rejected give a brief reason, Special Processing, Procedure Deviations, or Other comments
544LA22-GB023B	23	661249	4454177	9/2/2022	43.5	Grayish brown, medium Sand with shell fragments (10YR5/1)		
544LA22-GB023C	23	661249	4454177	9/2/2022	43.2	Grayish brown, medium Sand with shell fragments (10YR5/1)		
544LA22-GB24	24	656589	4453874	9/2/2022	41.2	Dark brown, medium SAND with shell fragments (2.5Y 5/4)	Accepted	
544LA22-GB025A	25	657354	4452390	9/2/2022	42.5	Dark gray, medium SAND with shell fragments(2.5Y 4/2	Accepted	
544LA22-GB025B	25	657354	4452390	9/2/2022	42.5	Dark gray, medium SAND (2.5Y 4/2)	Accepted	
544LA22-GB025C	25	657354	4452390	9/2/2022	42.5	Dark gray, medium grained SAND (2.5Y 4/2)	Accepted	
544LA22-GB26	26	659432	4452426	9/1/2022	42.4	Dark gray medium grained SAND with shell fragments(2.5Y 4/2	Accepted	
544LA22-GB27	27	662164	4452289		44.3	Grayish brown, medium Sand with shell fragments (10YR5/1)	Accepted	
544LA22-GB028A	28	654931	4452188	9/1/2022	40.1	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB028B	28	654931	4452188	9/1/2022	40.1	Dark gray, medium grained SAND (2.5Y 3/2)	Accepted	
544LA22-GB028C	28	654931	4452188	9/1/2022	40.1	Dark gray, medium grained SAND (2.5Y 3/2)	Accepted	
544LA22-GB29	29	656225	4450704	9/1/2022	40.1	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB30	30	659011	4450767	9/1/2022	42.8	Dark gray medium grained SAND with shell fragments(2.5Y 4/2	Accepted	
544LA22-GB031A	31	661237	4450431	9/1/2002	43.0	Dark gray, medium grained SAND (2.5Y 3/2)	Accepted	
544LA22-GB031B	31	661237	4450431	9/1/2022	43.0	Dark gray, medium grained SAND with shell fragments (2.5Y 3/2)	Accepted	
544LA22-GB031C	31	661237	4450431	9/1/2022	43.0	Dark gray, medium grained SAND with shell fragments (2.5Y 3/2)	Accepted	
544LA22-GB32	32	653126	4451416	9/1/2022	40.7	Dark gray, medium grained SAND (2.5Y 3/2)	Accepted	
544LA22-GB033A	33	658494	4448768	9/1/2022	43.0	Dark gray, medium grained SAND (2.5Y 4/2)	Accepted	
544LA22-GB033B	33	658494	4448768	9/1/2022	43.0	Dark gray, medium grained SAND (2.5Y 4/2)	Accepted	
544LA22-GB033C	33	658494	4448768	9/1/2022	43.0	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB34	34	661249	4448851	9/1/2022	44.8	Dark gray, medium grained SAND with shell fragments (2.5Y 4/2)	Accepted	
544LA22-GB35	35	657505	4447426	9/1/2022	42.5	Dark gray, medium grained SAND with shell fragments(2.5Y 4/2)	Accepted	

Appendix C: Underwater Video Field Log

ROV Transect Log

Job #:	J22670	**Client:**	Vineyard Mid-Atlantic	**Date Range:**	Sep-22

Site ID	DAT FILE Verified?	Video File Names/Numbers	Date Site was recorded	Recording Start time	Avg ROV Depth (m)	DT Start Time	SOL	EOL	Transect Duration	HD Video Recorded? (Y/N)	Nav Video Recorded? (Y/N)	Videos uploaded? (Y/N)	GoPro Recorded? (Y/N)	GoPro Uploaded? (Y/N)	Operator/tech who recorded/processed site	Description: Any feature, or special sightings of note?	Accepted/ Rejected?	If rejected give a brief reason, Special Processing, Procedure Deviations, or Other comments
544LA22-VT01-1	Y	544LA22-VT01-1, 544LA22-'	31-Aug-22	15:26	43.2	NA	15:37:50	16:03:59	0:26:09	Y	Y	Y	Y	N	Cody Maki/Jasmine Baloch	sand ripples, moderate to heavy density of sand dolla	REJECTED	
544LA22-VT01-2	Y	544LA22-VT01-2, 544LA22-'	31-Aug-22	16:27	43.2	NA	16:32:25	16:53:34	0:21:09	Y	Y	Y	Y	N	Cody Maki/Jasmine Baloch	sand ripples, moderate to heavy density of sand dolla	REJECTED	Nav
544LA22-VT01-3	Y	544LA22-VT01-3, 544LA22-'	31-Aug-22	17:24:01	43.2	17:23:36	17:28:39	17:46:02	0:17:23	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT15-1	Y	544LA22-VT15-1, 544LA22-'	1-Sep-22	6:24:29	41.5	6:25:14	6:37:54	6:57:12	0:19:18	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	small sand waves, dense patches of sand dollars	ACCEPTED	
544LA22-VT19-1	Y	544LA22-VT19-1, 544LA22-'	1-Sep-22	7:20:00	43.7	7:20:46	7:30:28	7:48:00	0:17:32	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	flat sand with depressions, moderate to heavy densit	ACCEPTED	
544LA22-VT20-1	Y	544LA22-VT20-1, 544LA22-'	1-Sep-22	8:12:26	43.5	8:12:25	8:19:30	8:36:18	0:16:48	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT16-1	Y	544LA22-VT16-1, 544LA22-'	1-Sep-22	9:01:07	44.7	9:01:01	9:09:50	9:25:55	0:16:05	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT17-1	Y	544LA22-VT17-1, 544LA22-'	1-Sep-22	9:43:45	44.5	9:43:14	9:50:43	10:08:17	0:17:34	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT18-1	Y	544LA22-VT18-1, 544LA22-'	1-Sep-22	10:28:26	NA	NA	10:34:58	10:53:45	0:18:47	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	REJECTED	Issue with dat file.
544LA22-VT21-1	Y	544LA22-VT21-1, 544LA22-'	1-Sep-22	11:41:25	48	11:41:09	11:49:52	12:07:18	0:17:26	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT26-1	Y	544LA22-VT26-1, 544LA22-'	1-Sep-22	12:35:00	43.6	12:35:35	12:45:28	13:09:08	0:23:40	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT23-1	Y	544LA22-VT23-1, 544LA22-'	1-Sep-22	13:35:01	44	13:43:43	13:42:35	14:07:25	0:24:50	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT29-1	Y	544LA22-VT29-1, 544LA22-'	1-Sep-22	14:47:11	42.6	14:47:11	14:55:51	15:23:38	0:27:47	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT31-1	Y	544LA22-VT31-1, 544LA22-'	1-Sep-22	15:44:28	43	15:44:28	15:50:08	16:15:11	0:25:03	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT35-1	Y	544LA22-VT35-1, 544LA22-'	1-Sep-22	16:39:31	45.5	16:39:31	16:48:01	17:10:51	0:22:50	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples and flat sand	ACCEPTED	
544LA22-VT34-1	Y	544LA22-VT34-1, 544LA22-'	1-Sep-22	17:33:00	44.6	17:32:45	17:39:01	17:59:38	0:20:37	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples and flat sand	ACCEPTED	
544LA22-VT22-1	NA	544LA22-VT22-1, 544LA22-'	2-Sep-22	6:45:42	43	NA	6:51:37	NA	NA	Y	Y	Y	Y	N	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ABORTED	Lost visual of bottom, strong currents
544LA22-VT24-1	Y	544LA22-VT24-1, 544LA22-'	2-Sep-22	7:39:58	43	7:39:56	7:53:51	8:15:20	0:21:29	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, moderate to heavy density of sand dolla	ACCEPTED	
544LA22-VT28-1	Y	544LA22-VT28-1, 544LA22-'	2-Sep-22	8:36:43	43	8:36:38	8:38:12	9:12:42	0:34:30	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	sand ripples, Flat sand, moderate to heavy density of	ACCEPTED	
544LA22-VT30-1	Y	544LA22-VT30-1, 544LA22-'	2-Sep-22	15:34:00	42.5	15:33:53	15:38:44	16:01:01	0:22:17	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT32-1	Y	544LA22-VT32-1, 544LA22-'	2-Sep-22	16:20:55	41	16:20:53	16:26:23	16:43:10	0:16:47	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	REJECTED	10 sec gap in dat file.
544LA22-VT33-1	Y	544LA22-VT33-1, 544LA22-'	2-Sep-22	17:06:35	41.2	17:06:31	17:10:47	17:30:05	0:19:18	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT13-1	Y	544LA22-VT13-1, 544LA22-'	2-Sep-22	18:58:09	42.2	18:58:07	19:07:29	19:29:27	0:21:58	Y	Y	Y	Y	Y	Ralph Kerwan/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT12-1	Y	544LA22-VT12-1, 544LA22-'	2-Sep-22	19:54:17	42	19:54:17	20:06:22	20:30:43	0:24:21	Y	Y	Y	Y	Y	Tristan Andrew/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT11-1	Y	544LA22-VT11-1, 544LA22-'	2-Sep-22	21:41:00	42	21:40:42	21:51:10	22:15:41	0:24:31	Y	Y	Y	Y	Y	Ralph Kerwan/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT07-1	Y	544LA22-VT07-1, 544LA22-'	2-Sep-22	22:46:04	42	22:46:05	22:54:12	23:19:58	0:25:46	Y	Y	Y	Y	Y	Ralph Kerwan/Jasmine Baloch	Sand ripples	ACCEPTED	
544LA22-VT08-1	Y	544LA22-VT08-1, 544LA22-'	3-Sep-22	0:11:03	46	0:11:00	0:22:54	0:43:55	0:21:01	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	flat sand with depressions, moderate to heavy densit	ACCEPTED	
544LA22-VT03-1	Y	544LA22-VT03-1, 544LA22-'	3-Sep-22	1:17:20	46	1:17:19	1:22:39	1:42:13	0:19:34	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	flat sand with depressions, moderate density of sand	ACCEPTED	
544LA22-VT06-1	Y	544LA22-VT06-1, 544LA22-'	3-Sep-22	2:01:35	46	2:01:34	2:07:29	2:28:08	0:20:39	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	Flat sand, some small sand ripples	ACCEPTED	
544LA22-VT09-1	Y	544LA22-VT09-1, 544LA22-'	3-Sep-22	2:59:46	44	2:59:43	3:12:31	3:35:27	0:22:56	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	Flat sand, small sand ripples, Dense sand dollars	ACCEPTED	
544LA22-VT05-1	Y	544LA22-VT05-1, 544LA22-'	3-Sep-22	4:15:35	41	4:15:34	4:23:11	4:38:05	0:14:54	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	Sand ripples	ACCEPTED	
544LA22-VT02-1	Y	544LA22-VT02-1, 544LA22-'	3-Sep-22	5:05:48	44	5:05:47	5:12:44	5:30:51	0:18:07	Y	Y	Y	Y	Y	Ralph kerwan/Addison Ochs	Sand ripples and flat sand	ACCEPTED	
544LA22-VT04-1	Y	544LA22-VT04-1, 544LA22-'	3-Sep-22	5:59:44	44	5:59:44	6:08:55	6:30:37	0:21:42	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	Sand ripples and flat sand	ACCEPTED	
544LA22-VT10-1	Y	544LA22-VT10-1, 544LA22-'	3-Sep-22	6:56:44	40	6:56:38	7:03:48	7:24:32	0:20:44	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	Sand ripples	ACCEPTED	
544LA22-VT14-1	Y	544LA22-VT14-1, 544LA22-'	3-Sep-22	8:03:25	42.2	8:03:24	8:14:21	8:31:56	0:17:35	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	Sand ripples	ACCEPTED	
544LA22-VT18-2	Y	544LA22-VT18-2, 544LA22-'	3-Sep-22	8:49:33	43	8:49:32	8:59:54	9:20:54	0:21:00	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	flat sand with Sand ripples	ACCEPTED	
544LA22-VT22-2	Y	544LA22-VT22-2, 544LA22-'	3-Sep-22	9:50:32	42	9:50:32	9:59:39	10:18:03	0:18:24	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	LG sand ripples, moderate to heavy density of sand v	ACCEPTED	
544LA22-VT25-1	Y	544LA22-VT25-1, 544LA22-'	3-Sep-22	10:36:53	44	10:42:50	10:44:40	11:04:49	0:20:09	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	Flat sand, moderate to heavy density sand dollars	ACCEPTED	
544LA22-VT27-1	Y	544LA22-VT27-1, 544LA22-'	3-Sep-22	11:28:14	44	11:28:14	11:34:52	11:57:52	0:23:00	Y	Y	Y	Y	Y	Cody Maki/Addison Ochs	Flat sand, moderate to heavy density sand dollars	ACCEPTED	
544LA22-VT32-2	Y	544LA22-VT32-2, 544LA22-'	3-Sep-22	12:27:53	41	12:27:49	12:36:25	12:58:55	0:22:30	Y	Y	Y	Y	Y	Cody Maki/Jasmine Baloch	Sand ripples	ACCEPTED	

Appendix D: Abundance of Macrofauna by Phylum

Sample ID	Area of Subsample (cm^2)	# Organisms by Phylum							Total Organisms
		Annelida	Arthropoda	Chordata	Cnidaria	Echinodermata	Mollusca	Nemertea	
544LA22-GB001A	38.32	1	0	0	0	9	0	1	11
544LA22-GB002A	76.64	5	1	0	0	0	0	1	7
544LA22-GB003	45.98	3	0	0	0	0	0	4	7
544LA22-GB004	76.64	15	4	0	0	0	2	0	21
544LA22-GB005	76.64	14	1	0	0	0	1	1	17
544LA22-GB006A	76.64	3	0	0	0	8	2	1	14
544LA22-GB007A	76.64	10	0	0	0	0	0	0	10
544LA22-GB008	76.64	4	2	0	0	0	1	1	8
544LA22-GB009A	76.64	4	0	0	0	6	0	0	10
544LA22-GB010	76.64	14	1	0	0	1	4	2	22
544LA22-GB011A	76.64	4	0	0	0	0	1	0	5
544LA22-GB012	76.64	13	1	0	0	0	0	1	15
544LA22-GB013	76.64	7	0	0	0	1	0	1	9
544LA22-GB014A	76.64	7	1	0	0	1	0	1	10
544LA22-GB015A	76.64	9	0	0	0	0	0	0	9
544LA22-GB016	76.64	0	0	0	0	0	0	0	0
544LA22-GB017A	76.64	2	0	0	0	0	0	0	2
544LA22-GB018	76.64	26	1	0	0	0	1	0	28
544LA22-GB019	76.64	32	2	0	0	1	0	0	35
544LA22-GB020	76.64	2	1	0	0	6	1	1	11
544LA22-GB021	76.64	5	0	0	0	0	0	0	5
544LA22-GB022A	76.64	1	0	0	0	1	0	0	2
544LA22-GB023A	76.64	7	1	0	0	11	2	3	24
544LA22-GB024	76.64	5	0	0	0	0	1	0	6
544LA22-GB025A	76.64	6	1	0	0	1	1	0	9
544LA22-GB026	76.64	5	2	0	0	6	0	0	13
544LA22-GB027	76.64	3	3	0	0	4	2	1	13
544LA22-GB028A	76.64	4	1	0	0	13	2	0	20
544LA22-GB029A	76.64	12	1	0	0	1	3	0	17
544LA22-GB030	76.64	3	2	0	0	6	3	0	14
544LA22-GB031A	76.64	8	0	0	0	7	0	0	15
544LA22-GB032	76.64	6	3	0	0	0	2	1	12
544LA22-GB033A	76.64	7	0	0	0	7	2	1	17
544LA22-GB034	76.64	12	0	0	0	0	3	0	15
544LA22-GB035	76.64	6	0	0	0	0	0	0	6

*Taxonomic ambiguity in the raw dataset was resolved using the RPMC-G method described in Cuffney et al. (2007) prior to calculation of all metrics.

Appendix E: Benthic Lab Analysis

Sample ID	Collection date	Taxa Group	Phylum	Class	Order	Family	LPTL	# Individuals in Subsample	Area of subsample (cm^2)
544LA22-GB001A	8/31/2022	Nemertea	Nemertea				Nemertea	1	38.319
544LA22-GB001A	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	1	38.319
544LA22-GB001A	8/31/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	38.319
544LA22-GB001A	8/31/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	9	38.319
544LA22-GB002A	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	1	76.639
544LA22-GB002A	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	3	76.639
544LA22-GB002A	8/31/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB002A	8/31/2022	Polychaeta	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae	1	76.639
544LA22-GB002A	8/31/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	76.639
544LA22-GB002A	8/31/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	76.639
544LA22-GB003	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	45.983
544LA22-GB003	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis sp.	1	45.983
544LA22-GB003	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera sp.	1	45.983
544LA22-GB003	8/31/2022	Nemertea	Nemertea				Nemertea	4	45.983
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	5	76.639
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera sp.	3	76.639
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	5	76.639
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta		Capitellidae	Capitellidae	1	76.639
544LA22-GB004	8/31/2022	Crustacea	Arthropoda	Malacostraca	Isopoda	Cirolanidae	Politolana sp.	1	76.639
544LA22-GB004	8/31/2022	Crustacea	Arthropoda	Malacostraca	Cumacea		Cumacea	1	76.639
544LA22-GB004	8/31/2022	Crustacea	Arthropoda	Malacostraca	Tanaidacea		Tanaidacea	3	76.639
544LA22-GB004	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB004	8/31/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	1	76.639
544LA22-GB004	8/31/2022	Mollusca	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	2	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	2	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB005	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	4	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	1	76.639
544LA22-GB005	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	1	76.639
544LA22-GB005	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB005	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Tryphosidae	*Hippomedon serratus*	1	76.639
544LA22-GB005	9/1/2022	Mollusca	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	76.639
544LA22-GB005	9/1/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	76.639
544LA22-GB006A	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis sp.	1	76.639
544LA22-GB006A	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB006A	8/31/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB006A	8/31/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/out hair chaeta	1	76.639
544LA22-GB006A	8/31/2022	Polychaeta	Annelida	Polychaeta			Polychaeta	1	76.639
544LA22-GB006A	8/31/2022	Mollusca	Mollusca	Gastropoda	Littorinimorpha	Calyptraeidae	Crepidula fornicata	1	76.639
544LA22-GB006A	8/31/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte castanea	1	76.639
544LA22-GB006A	8/31/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	8	76.639
544LA22-GB007A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	6	76.639
544LA22-GB007A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB007A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	1	76.639
544LA22-GB007A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone sp.	1	76.639
544LA22-GB007A	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	1	76.639
544LA22-GB008	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB008	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	1	76.639
544LA22-GB008	9/1/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	1	76.639
544LA22-GB008	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB008	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB008	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	1	76.639
544LA22-GB008	9/1/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	76.639
544LA22-GB008	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	2	76.639
544LA22-GB008	9/1/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB009A	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	3	76.639

Sample ID	Collection date	Taxa Group	Phylum	Class	Order	Family	LPTL	# Individuals in Subsample	Area of subsample (cm^2)
544LA22-GB009A	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB009A	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB009A	8/31/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	6	76.639
544LA22-GB010	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sigalion arenicola	1	76.639
544LA22-GB010	8/31/2022	Nemertea	Nemertea				Nemertea	2	76.639
544LA22-GB010	8/31/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	11	76.639
544LA22-GB010	8/31/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	2	76.639
544LA22-GB010	8/31/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Amphipoda	Amphipoda	1	76.639
544LA22-GB010	8/31/2022	Crustacea	Arthropoda	Malacostraca	Tanaidacea		Tanaidacea	1	76.639
544LA22-GB010	8/31/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB010	8/31/2022	Mollusca	Mollusca	Bivalvia	Venerida	Arcticidae	Arctica islandica	1	76.639
544LA22-GB010	8/31/2022	Mollusca	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	76.639
544LA22-GB010	8/31/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	3	76.639
544LA22-GB010	8/31/2022	Mollusca	Mollusca	Bivalvia	Venerida	Mactridae	Spisula solidisima	1	76.639
544LA22-GB010	8/31/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB011A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	3	76.639
544LA22-GB011A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	1	76.639
544LA22-GB011A	9/1/2022	Mollusca	Mollusca	Bivalvia		Periplomatidae	Periploma papyratium	1	76.639
544LA22-GB012	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB012	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera capitata	3	76.639
544LA22-GB012	9/1/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	2	76.639
544LA22-GB012	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	5	76.639
544LA22-GB012	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	3	76.639
544LA22-GB012	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Phoxocephalus sp.	1	76.639
544LA22-GB013	9/1/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Aricidea sp.	1	76.639
544LA22-GB013	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB013	9/1/2022	Polychaeta	Annelida	Polychaeta	Spionida	Apistobranchidae	Apistobranchus tullbergi	1	76.639
544LA22-GB013	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB013	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogone sp.	1	76.639
544LA22-GB013	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Lumbrineridae	1	76.639
544LA22-GB013	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/out hair chaeta	2	76.639
544LA22-GB013	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	1	76.639
544LA22-GB013	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB014A	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera sp.	1	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae	1	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae	1	76.639
544LA22-GB014A	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB014A	9/1/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	1	76.639
544LA22-GB014A	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	76.639
544LA22-GB015A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB015A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllidae	1	76.639
544LA22-GB015A	9/1/2022	Polychaeta	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae	2	76.639
544LA22-GB015A	9/1/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Paraonis sp.	1	76.639
544LA22-GB015A	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	2	76.639
544LA22-GB015A	9/1/2022	Polychaeta	Annelida	Polychaeta		Capitellidae	Capitella sp.	1	76.639
544LA22-GB016	9/2/2022	No organisms present in this sample							76.639
544LA22-GB017A	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis sp.	1	76.639
544LA22-GB017A	9/2/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Aricidea sp.	1	76.639
544LA22-GB017A	9/2/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Paraonidae	1	76.639
544LA22-GB018	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB018	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB018	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	2	76.639
544LA22-GB018	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB018	9/2/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	19	76.639
544LA22-GB018	9/2/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	3	76.639
544LA22-GB018	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB018	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	*Hippomedon serratus*	1	76.639

Sample ID	Collection date	Taxa Group	Phylum	Class	Order	Family	LPTL	# Individuals in Subsample	Area of subsample (cm^2)
544LA22-GB019	9/2/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	*Polygordius sp.*	23	76.639
544LA22-GB019	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	2	76.639
544LA22-GB019	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	5	76.639
544LA22-GB019	9/2/2022	Polychaeta	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetidae	1	76.639
544LA22-GB019	9/2/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	1	76.639
544LA22-GB019	9/2/2022	Crustacea	Arthropoda	Malacostraca	Tanaidacea		Tanaidacea	1	76.639
544LA22-GB019	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	76.639
544LA22-GB019	9/2/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	2	76.639
544LA22-GB019	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB020	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB020	9/2/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB020	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis sp.	1	76.639
544LA22-GB020	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB020	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB020	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte sp.	1	76.639
544LA22-GB020	9/2/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	76.639
544LA22-GB020	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Tryphosidae	*Hippomedon serratus*	1	76.639
544LA22-GB020	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	6	76.639
544LA22-GB021	9/2/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Paraonis sp.	2	76.639
544LA22-GB021	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	2	76.639
544LA22-GB021	9/2/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/out hair chaeta	1	76.639
544LA22-GB022A	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	1	76.639
544LA22-GB022A	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB022A	9/2/2022	Mollusca	Mollusca	Gastropoda			Gastropoda	1	76.639
544LA22-GB023A	9/2/2022	Nemertea	Nemertea				Nemertea	3	76.639
544LA22-GB023A	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	2	76.639
544LA22-GB023A	9/2/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Paraonidae	1	76.639
544LA22-GB023A	9/2/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	2	76.639
544LA22-GB023A	9/2/2022	Oligochaeta	Annelida	Clitellata	Enchytraeida	Enchytraeidae	Enchytraeidae	2	76.639
544LA22-GB023A	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB023A	9/2/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	2	76.639
544LA22-GB023A	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Phoxocephalus sp.	1	76.639
544LA22-GB023A	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte castanea	1	76.639
544LA22-GB023A	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB023A	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	11	76.639
544LA22-GB024	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	3	76.639
544LA22-GB024	9/2/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	1	76.639
544LA22-GB024	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais sp.	1	76.639
544LA22-GB024	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB024	9/2/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	1	76.639
544LA22-GB025A	9/2/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	2	76.639
544LA22-GB025A	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Oenonidae	Drilonereis sp.	1	76.639
544LA22-GB025A	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB025A	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais limicola	1	76.639
544LA22-GB025A	9/2/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	1	76.639
544LA22-GB025A	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB025A	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte sp.	1	76.639
544LA22-GB025A	9/2/2022	Mollusca	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	1	76.639
544LA22-GB025A	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	76.639
544LA22-GB026	9/1/2022	Polychaeta	Annelida	Polychaeta		Orbiniidae	Orbinia sp.	1	76.639
544LA22-GB026	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	3	76.639
544LA22-GB026	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB026	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	2	76.639
544LA22-GB026	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	6	76.639
544LA22-GB027	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	2	76.639
544LA22-GB027	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB027	9/2/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB027	9/2/2022	Mollusca	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Naticidae	1	76.639
544LA22-GB027	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB027	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	1	76.639

Sample ID	Collection date	Taxa Group	Phylum	Class	Order	Family	LPTL	# Individuals in Subsample	Area of subsample (cm^2)
544LA22-GB027	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Phoxocephalus sp.	1	76.639
544LA22-GB027	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius epistomus	1	76.639
544LA22-GB027	9/2/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Amphipoda	Amphipoda	1	76.639
544LA22-GB027	9/2/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	4	76.639
544LA22-GB028A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais sp.	1	76.639
544LA22-GB028A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB028A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	2	76.639
544LA22-GB028A	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	13	76.639
544LA22-GB028A	9/1/2022	Mollusca	Mollusca	Bivalvia			Bivalvia	1	76.639
544LA22-GB028A	9/1/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	1	76.639
544LA22-GB028A	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Tryphosidae	*Hippomedon serratus*	1	76.639
544LA22-GB028A	9/1/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB029A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	2	76.639
544LA22-GB029A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	8	76.639
544LA22-GB029A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB029A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	1	76.639
544LA22-GB029A	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	1	76.639
544LA22-GB029A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB029A	9/1/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	2	76.639
544LA22-GB029A	9/1/2022	Mollusca	Mollusca	Bivalvia	Pectinida	Anomiidae	Anomia simplex	1	76.639
544LA22-GB029A	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Phoxocephalus sp.	1	76.639
544LA22-GB029A	9/1/2022	Mollusca	Mollusca	Gastropoda			Gastropoda	1	76.639
544LA22-GB030	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	2	76.639
544LA22-GB030	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera sp.	1	76.639
544LA22-GB030	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB030	9/1/2022	Mollusca	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	3	76.639
544LA22-GB030	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	6	76.639
544LA22-GB030	9/1/2022	Crustacea	Arthropoda	Malacostraca	Cumacea	Diastylidae	Diastylis sp.	2	76.639
544LA22-GB031A	9/1/2022	Polychaeta	Annelida	Polychaeta		Scalibregmatidae	Scalibregma inflatum	1	76.639
544LA22-GB031A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	1	76.639
544LA22-GB031A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	4	76.639
544LA22-GB031A	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB031A	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	7	76.639
544LA22-GB032	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides acuta*	2	76.639
544LA22-GB032	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB032	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtyidae	1	76.639
544LA22-GB032	9/1/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB032	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae	1	76.639
544LA22-GB032	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB032	9/1/2022	Mollusca	Mollusca	Gastropoda			Gastropoda	1	76.639
544LA22-GB032	9/1/2022	Mollusca	Mollusca	Gastropoda	Cephalaspidea	Tornatinidae	Acteocina canaliculata	2	76.639
544LA22-GB032	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Byblis serrata	2	76.639
544LA22-GB032	9/1/2022	Crustacea	Arthropoda	Malacostraca	Amphipoda	Caprellidae	Caprellidae	1	76.639
544LA22-GB033A	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB033A	9/1/2022	Nemertea	Nemertea				Nemertea	1	76.639
544LA22-GB033A	9/1/2022	Polychaeta	Annelida	Polychaeta		Maldanidae	Maldanidae	1	76.639
544LA22-GB033A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	3	76.639
544LA22-GB033A	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	1	76.639
544LA22-GB033A	9/1/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	1	76.639
544LA22-GB033A	9/1/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte castanea	1	76.639
544LA22-GB033A	9/1/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	1	76.639
544LA22-GB033A	9/1/2022	Echinodermata	Echinodermata	Echinoidea	Echinolampadacea	Echinarachniidae	Echinarachnius parma	7	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta		Paraonidae	Paraonidae	1	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	1	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadidae	4	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera sp.	1	76.639
544LA22-GB034	9/2/2022	Polychaeta	Annelida	Polychaeta		Polygordiidae	Polygordius sp.	2	76.639
544LA22-GB034	9/2/2022	Oligochaeta	Annelida	Clitellata	Tubificida	Naididae	Naididae w/ hair chaeta	3	76.639
544LA22-GB034	9/2/2022	Mollusca	Mollusca	Bivalvia	Arcida	Arcidae	Anadara sp.	1	76.639

Sample ID	Collection date	Taxa Group	Phylum	Class	Order	Family	LPTL	# Individuals in Subsample	Area of subsample (cm^2)
544LA22-GB034	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Astartidae	Astarte castanea	1	76.639
544LA22-GB034	9/2/2022	Mollusca	Mollusca	Bivalvia	Carditida	Carditidae	Cyclocardia borealis	1	76.639
544LA22-GB035	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys sp.	1	76.639
544LA22-GB035	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Goniadidae	Goniadella gracilis	2	76.639
544LA22-GB035	9/1/2022	Polychaeta	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma sp.	1	76.639
544LA22-GB035	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Aglaophamus circinata	1	76.639
544LA22-GB035	9/1/2022	Polychaeta	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoidae	1	76.639

Appendix F: Underwater Video Abundance of Fauna and Anthropogenic Gear

Taxa Group	Common Name	Lowest Taxonomic Grouping	Counts per Transect																	
			544LA22-VT001	544LA22-VT002	544LA22-VT003	544LA22-VT004	544LA22-VT005	544LA22-VT006	544LA22-VT007	544LA22-VT008	544LA22-VT009	544LA22-VT010	544LA22-VT011	544LA22-VT012	544LA22-VT013	544LA22-VT014	544LA22-VT015	544LA22-VT016	544LA22-VT017	544LA22-VT018
Invertebrates																				
Annelida	Fan Worm	Sabellidae	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
	Slime Tube Worm	*Myxicola infundibulum*	-	1	-	1	-	-	-	-	-	-	-	1	4	-	1	1	4	4
	Unidentified Annelid		-	-	-	-	-	-	-	-	-	-	-	3	-	-	5	-	1	-
Bivalvia	Deep Sea Scallop	*Placopecten magellanicus*	20	39	21	71	5	3	9	47	8	4	23	15	9	2	13	24	13	19
	Quahog	Venerida	-	2	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-
	Surf Clam	*Spisula solidissima*	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Bivalve		-	2	-	-	-	-	-	2	-	1	-	5	-	-	2	-	-	-
Bryozoa	Bryozoan	*Bugula* spp.	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-
Cephalopoda	Long-Finned Squid	*Doryteuthis pealeii*	-	1	-	-	3	-	-	-	1	-	4	7	-	-	2	-	-	-
Crustacea	Barnacle	Cirripedia	-	50	39	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-
	Hermit Crab	*Pagurus* sp.	68	157	126	152	80	81	123	123	81	148	103	83	86	100	100	80	121	63
	Walking Crab	*Cancer* spp.	28	18	7	26	19	32	35	3	23	60	16	39	79	14	197	50	38	30
Ctenophora	Comb Jelly	Ctenophora	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-
Echinodermata	Blood Star	*Henricia* spp.	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	2	-	1
	Northern Sea Star	*Asterias rubens*	-	1	1	2	-	1	-	-	-	-	-	1	-	-	-	1	-	-
	Sand Dollar	*Echinarachnius parma*	535	400	550	560	450	600	900	2050	801	450	950	1000	750	450	4800	550	2990	550
	Sea Cucumber	Dendrochirotida	-	5	1	-	2	-	-	-	-	-	3	1	-	-	-	-	1	-
Gastropoda	Moon Snail	*Euspira heros*	-	-	7	1	1	2	2	4	2	-	3	2	-	-	4	2	-	1
	Sea Snail	Gastropoda	1	-	112	3	42	68	77	11	90	29	79	43	4	1	53	45	6	2
	Slipper Snail	*Crepidula* spp.	-	-	-	-	-	-	2	8	-	-	-	-	-	-	8	-	-	-
	Waved Whelk	*Buccinum undatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrozoa	Many-Ribbed Hydromedusa	*Aequorea aequorea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Hydroid		-	1	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
Non-Scleractinia Anothoza	Burrowing Anemone	*Edwardsia* sp.	2	1	-	8	-	-	-	-	-	6	-	-	-	-	2	2	-	-
	Frilled Anemone	*Metridium senile*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Northern Cerianthid	*Cerianthus lloydii*	-	2	-	40	16	-	-	-	-	-	-	-	2	-	-	7	-	-
	Unidentified Anemone		-	-	3	-	1	7	-	-	2	-	-	14	-	-	4	-	4	-
Nudibranchia	Unidentified Nudibranch		1	-	3	-	2	-	2	-	-	2	1	4	-	-	5	1	2	1
Porifera	Finger Sponge	*Haliclona oculata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Red Beard Sponge	*Clathria prolifera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sponge	Halichondria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Sponge		48	12	35	59	2	32	36	4	3	16	6	18	11	3	10	17	2	11
Tunicata	Salp	Salpidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa Group	Common Name	Lowest Taxonomic Grouping	Counts per Transect																	
			544LA22-VT001	544LA22-VT002	544LA22-VT003	544LA22-VT004	544LA22-VT005	544LA22-VT006	544LA22-VT007	544LA22-VT008	544LA22-VT009	544LA22-VT010	544LA22-VT011	544LA22-VT012	544LA22-VT013	544LA22-VT014	544LA22-VT015	544LA22-VT016	544LA22-VT017	544LA22-VT018
Vertebrates																				
Anguilliformes	Conger Eel	*Conger oceanicus*	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
	Unidentified Eel	Ophichthidae	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1	-	-
Aulopiformes	Lizardfish	*Synodus* spp.	1	5	26	-	-	-	18	8	16	-	14	4	8	1	3	4	2	8
Gadiformes	Red Hake	*Urophycis chuss*	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	Spotted Hake	*Urophycis regia*	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Perciformes	Radiated Shanny	*Ulvaria subbifurcata*	-	-	-	1	-	4	-	-	-	-	-	-	-	2	-	-	-	-
Pleuronectiformes	Four-Spot Flounder	*Hippoglossina oblonga*	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	Summer Flounder	*Paralichthys dentatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Flatfish	Pleuronectiformes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Winter Flounder	*Pseudopleuronectes americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	Witch Flounder	*Glyptocephalus cynoglossus*	1	4	-	14	-	3	-	-	2	3	1	-	1	1	-	2	-	3
Rajiformes	Little Skate	*Leucoraja erinaceus*	-	-	-	5	-	1	-	-	-	-	2	-	-	-	1	-	1	-
	Smooth Skate	*Malacoraja senta*	-	-	-	2	1	-	1	-	-	-	-	-	1	-	-	-	-	-
	Unidentified Skate		-	-	1	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	Winter Skate	*Leucoraja ocellata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Scombriformes	American Butterfish	*Peprilus triacanthus*	-	13	177	-	-	154	80	73	316	-	84	57	1	-	-	-	-	-
Trachiniformes	American Sand Lance	*Ammodytes americanus*	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Fish		-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	1	-	2
Biogenic Features																				
Encrusted Shell	Empty Shells with Growth		3	1	1	61	-	8	8	2	1	-	1	-	1	31	-	31	-	-
Tube or Burrow	Sand Burrow		19	12	-	-	-	-	-	5	-	2	-	1	-	-	4	-	2	-
	Tube Made by Polychaete		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eggs																				
Gastropoda	Sand Collar	Moon Snail Egg	1	3	4	-	1	2	4	1	5	7	6	4	3	3	6	-	1	2
Rajiformes	Skate Egg Case		6	2	16	9	5	5	4	1	18	14	7	21	5	-	7	14	3	10
	Unidentified Eggs		4	-	-	1	-	-	-	-	-	2	1	8	-	-	-	5	-	-

Taxa Group	Common Name	Lowest Taxonomic Grouping	Counts per Transect																
			544LA22-VT019	544LA22-VT020	544LA22-VT021	544LA22-VT022	544LA22-VT023	544LA22-VT024	544LA22-VT025	544LA22-VT026	544LA22-VT027	544LA22-VT028	544LA22-VT029	544LA22-VT030	544LA22-VT031	544LA22-VT032	544LA22-VT033	544LA22-VT034	544LA22-VT035
Invertebrates																			
Annelida	Fan Worm	Sabellidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
	Slime Tube Worm	*Myxicola infundibulum*	-	7	15	-	3	-	2	2	1	2	1	5	2	2	3	1	1
	Unidentified Annelid		11	8	9	-	-	-	-	6	-	2	7	7	8	-	-	-	-
Bivalvia	Deep Sea Scallop	*Placopecten magellanicus*	17	13	10	14	25	17	24	13	13	19	10	45	13	17	12	5	10
	Quahog	Venerida	-	-	-	-	-	-	-	-	-	-	-	2	-	4	2	1	-
	Surf Clam	*Spisula solidissima*	-	2	-	3	-	-	-	1	-	2	-	3	-	-	-	-	-
	Unidentified Bivalve		1	-	-	-	-	-	-	-	-	-	1	9	1	-	2	3	-
Bryozoa	Bryozoan	*Bugula* spp.	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-	3	2
Cephalopoda	Long-Finned Squid	*Doryteuthis pealeii*	50	3	-	-	-	-	-	-	-	1	-	1	-	-	-	2	-
Crustacea	Barnacle	Cirripedia	-	-	-	-	35	35	-	-	-	-	-	-	-	-	43	50	-
	Hermit Crab	*Pagurus* sp.	64	86	121	77	69	95	52	60	91	82	17	103	22	68	30	117	76
	Walking Crab	*Cancer* spp.	64	138	100	206	79	85	34	117	26	72	23	188	20	64	3	13	86
Ctenophora	Comb Jelly	Ctenophora	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Echinodermata	Blood Star	*Henricia* spp.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	3	-	-
	Northern Sea Star	*Asterias rubens*	-	-	2	-	-	-	-	-	-	-	1	-	-	-	1	-	1
	Sand Dollar	*Echinarachnius parma*	27550	1250	1206	1650	950	600	550	1500	550	1600	26200	1050	37250	850	550	350	600
	Sea Cucumber	Dendrochirotida	1	-	3	-	-	1	1	-	1	-	-	-	-	-	-	-	14
Gastropoda	Moon Snail	*Euspira heros*	2	-	-	1	1	3	-	1	-	-	-	-	1	1	-	2	-
	Sea Snail	Gastropoda	16	50	7	10	23	15	1	15	9	34	-	83	-	5	5	9	25
	Slipper Snail	*Crepidula* spp.	-	-	2	-	-	-	-	-	-	-	-	36	-	-	-	1	-
	Waved Whelk	*Buccinum undatum*	-	-	-	-	-	-	-	-	-	-	10	-	13	-	-	-	-
Hydrozoa	Many-Ribbed Hydromedusa	*Aequorea aequorea*	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	Unidentified Hydroid		1	8	18	-	1	-	-	-	-	-	2	-	-	35	-	-	-
Non-Scleractinia Anothoza	Burrowing Anemone	*Edwardsia* sp.	2	6	3	-	1	-	1	-	3	-	-	2	-	1	-	13	5
	Frilled Anemone	*Metridium senile*	-	-	5	-	-	-	-	-	2	-	-	-	-	-	-	5	-
	Northern Cerianthid	*Cerianthus lloydii*	1	-	-	-	2	-	-	-	-	-	-	1	-	1	-	-	-
	Unidentified Anemone		10	3	31	4	-	5	2	2	2	2	1	6	-	1	-	3	13
Nudibranchia	Unidentified Nudibranch		1	9	9	8	4	-	-	-	1	4	-	4	8	-	-	-	2
Porifera	Finger Sponge	*Haliclona oculata*	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Red Beard Sponge	*Clathria prolifera*	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	Sponge	Halichondria	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Sponge		5	7	7	2	13	2	18	-	14	5	3	1	5	7	1	11	4
Tunicata	Salp	Salpidae	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-

Taxa Group	Common Name	Lowest Taxonomic Grouping	Counts per Transect																
			544LA22-VT019	544LA22-VT020	544LA22-VT021	544LA22-VT022	544LA22-VT023	544LA22-VT024	544LA22-VT025	544LA22-VT026	544LA22-VT027	544LA22-VT028	544LA22-VT029	544LA22-VT030	544LA22-VT031	544LA22-VT032	544LA22-VT033	544LA22-VT034	544LA22-VT035
Vertebrates																			
Anguilliformes	Conger Eel	*Conger oceanicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Eel	Ophichthidae	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Aulopiformes	Lizardfish	*Synodus* spp.	1	3	2	-	3	2	1	2	1	1	-	3	3	1	-	2	4
Gadiformes	Red Hake	*Urophycis chuss*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Spotted Hake	*Urophycis regia*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perciformes	Radiated Shanny	*Ulvaria subbifurcata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleuronectiformes	Four-Spot Flounder	*Hippoglossina oblonga*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	-
	Summer Flounder	*Paralichthys dentatus*	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	Unidentified Flatfish	Pleuronectiformes	1	1	2	-	-	-	1	-	-	-	2	-	2	-	-	-	-
	Winter Flounder	*Pseudopleuronectes americanus*	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
	Witch Flounder	*Glyptocephalus cynoglossus*	-	2	-	-	1	-	5	3	1	-	-	-	-	5	-	8	1
Rajiformes	Little Skate	*Leucoraja erinaceus*	4	-	-	-	1	-	-	1	1	-	-	2	-	-	-	-	1
	Smooth Skate	*Malacoraja senta*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	7	2
	Unidentified Skate		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Winter Skate	*Leucoraja ocellata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scombriformes	American Butterfish	*Peprilus triacanthus*	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Trachiniformes	American Sand Lance	*Ammodytes americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unidentified Fish		-	-	-	-	-	-	-	3	-	1	-	-	-	-	-	2	-
Biogenic Features																			
Encrusted Shell	Empty Shells with Growth		-	-	-	-	-	31	32	-	13	-	-	-	-	2	-	3	31
Tube or Burrow	Sand Burrow		72	9	8	-	-	-	-	2	135	-	-	7	1	-	-	47	-
	Tube Made by Polychaete		-	-	-	-	-	15	-	1	-	-	-	5	-	-	-	-	-
Eggs																			
Gastropoda	Sand Collar	Moon Snail Egg	6	5	3	4	3	1	-	2	2	2	-	5	4	5	3	2	2
Rajiformes	Skate Egg Case		6	15	14	-	8	5	10	12	29	17	3	8	14	9	5	22	7
	Unidentified Eggs		-	1	2	-	1	11	1	1	-	6	-	-	-	1	-	-	10

Appendix G: Underwater Video Representative Images

REPRESENTATIVE IMAGE

Sand - Very Coarse/Coarse
Transect 544LA22-VT007



REPRESENTATIVE IMAGE

Muddy Sand
Transect 544LA22-VT008



Representative Image of CMECS Type: Muddy Sand

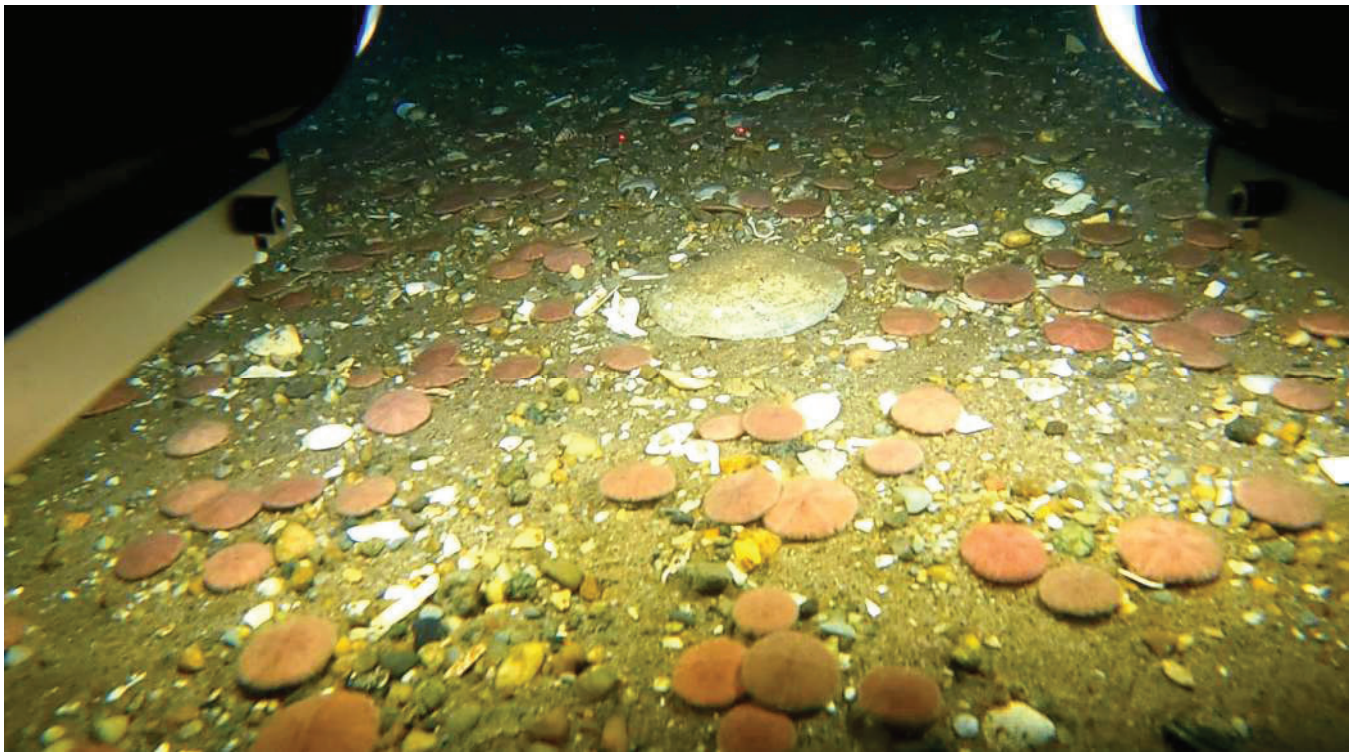
REPRESENTATIVE IMAGE

Gravelly - Gravelly Sand
Transect 544LA22-VT021



REPRESENTATIVE IMAGE

Gravel Mixes - Sandy Gravel
Transect 544LA22-VT021



Representative Image of CMECS Type: Gravel Mixes - Sandy Gravel

REPRESENTATIVE IMAGE

Ripples
Transect 544LA22-VT022



Representative Image of CMECS Type: Ripples

REPRESENTATIVE IMAGE

Sand - Medium Sand
Transect 544LA22-VT022



REPRESENTATIVE IMAGE

Shell Hash
Transect 544LA22-VT026



Representative Image of CMECS Type: Shell

Appendix H: Benthic Grab Representative Deck Images

PHOTO INFORMATION

Sample ID 544LA22-GB001A-1

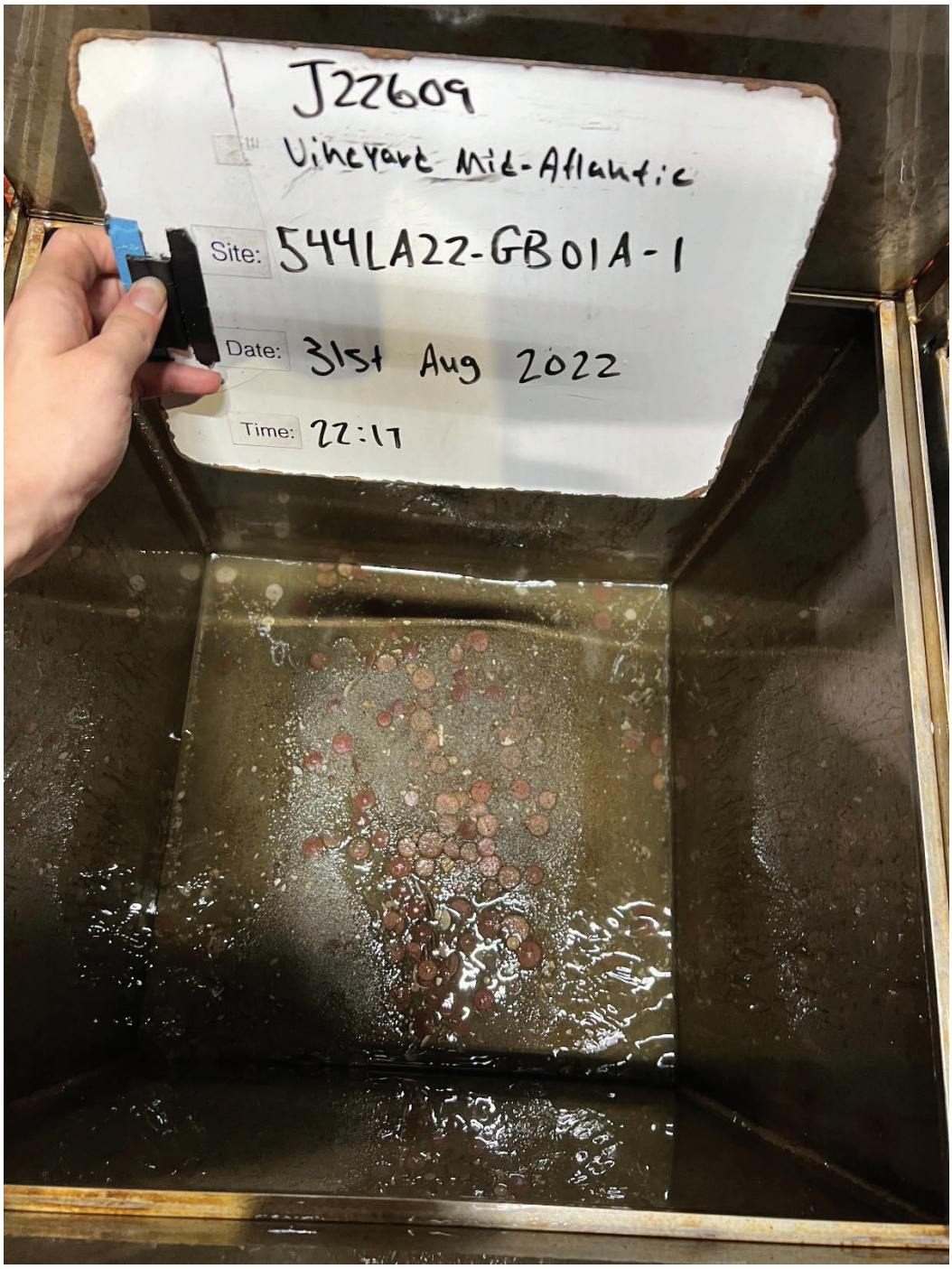


PHOTO INFORMATION

Sample ID 544LA22-GB001B-1

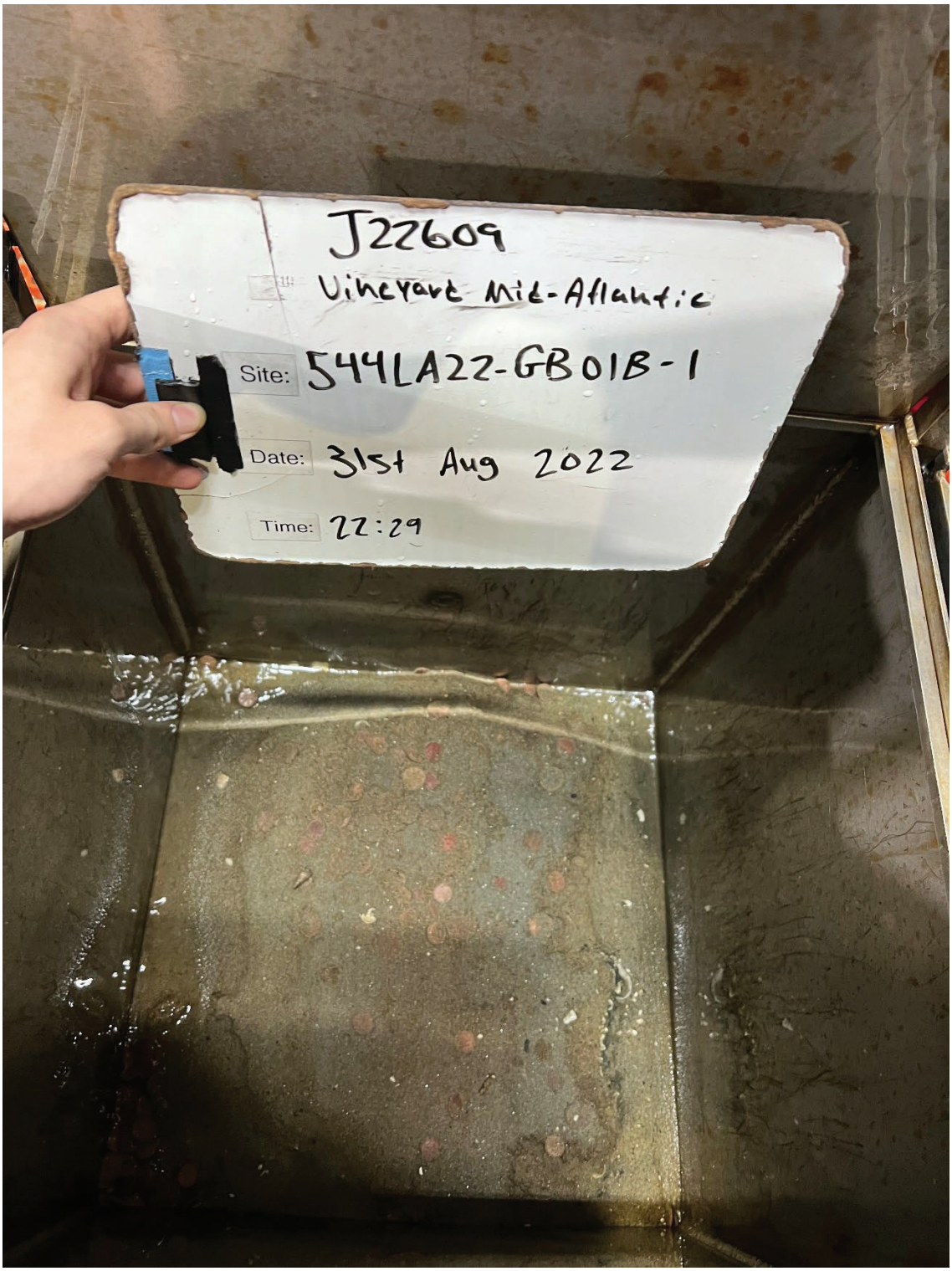


PHOTO INFORMATION

Sample ID 544LA22-GB001C-1

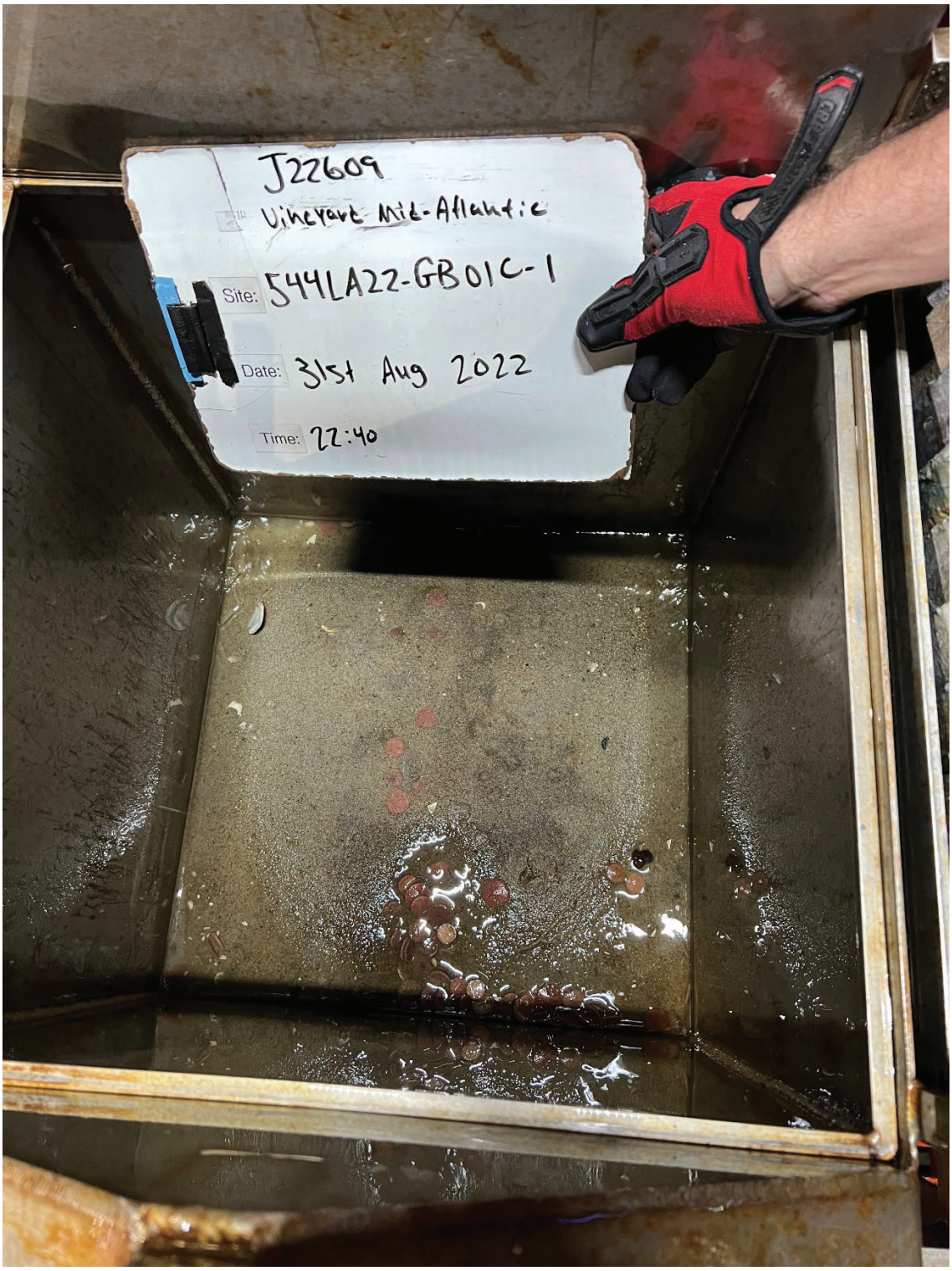


PHOTO INFORMATION

Sample ID 544LA22-GB002A-1

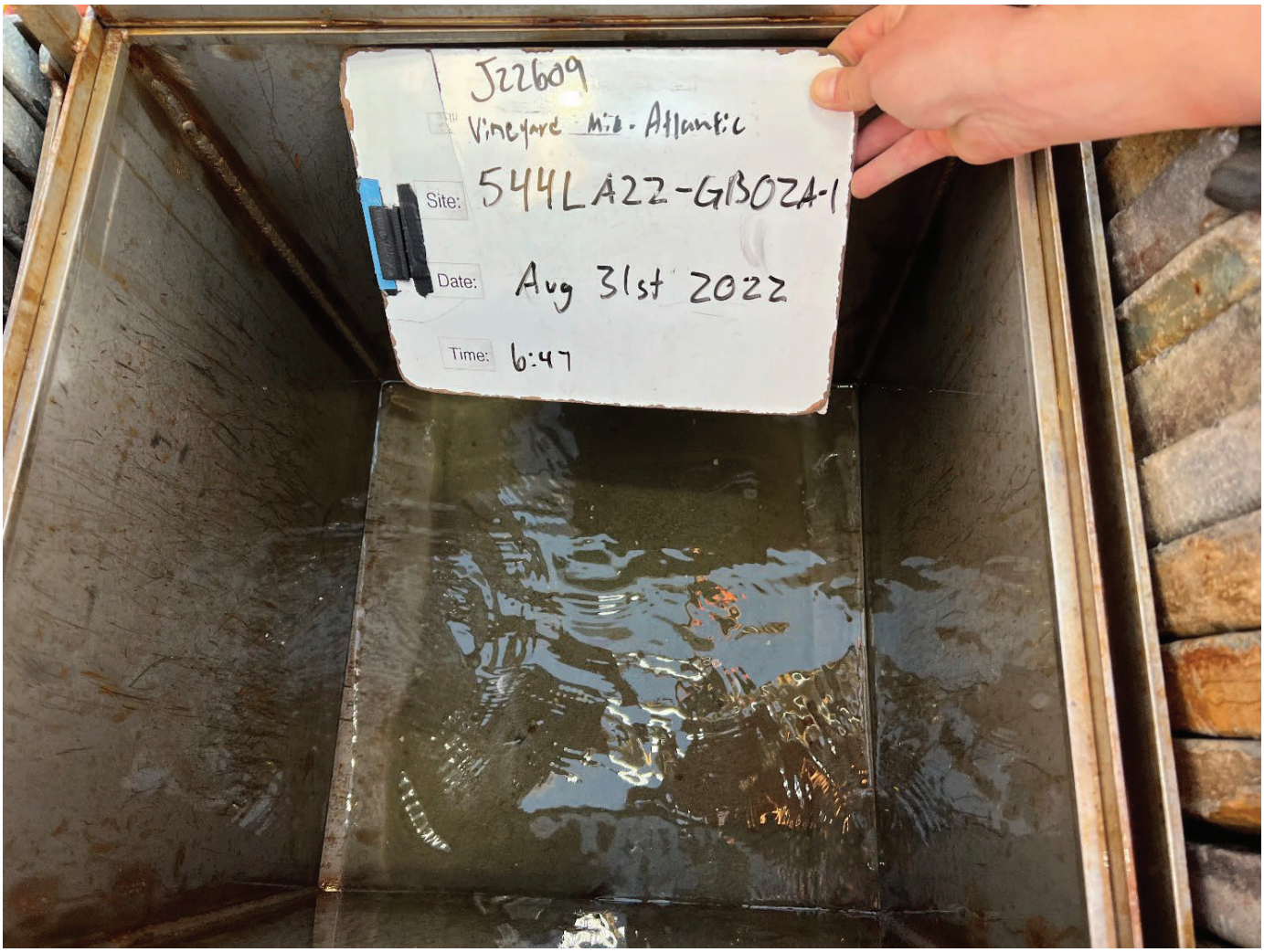


PHOTO INFORMATION

Sample ID 544LA22-GB002B-1

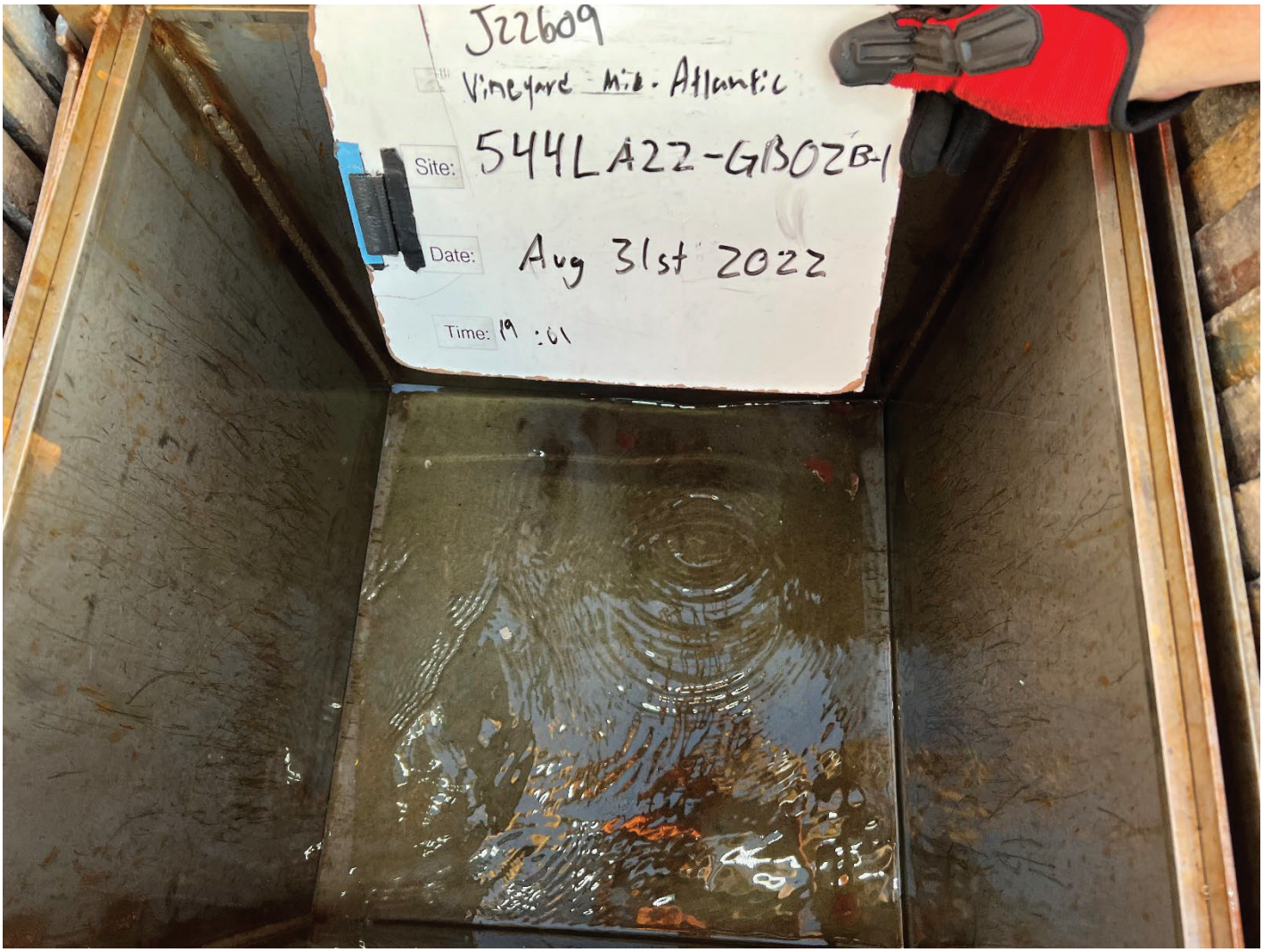


PHOTO INFORMATION

Sample ID 544LA22-GB002C-1

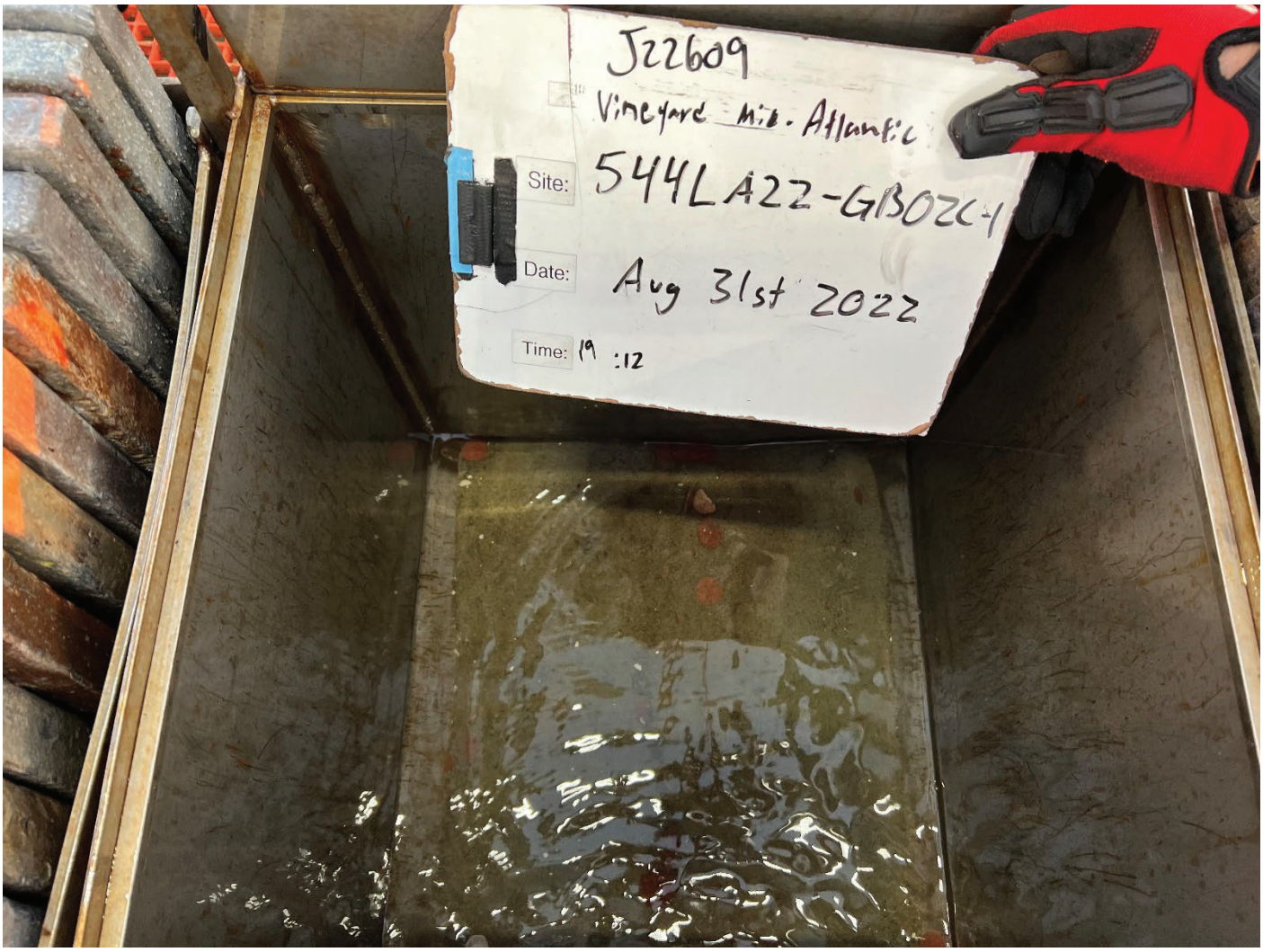


PHOTO INFORMATION

Sample ID 544LA22-GB003-1

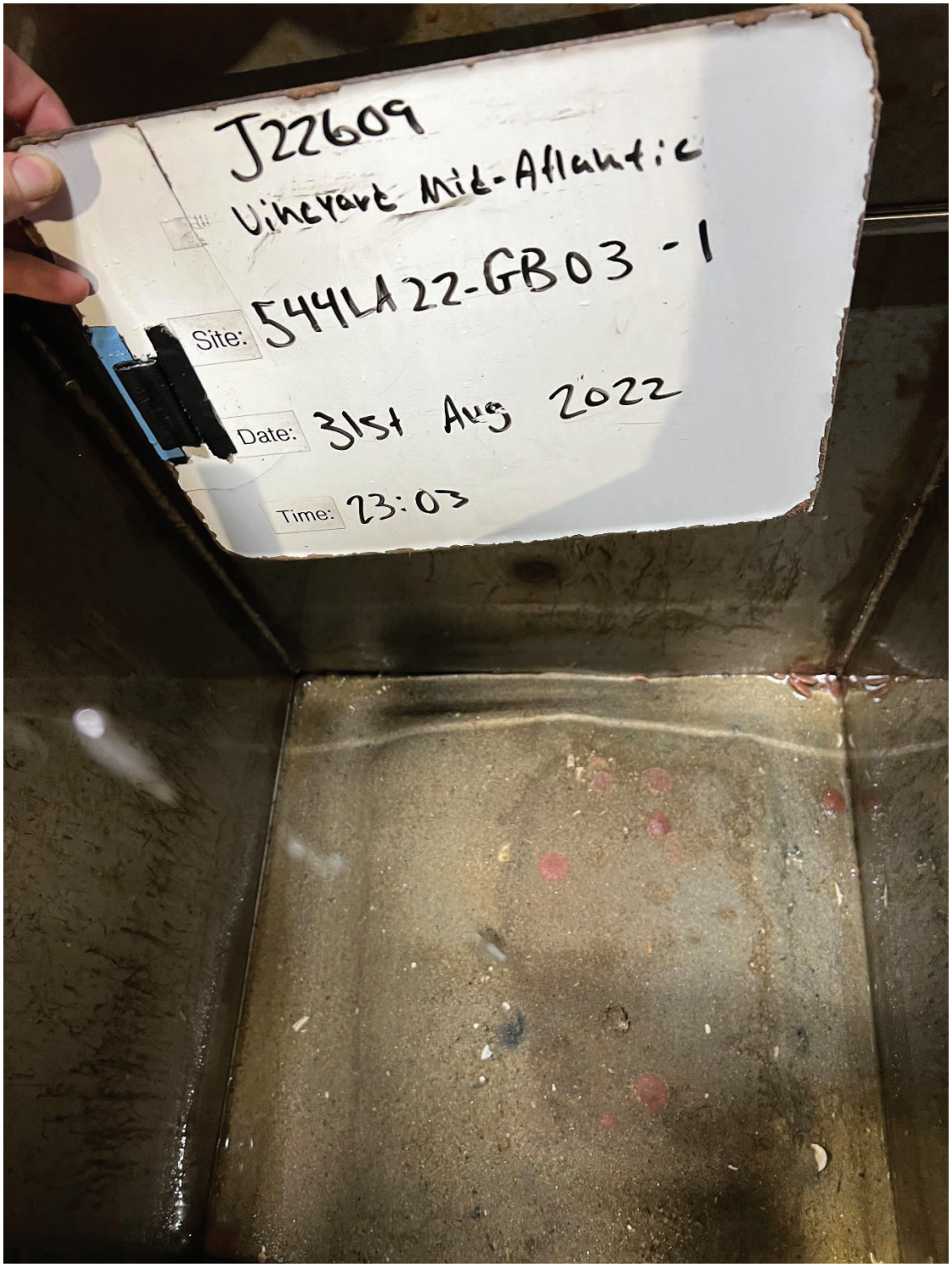


PHOTO INFORMATION

Sample ID 544LA22-GB004-1

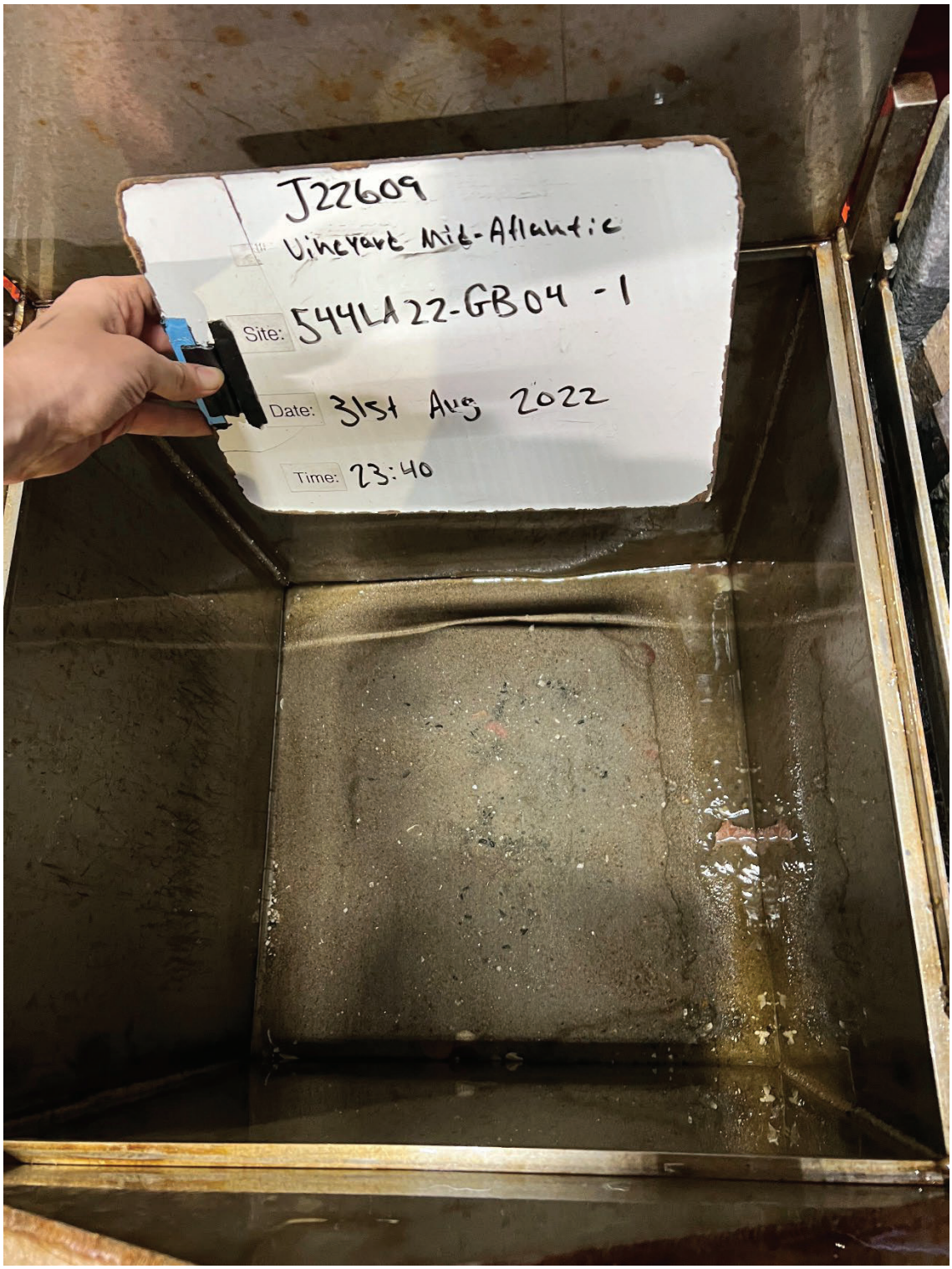


PHOTO INFORMATION

Sample ID 544LA22-GB005-1

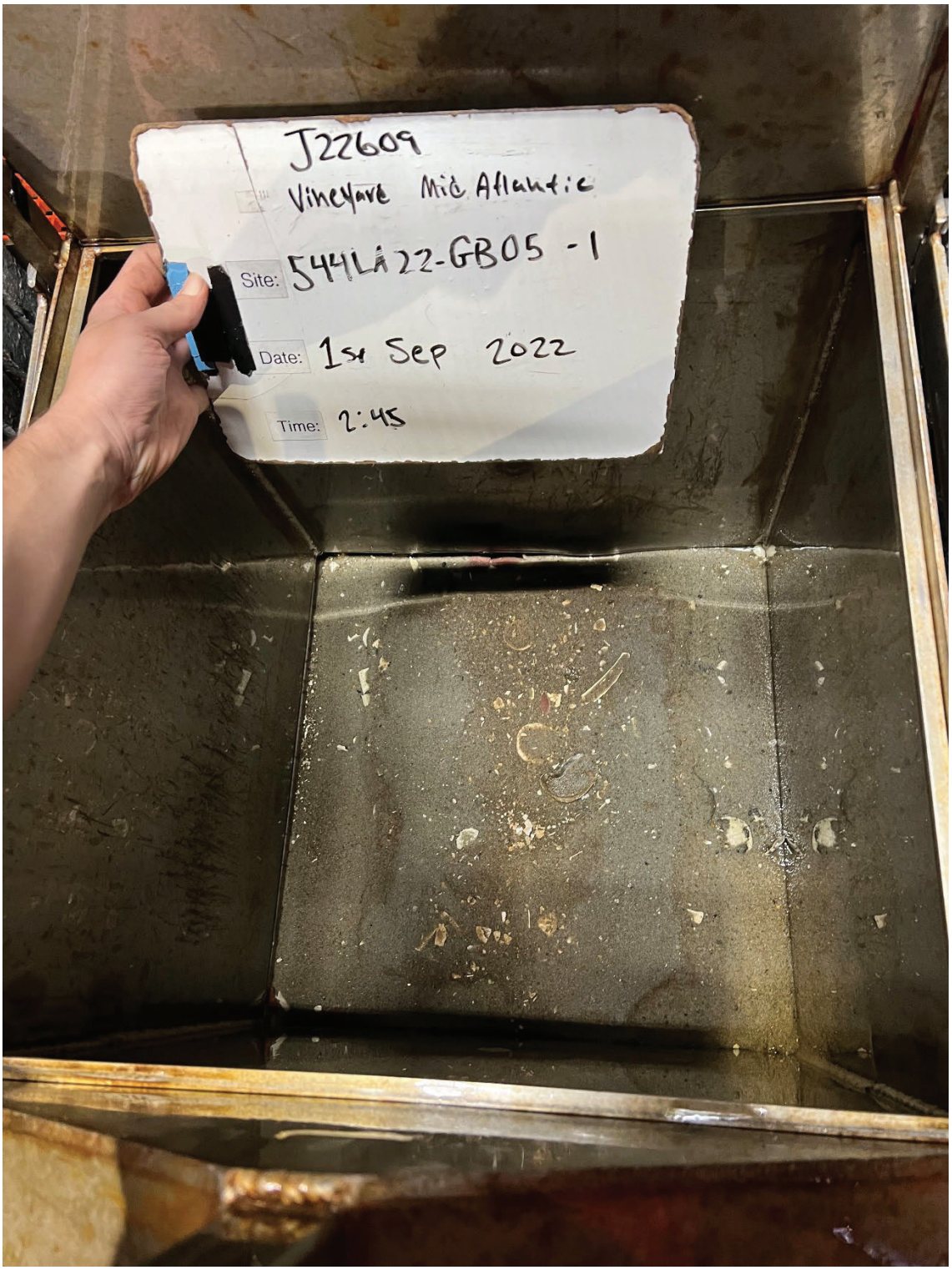


PHOTO INFORMATION

Sample ID 544LA22-GB006A-1



PHOTO INFORMATION

Sample ID 544LA22-GB006B-1

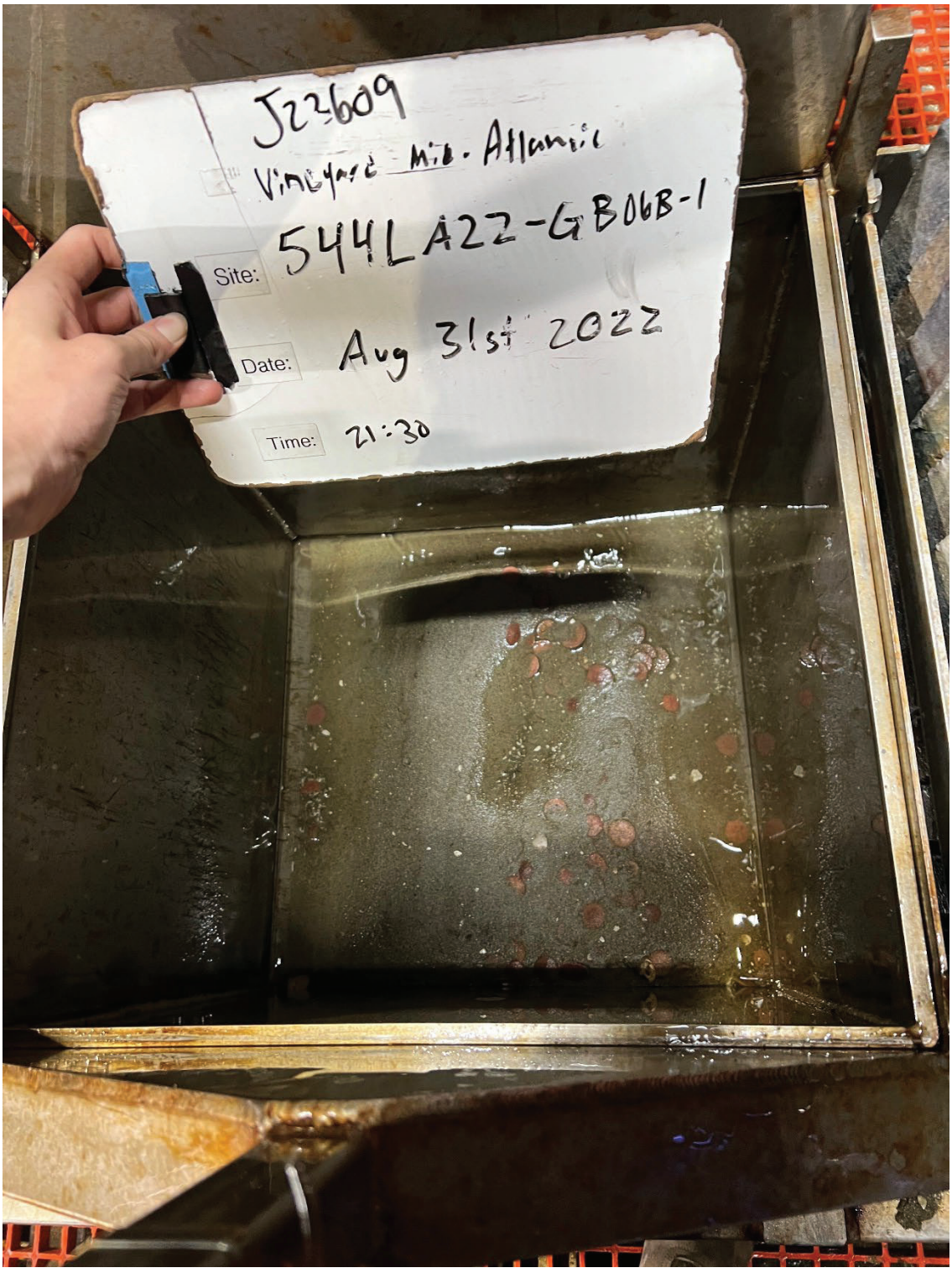


PHOTO INFORMATION

Sample ID 544LA22-GB006C-1

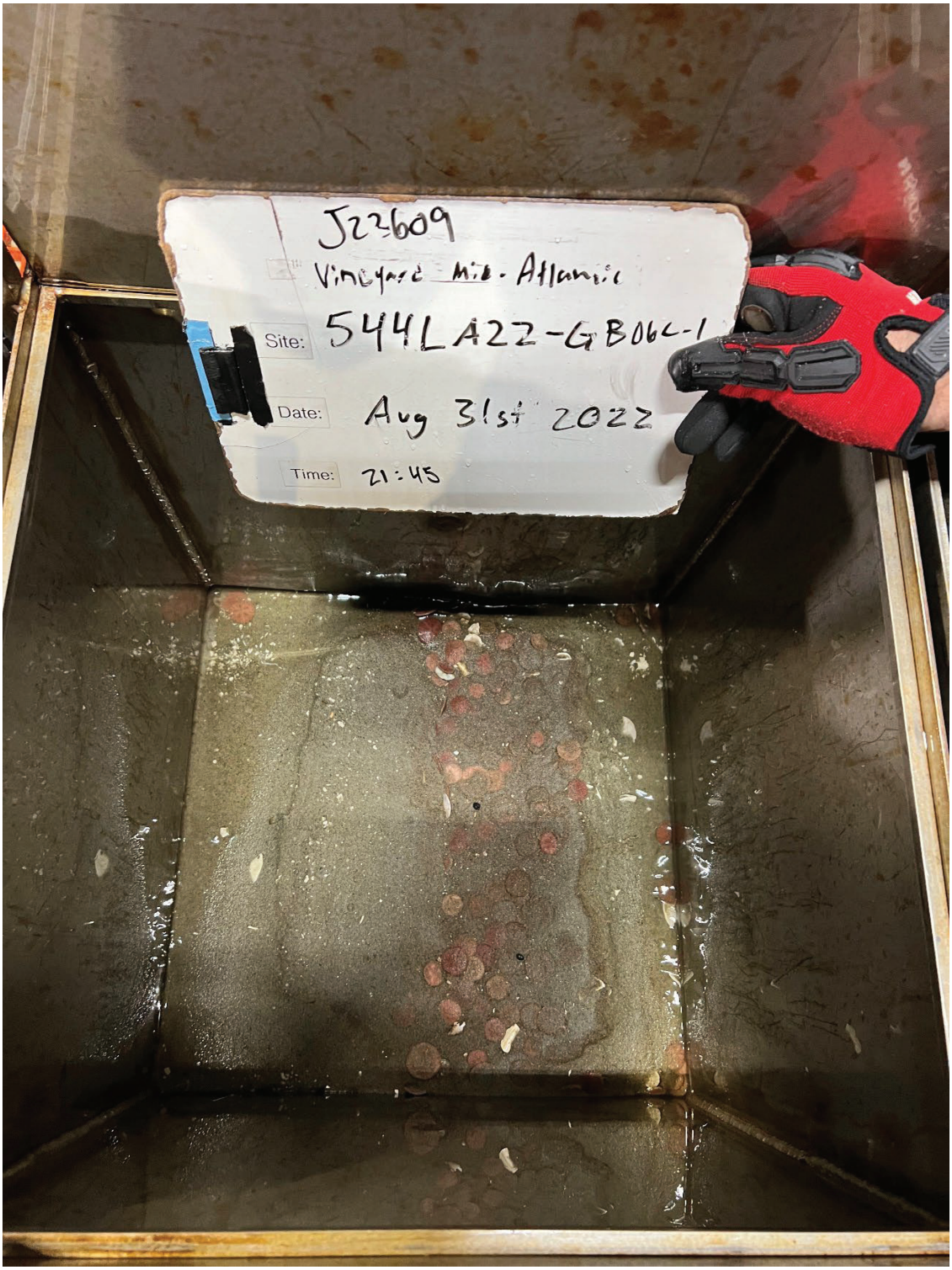


PHOTO INFORMATION

Sample ID 544LA22-GB007A-1

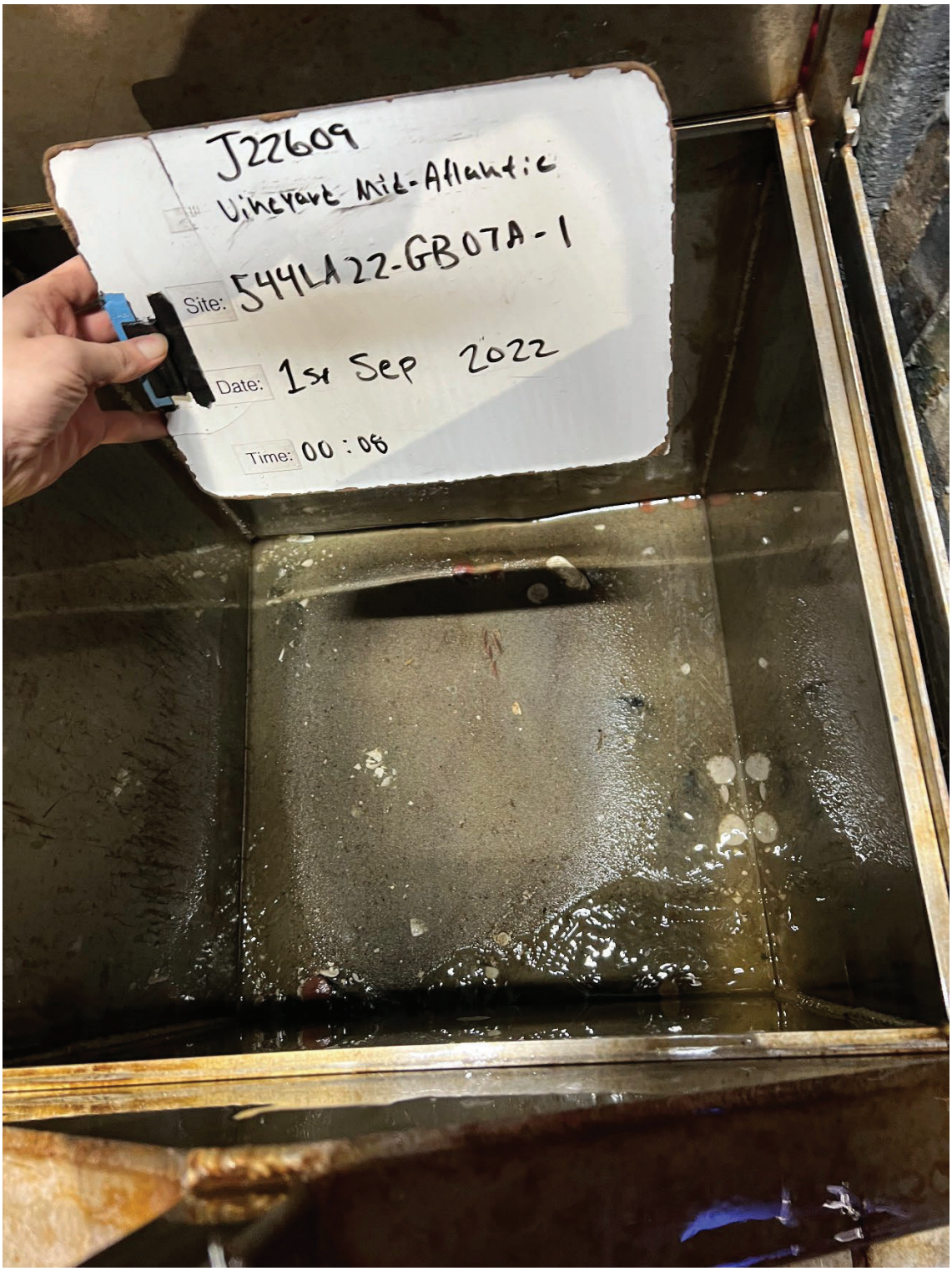


PHOTO INFORMATION

Sample ID 544LA22-GB007B-1

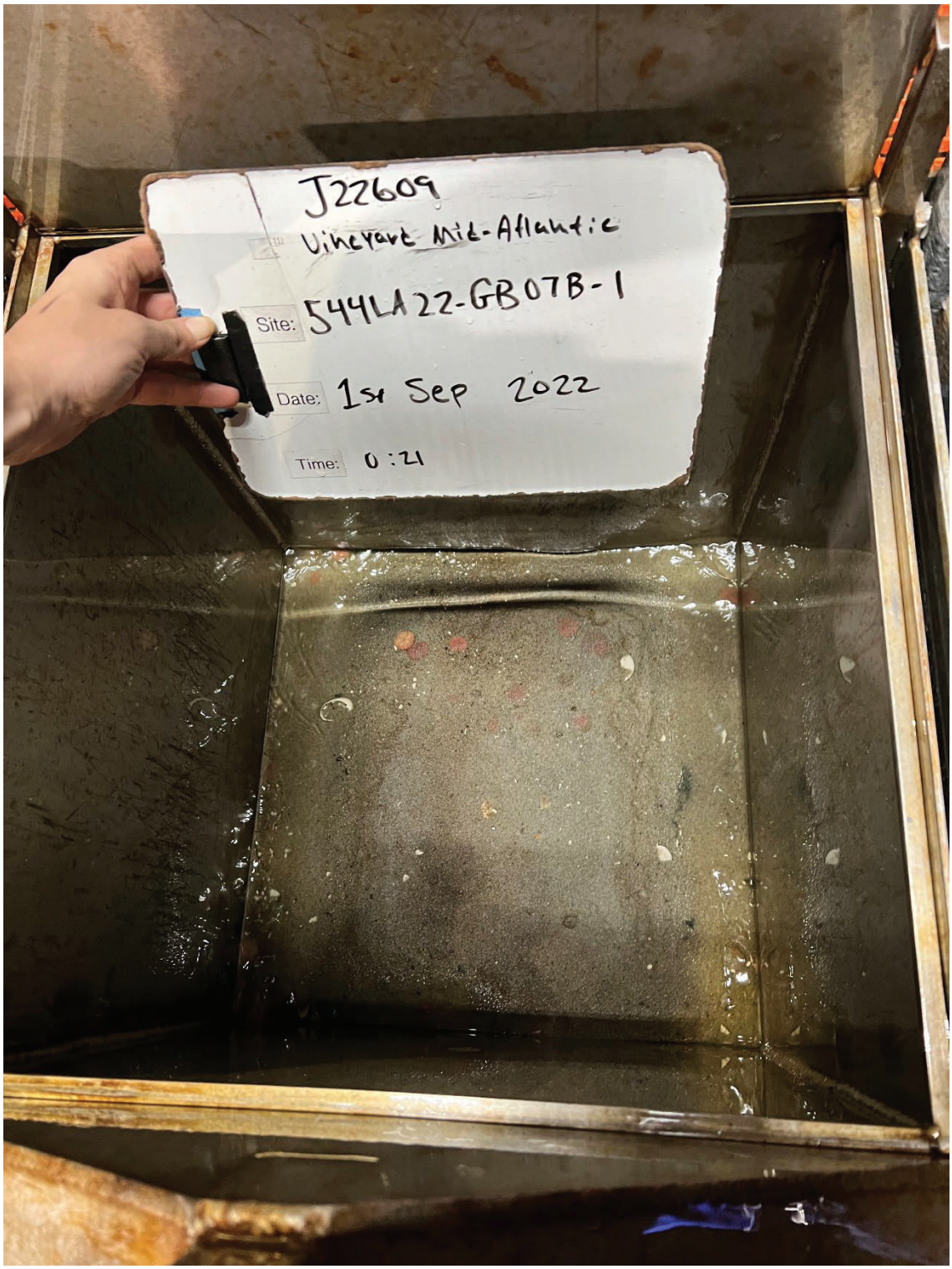


PHOTO INFORMATION

Sample ID 544LA22-GB007C-1

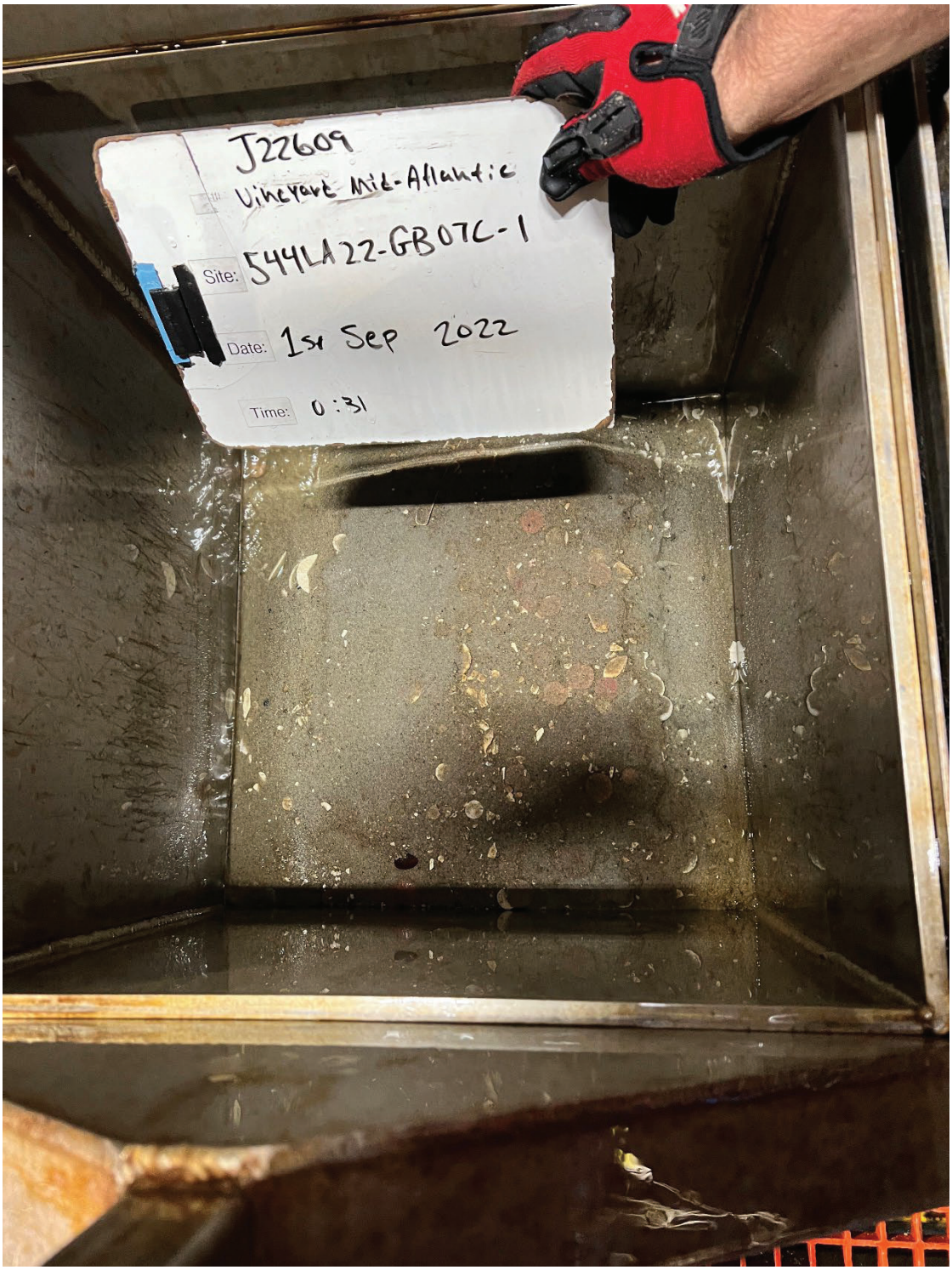


PHOTO INFORMATION

Sample ID 544LA22-GB008-1

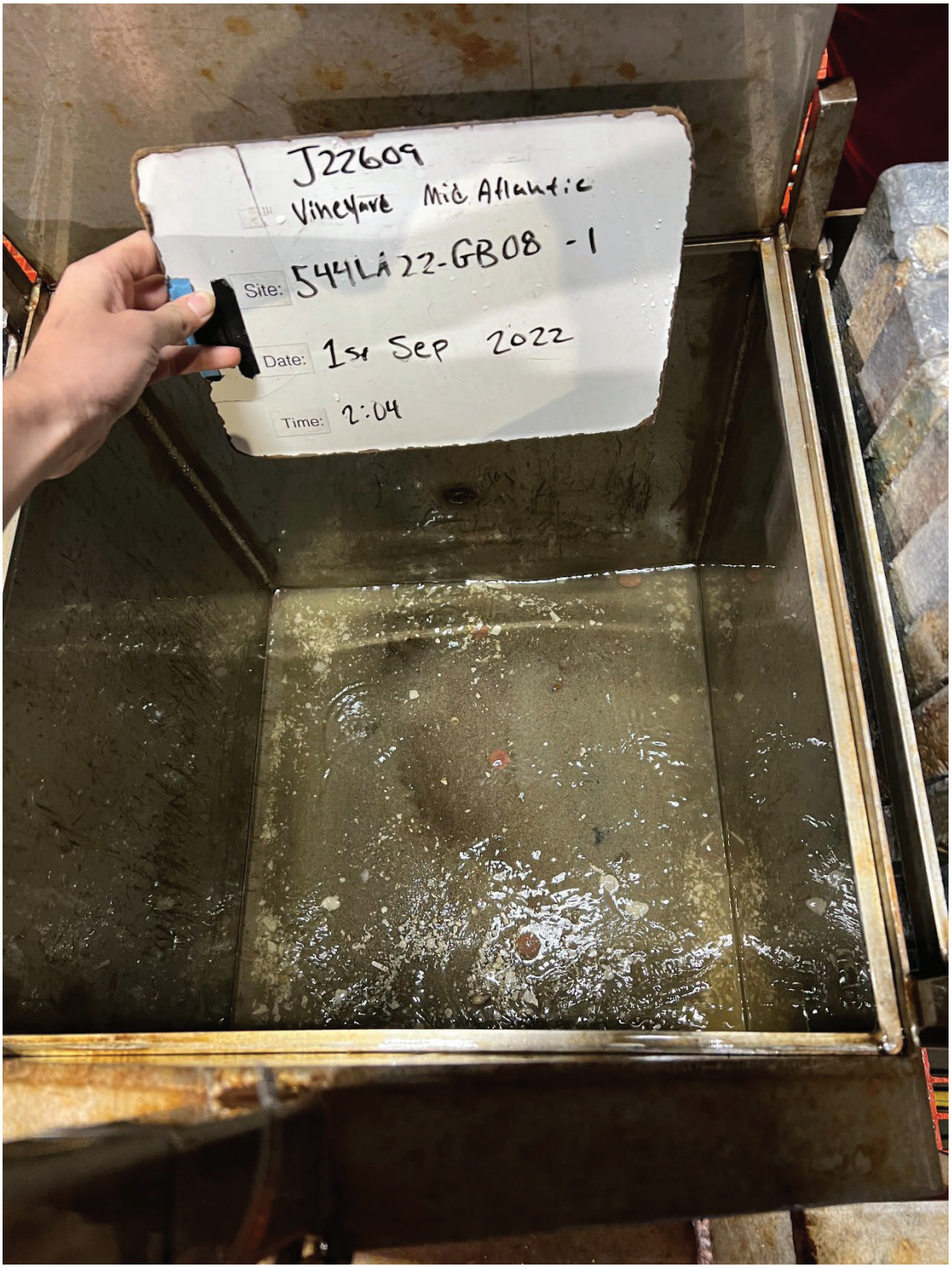


PHOTO INFORMATION

Sample ID 544LA22-GB009A-1



PHOTO INFORMATION

Sample ID 544LA22-GB009B-1



PHOTO INFORMATION

Sample ID 544LA22-GB009C-1

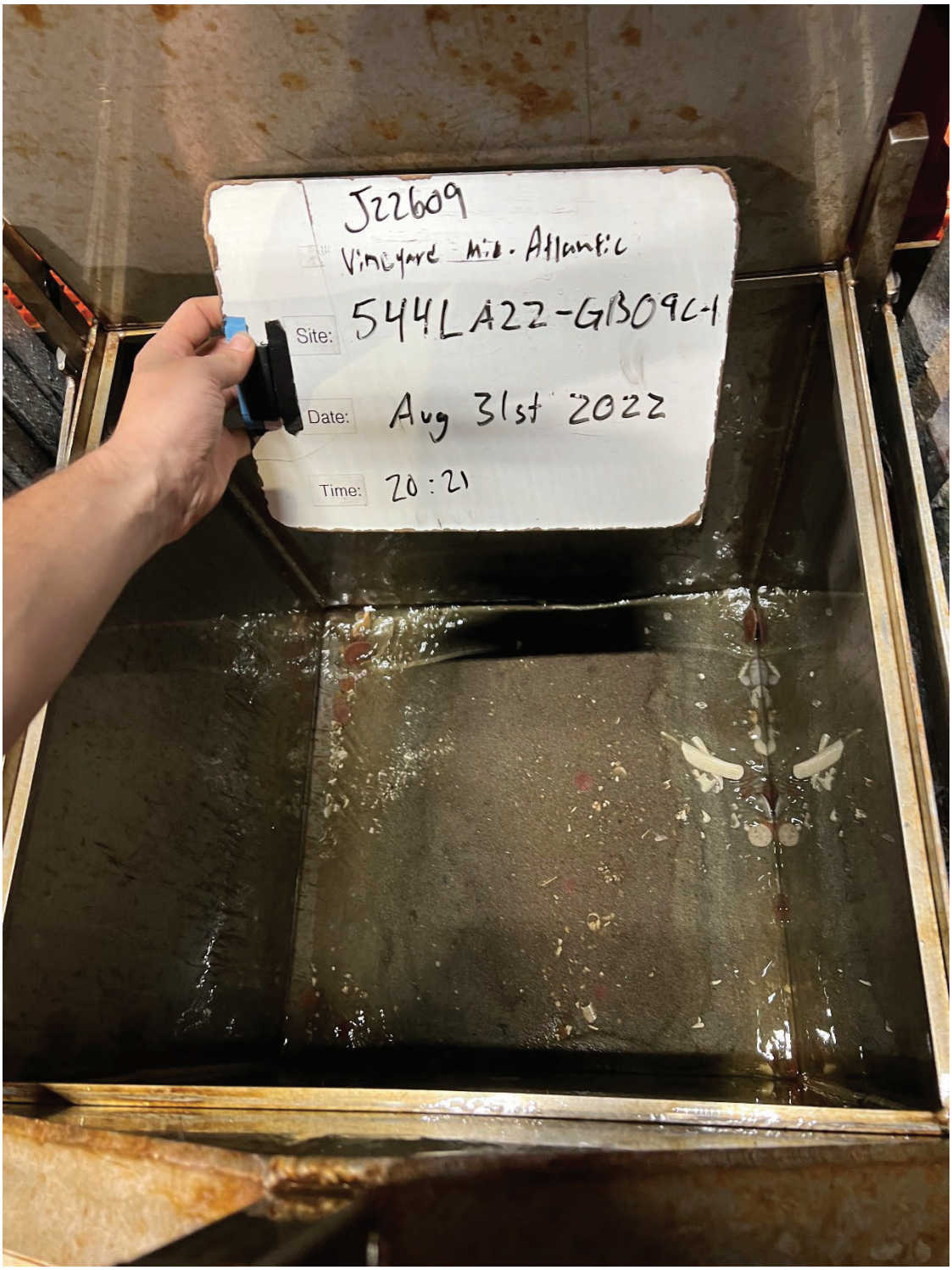


PHOTO INFORMATION

Sample ID 544LA22-GB010-1

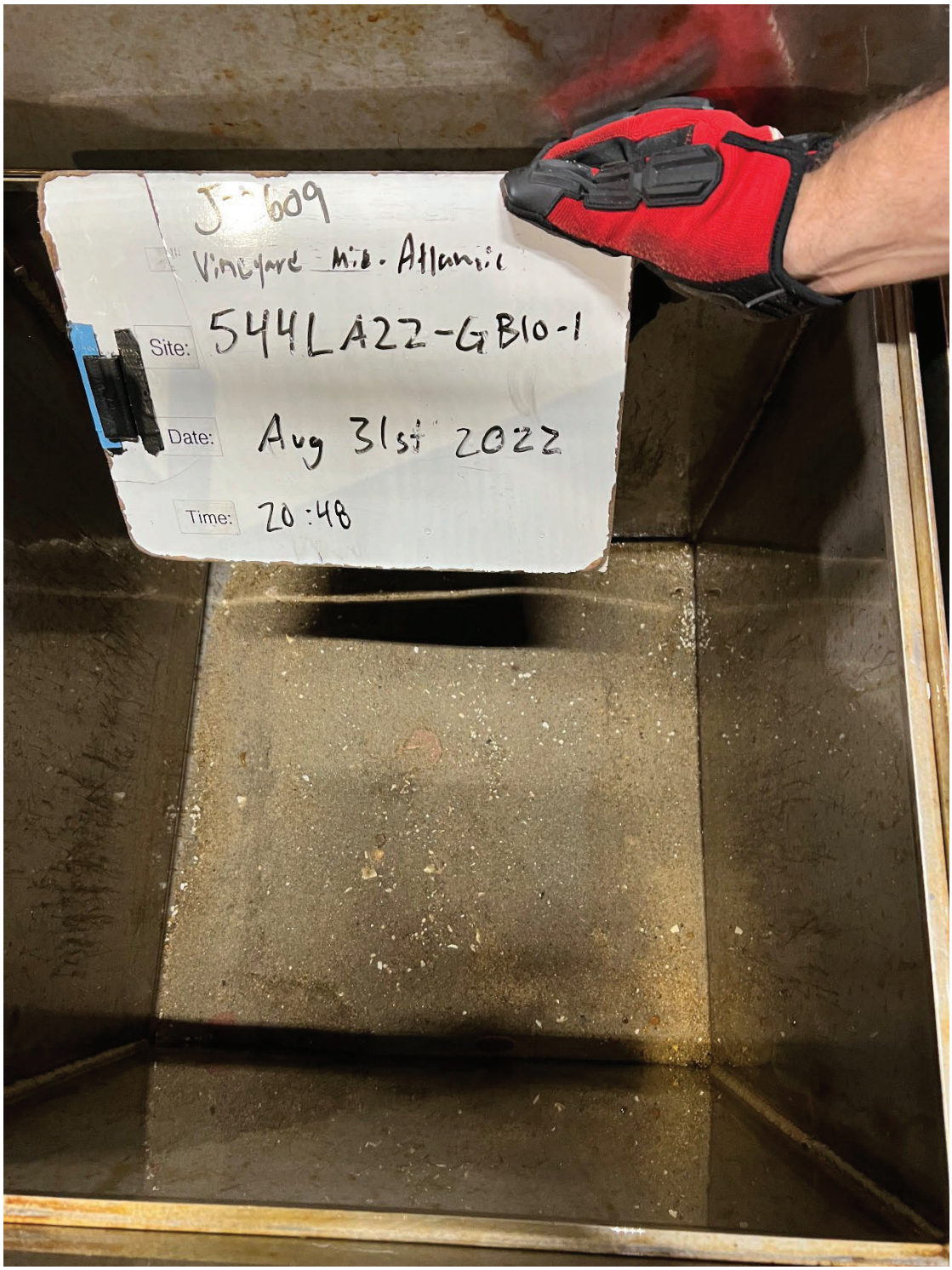


PHOTO INFORMATION

Sample ID 544LA22-GB011A-1

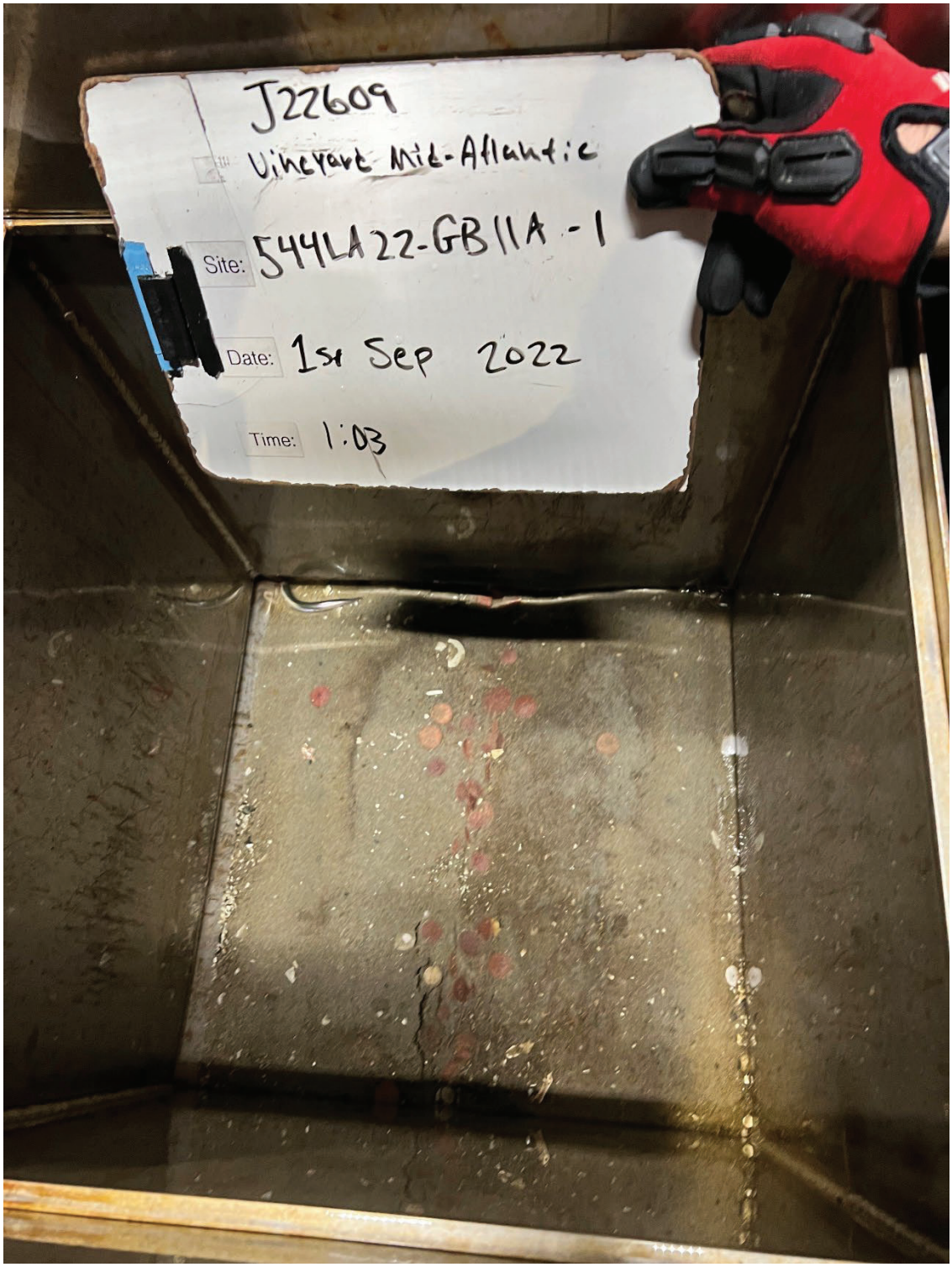


PHOTO INFORMATION

Sample ID 544LA22-GB011B-1

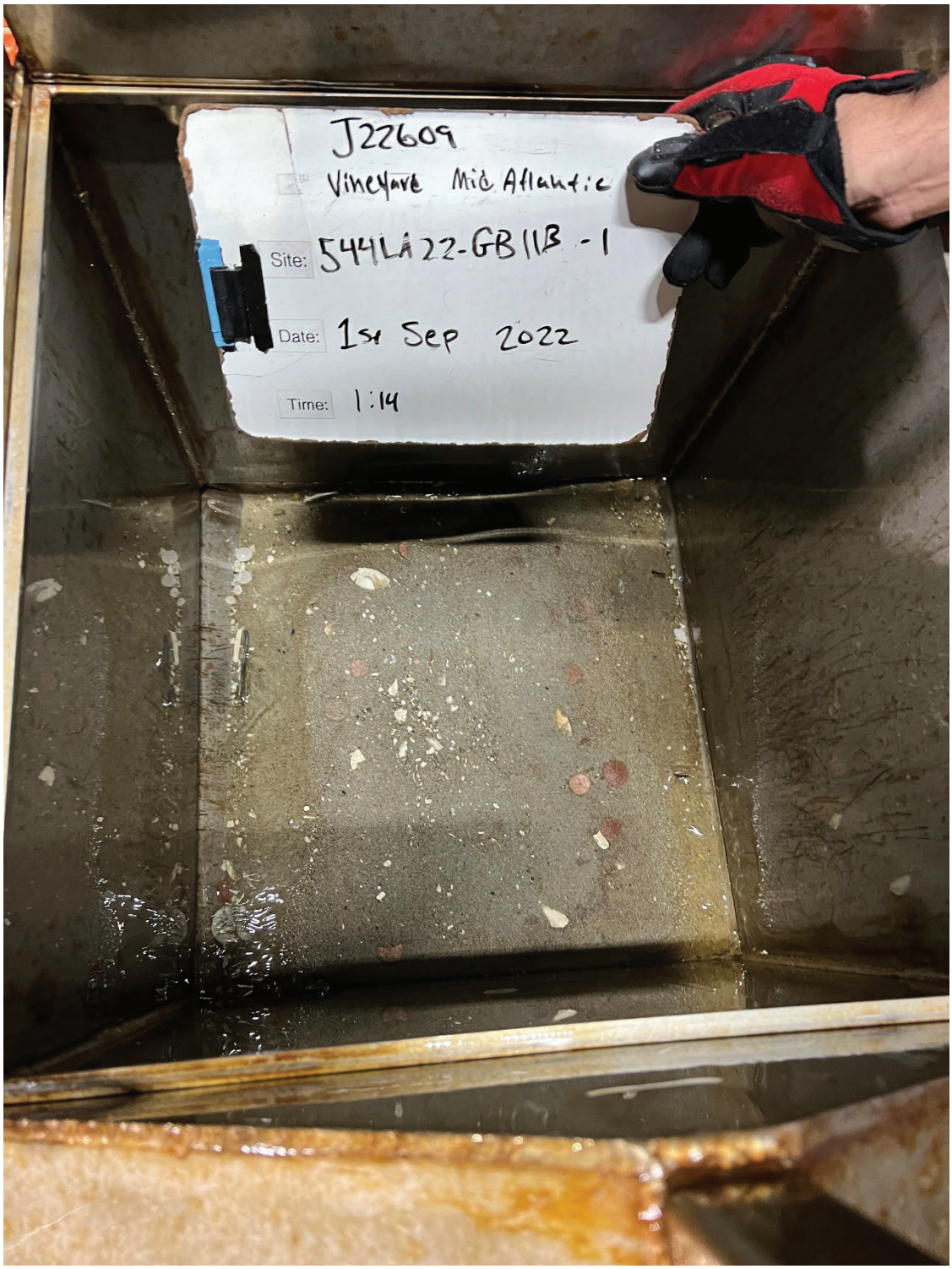


PHOTO INFORMATION

Sample ID 544LA22-GB011C-1

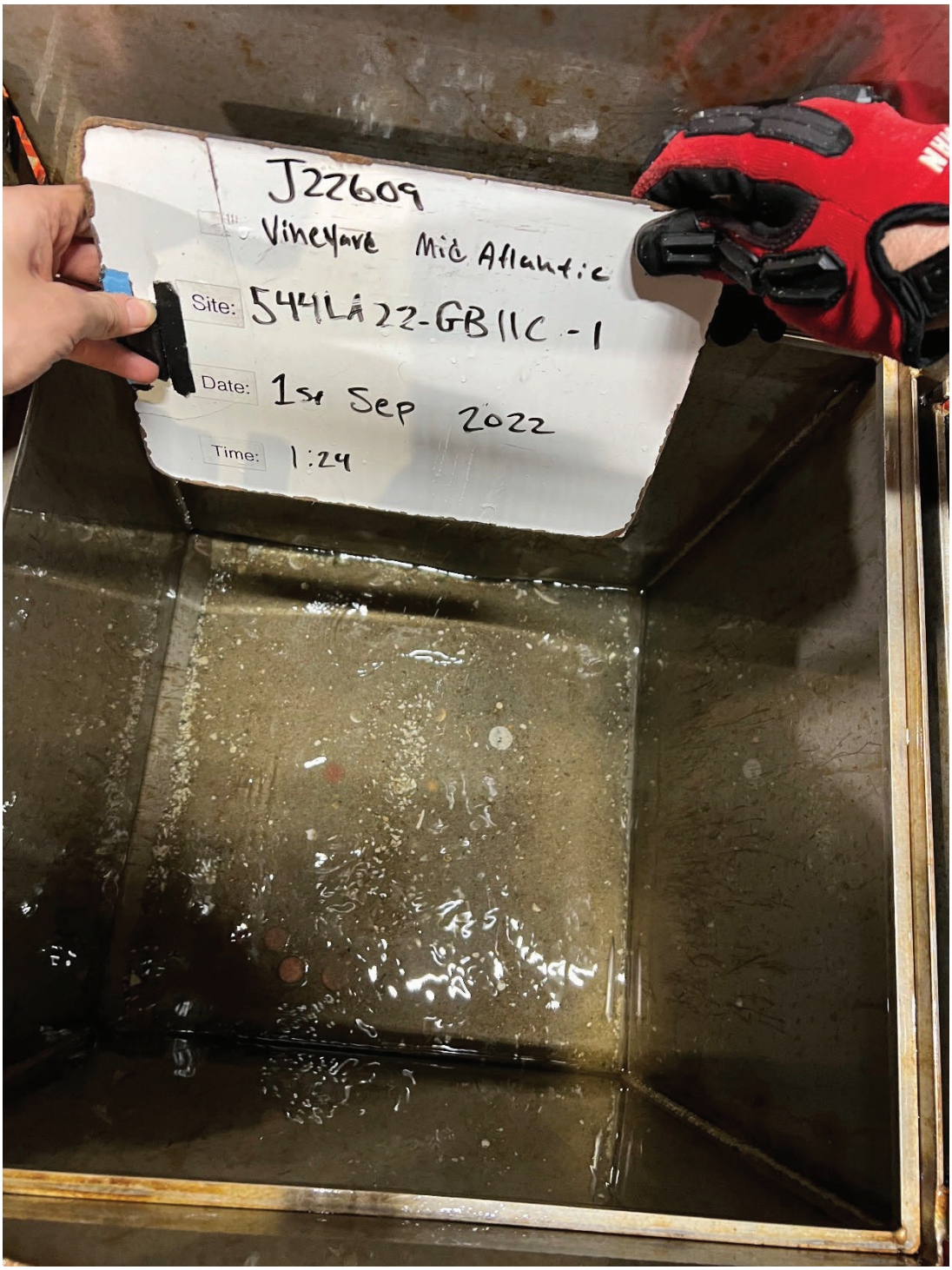


PHOTO INFORMATION

Sample ID 544LA22-GB012-1

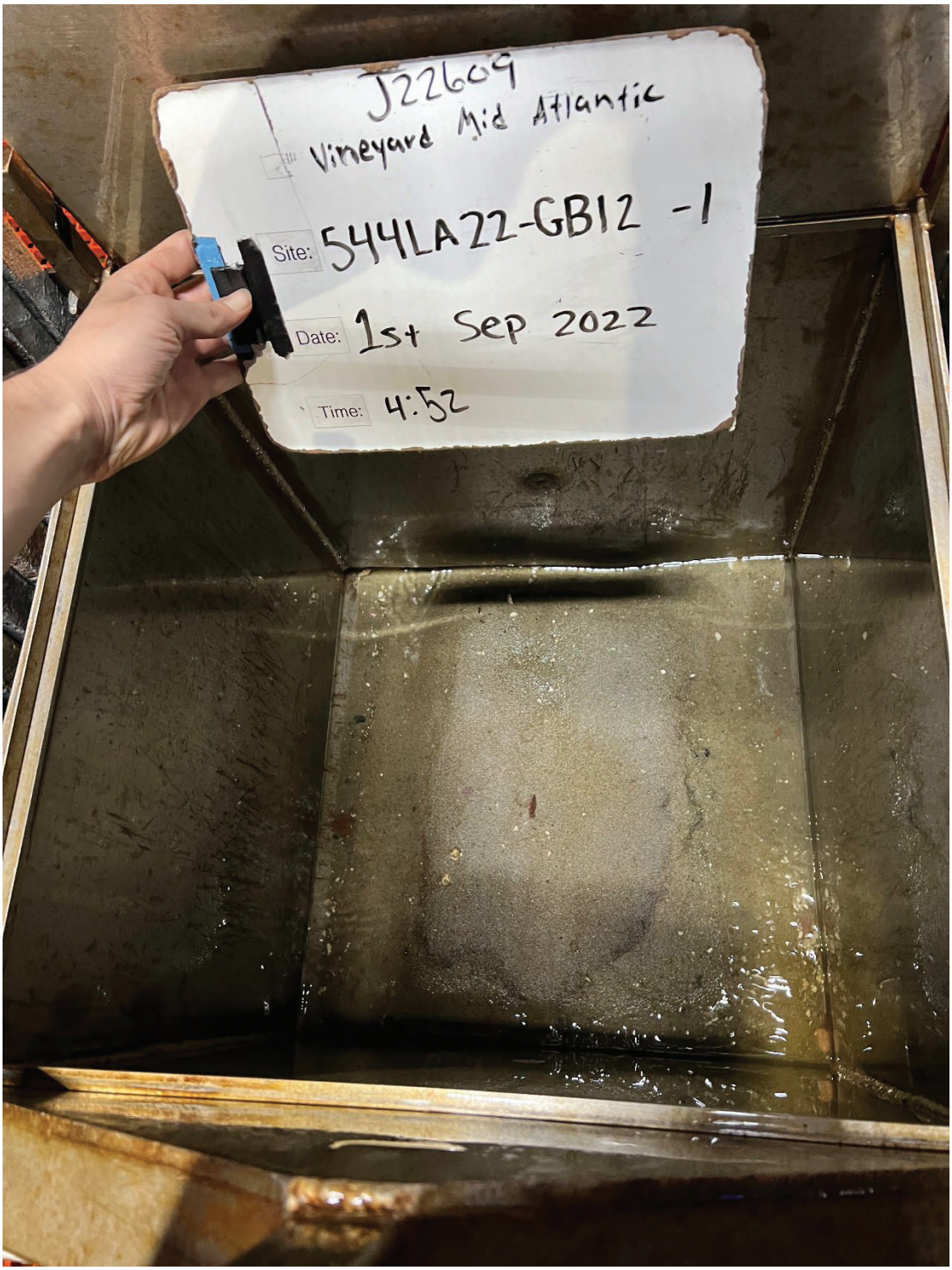


PHOTO INFORMATION

Sample ID 544LA22-GB013-1

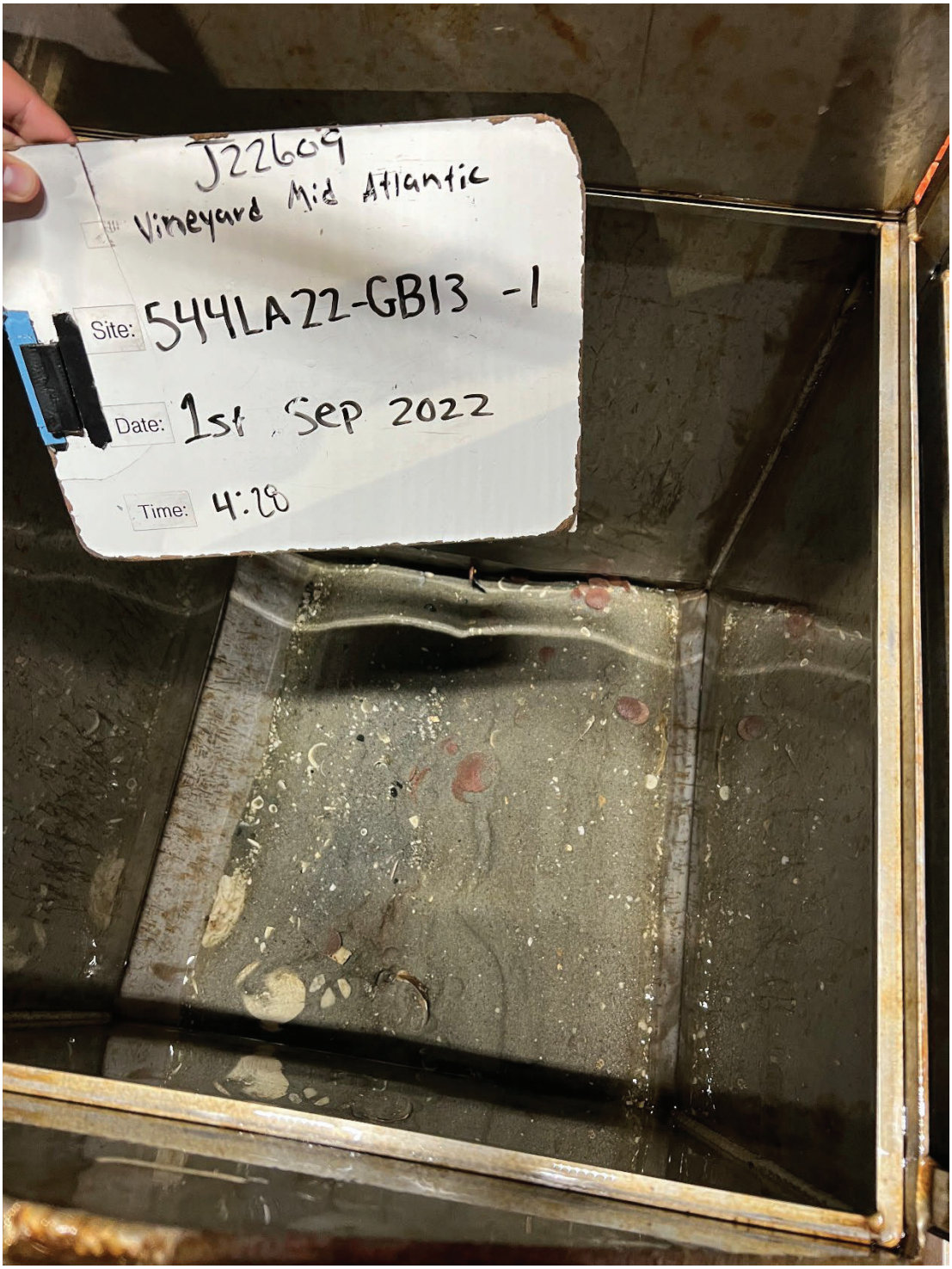


PHOTO INFORMATION

Sample ID 544LA22-GB014A-1



PHOTO INFORMATION

Sample ID 544LA22-GB014B-1

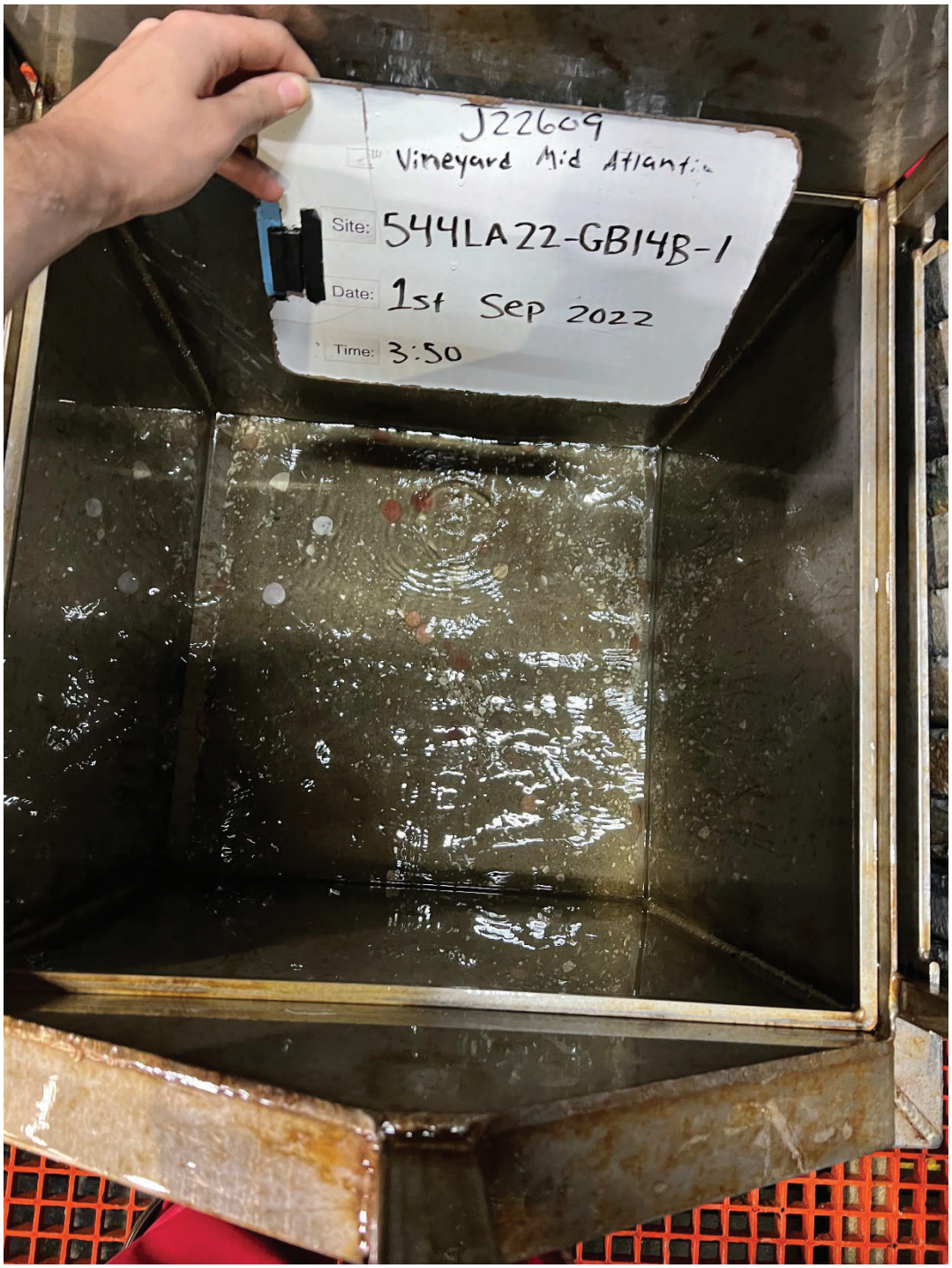


PHOTO INFORMATION

Sample ID 544LA22-GB014C-1

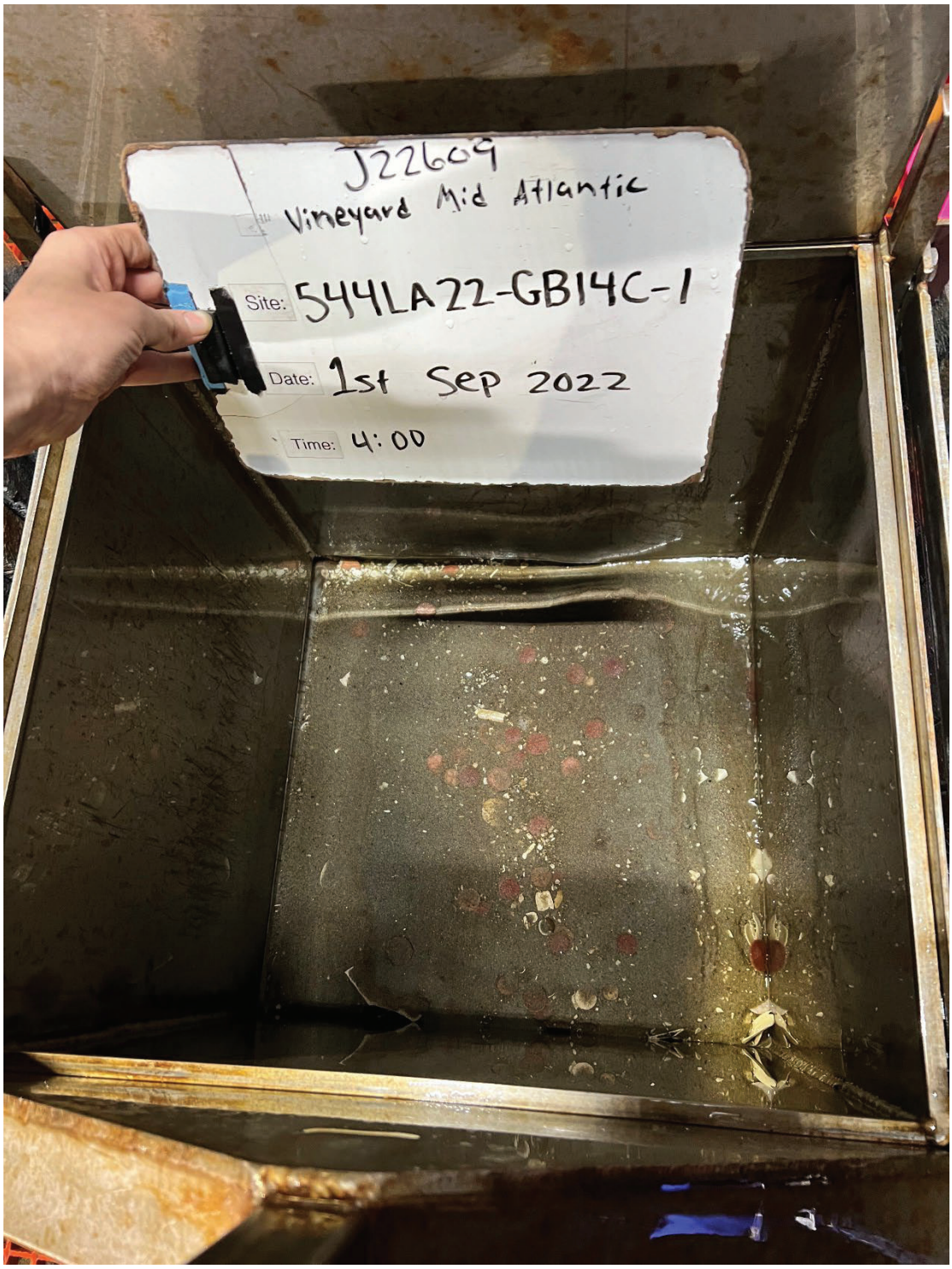


PHOTO INFORMATION

Sample ID 544LA22-GB015A-1

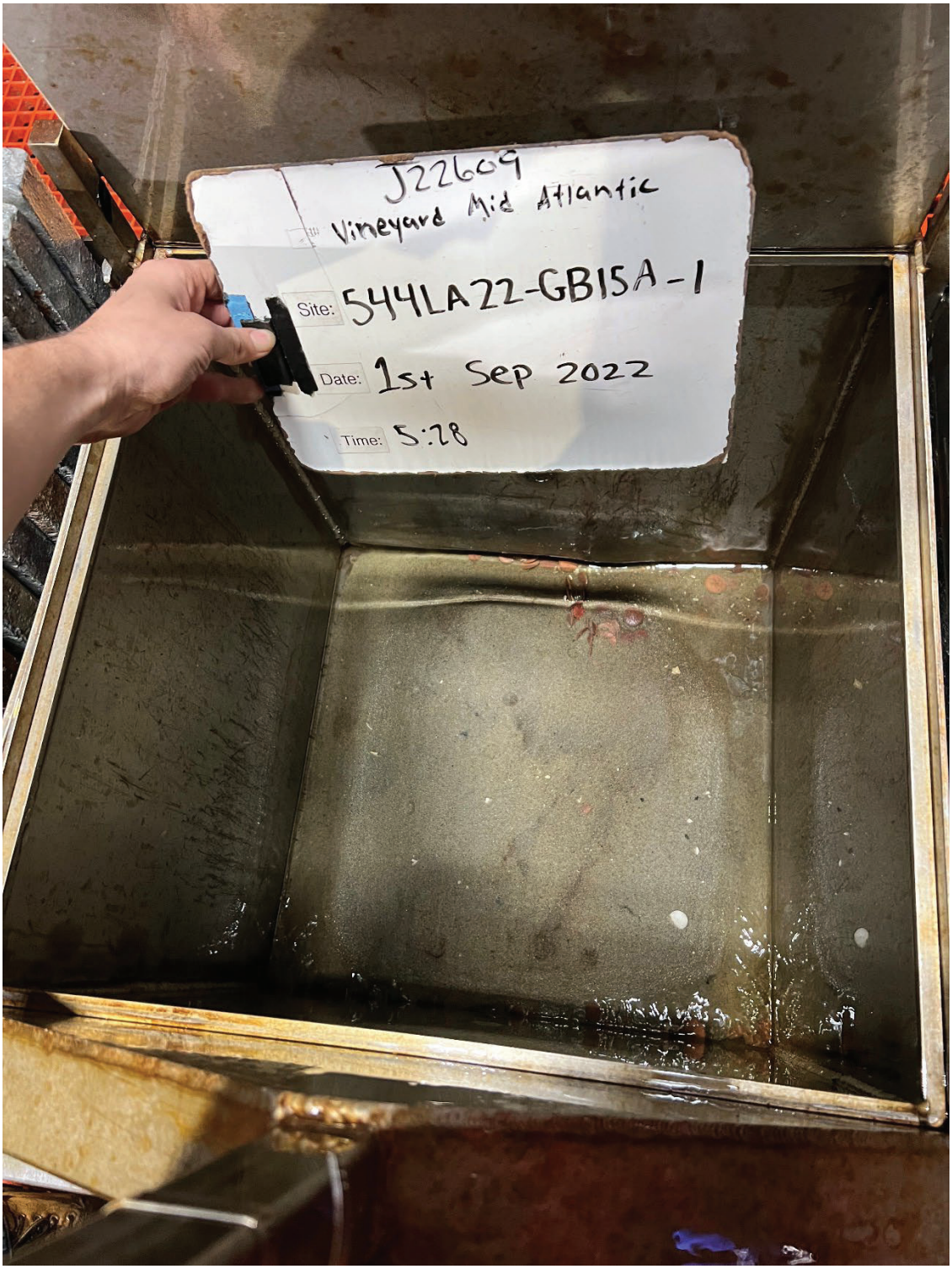


PHOTO INFORMATION

Sample ID 544LA22-GB015B-1



PHOTO INFORMATION

Sample ID 544LA22-GB015C-1

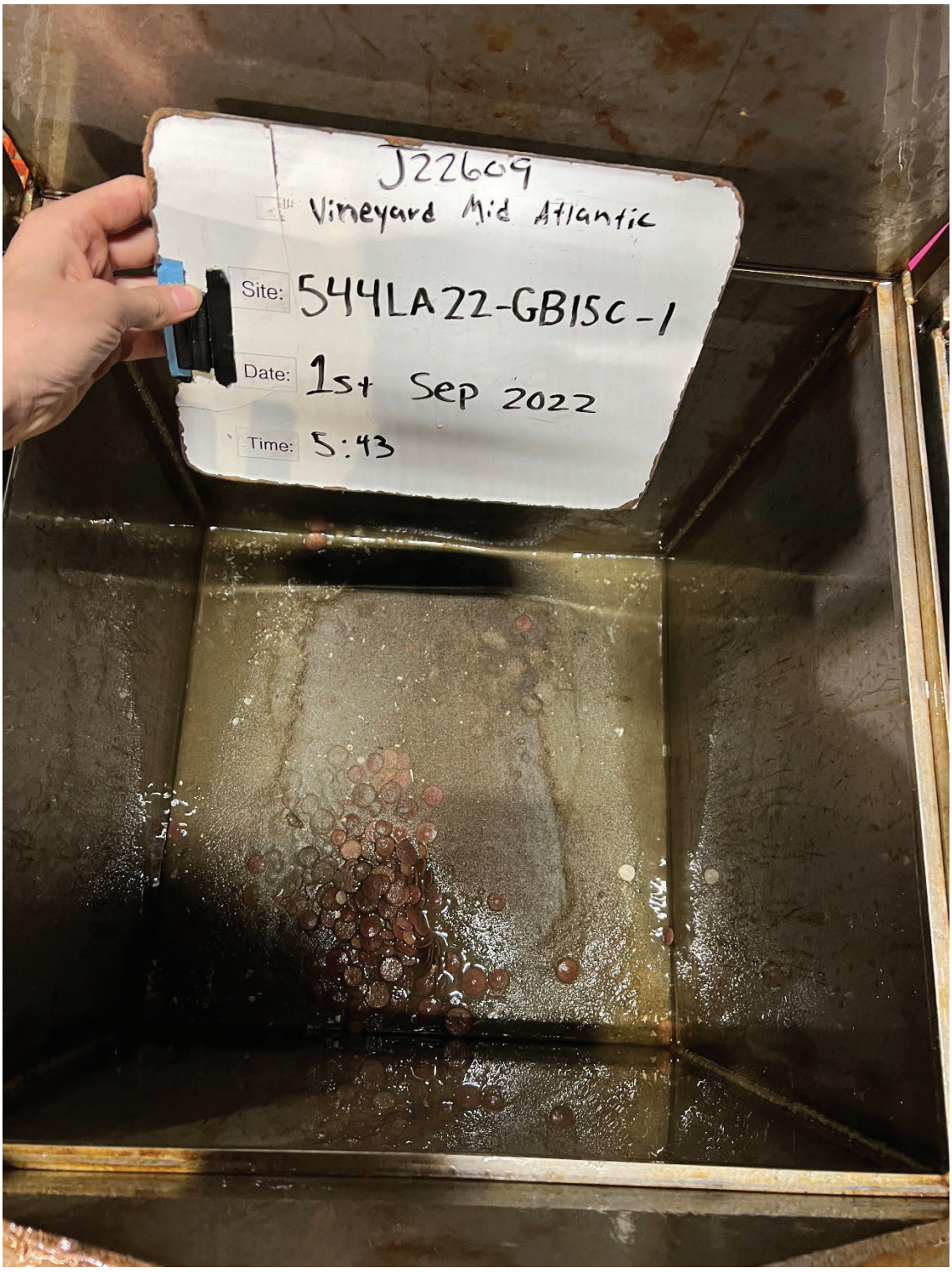


PHOTO INFORMATION

Sample ID 544LA22-GB016-1



PHOTO INFORMATION

Sample ID 544LA22-GB017A-1



PHOTO INFORMATION

Sample ID 544LA22-GB017B-1



PHOTO INFORMATION

Sample ID 544LA22-GB017C-1



PHOTO INFORMATION

Sample ID 544LA22-GB018-1



PHOTO INFORMATION

Sample ID 544LA22-GB019-1

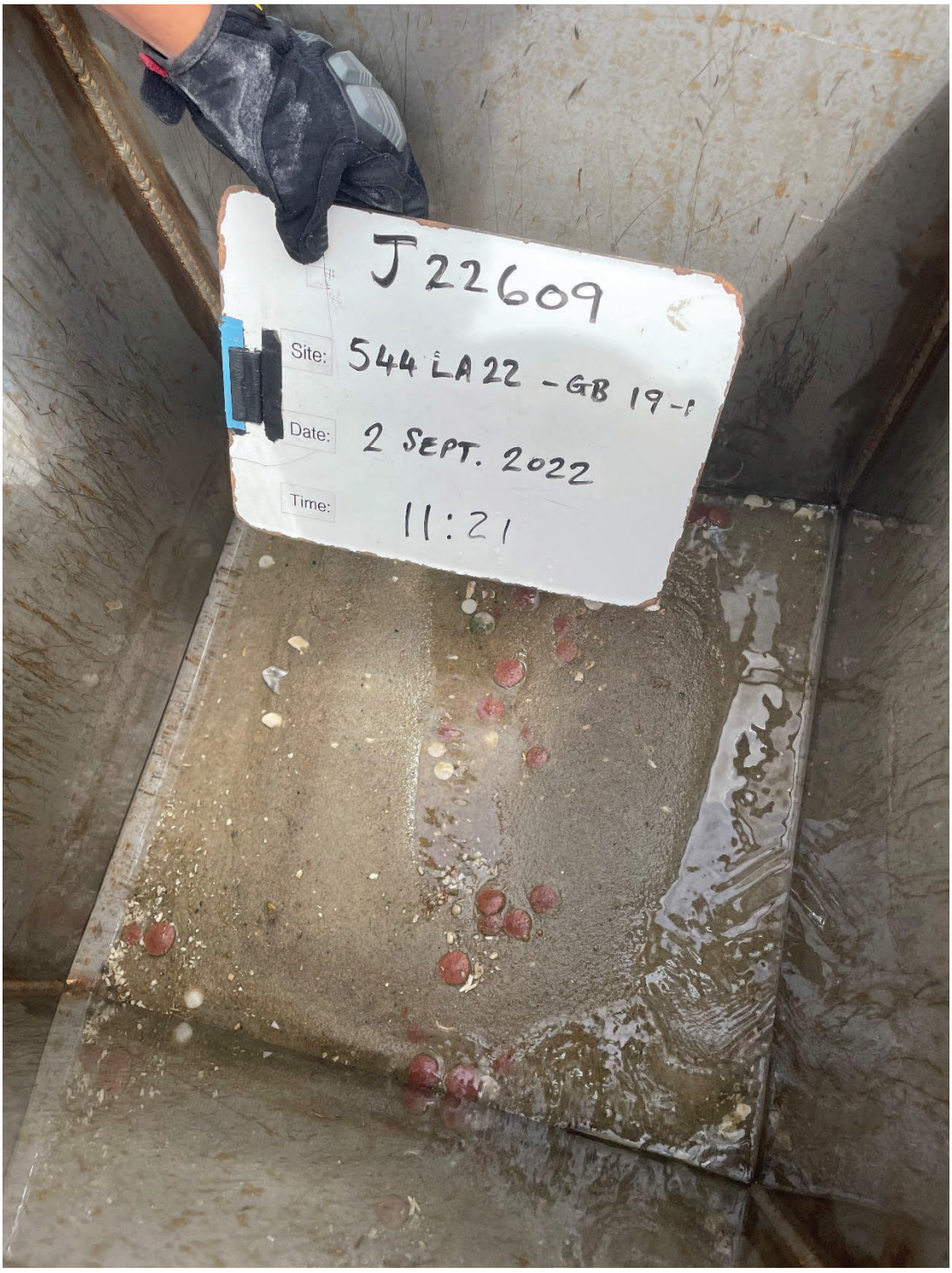


PHOTO INFORMATION

Sample ID 544LA22-GB020-1

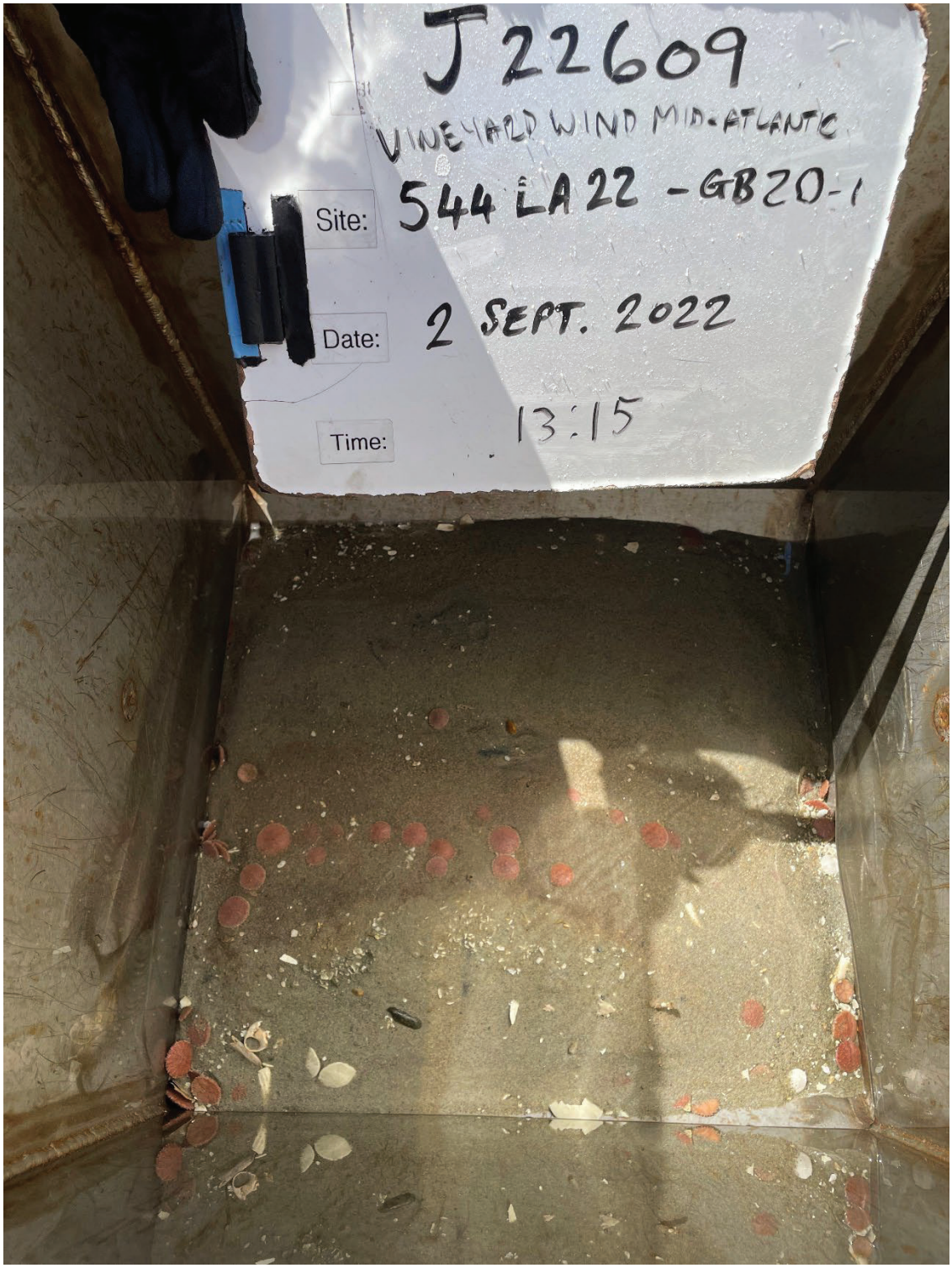


PHOTO INFORMATION

Sample ID 544LA22-GB021-1

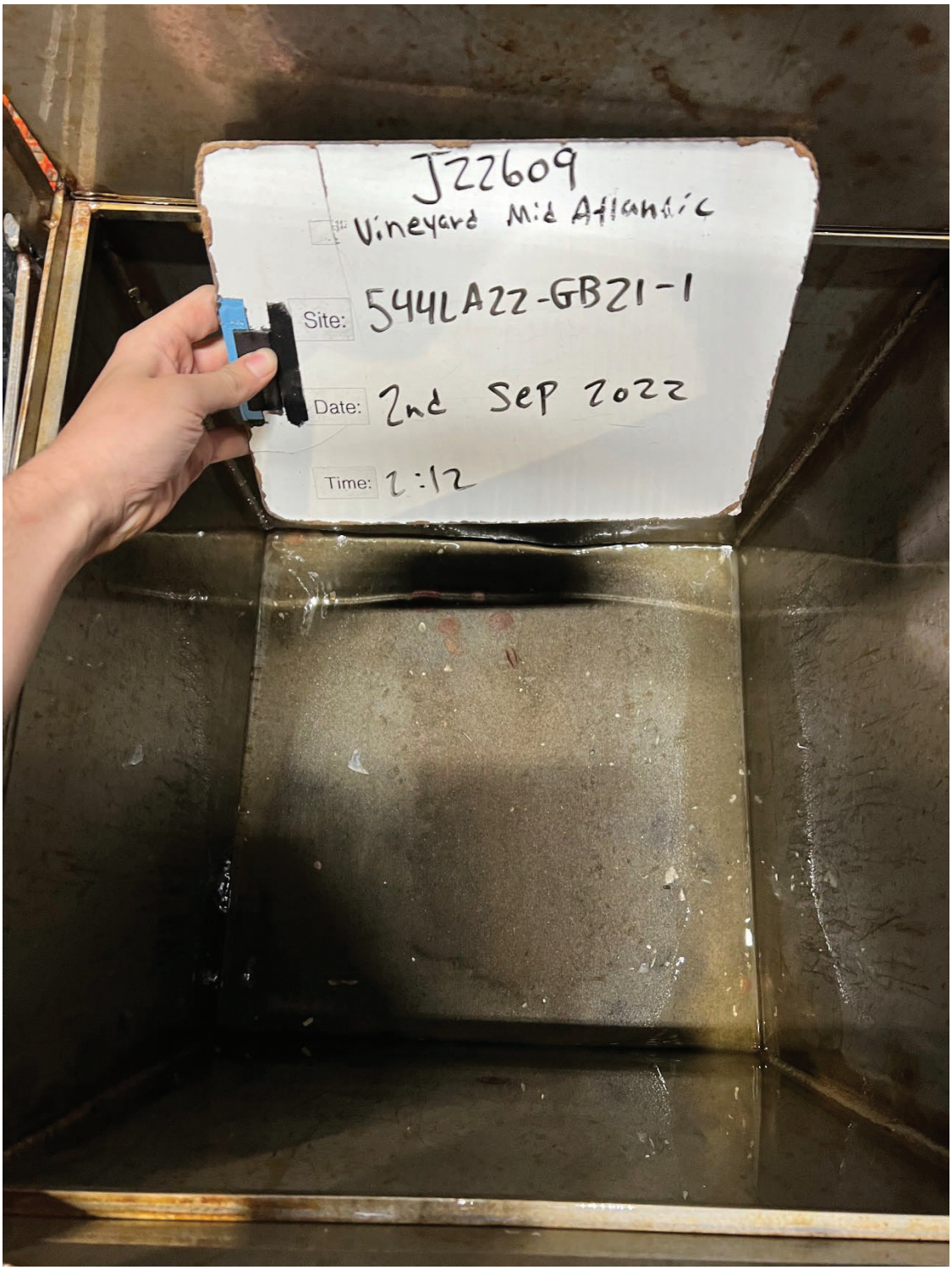


PHOTO INFORMATION

Sample ID 544LA22-GB022A-1

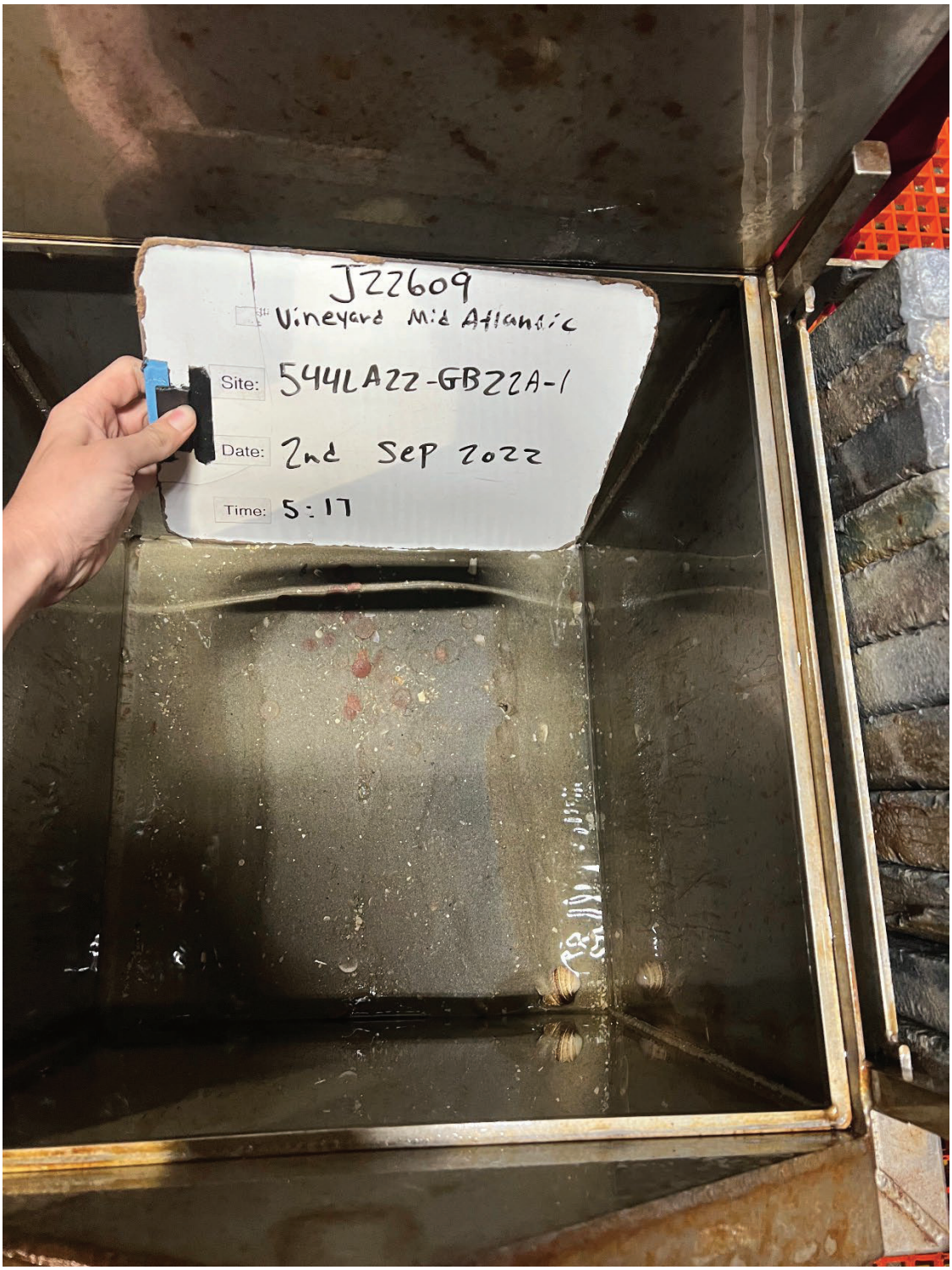


PHOTO INFORMATION

Sample ID 544LA22-GB022B-1

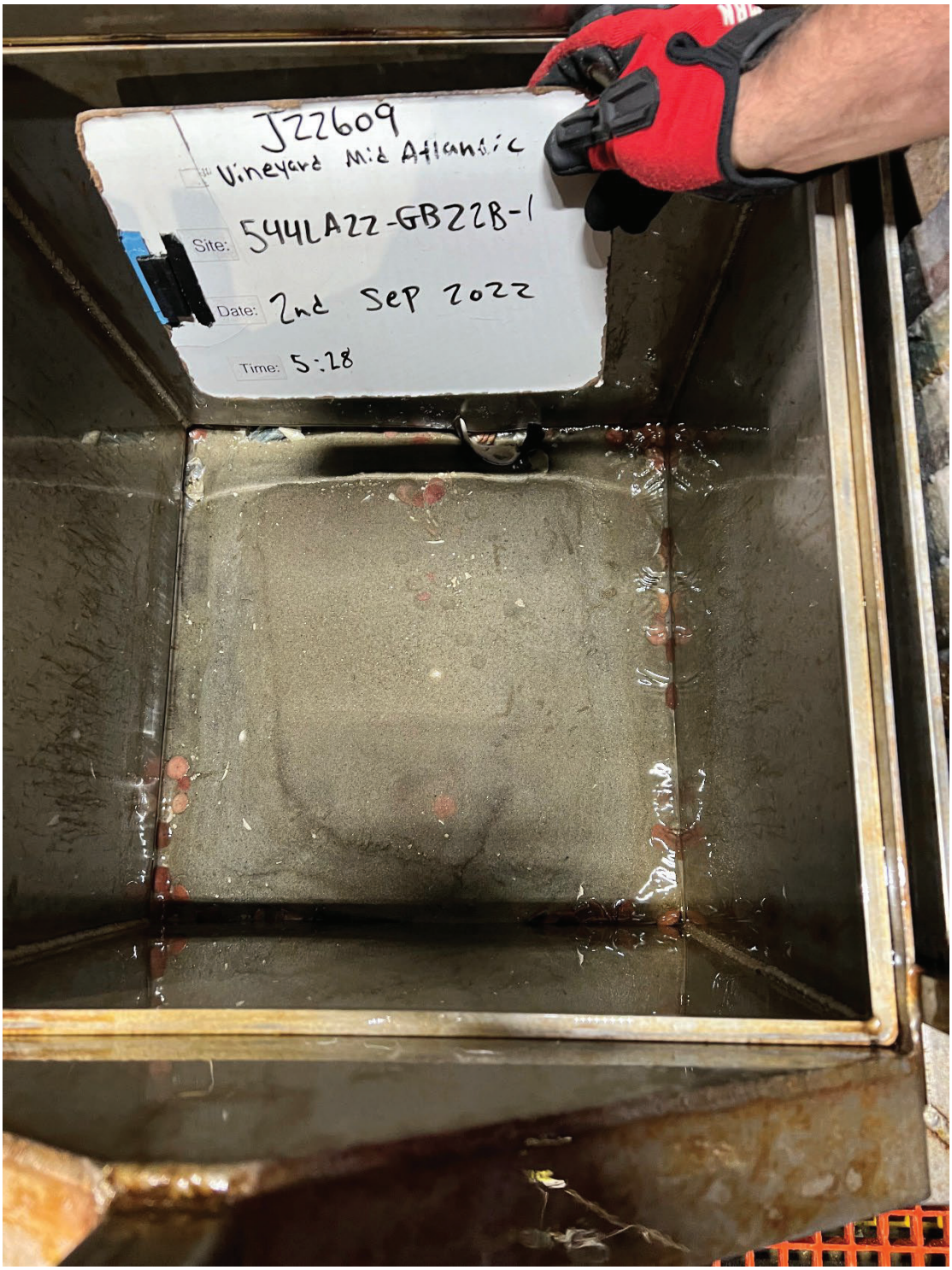


PHOTO INFORMATION

Sample ID 544LA22-GB022C-1

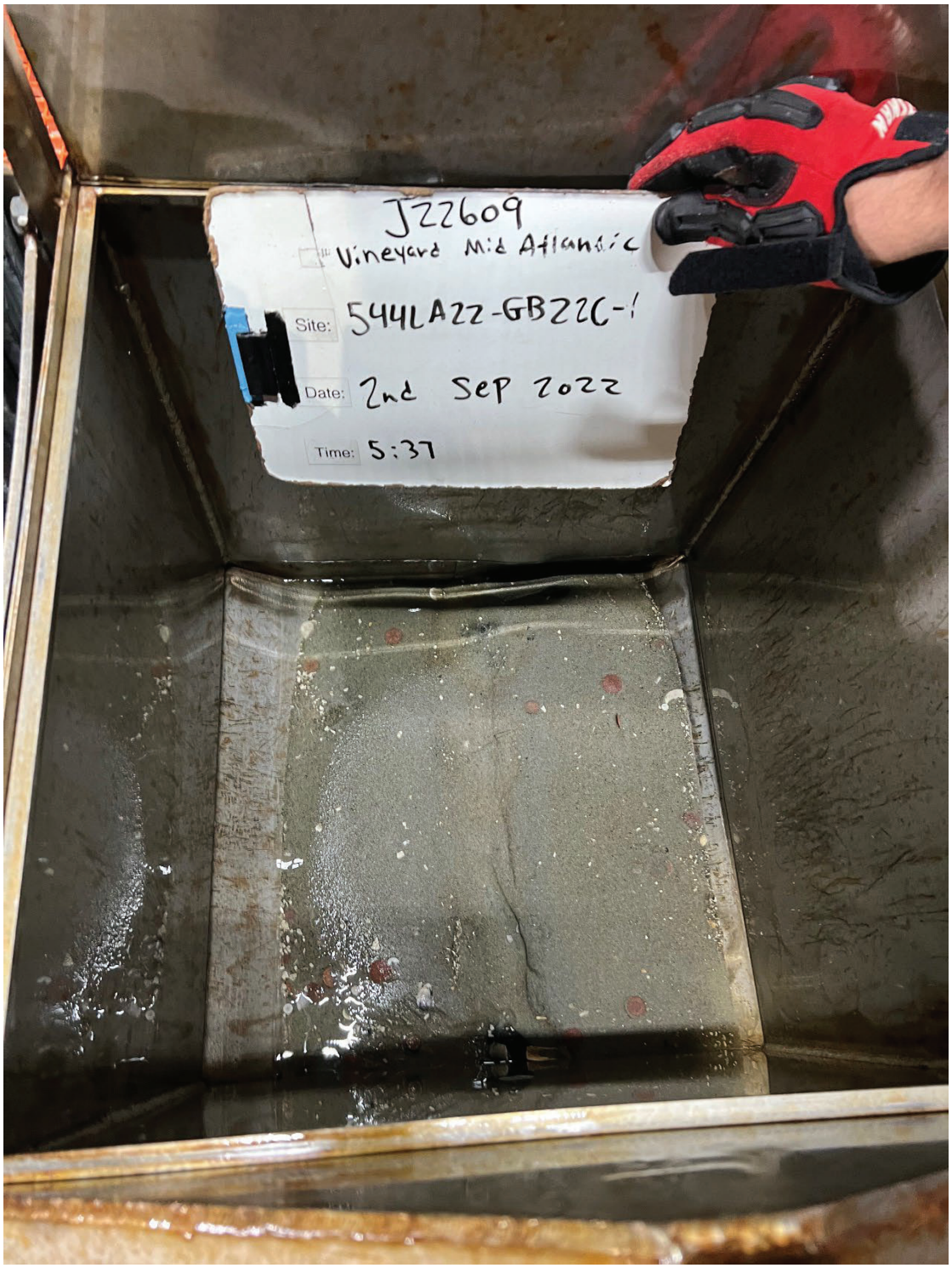


PHOTO INFORMATION

Sample ID 544LA22-GB023A-1

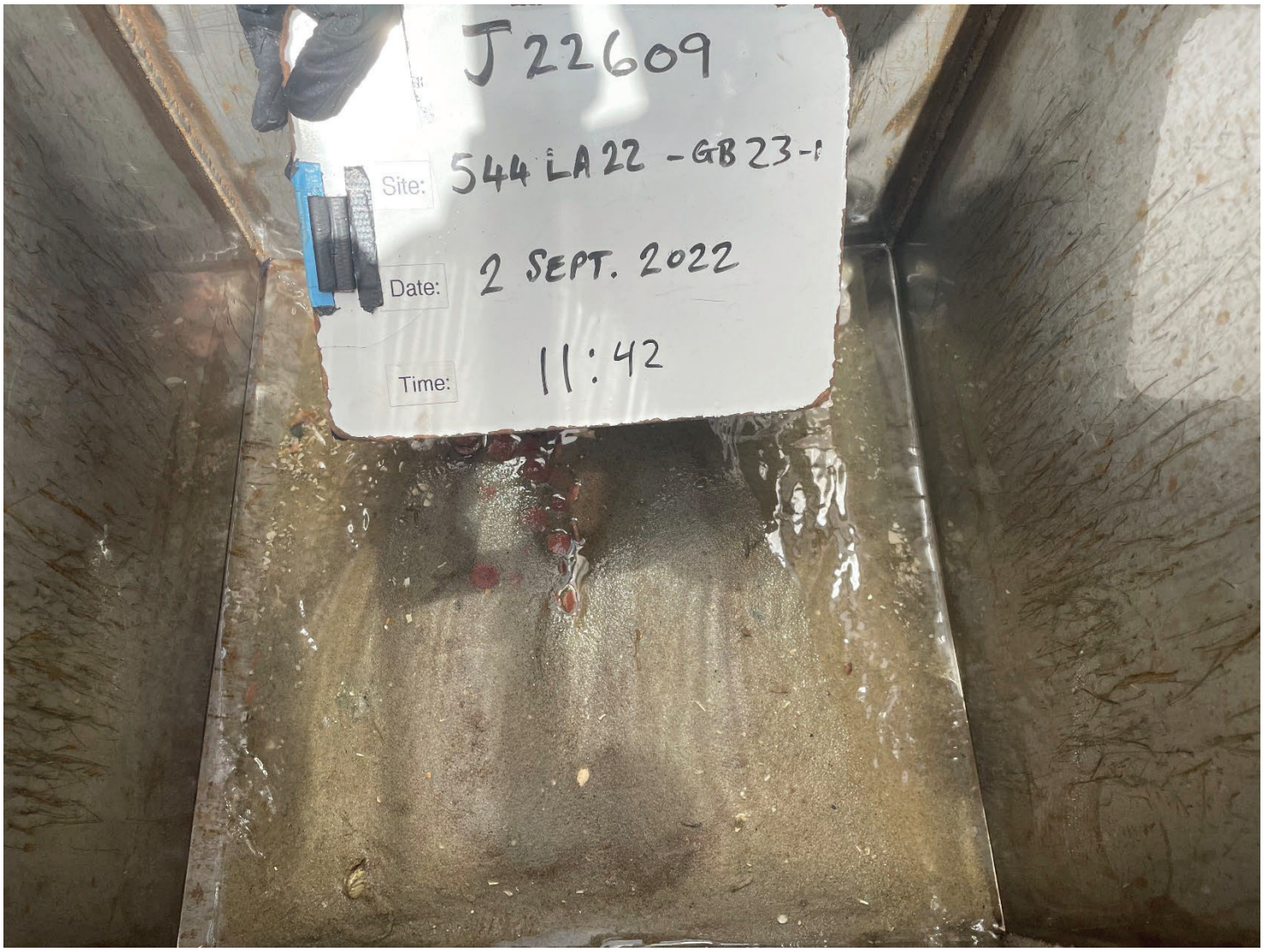


PHOTO INFORMATION

Sample ID 544LA22-GB023B-1



PHOTO INFORMATION

Sample ID 544LA22-GB023C-1



PHOTO INFORMATION

Sample ID 544LA22-GB024-1

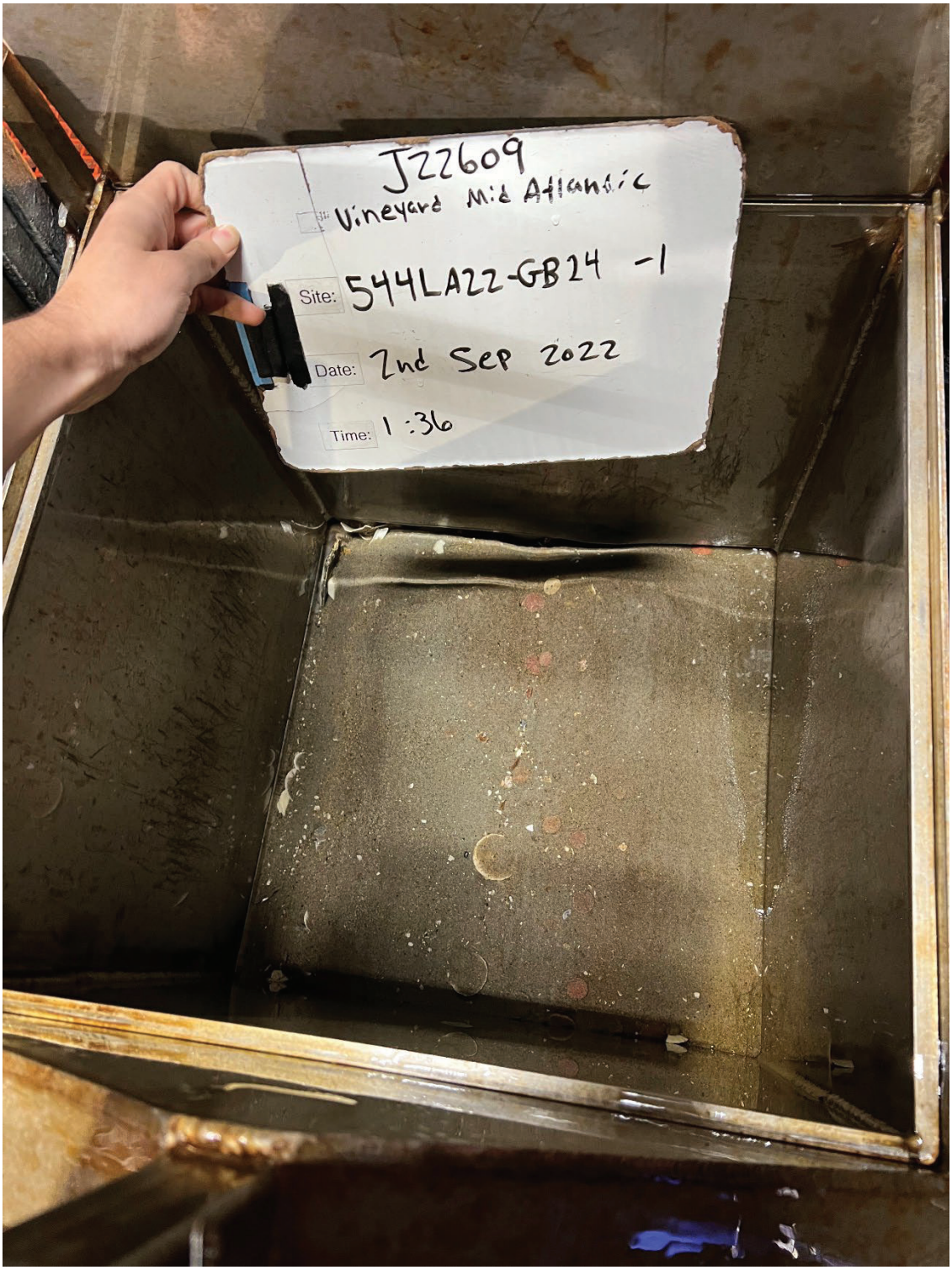


PHOTO INFORMATION

Sample ID 544LA22-GB025A-1

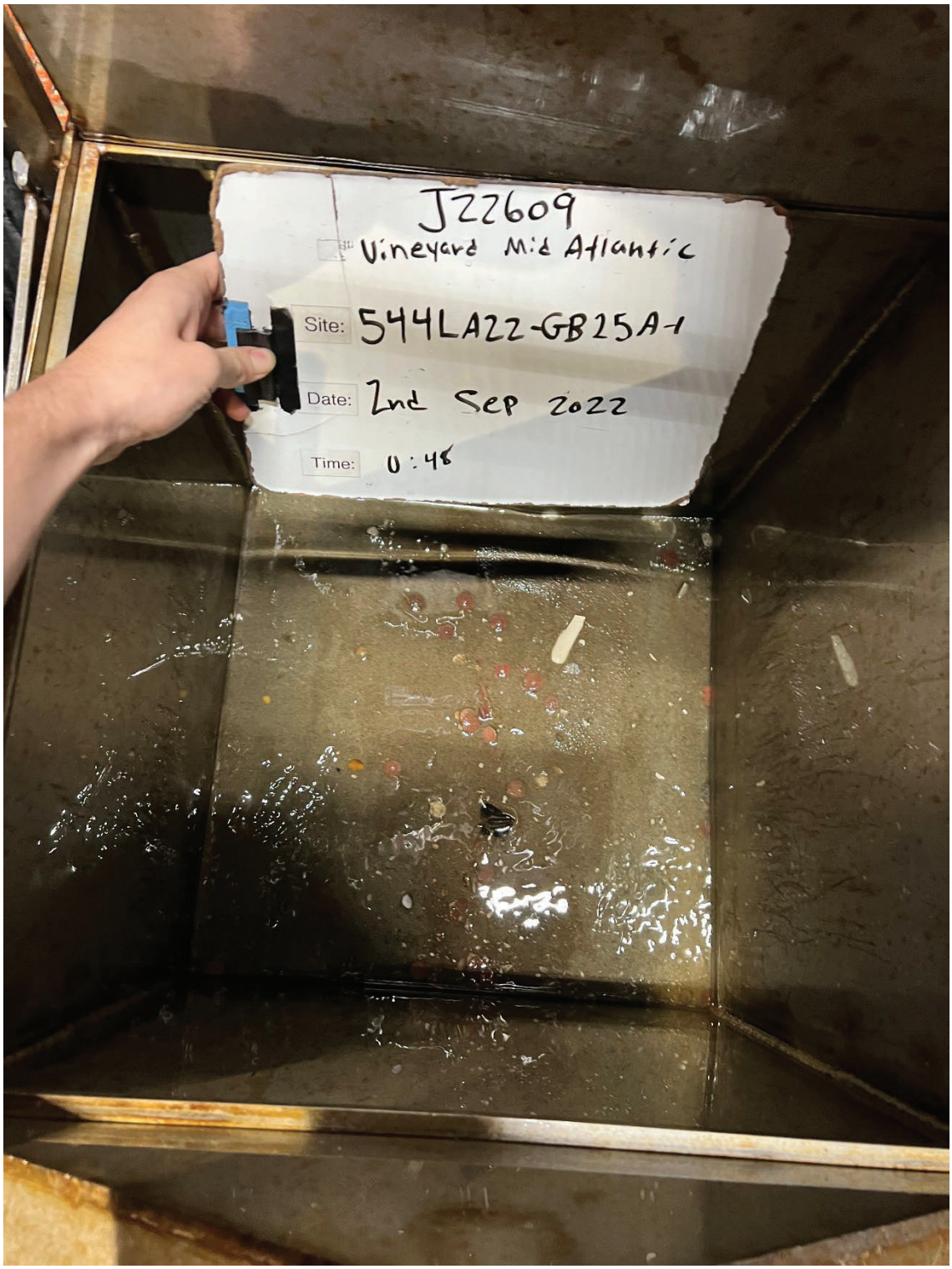


PHOTO INFORMATION

Sample ID 544LA22-GB025B-1

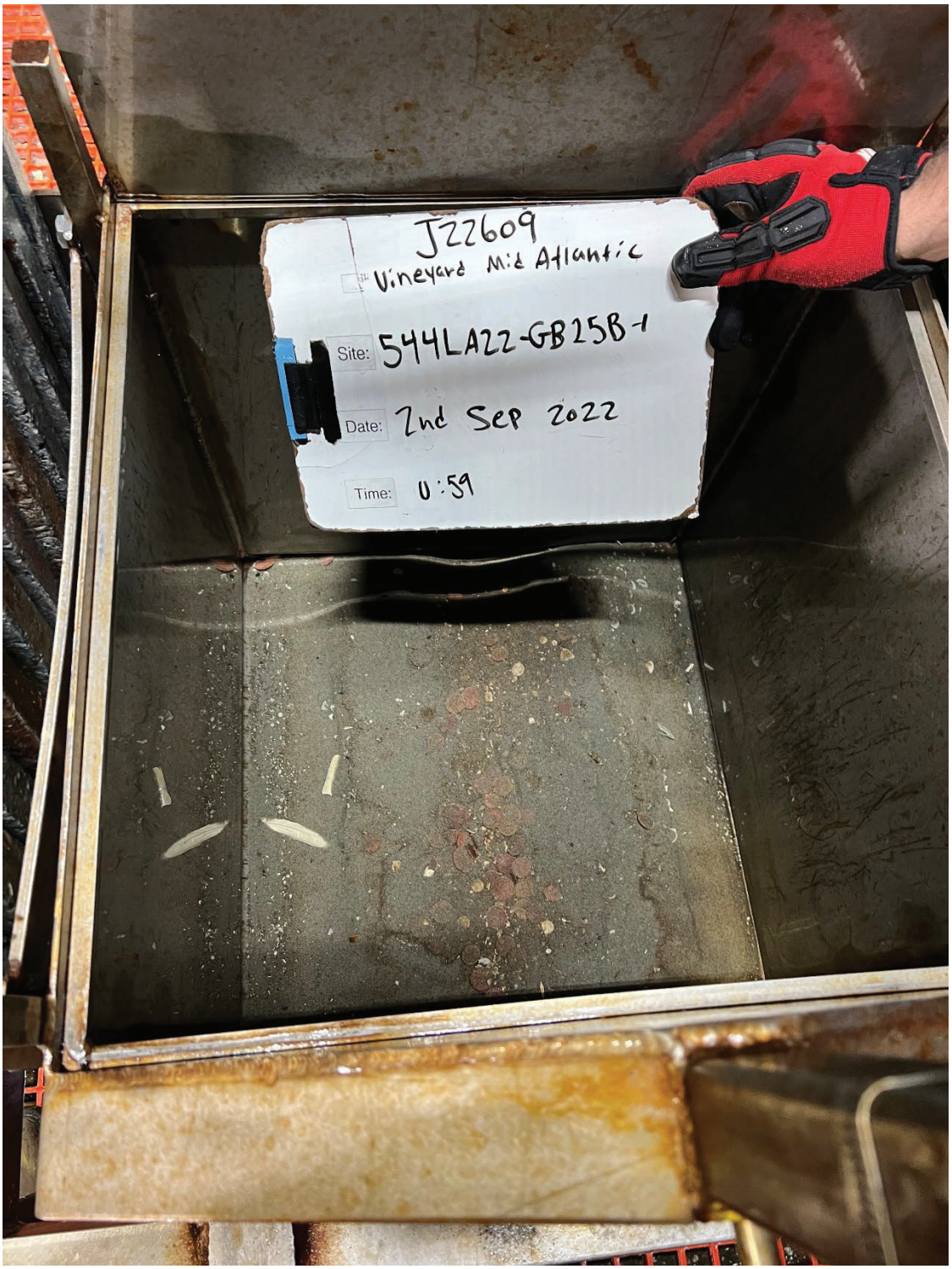


PHOTO INFORMATION

Sample ID 544LA22-GB025C-1



PHOTO INFORMATION

Sample ID 544LA22-GB026-1

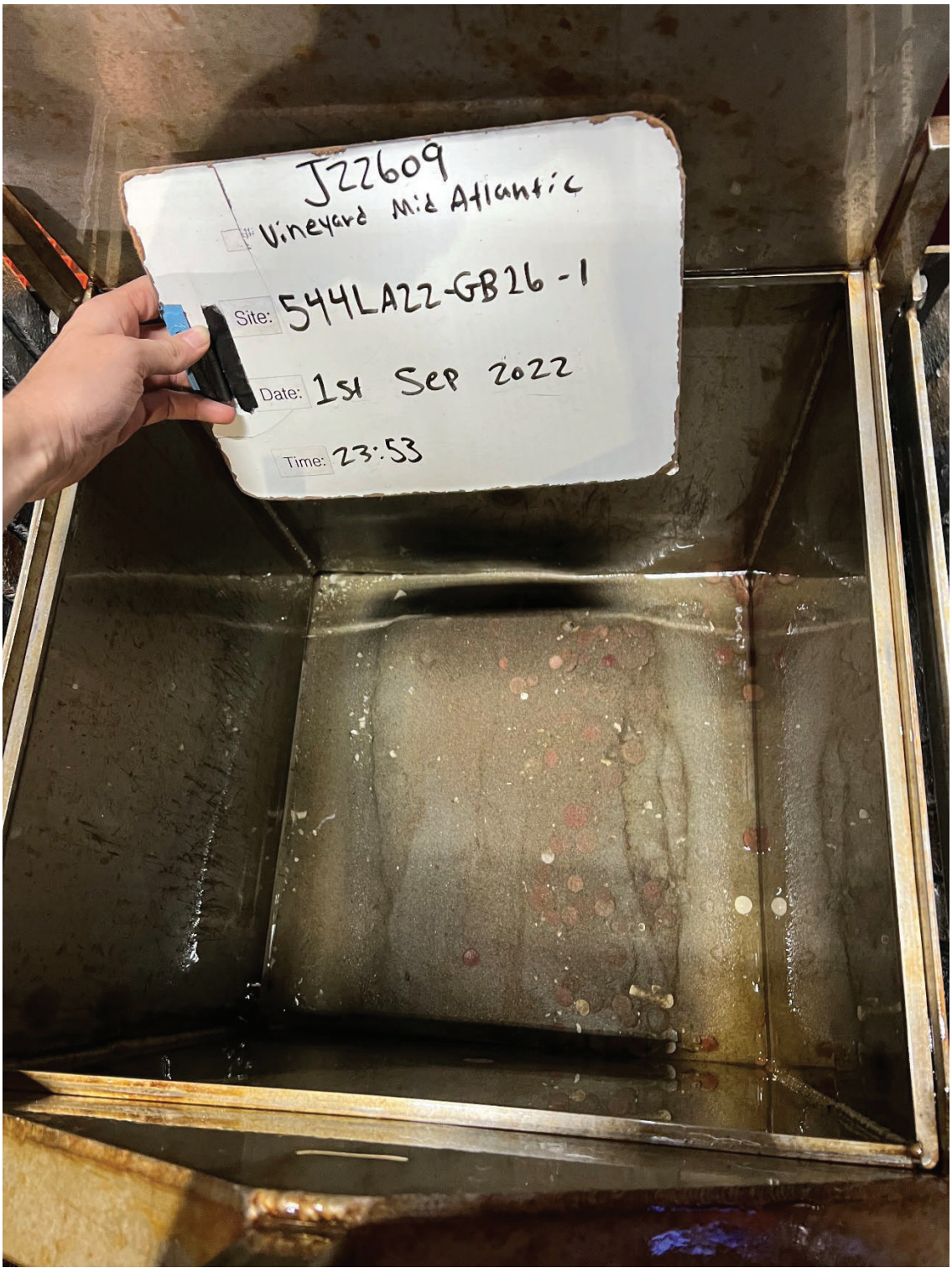


PHOTO INFORMATION

Sample ID 544LA22-GB027-1

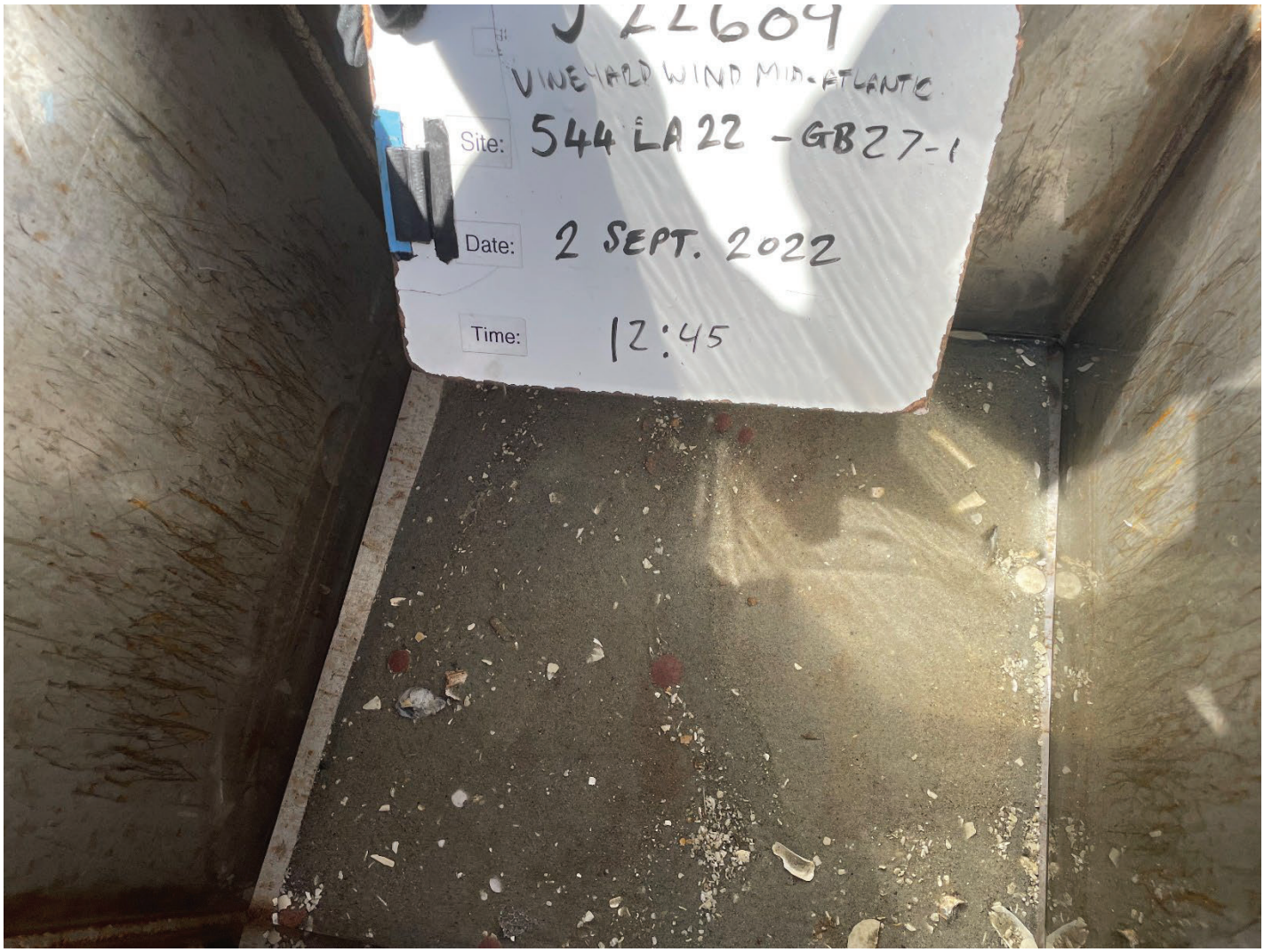


PHOTO INFORMATION

Sample ID 544LA22-GB028A-1

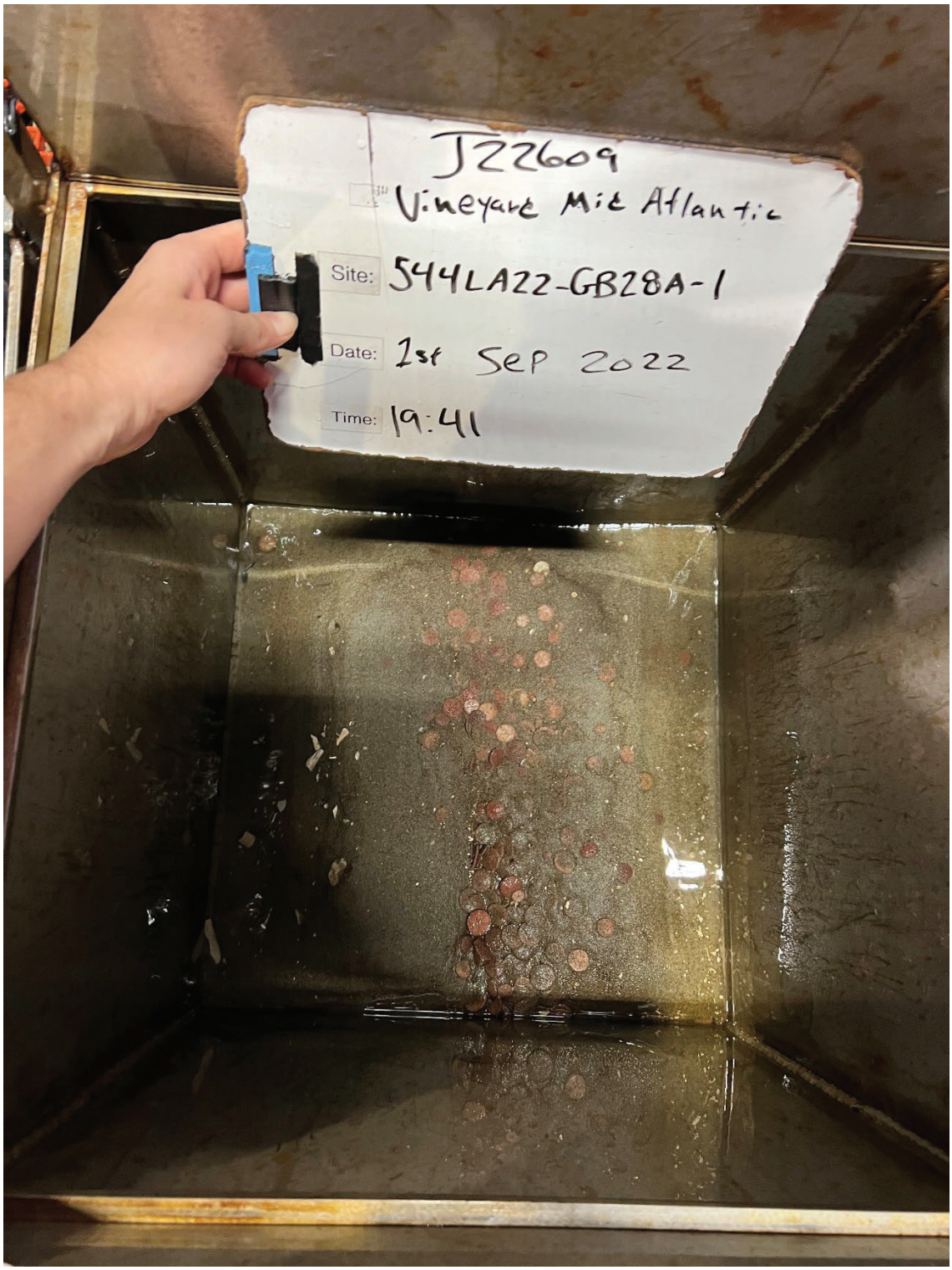


PHOTO INFORMATION

Sample ID 544LA22-GB028B-1

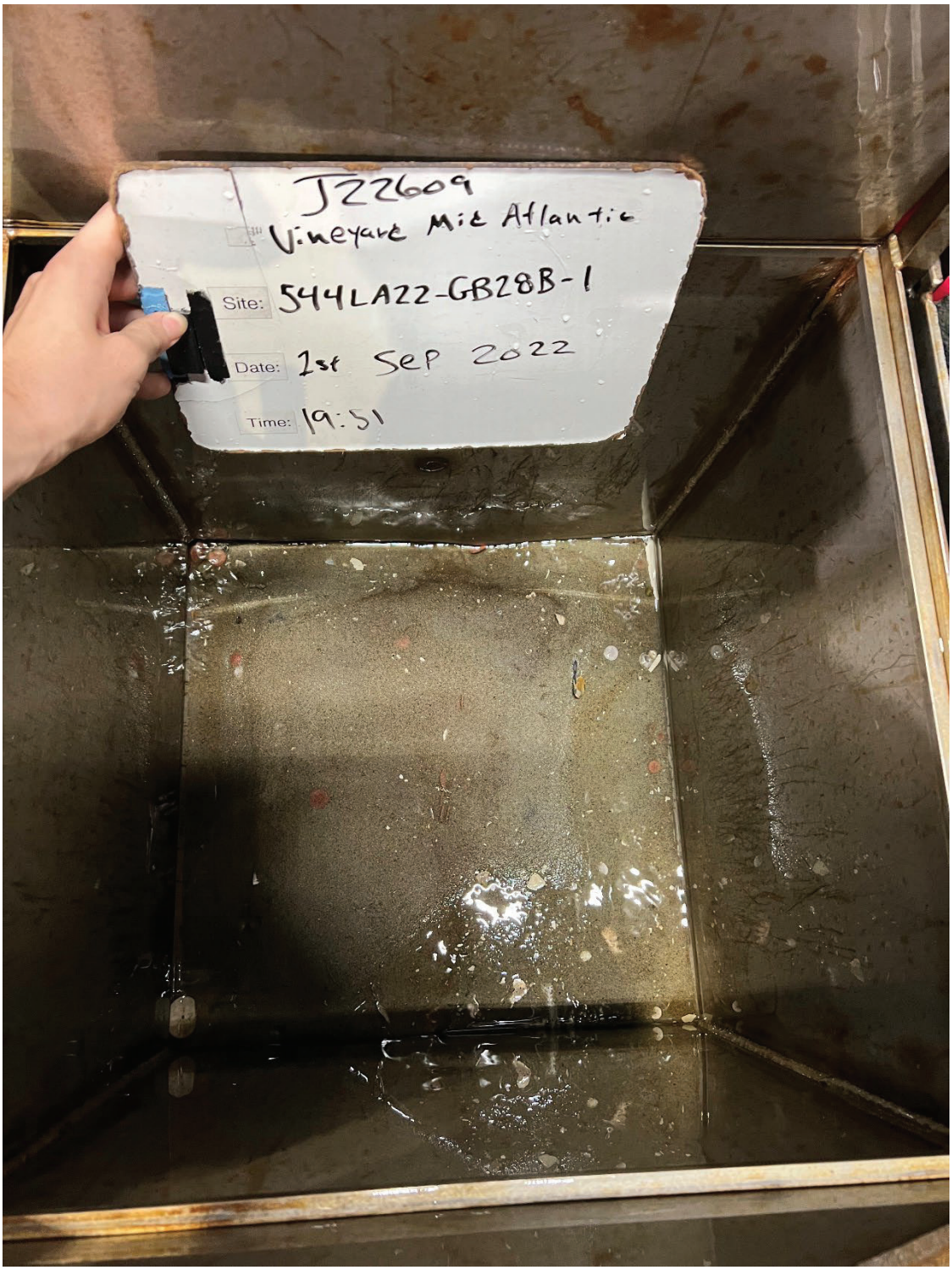


PHOTO INFORMATION

Sample ID 544LA22-GB028C-1

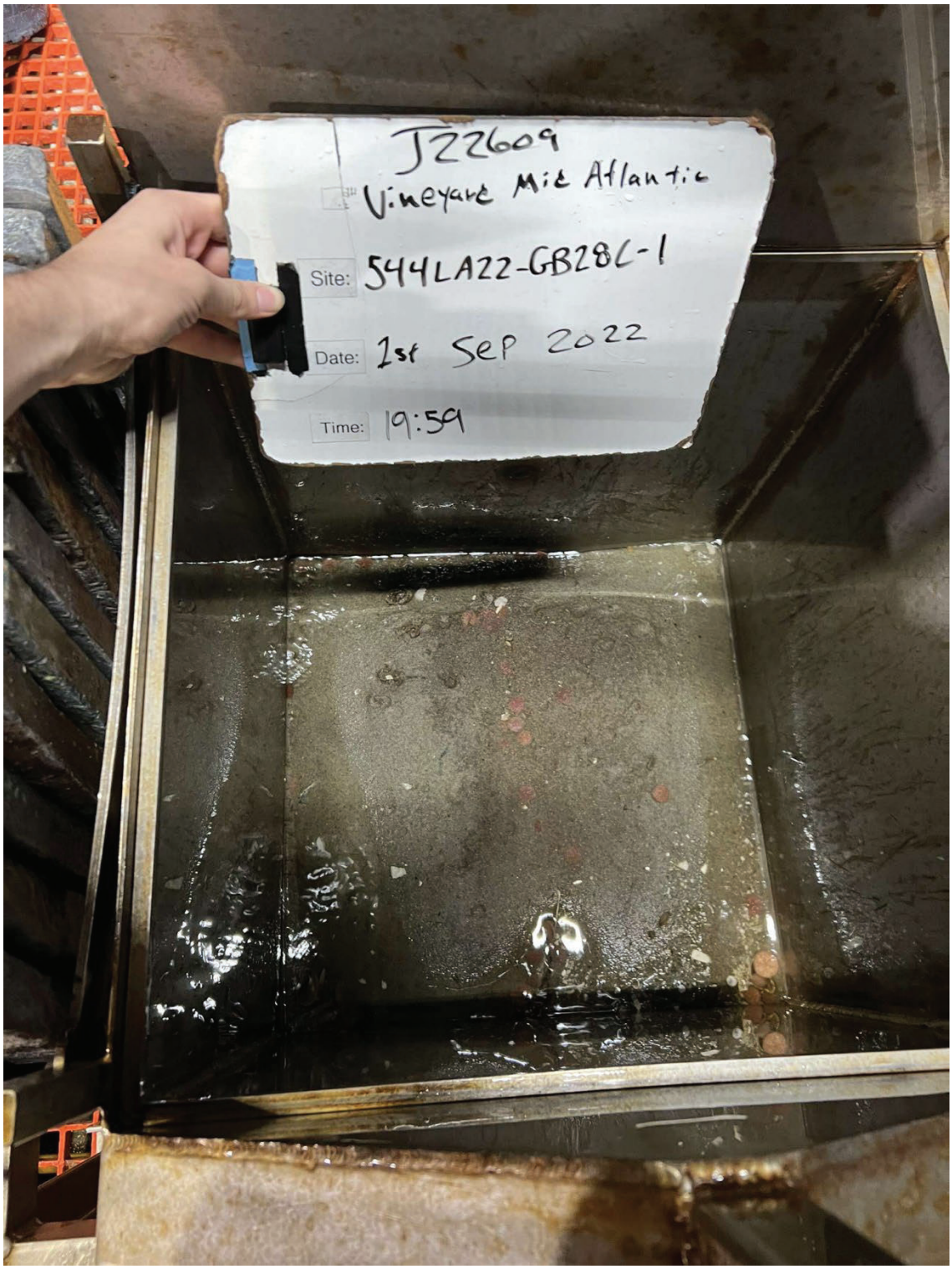


PHOTO INFORMATION

Sample ID 544LA22-GB029-1

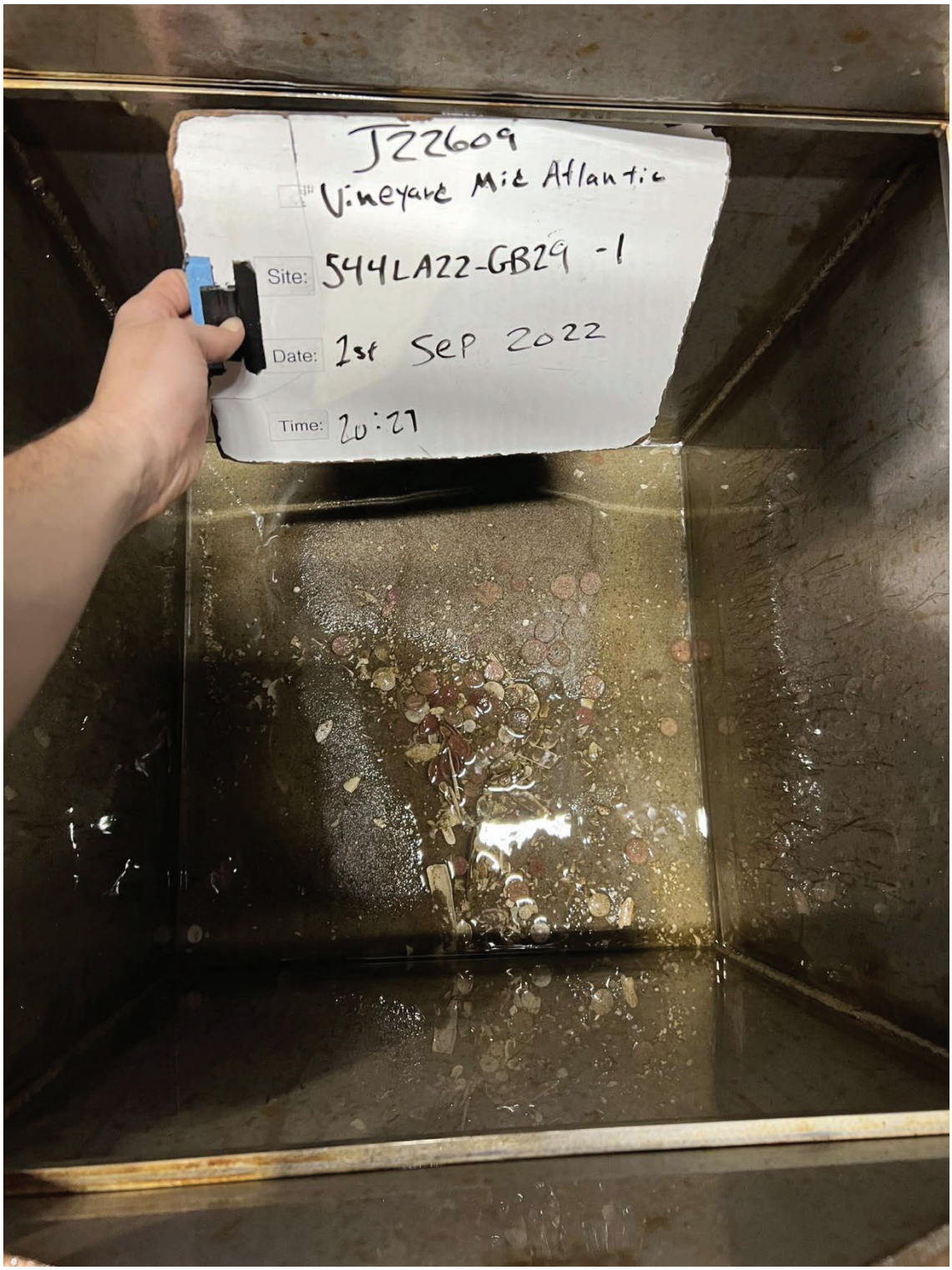


PHOTO INFORMATION

Sample ID 544LA22-GB030-1

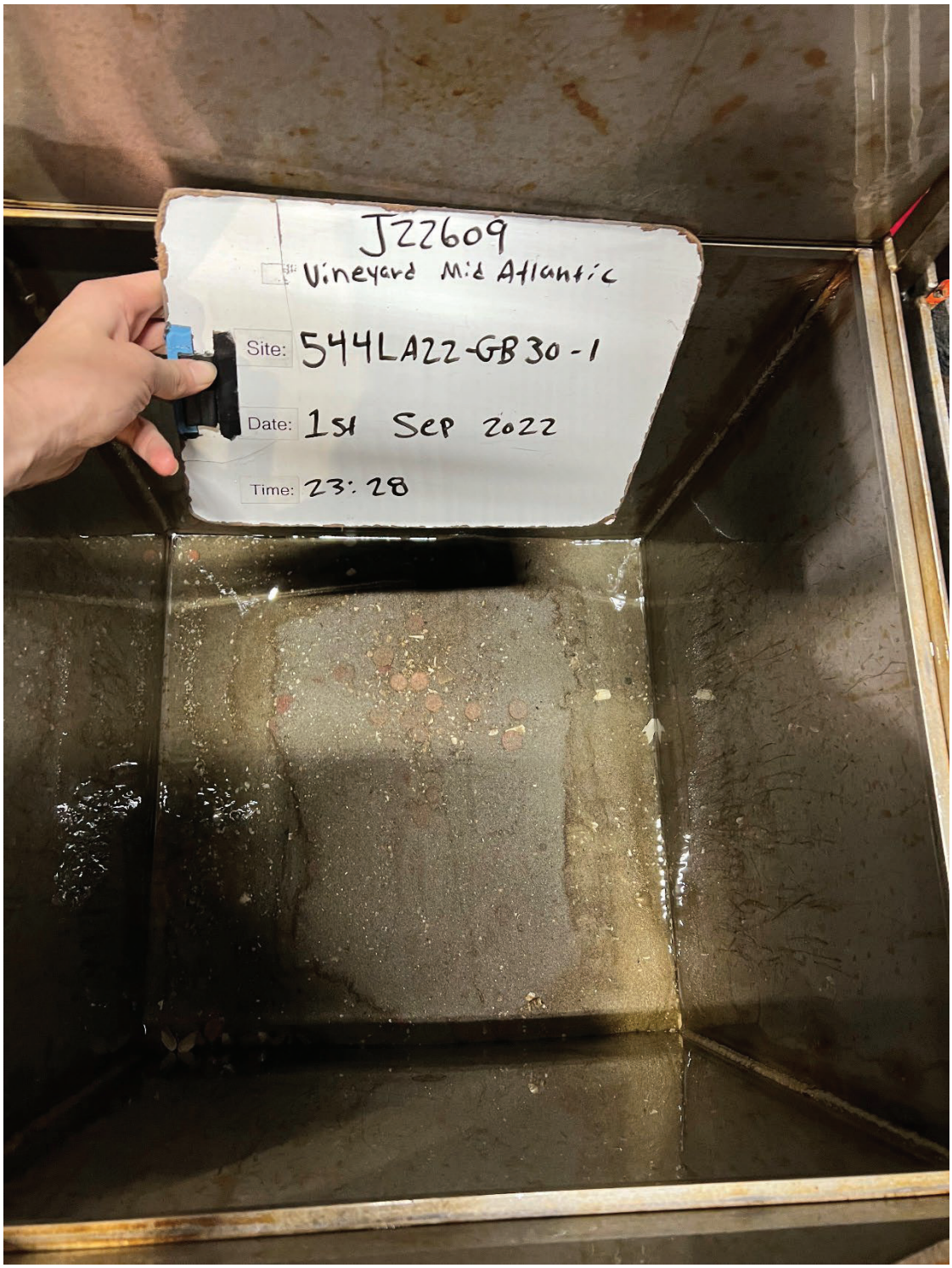


PHOTO INFORMATION

Sample ID 544LA22-GB031A-1

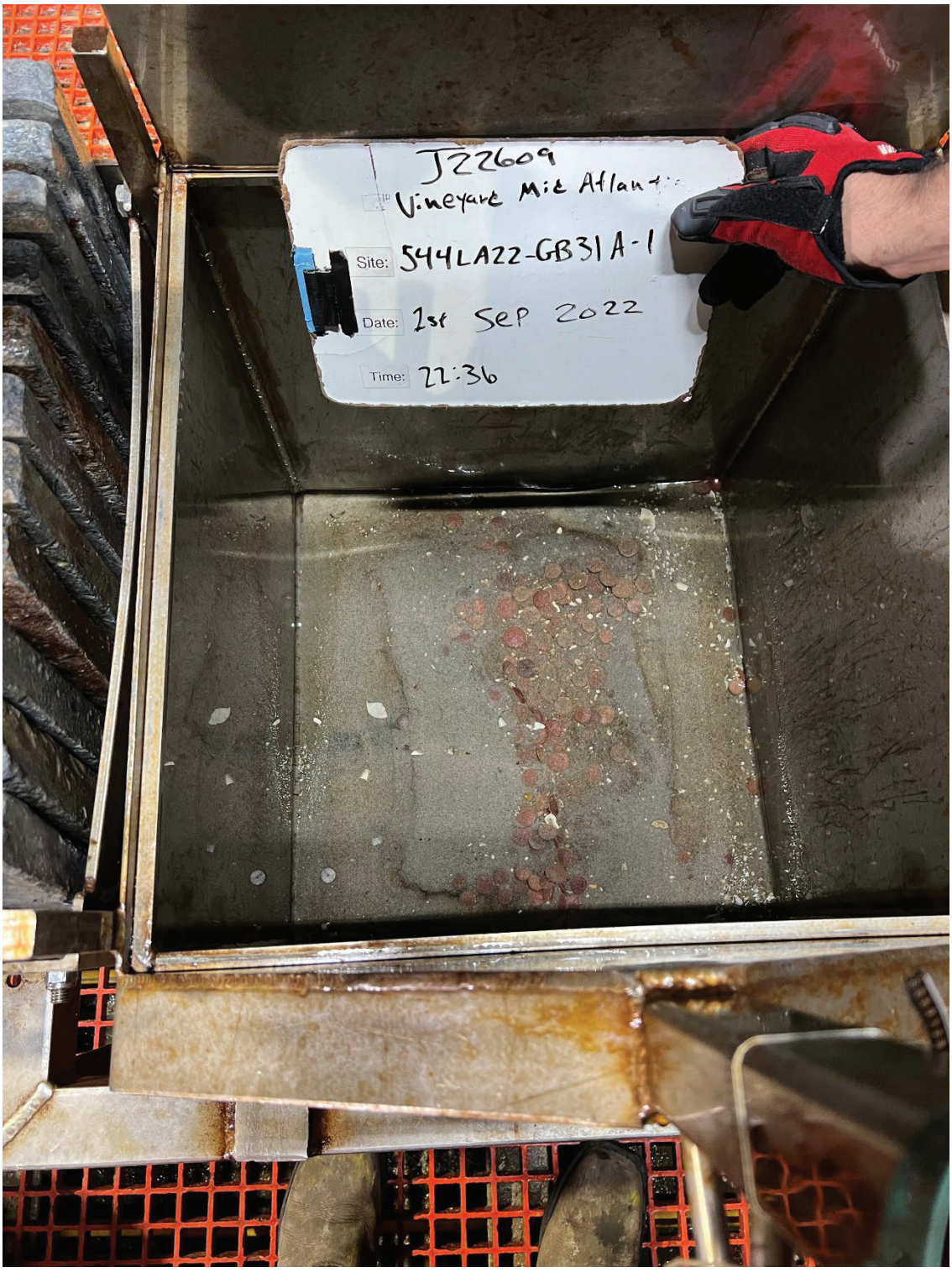


PHOTO INFORMATION

Sample ID 544LA22-GB031B-1

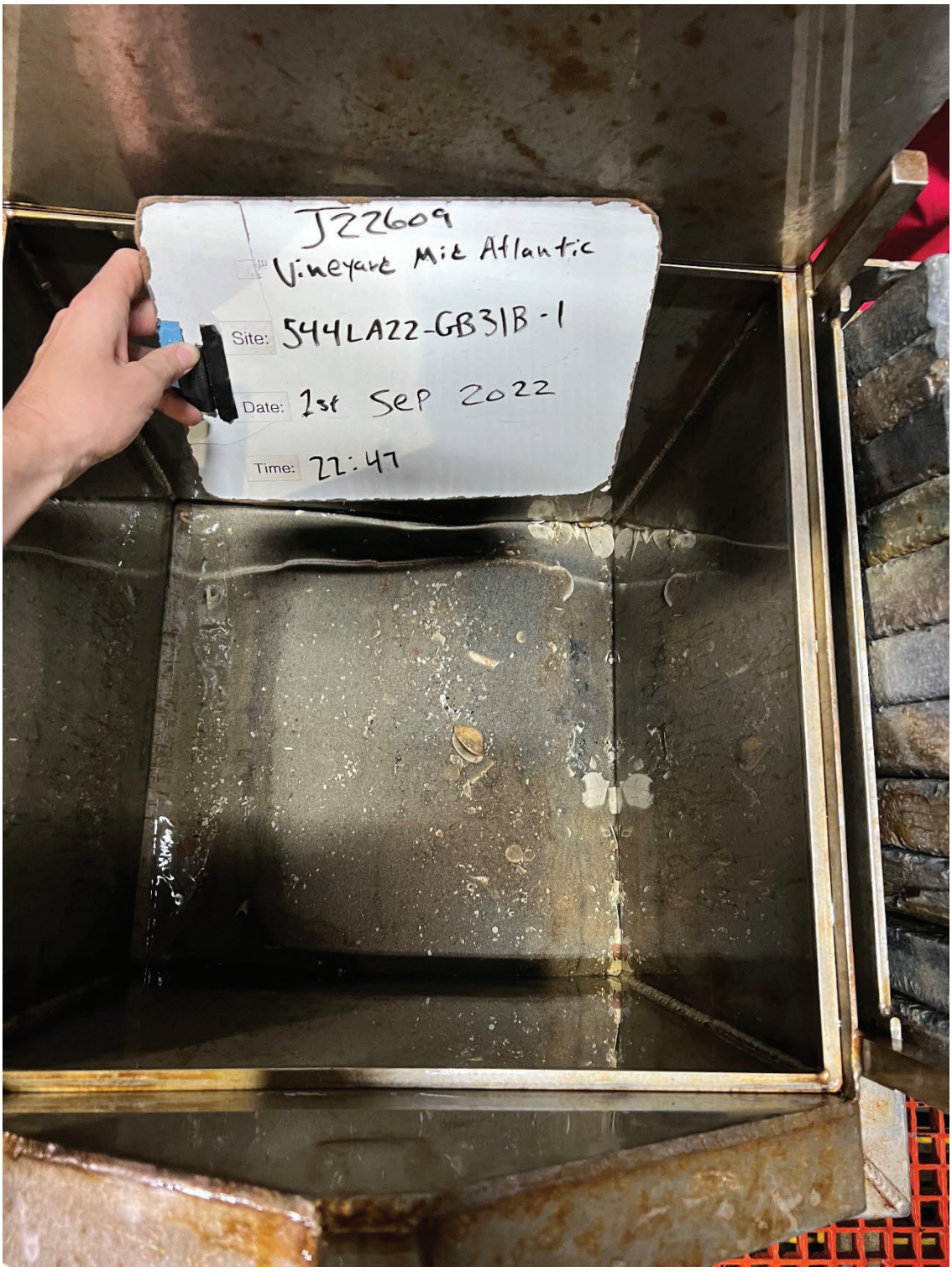


PHOTO INFORMATION

Sample ID 544LA22-GB031C-1

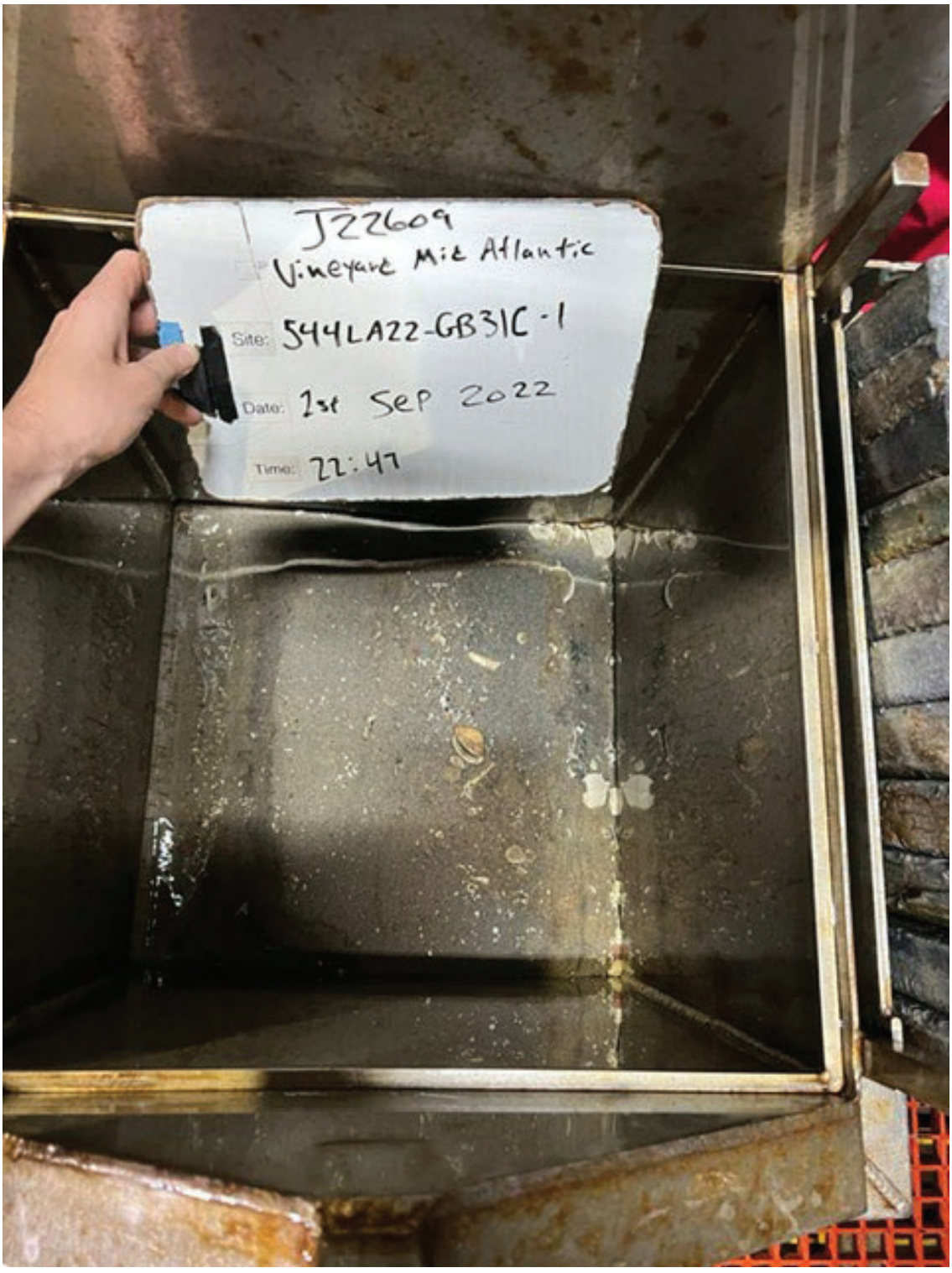


PHOTO INFORMATION

Sample ID 544LA22-GB032-1

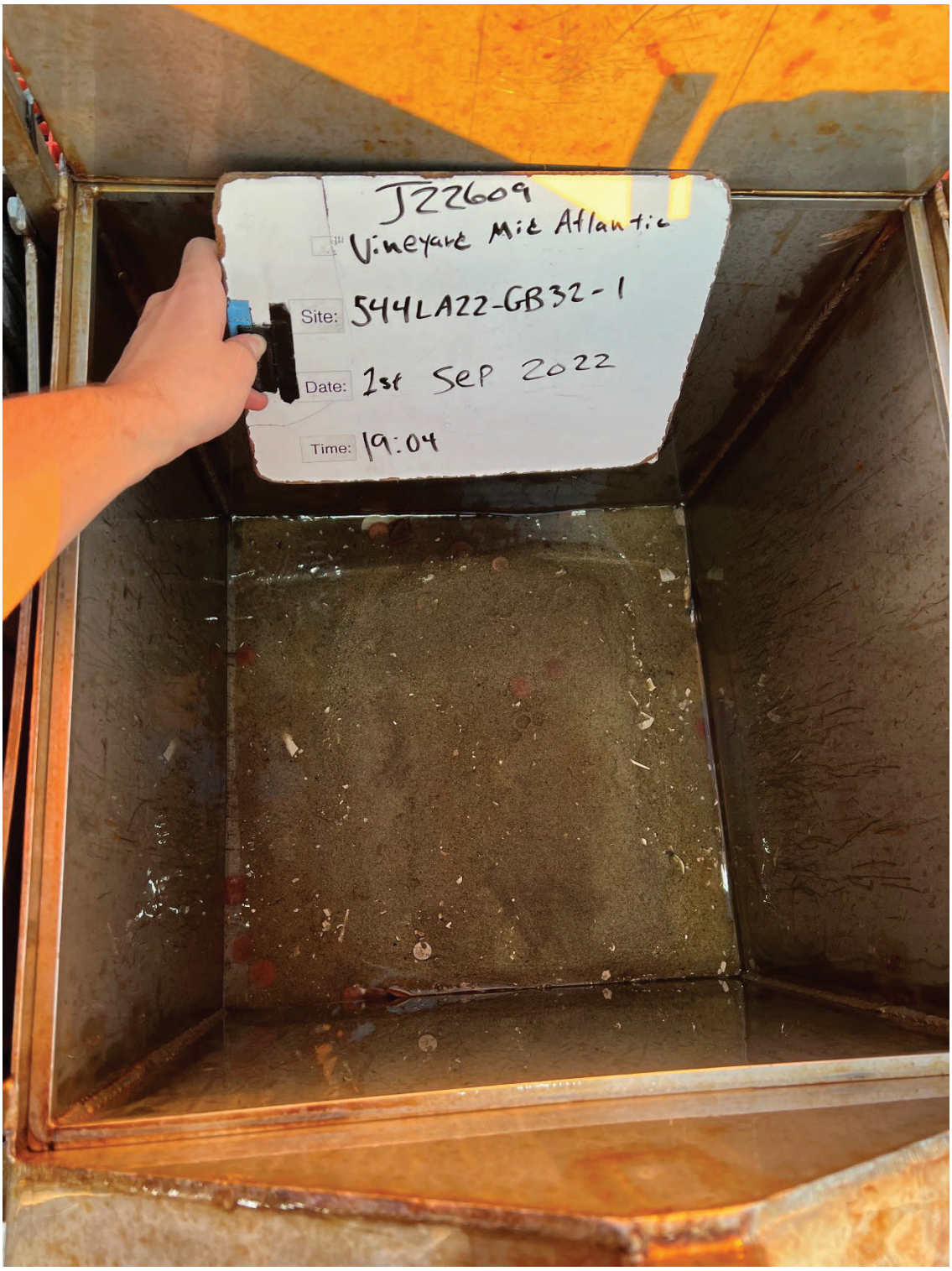


PHOTO INFORMATION

Sample ID 544LA22-GB033A-1

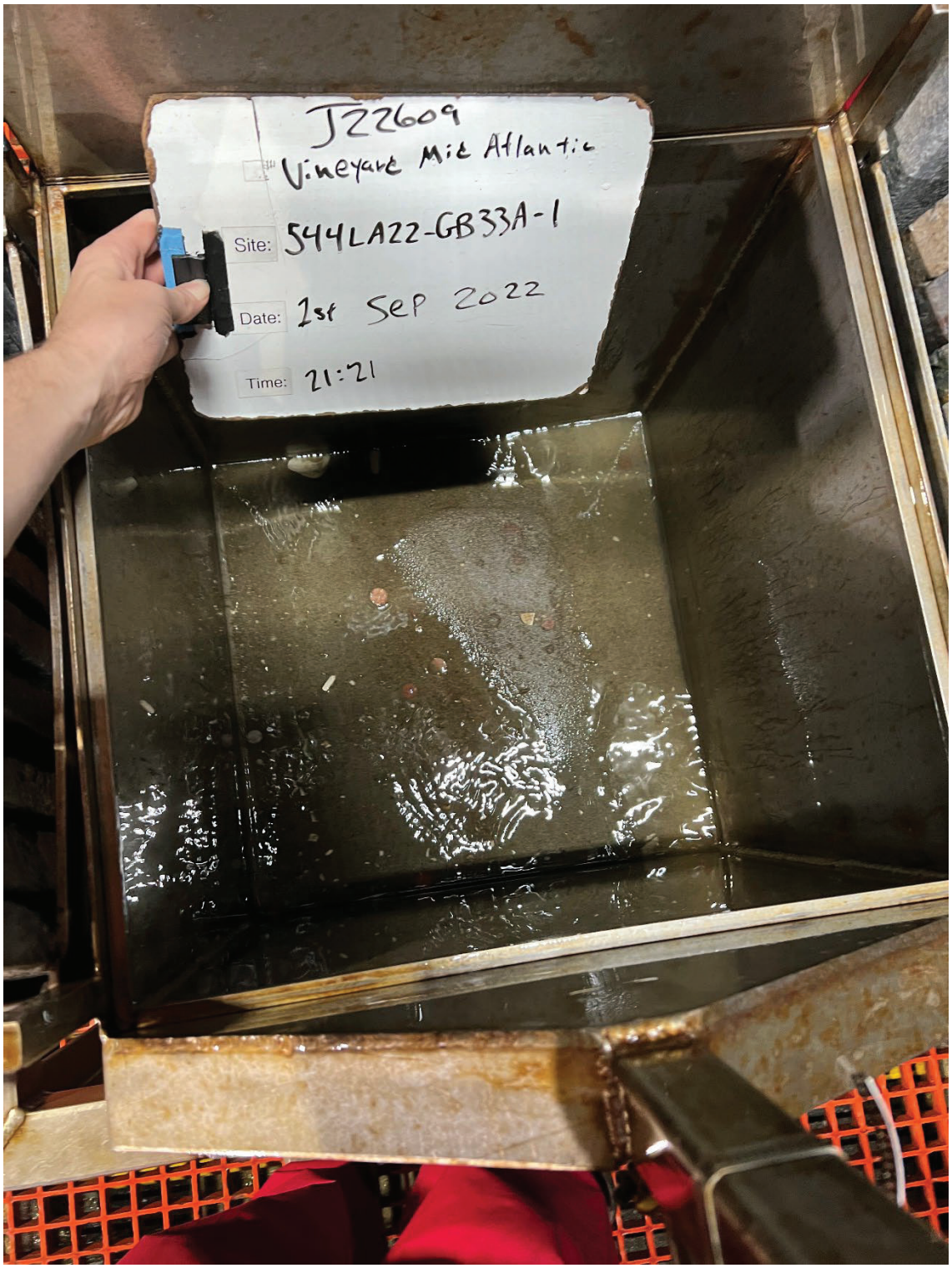


PHOTO INFORMATION

Sample ID 544LA22-GB033B-1

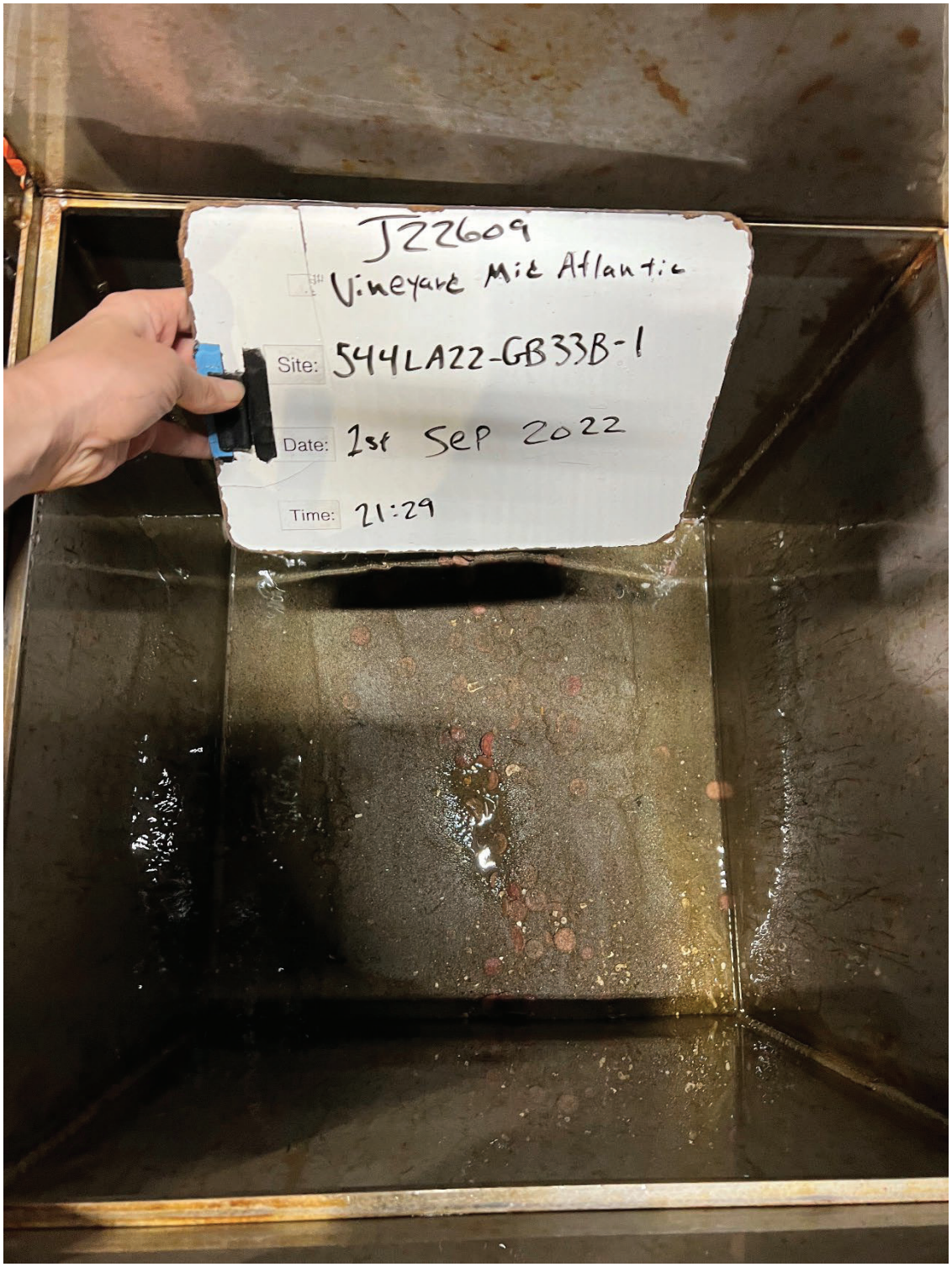


PHOTO INFORMATION

Sample ID 544LA22-GB033C-1

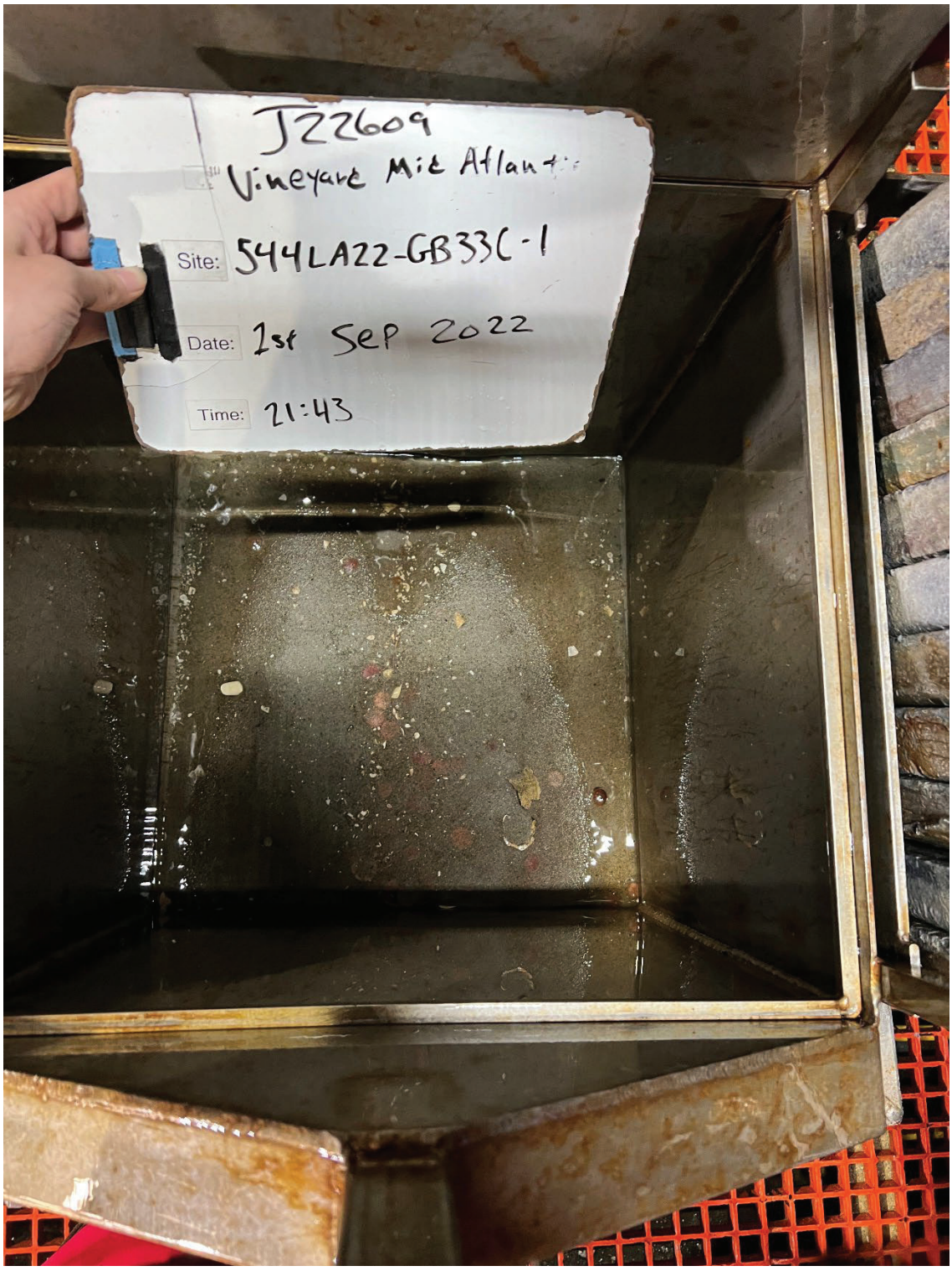


PHOTO INFORMATION

Sample ID 544LA22-GB034-1

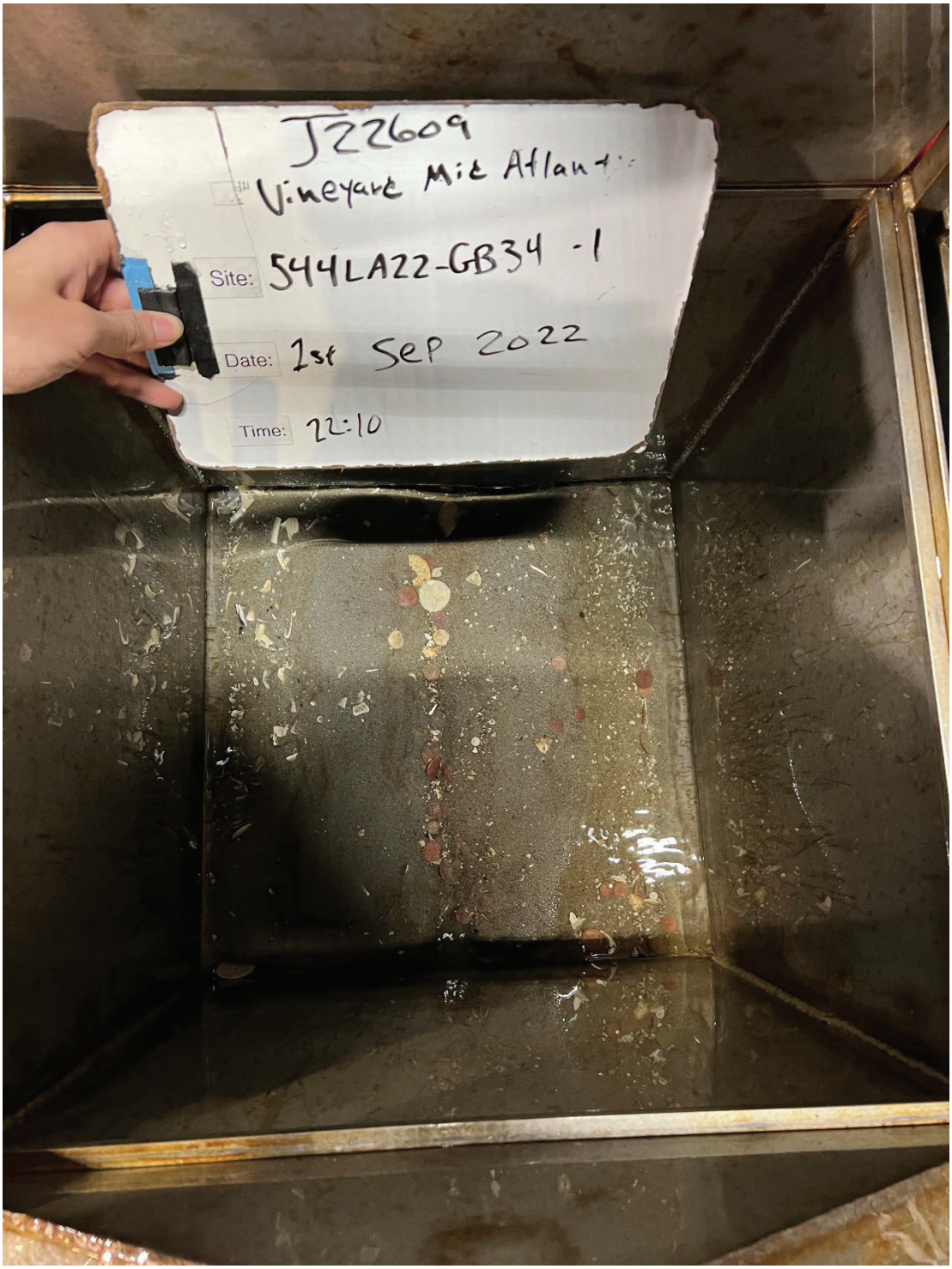
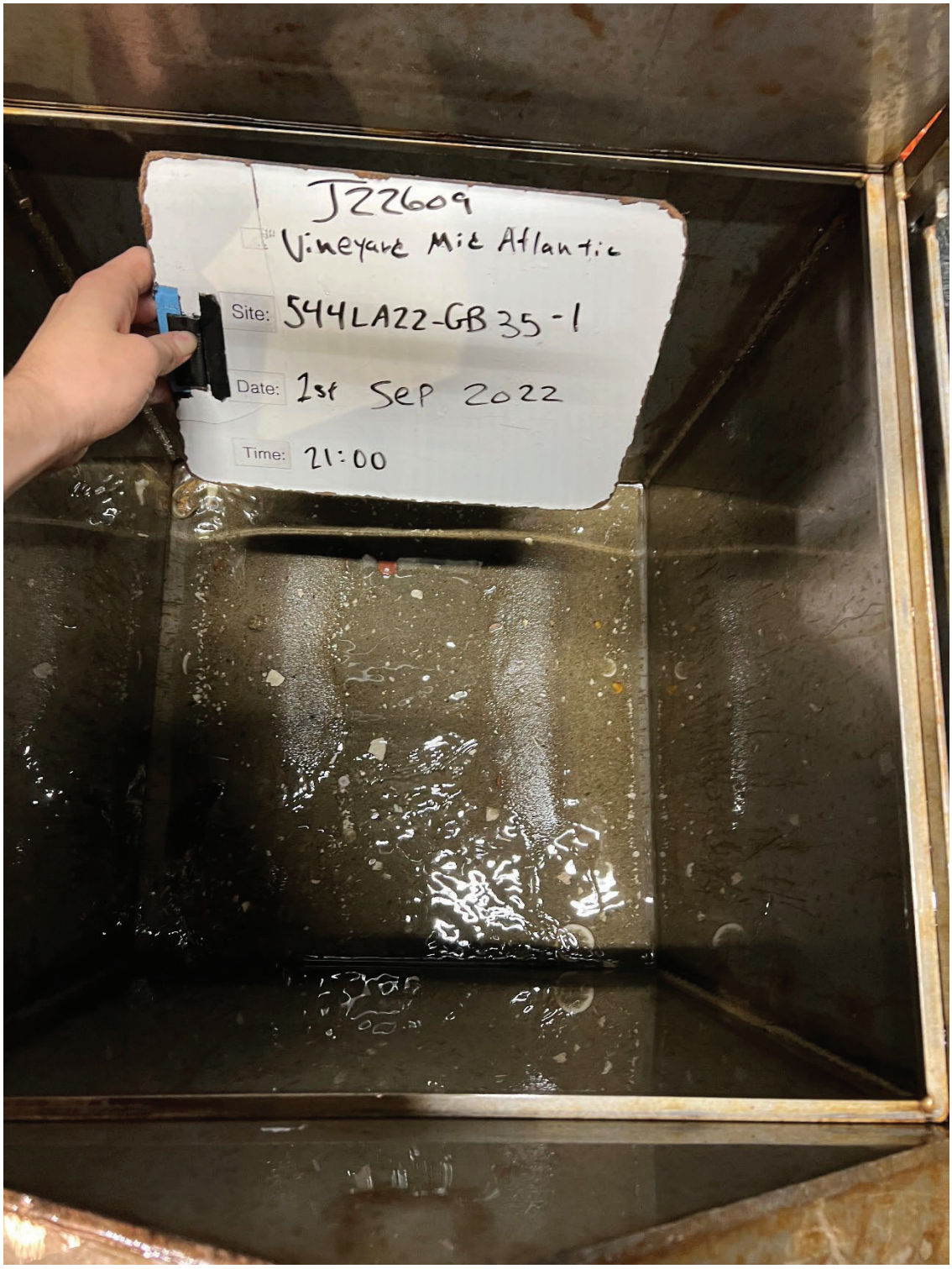


PHOTO INFORMATION

Sample ID 544LA22-GB035-1



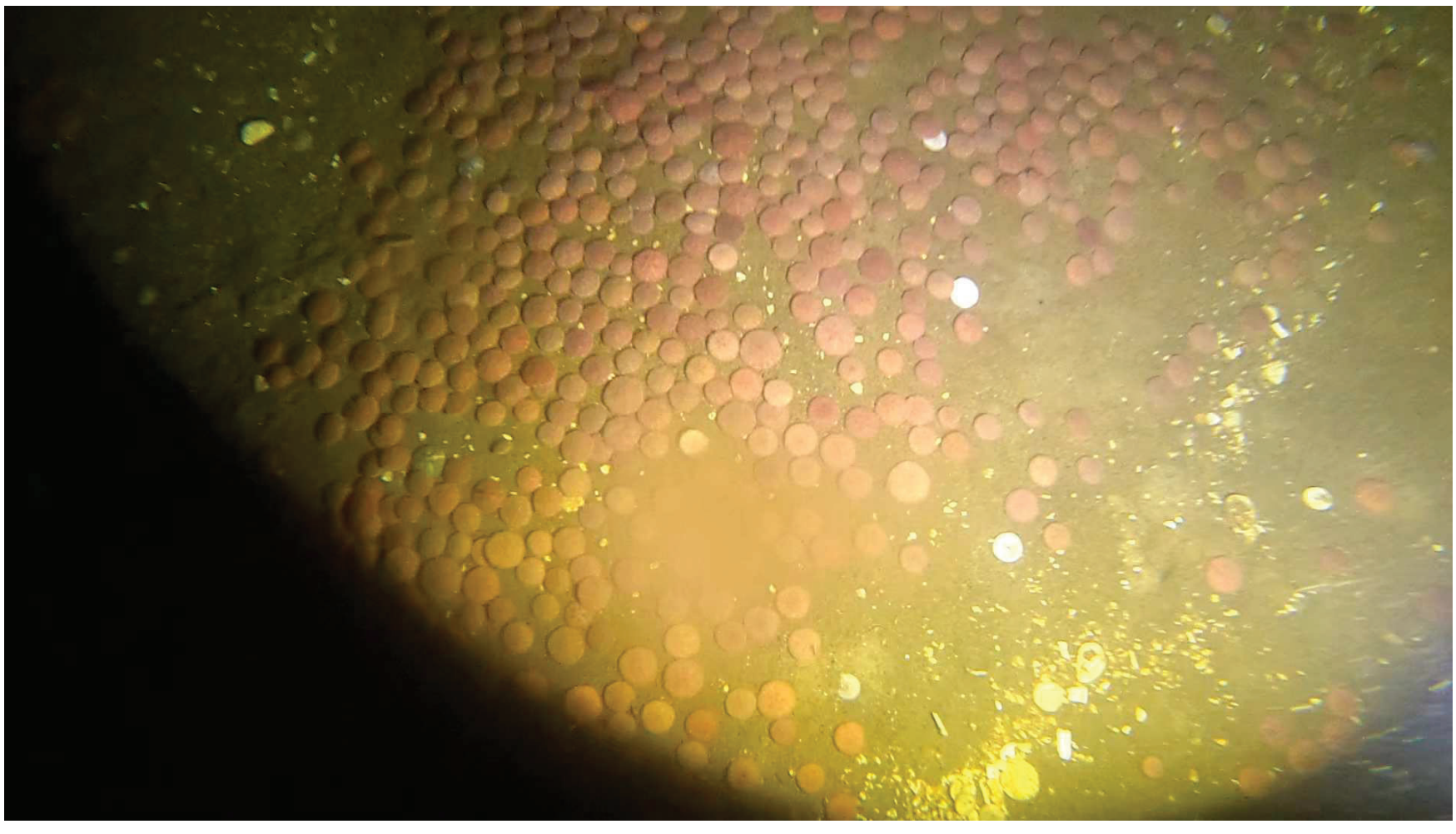
Appendix I: Benthic Grab Camera Images

Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB001A

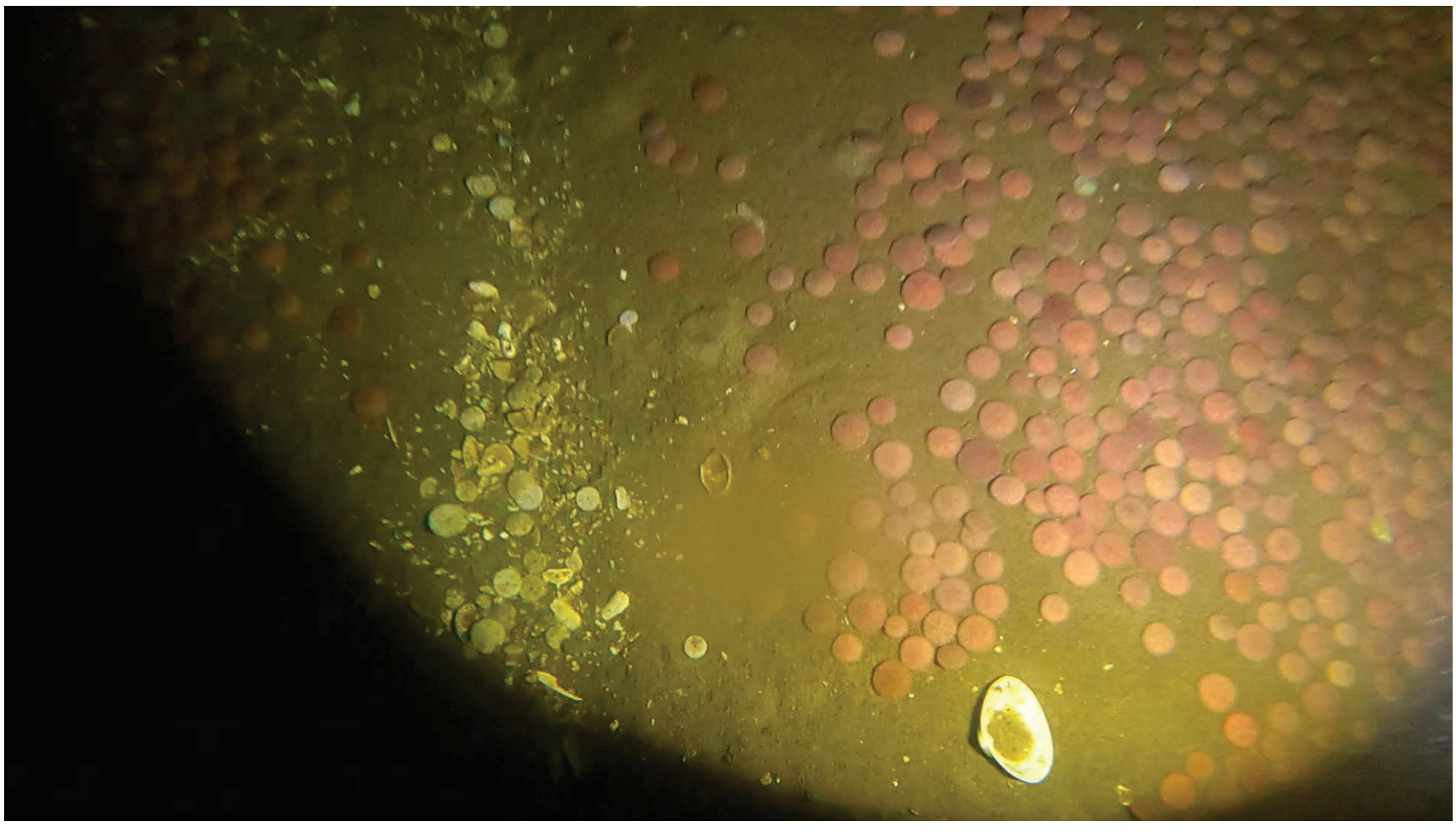


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB001B

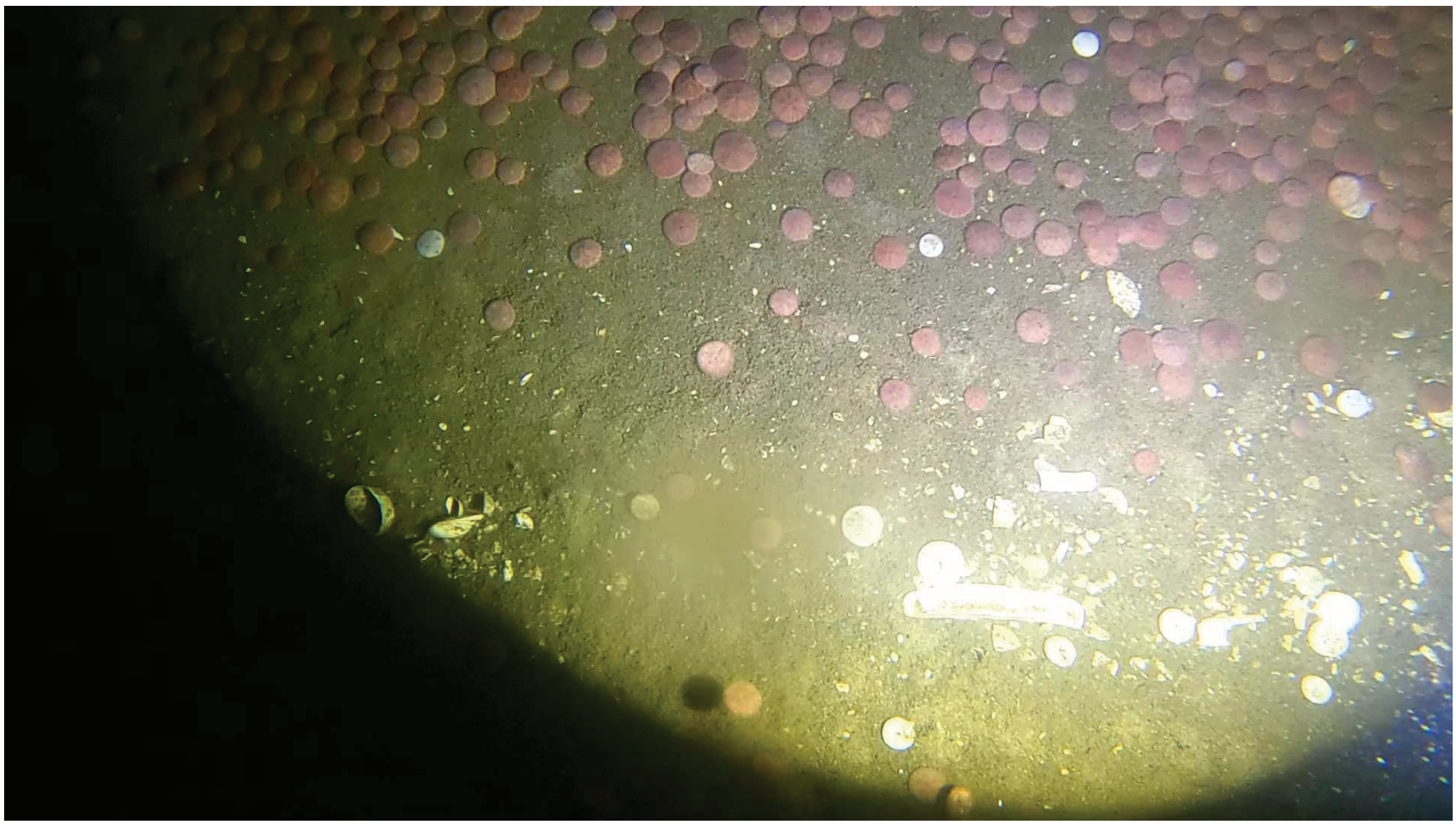


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB001C

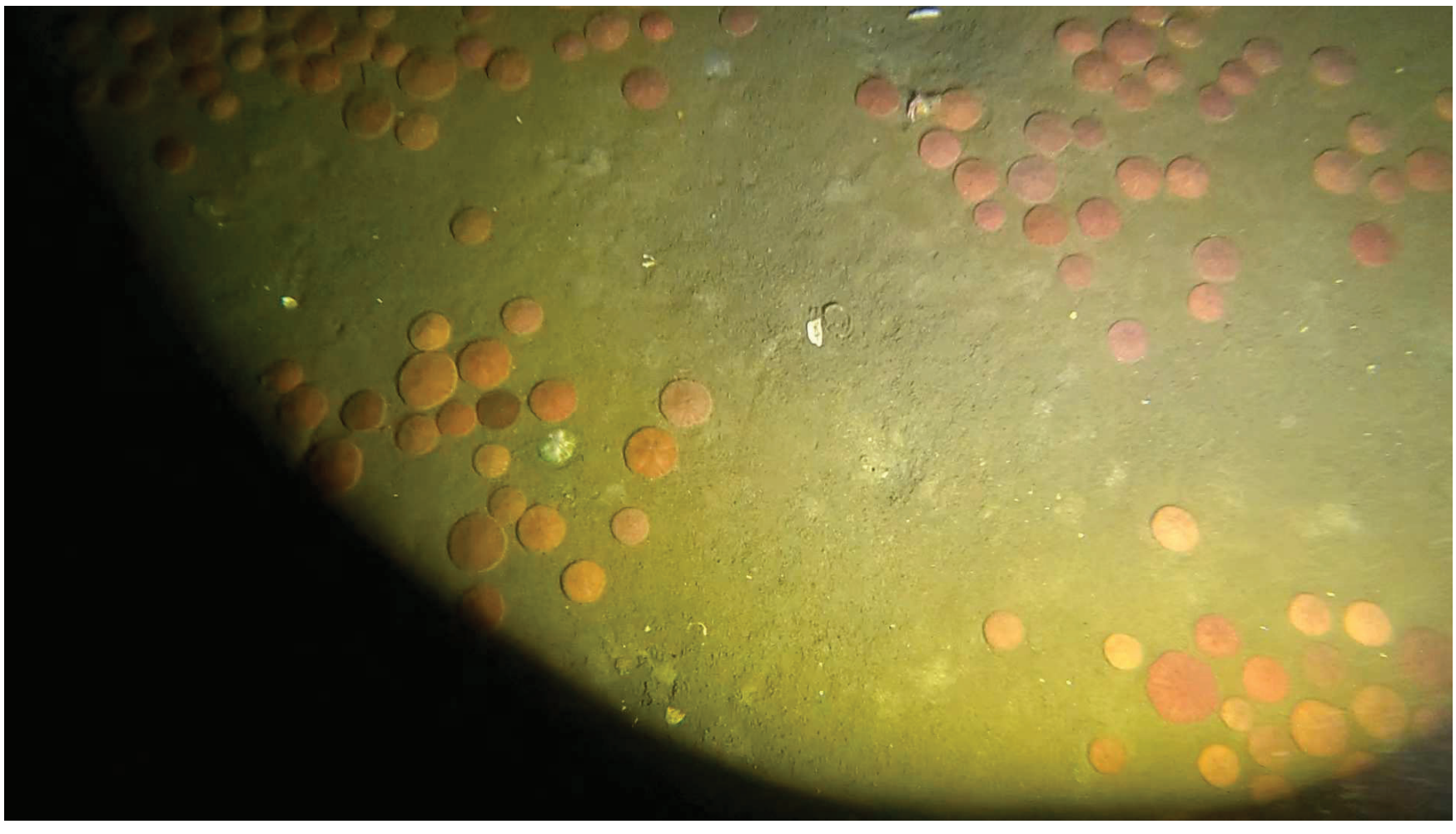


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB002A

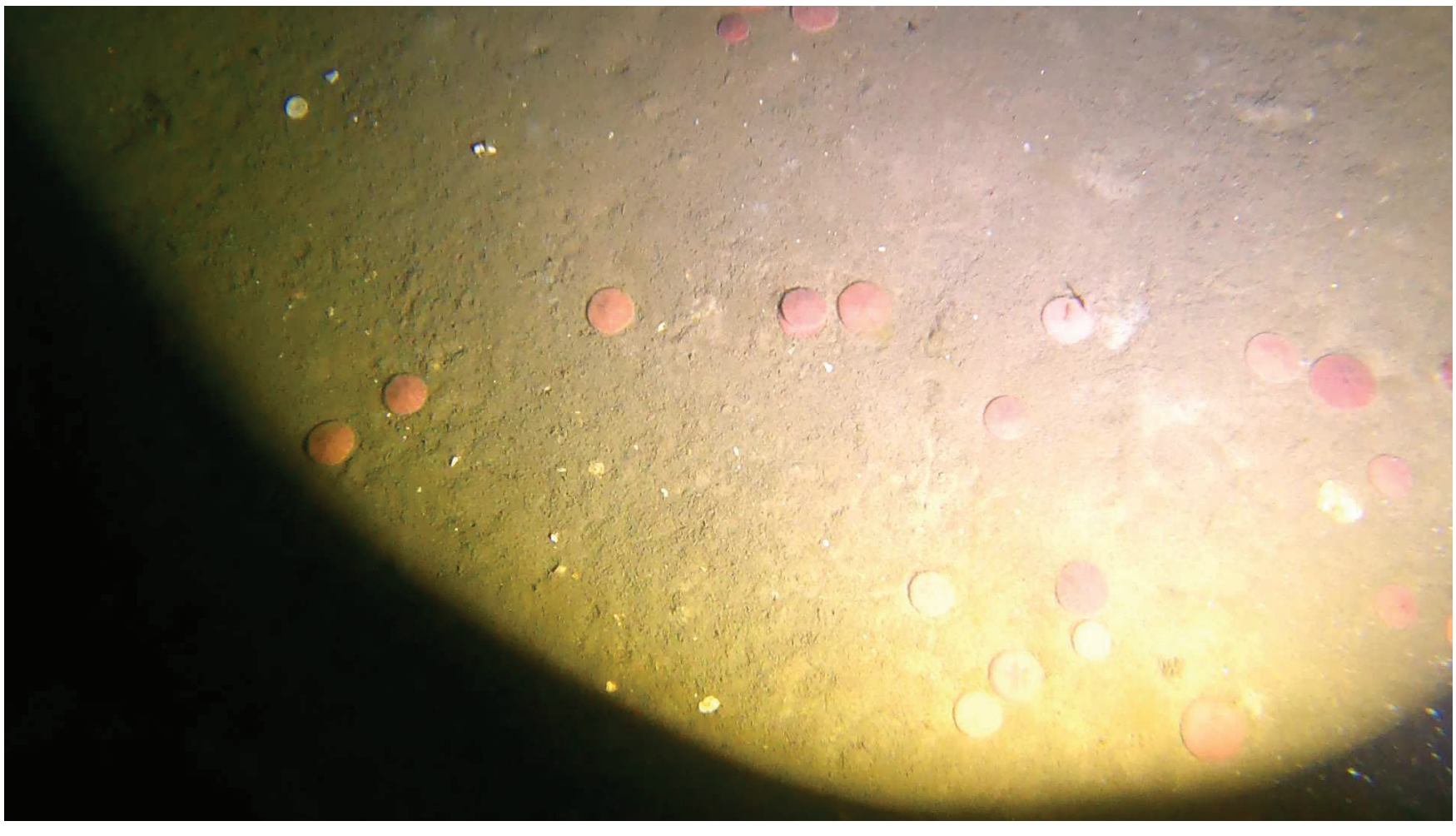


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB002B



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB002C

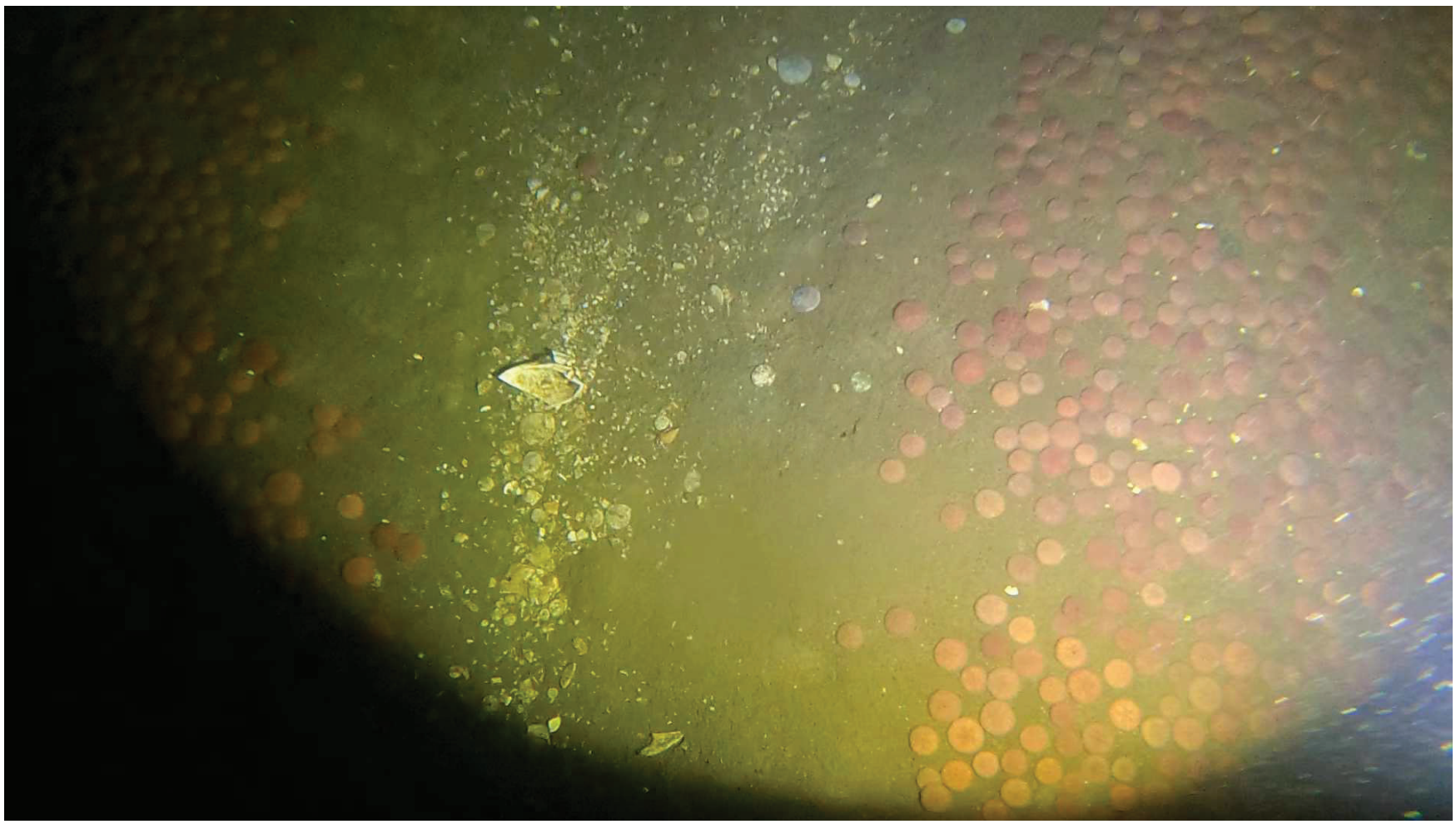


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB003

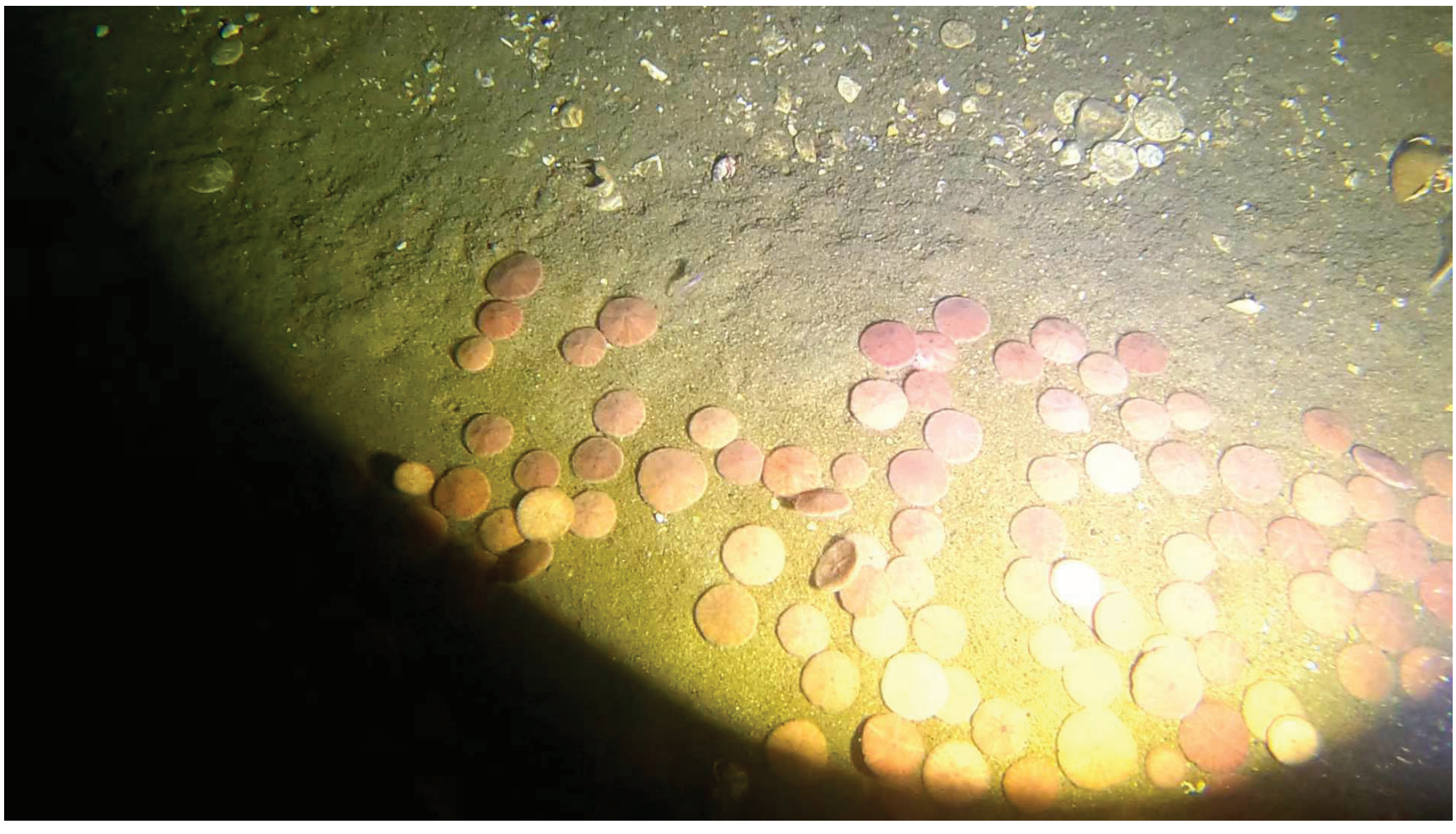


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB004



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB005

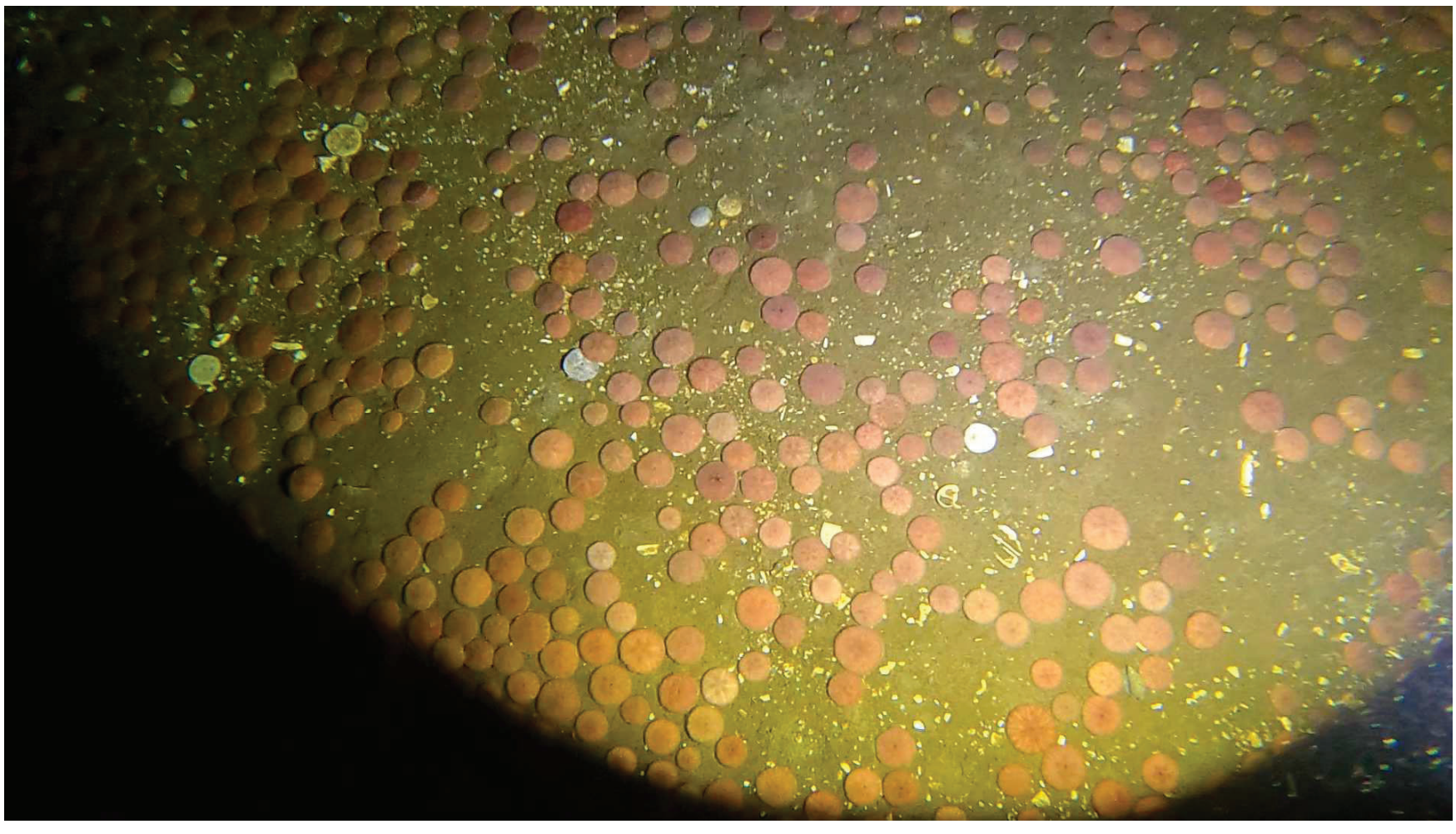


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB006A

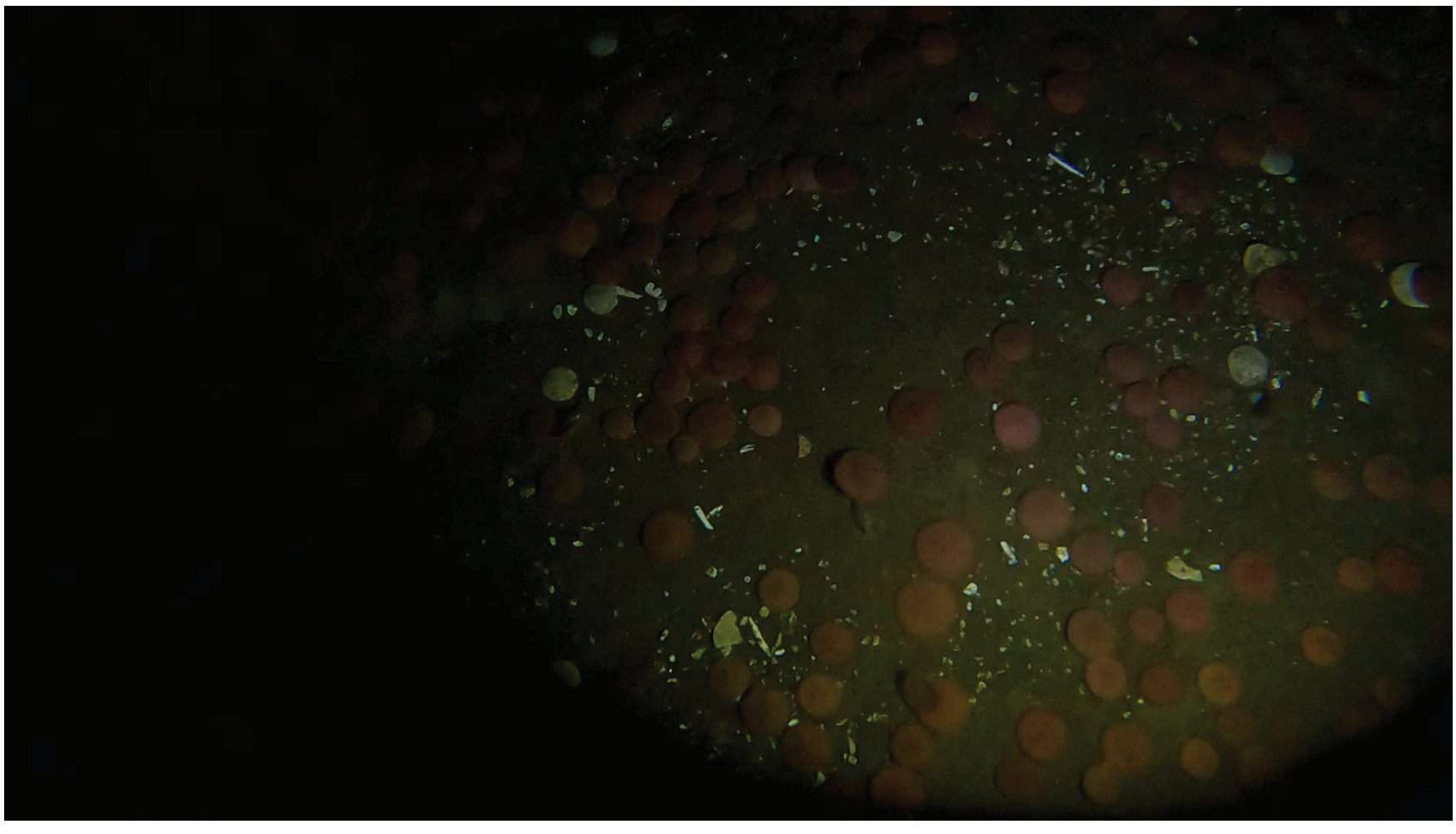


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB006B

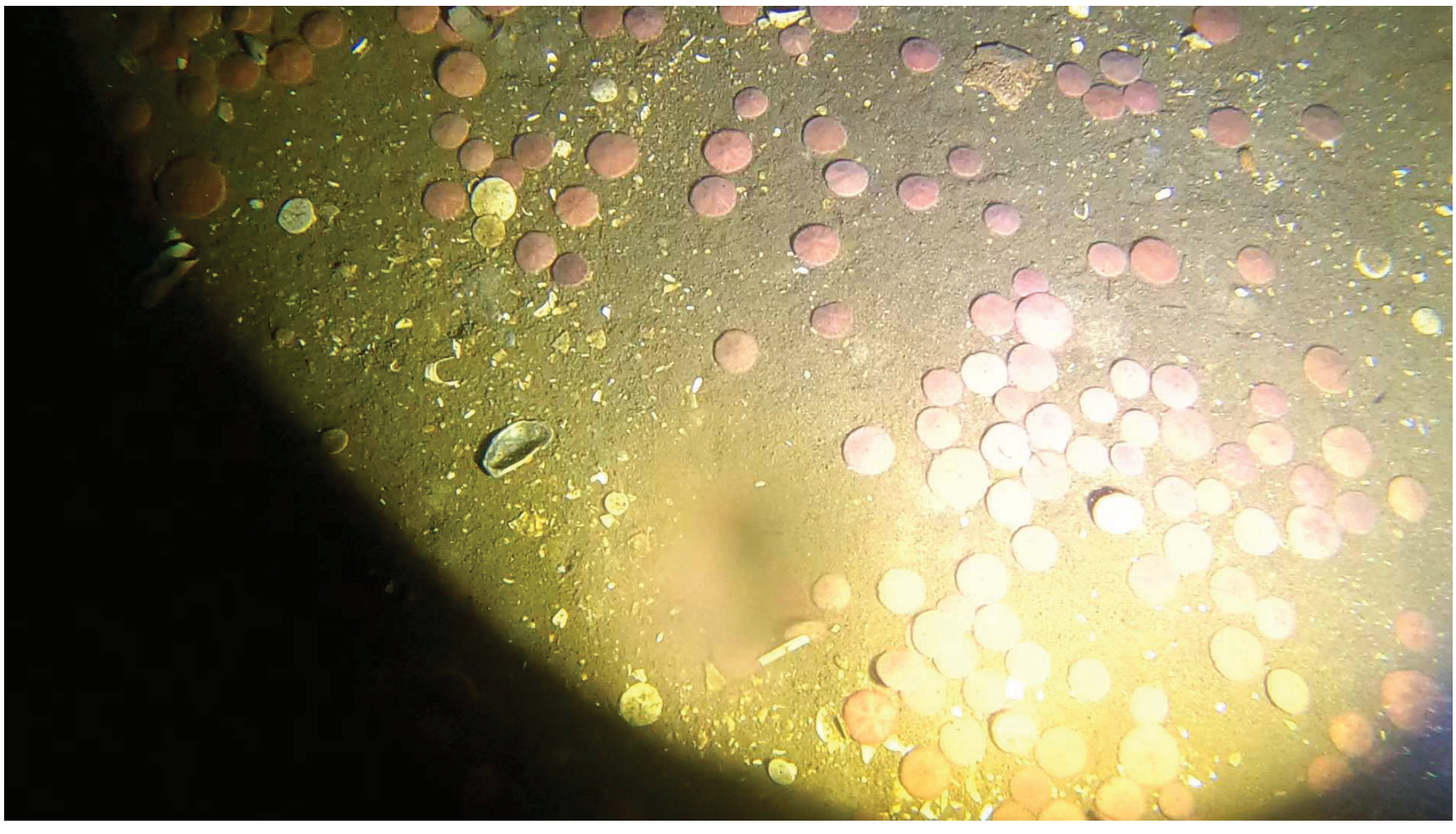


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB006C

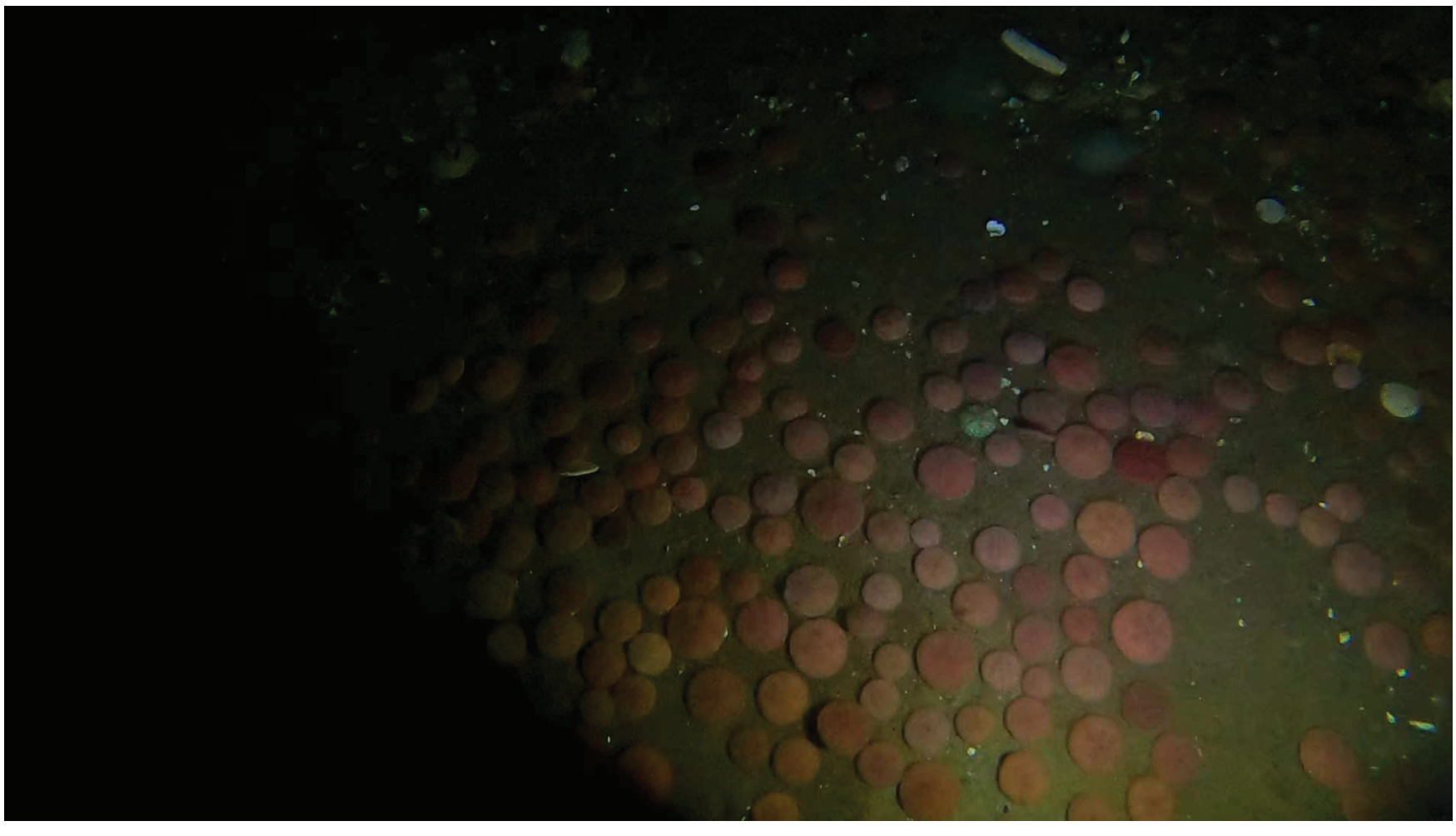


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB007A

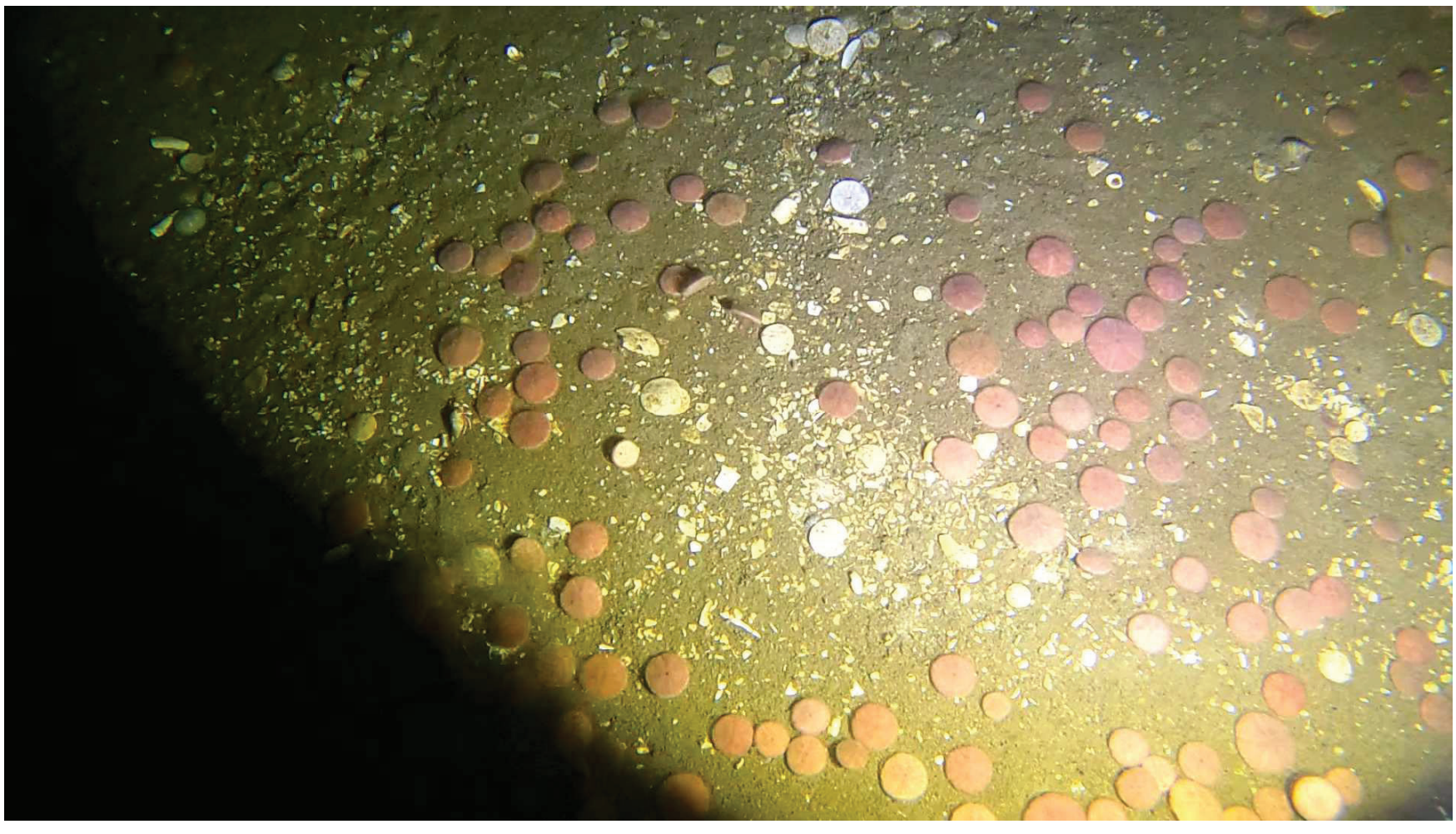


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB007B

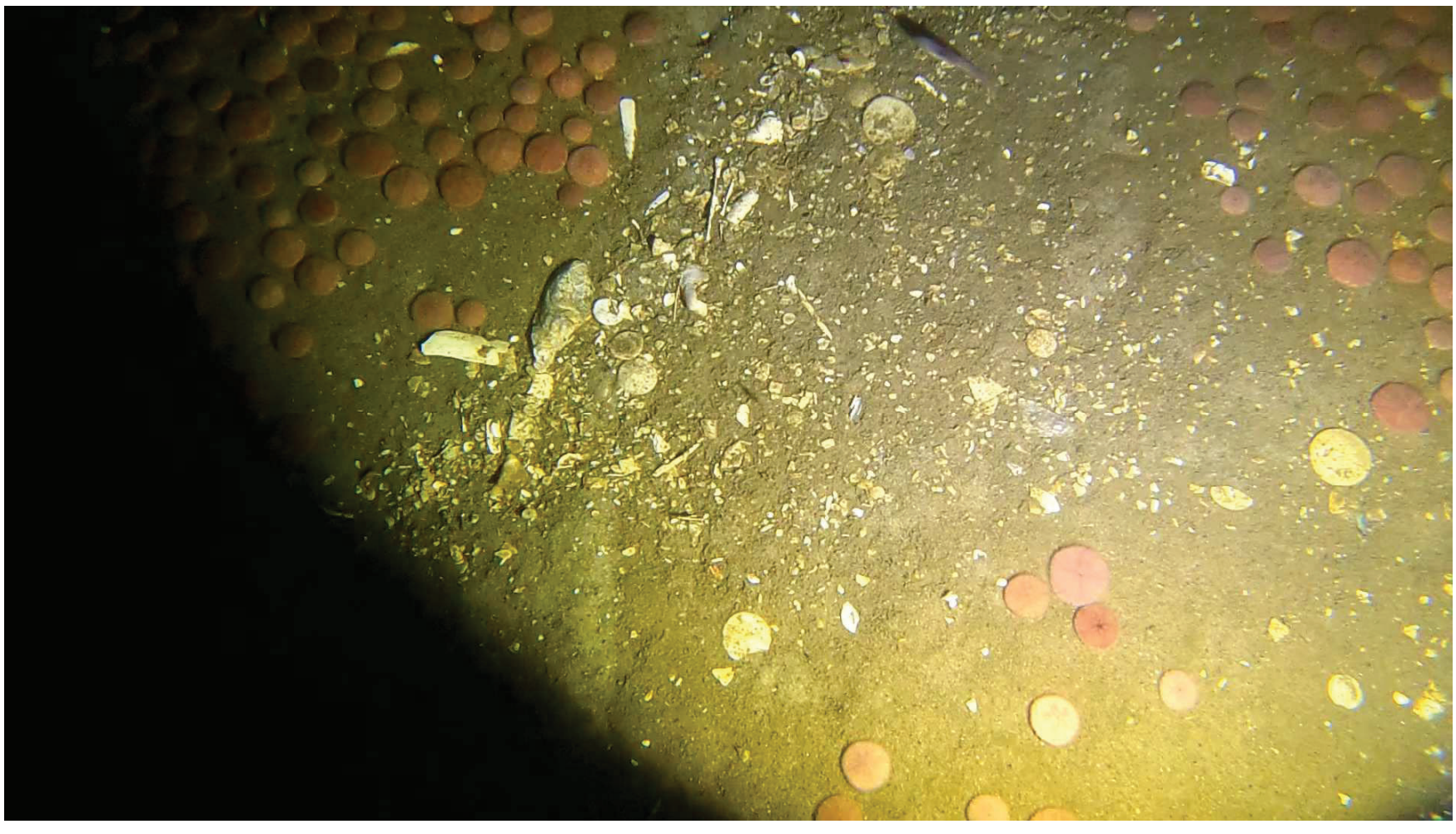


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB007C

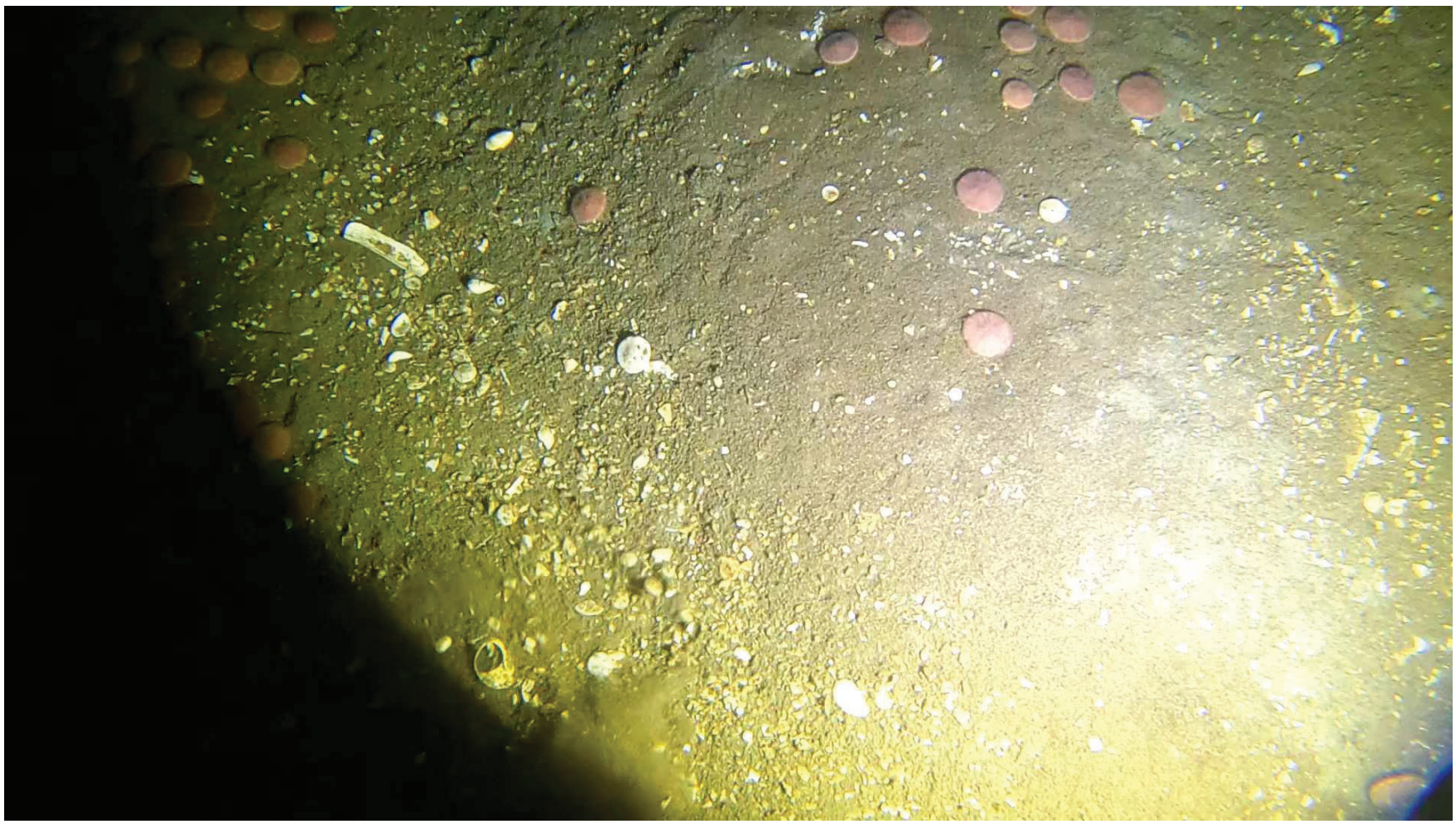


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB008

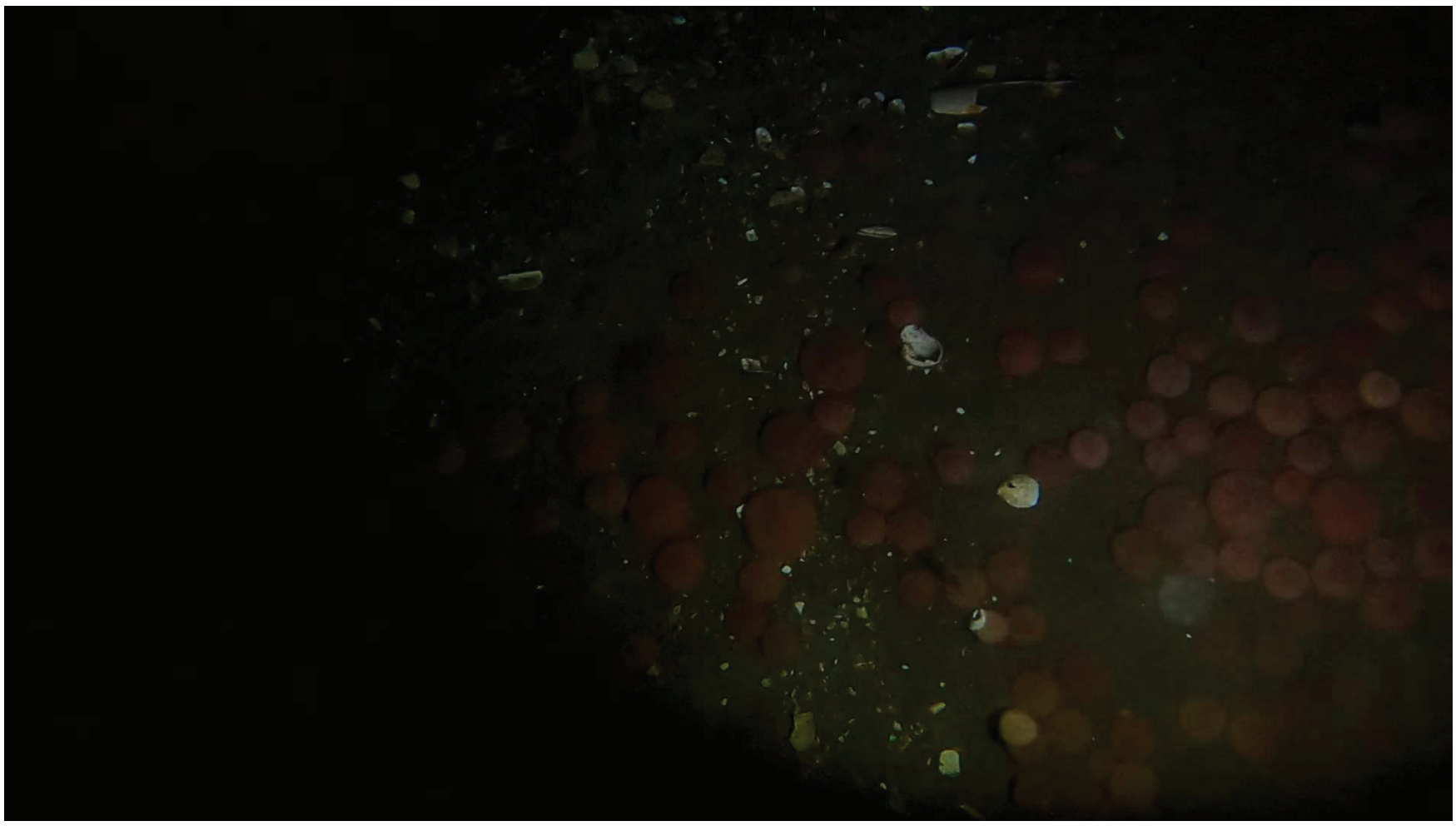


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB009A

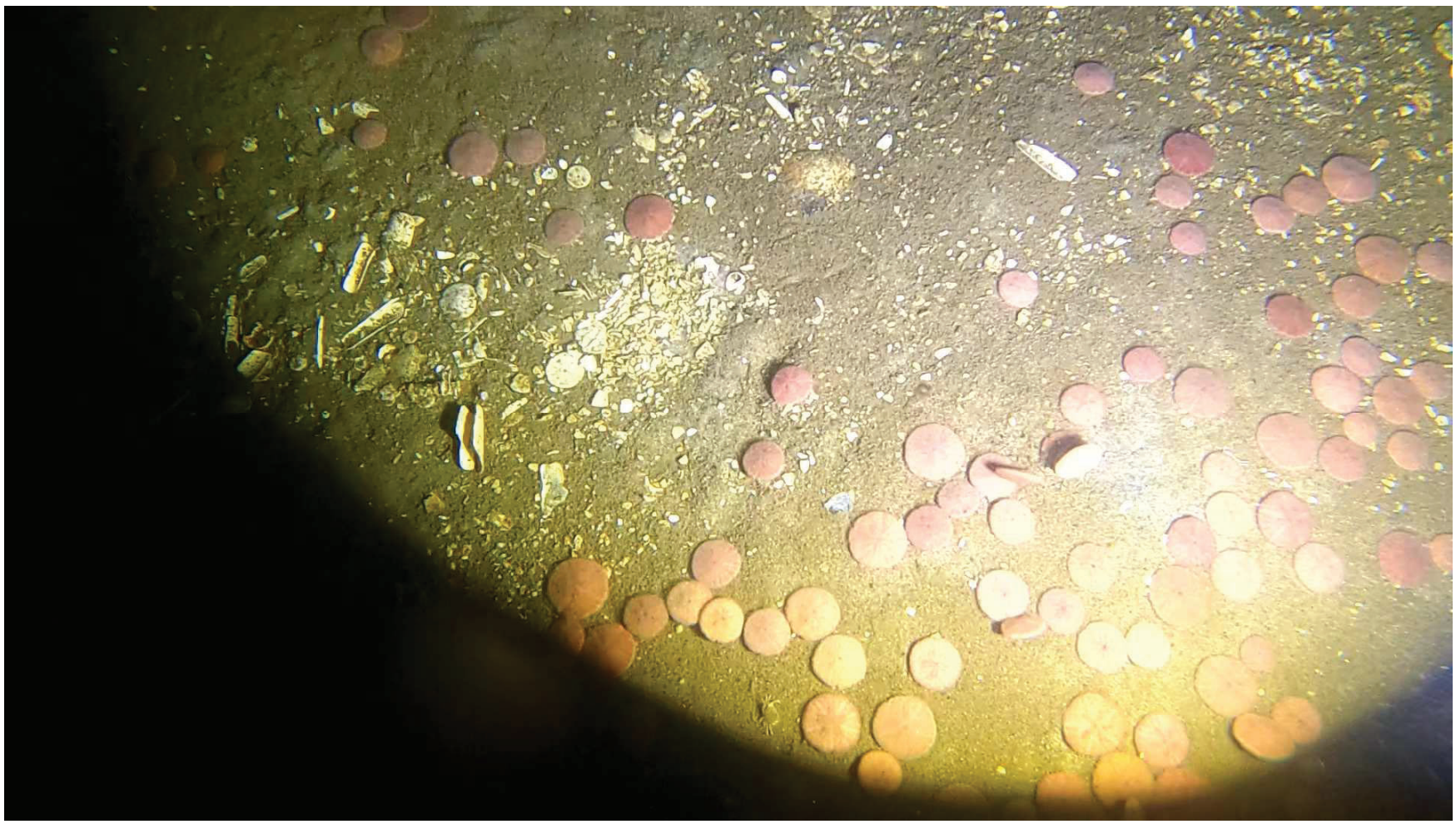


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB009B

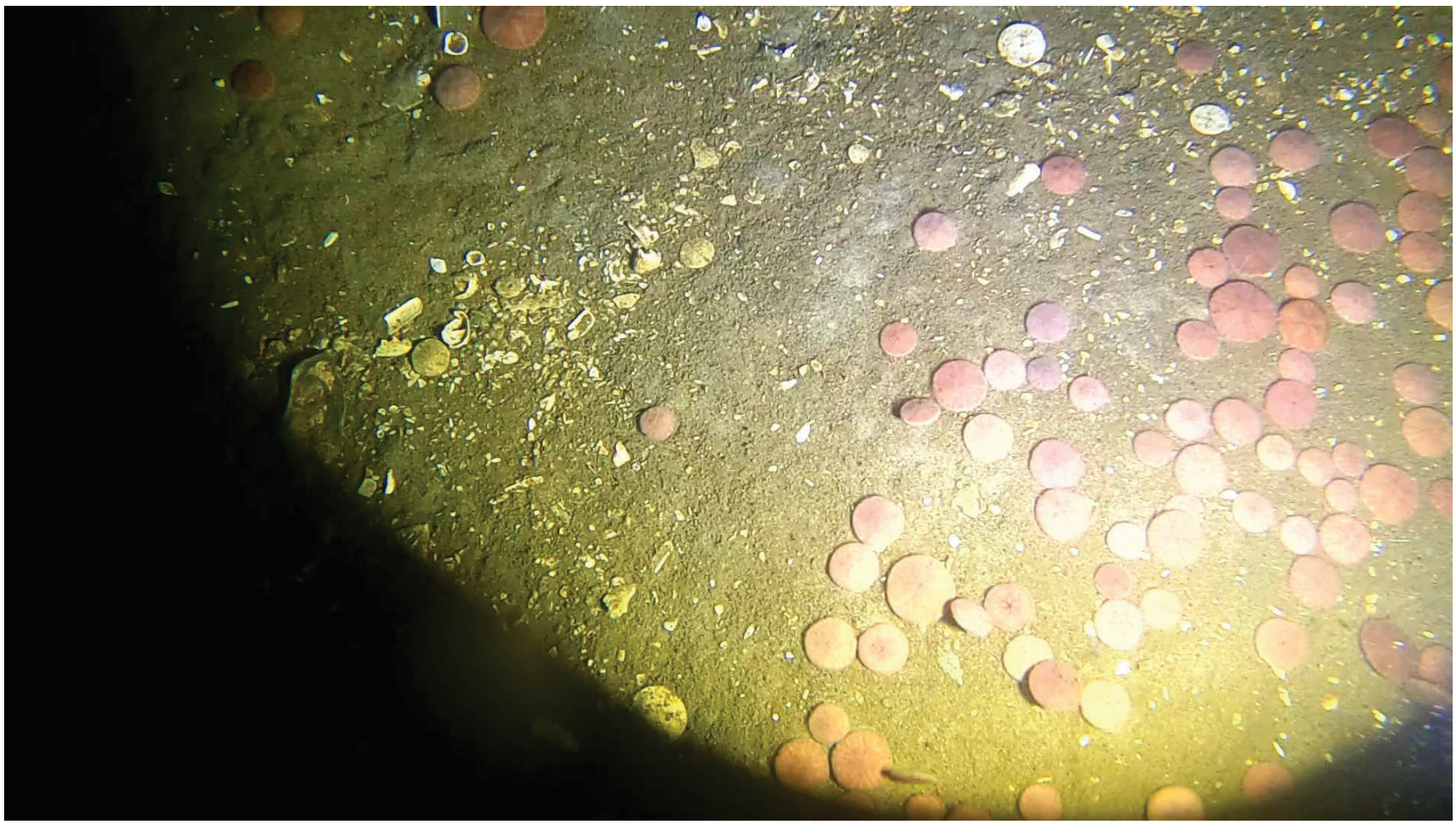


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB009C



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB010



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB011A

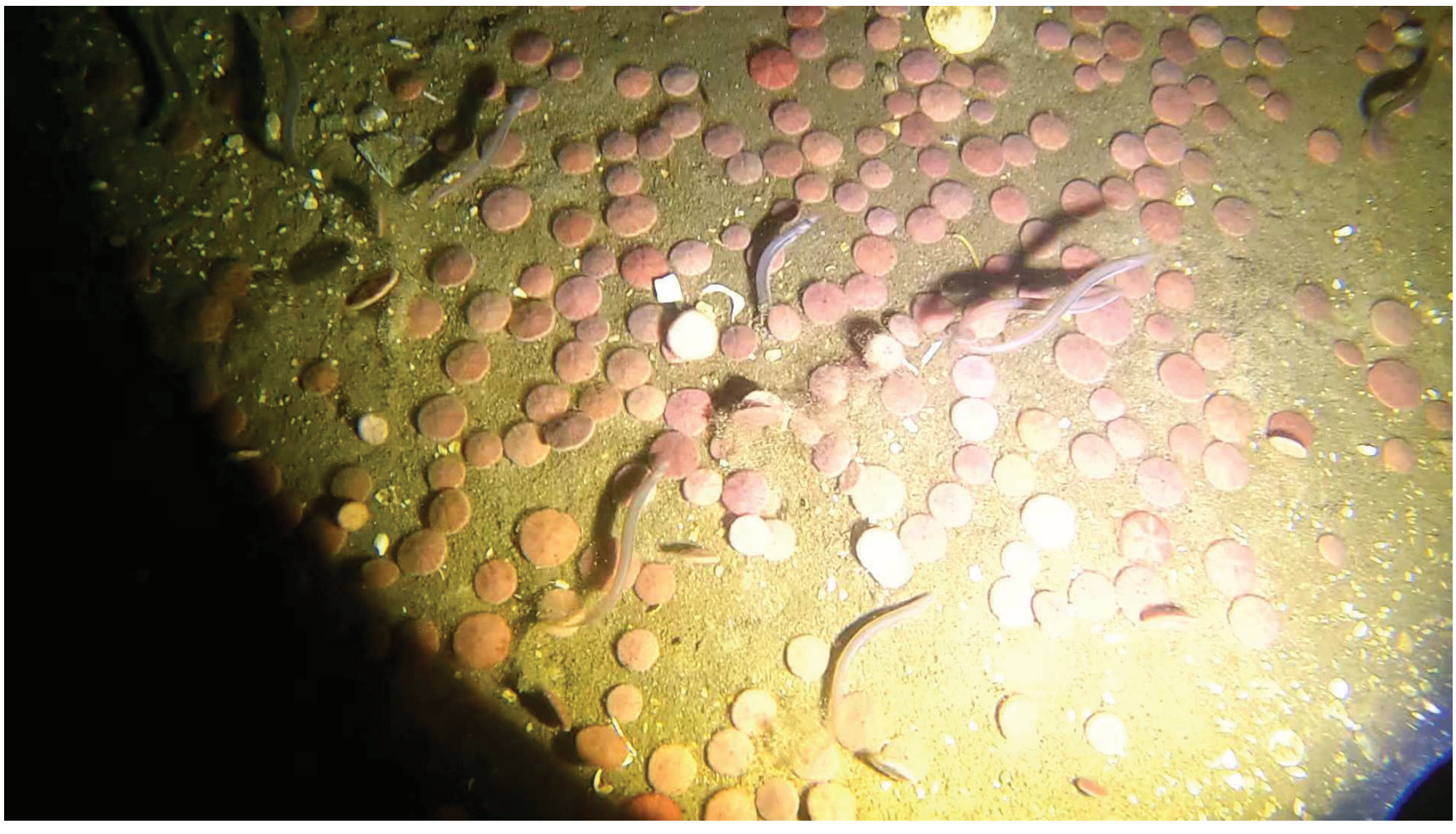


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB011B



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB011C

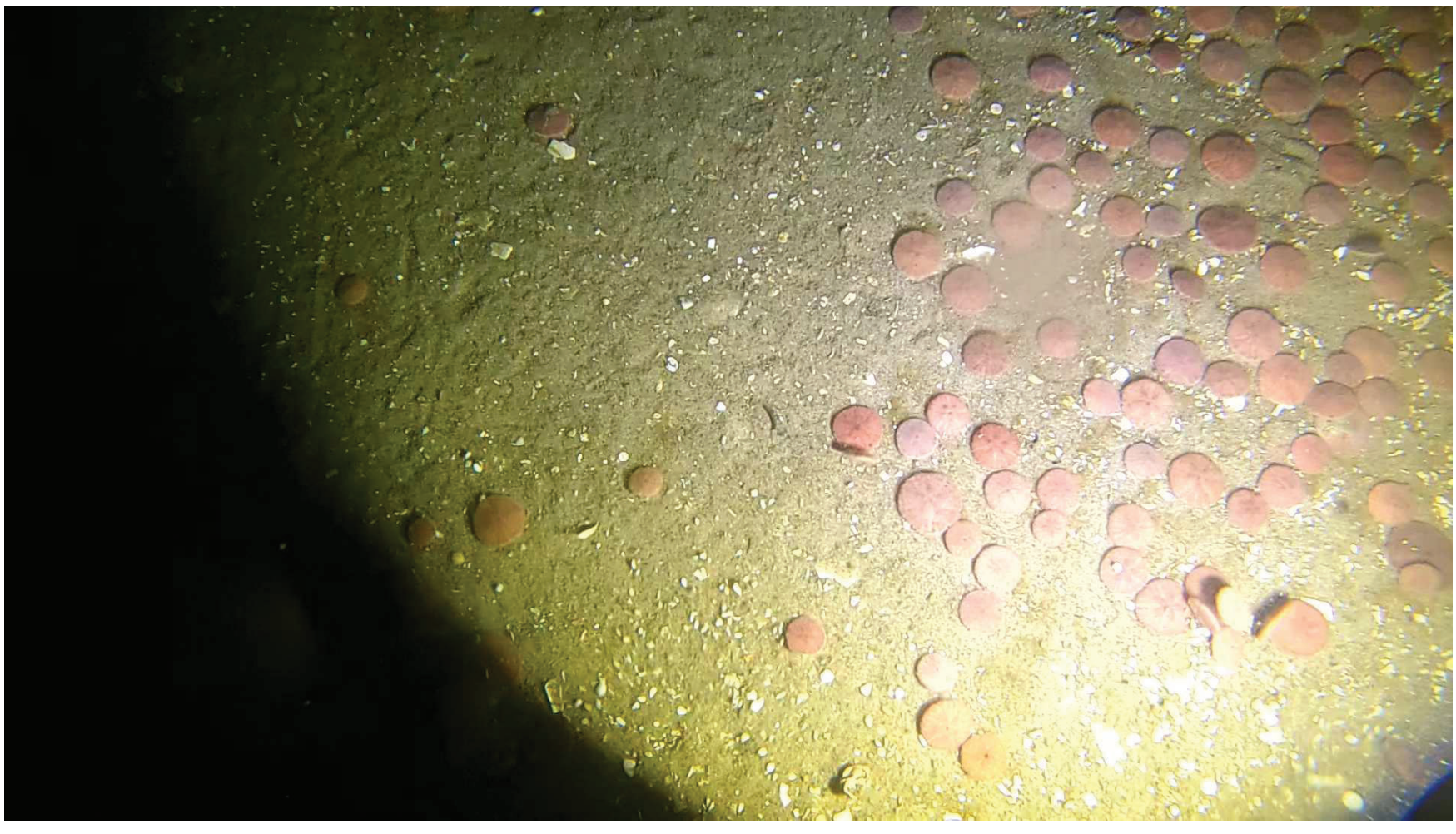


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB012



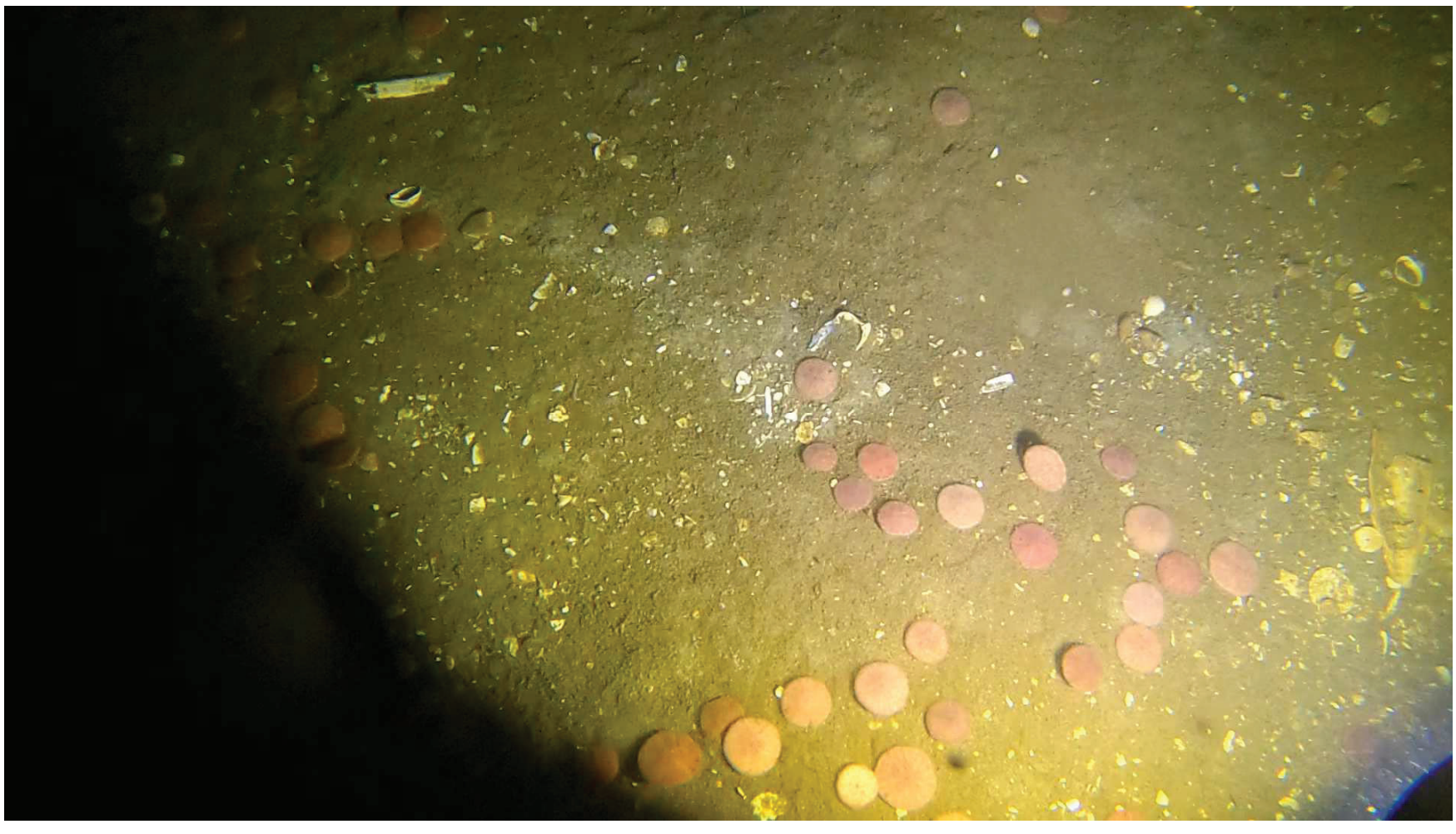
TRC

Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB013

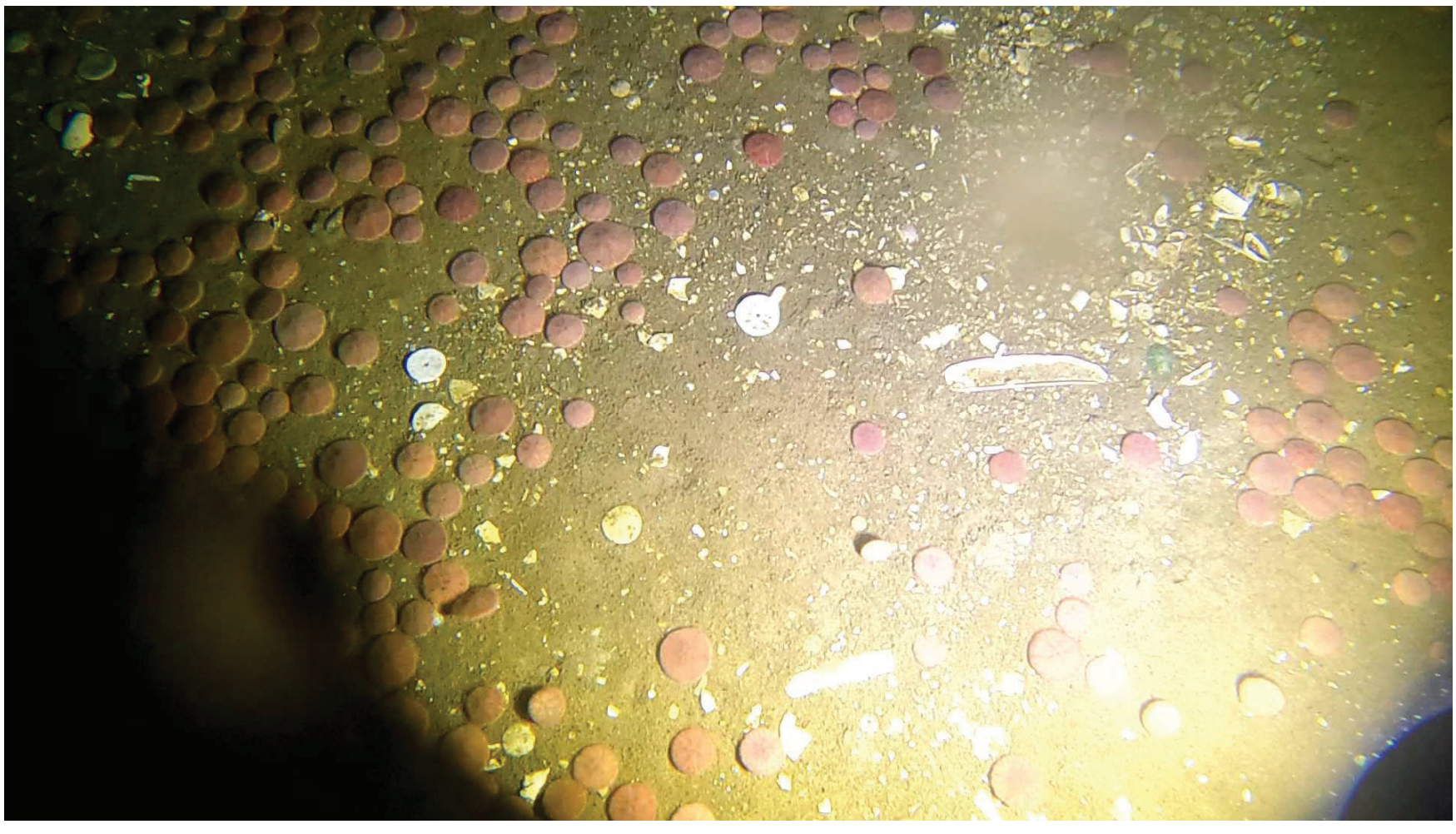


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB014A

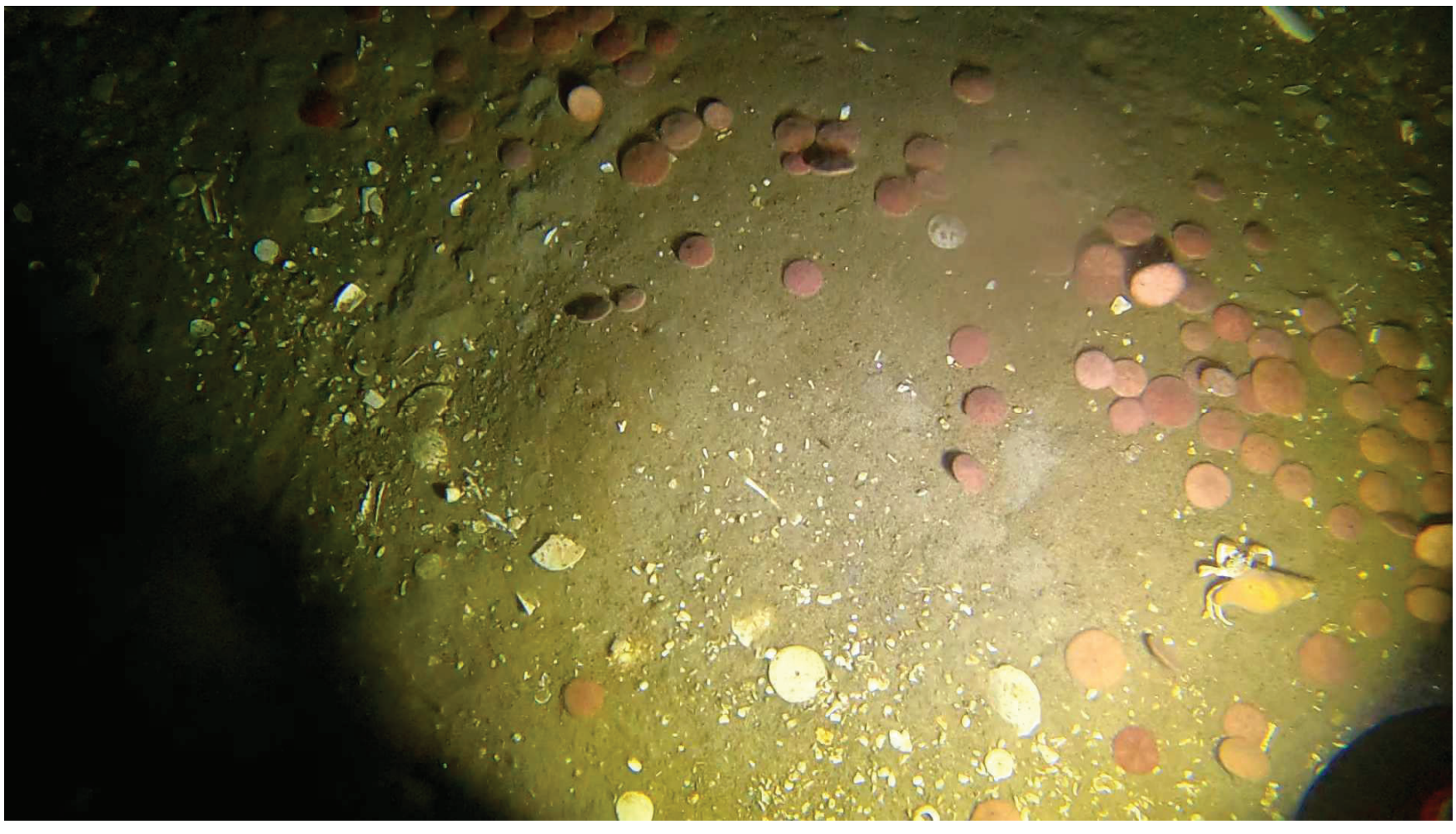


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB014B



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB014C

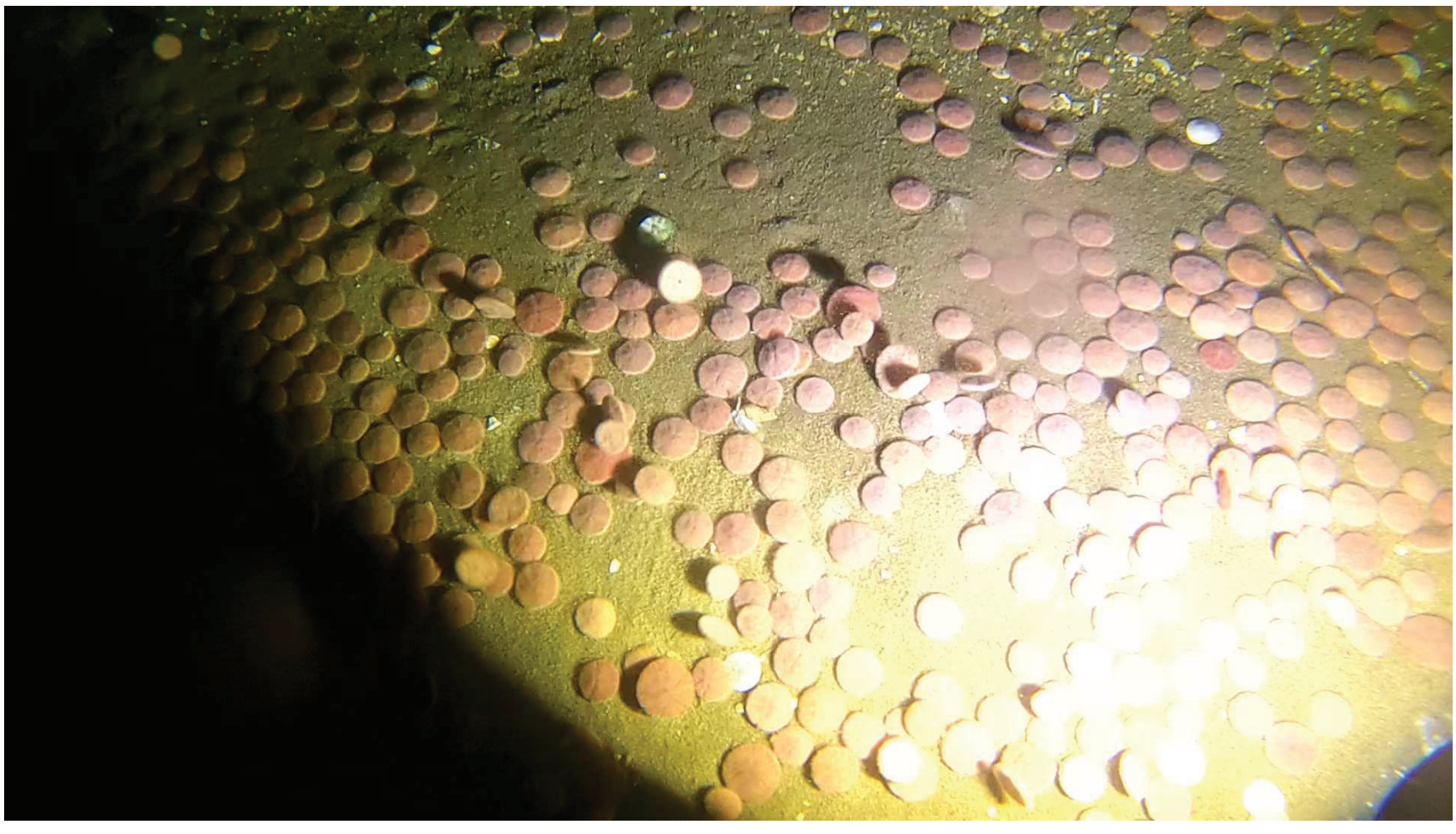


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB015A

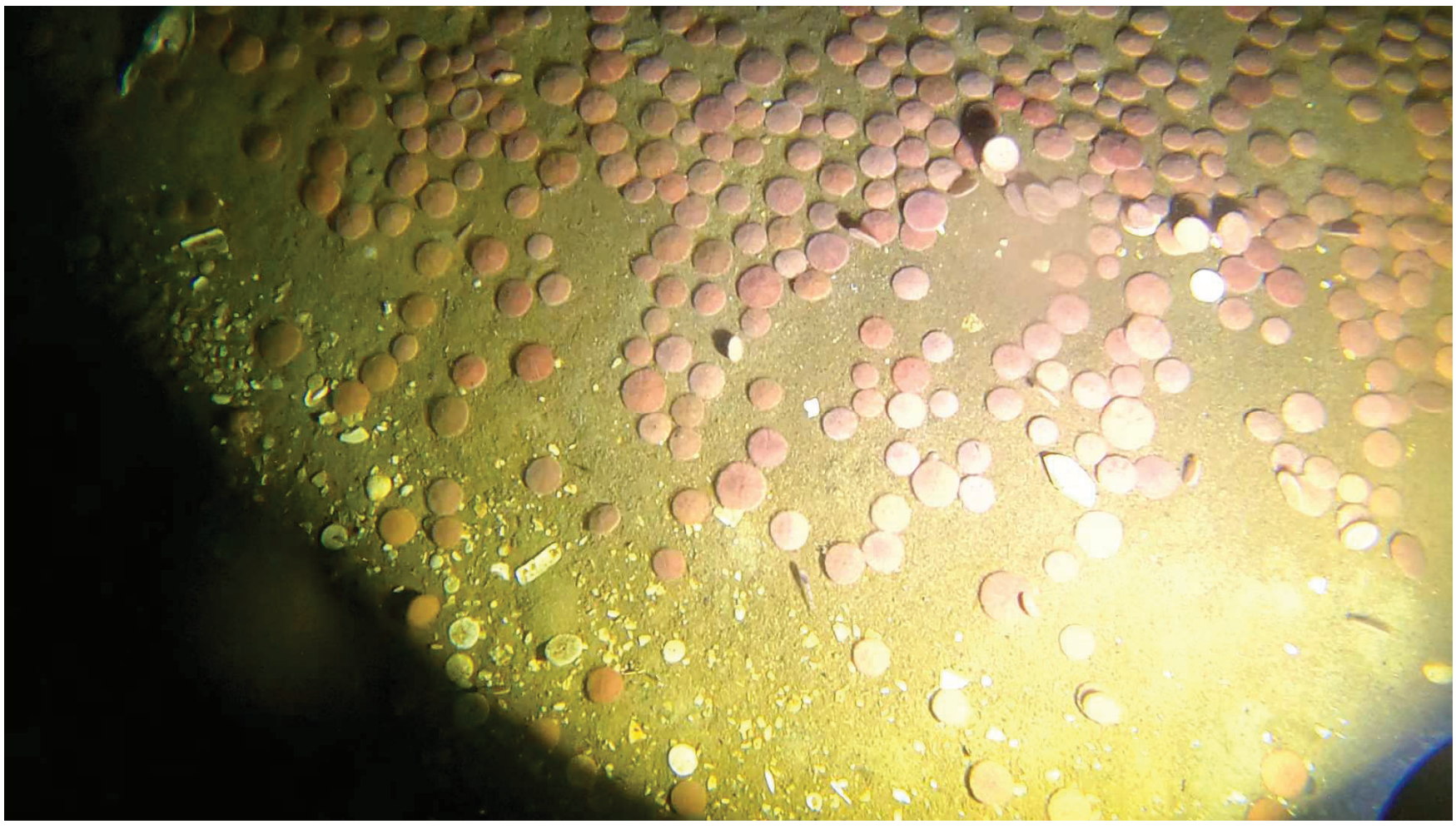


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB015B



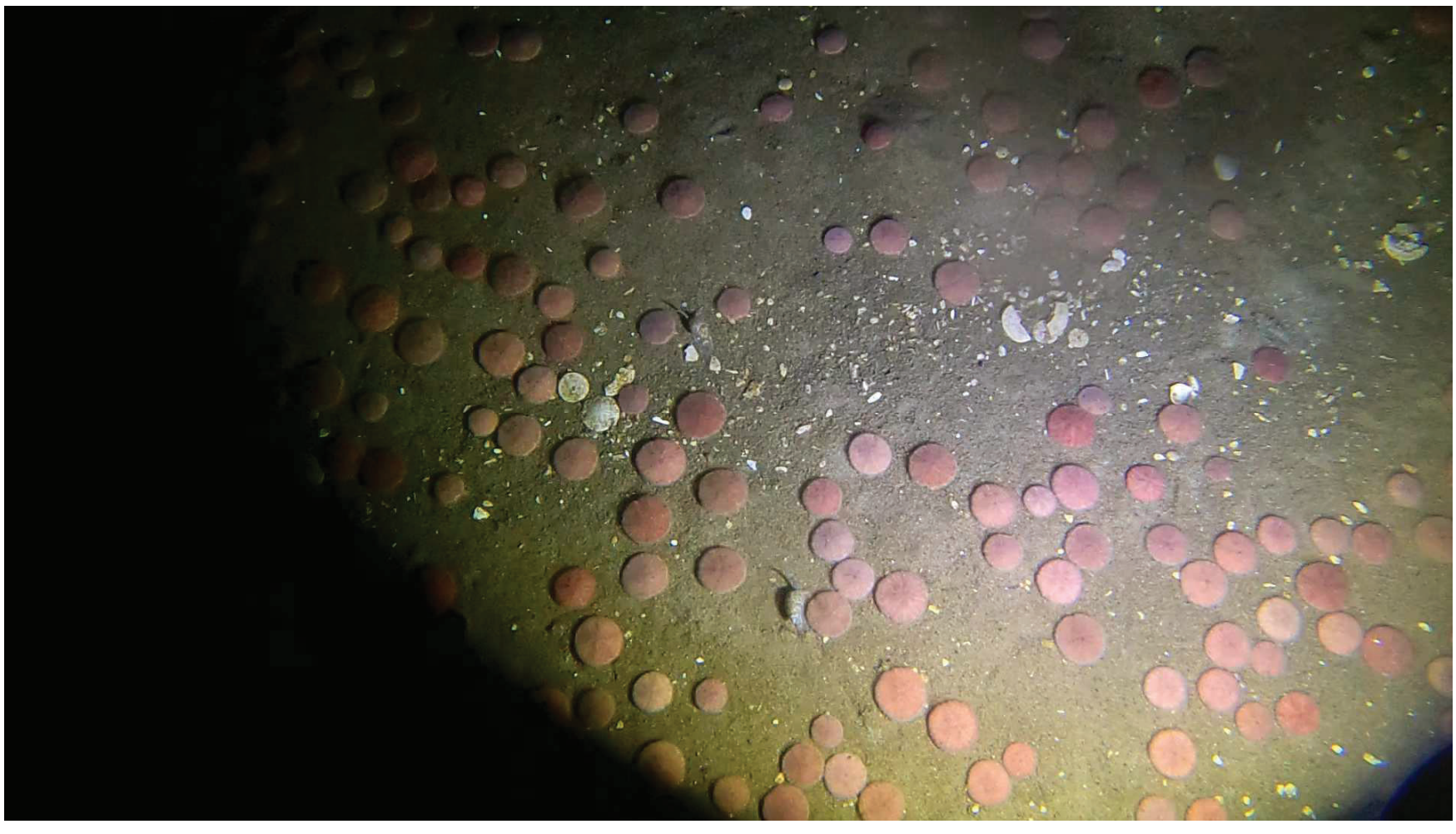
TRC

Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB015C



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB016

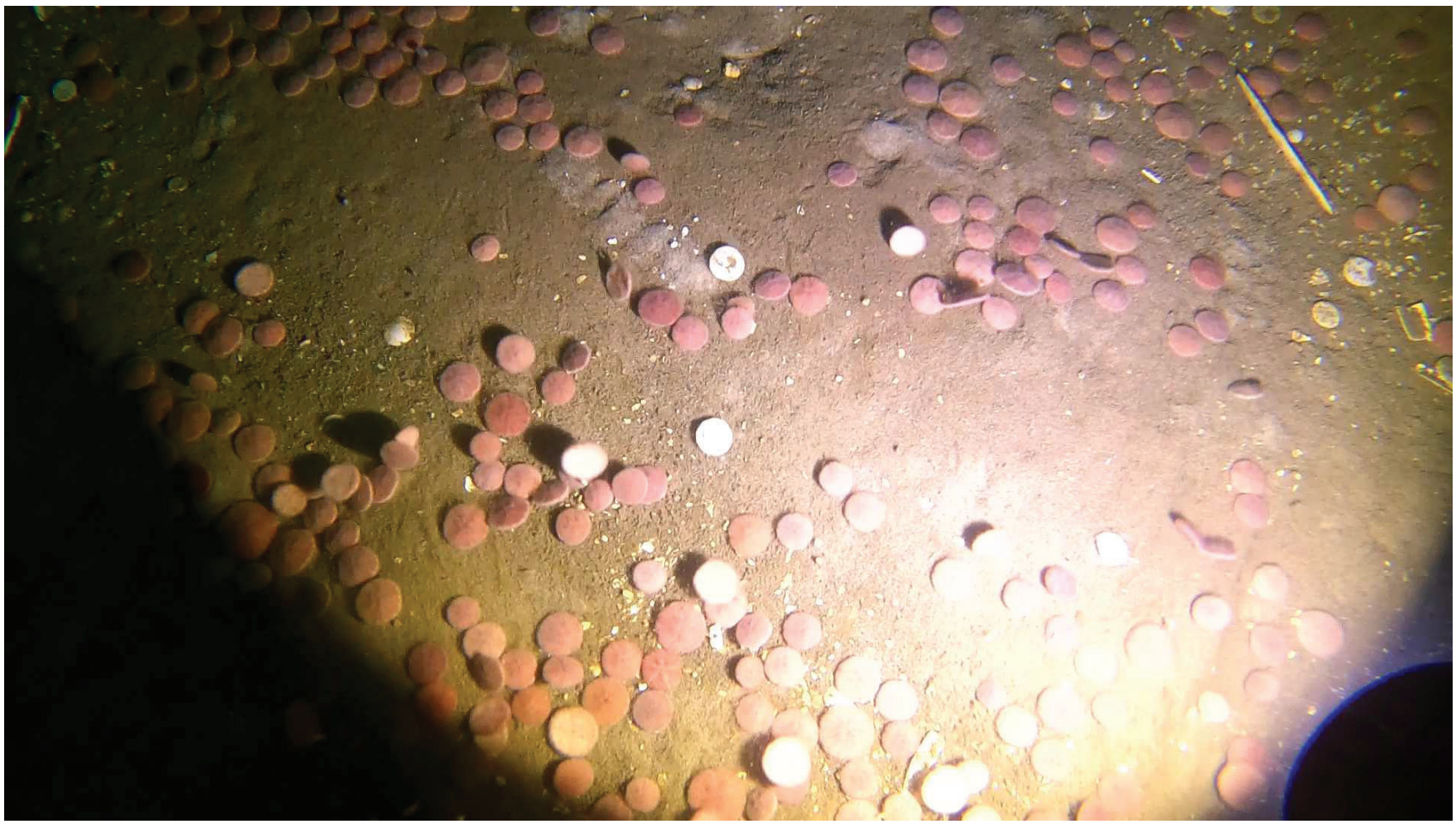


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB017A

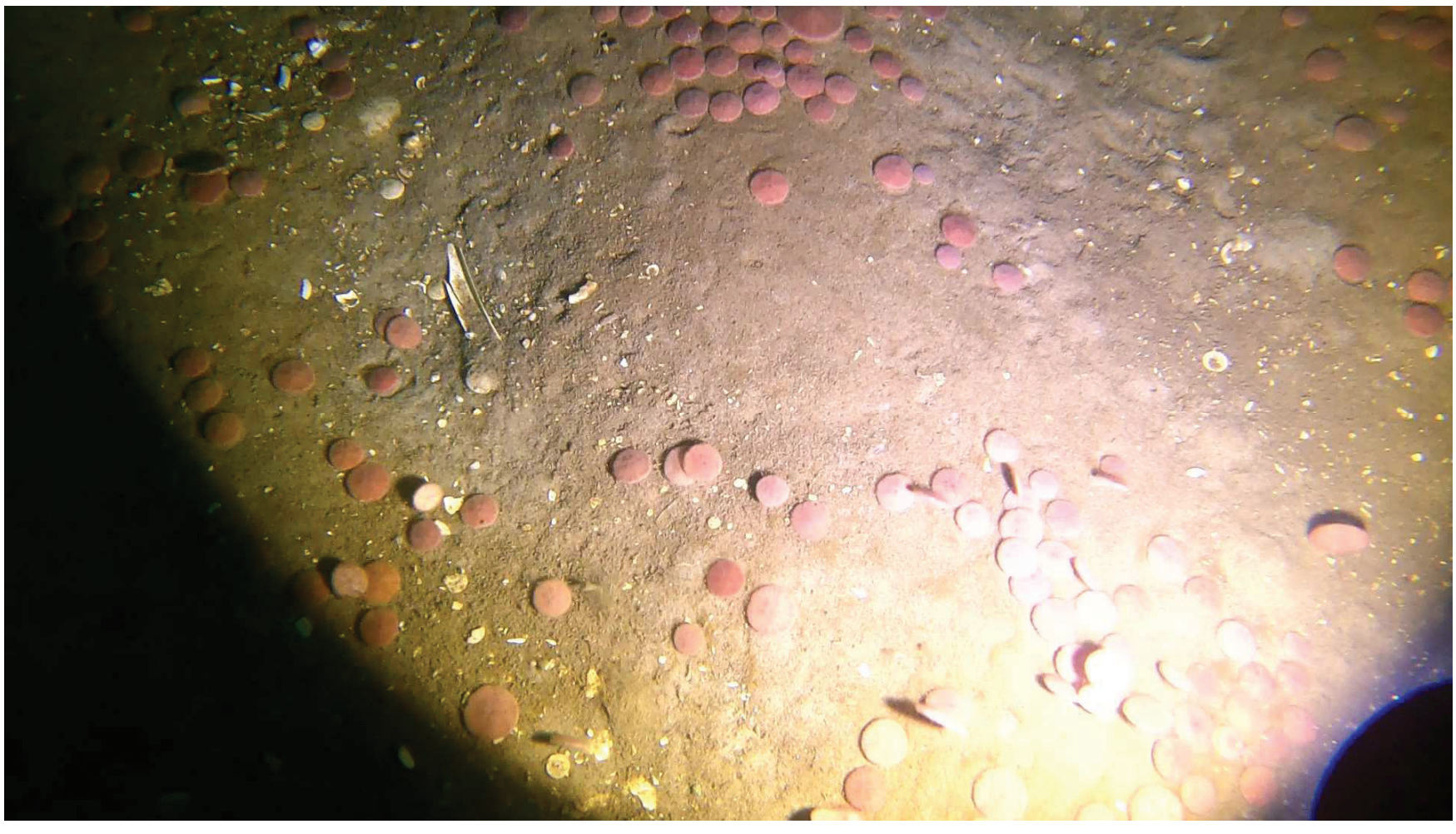


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB017B

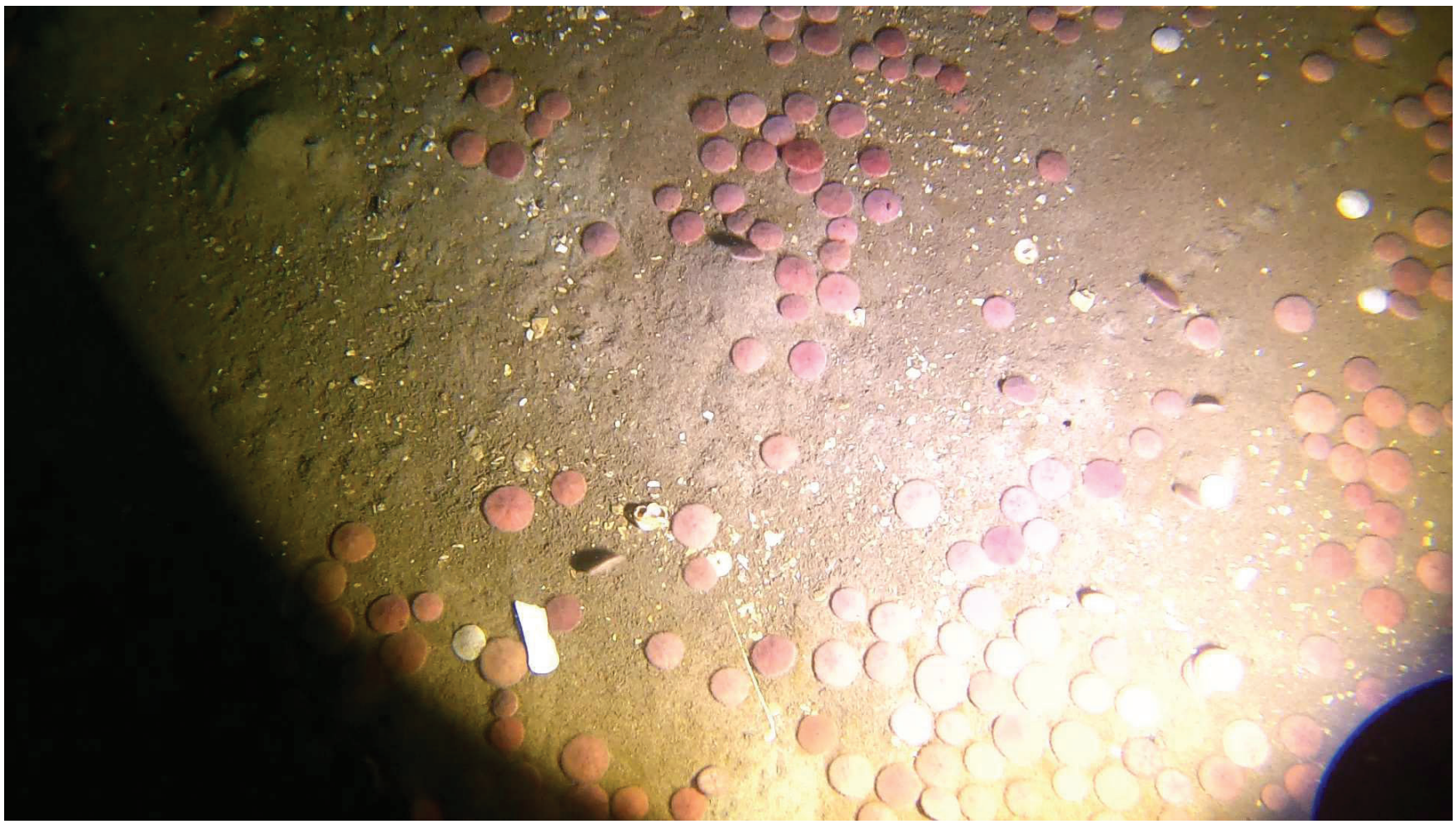


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB017C

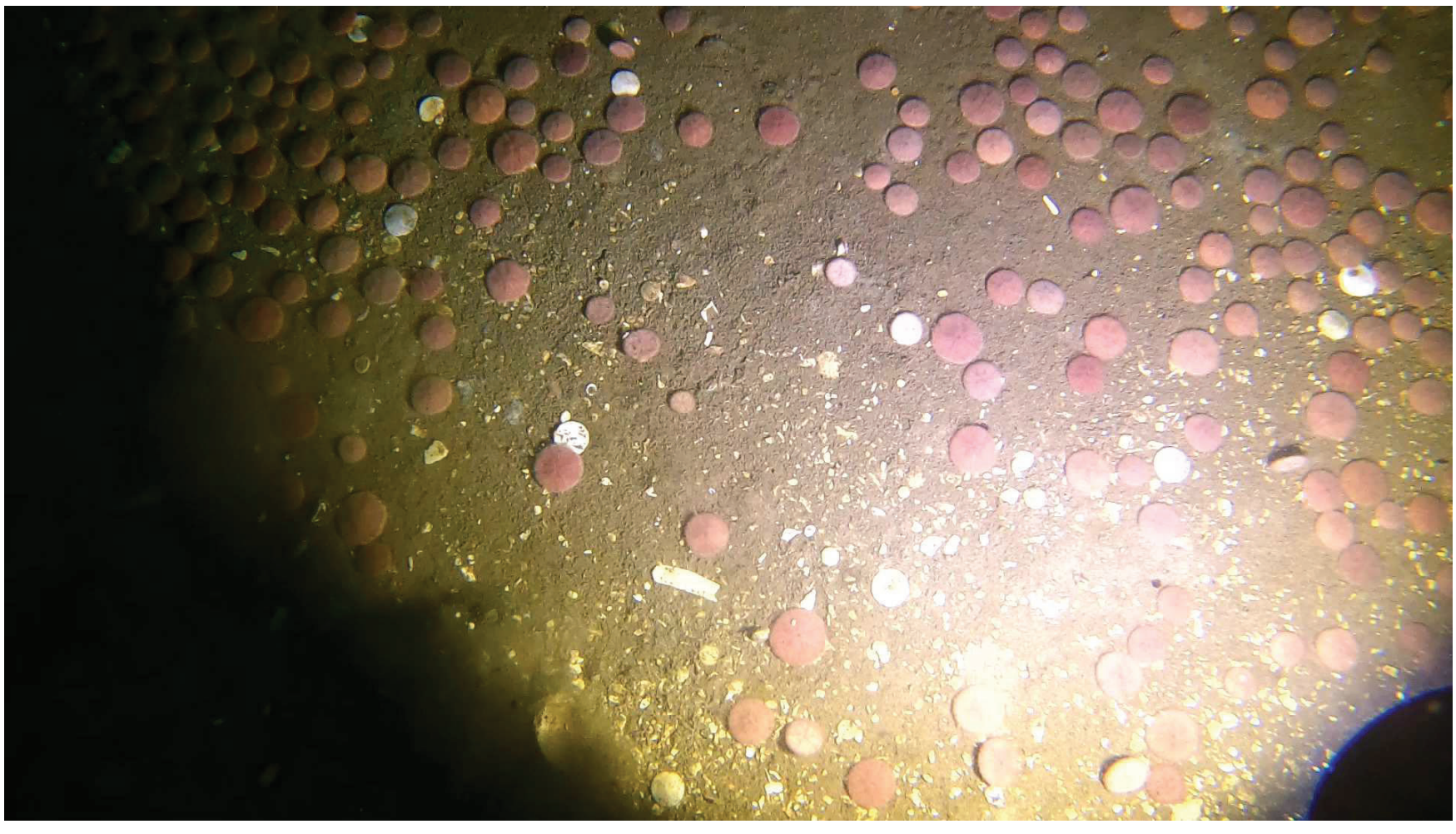


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB018

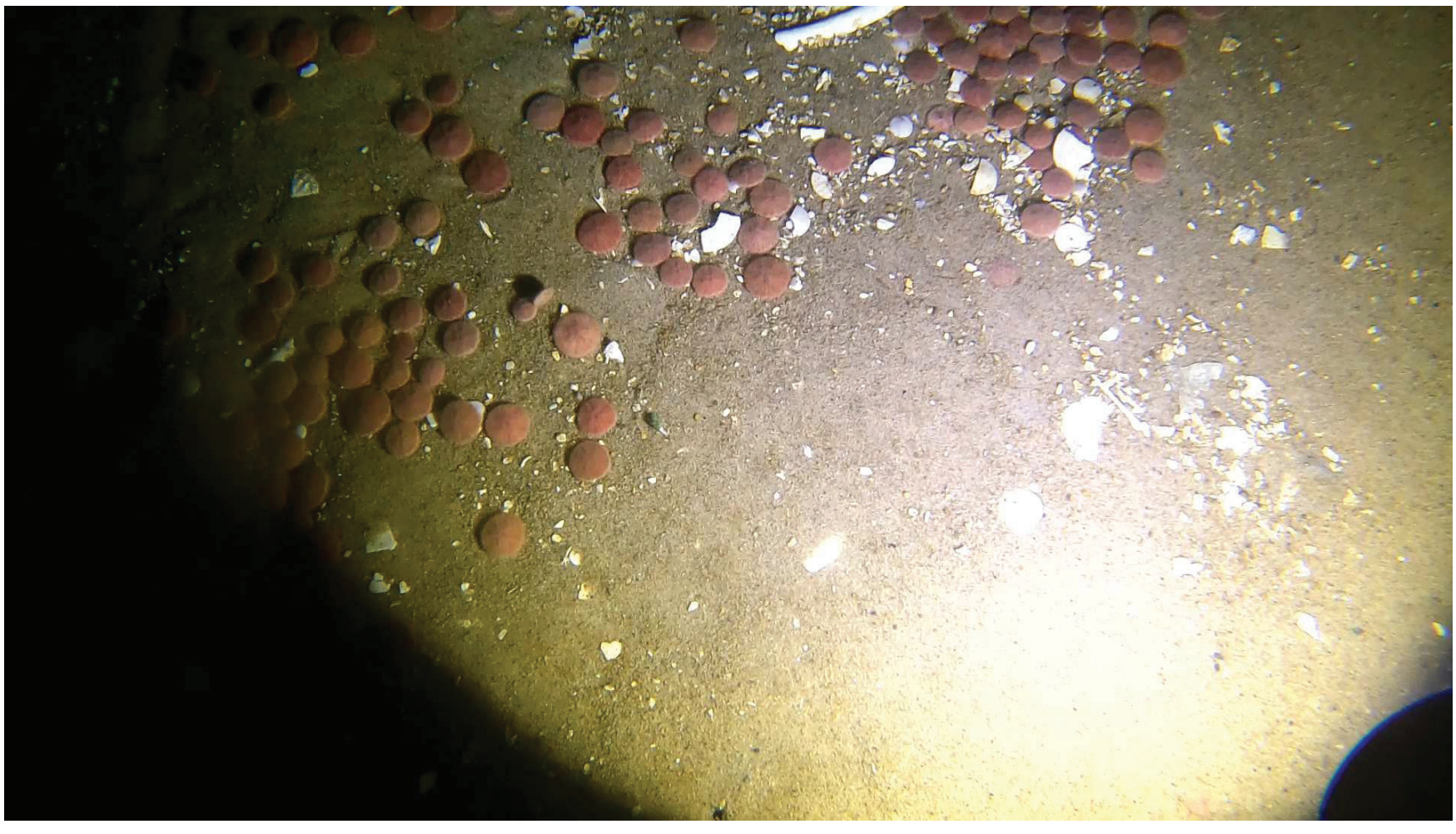


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB019



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB020

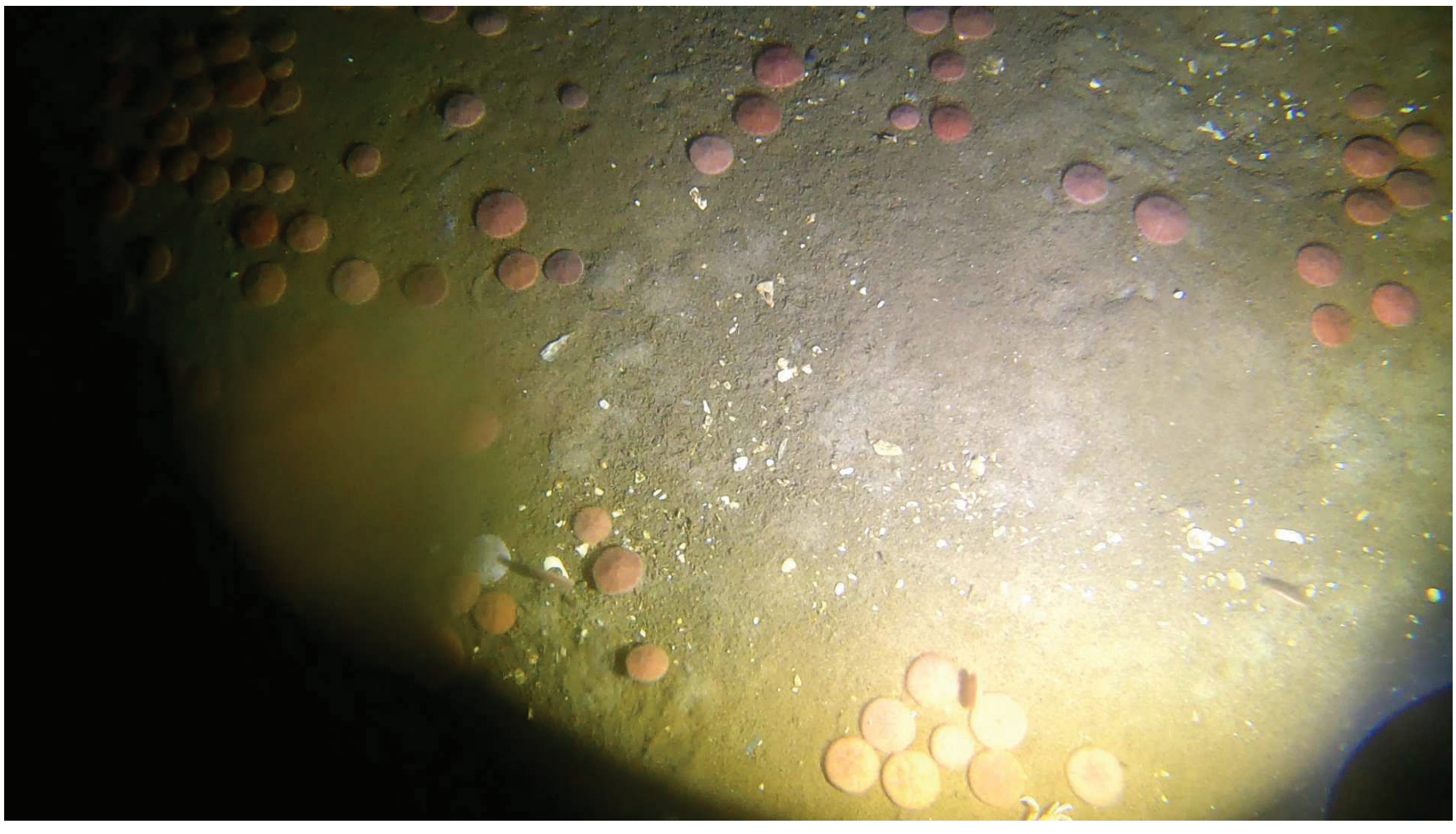


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB021

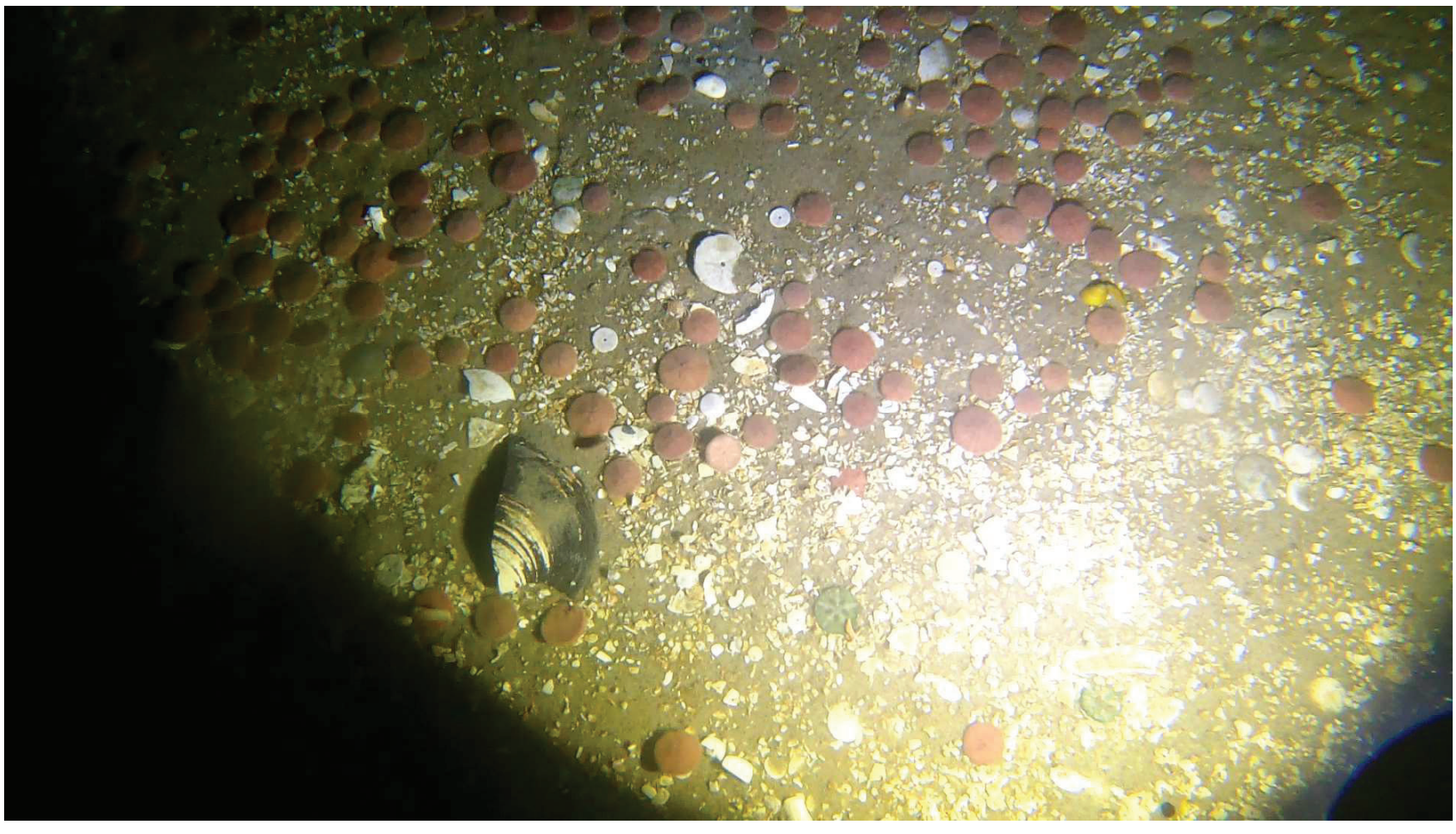


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB022A

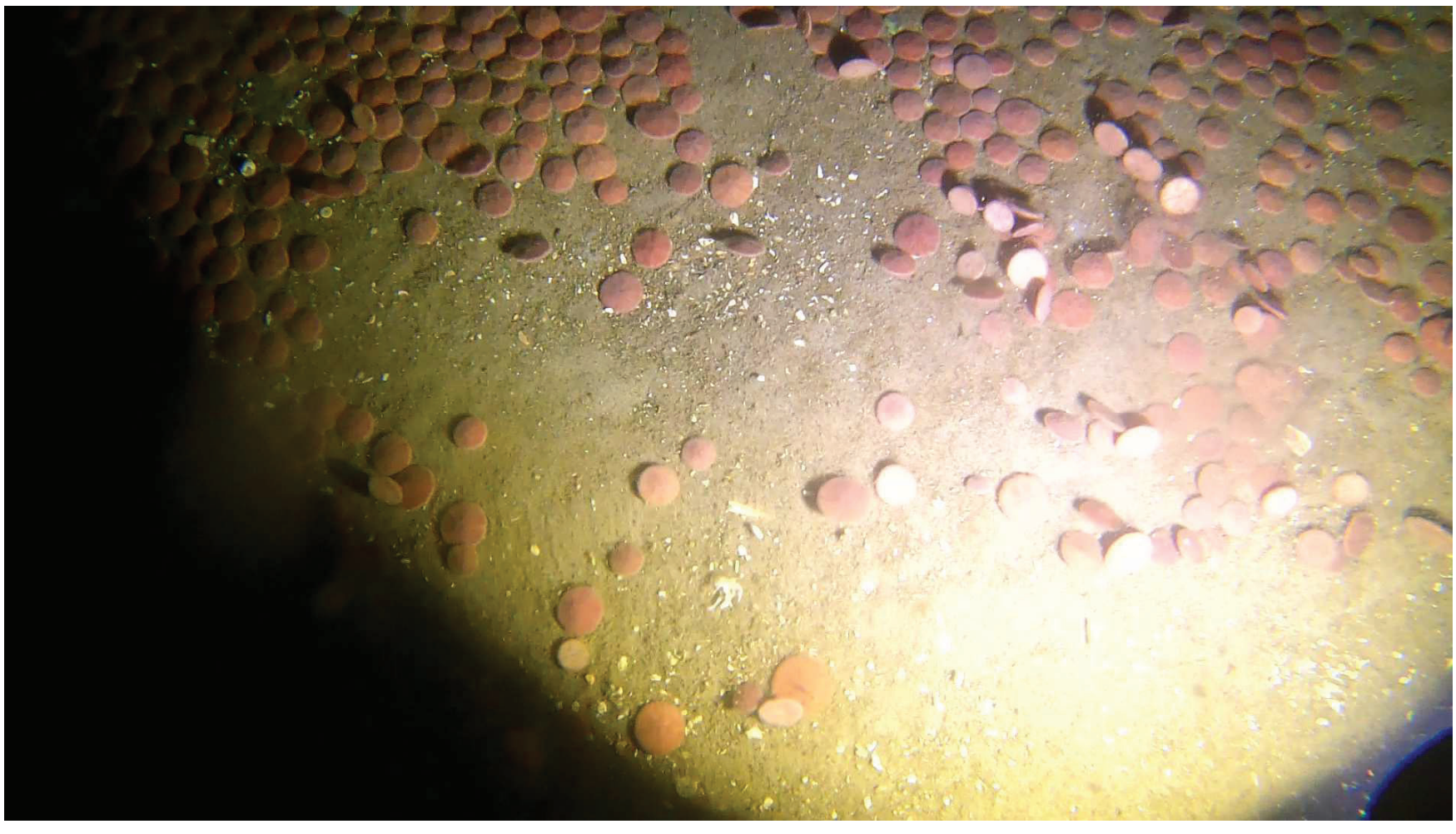


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB022B

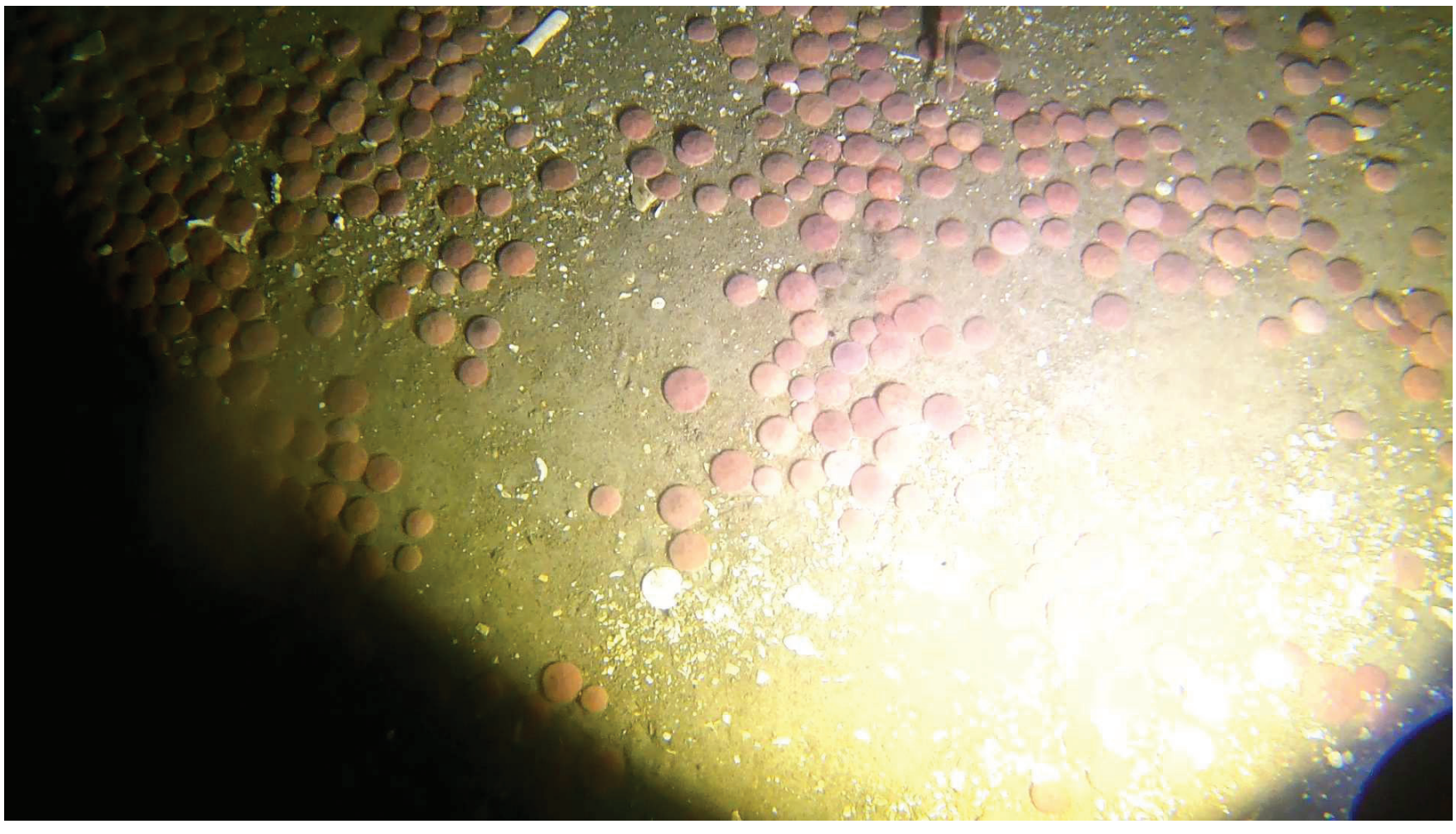


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB022C

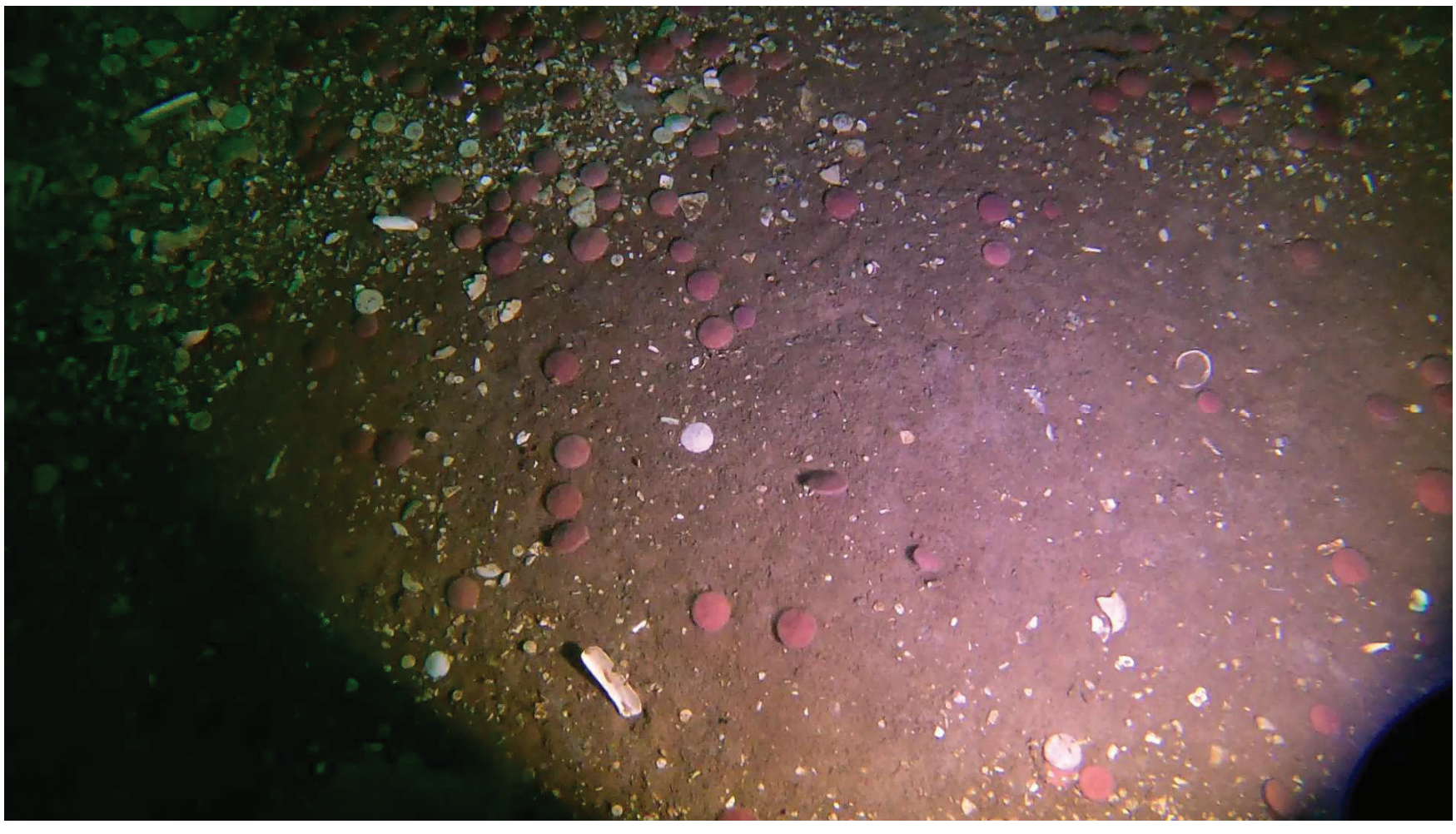


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB023A

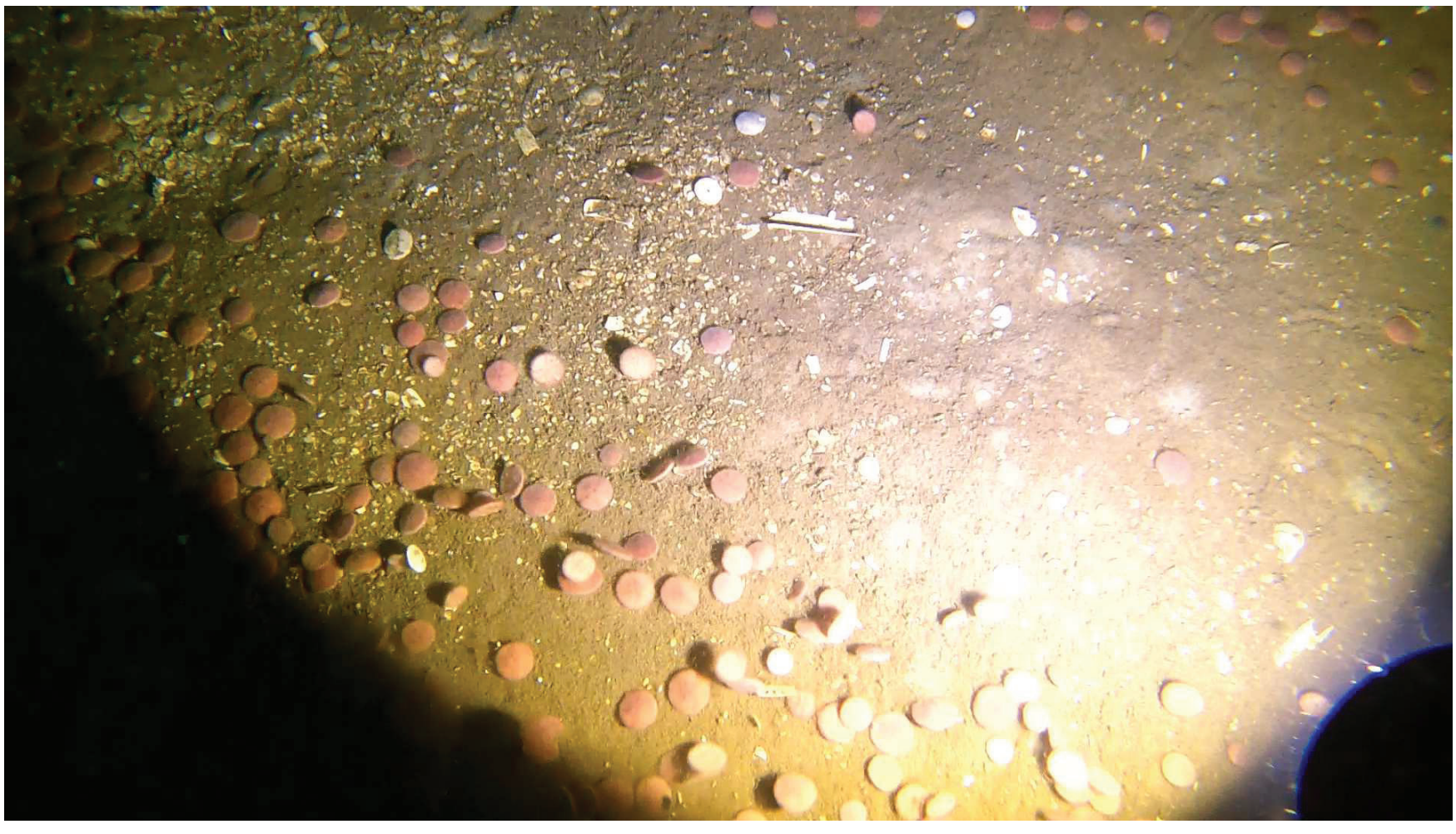


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB023B

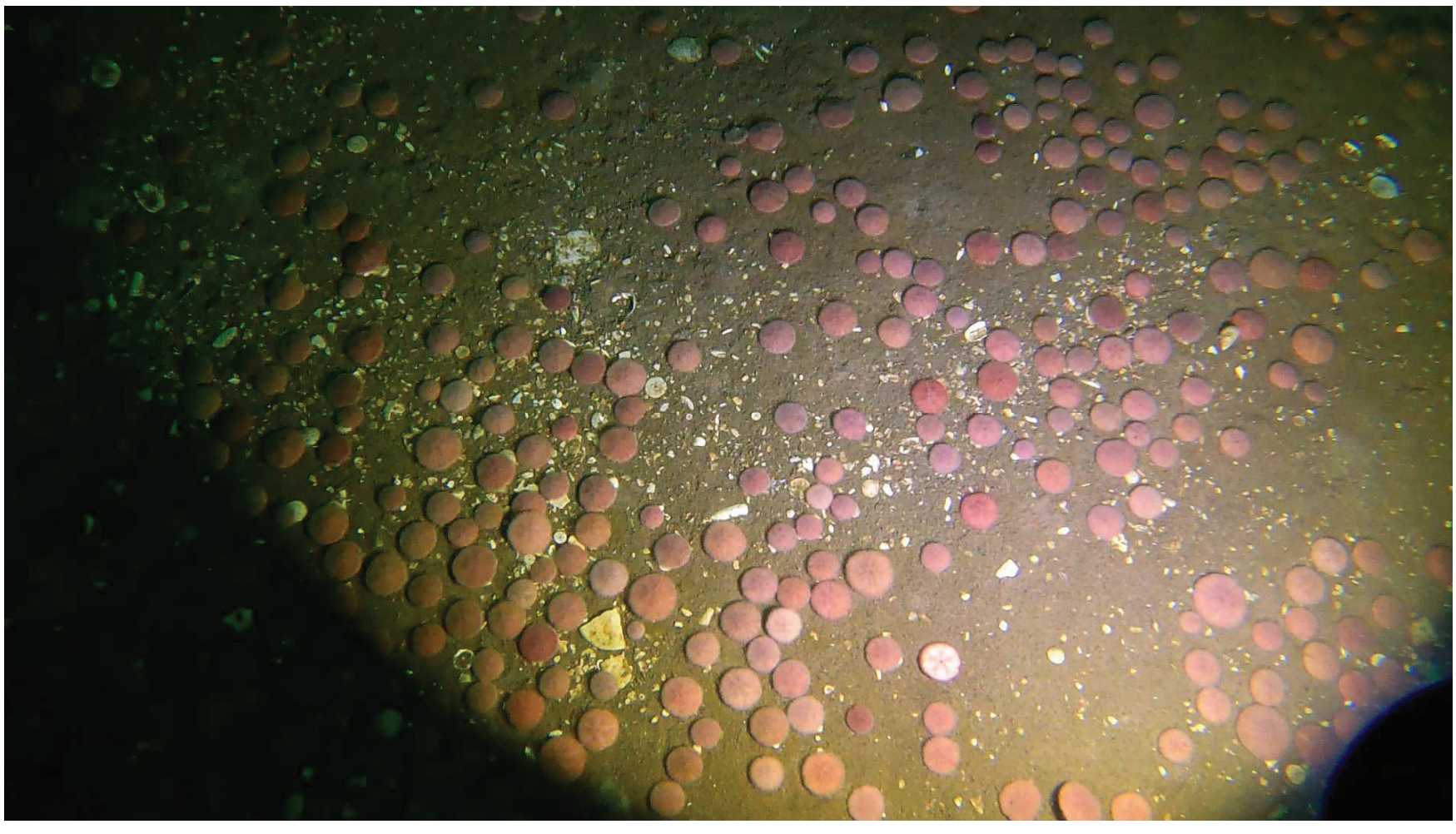


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB023C



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB024

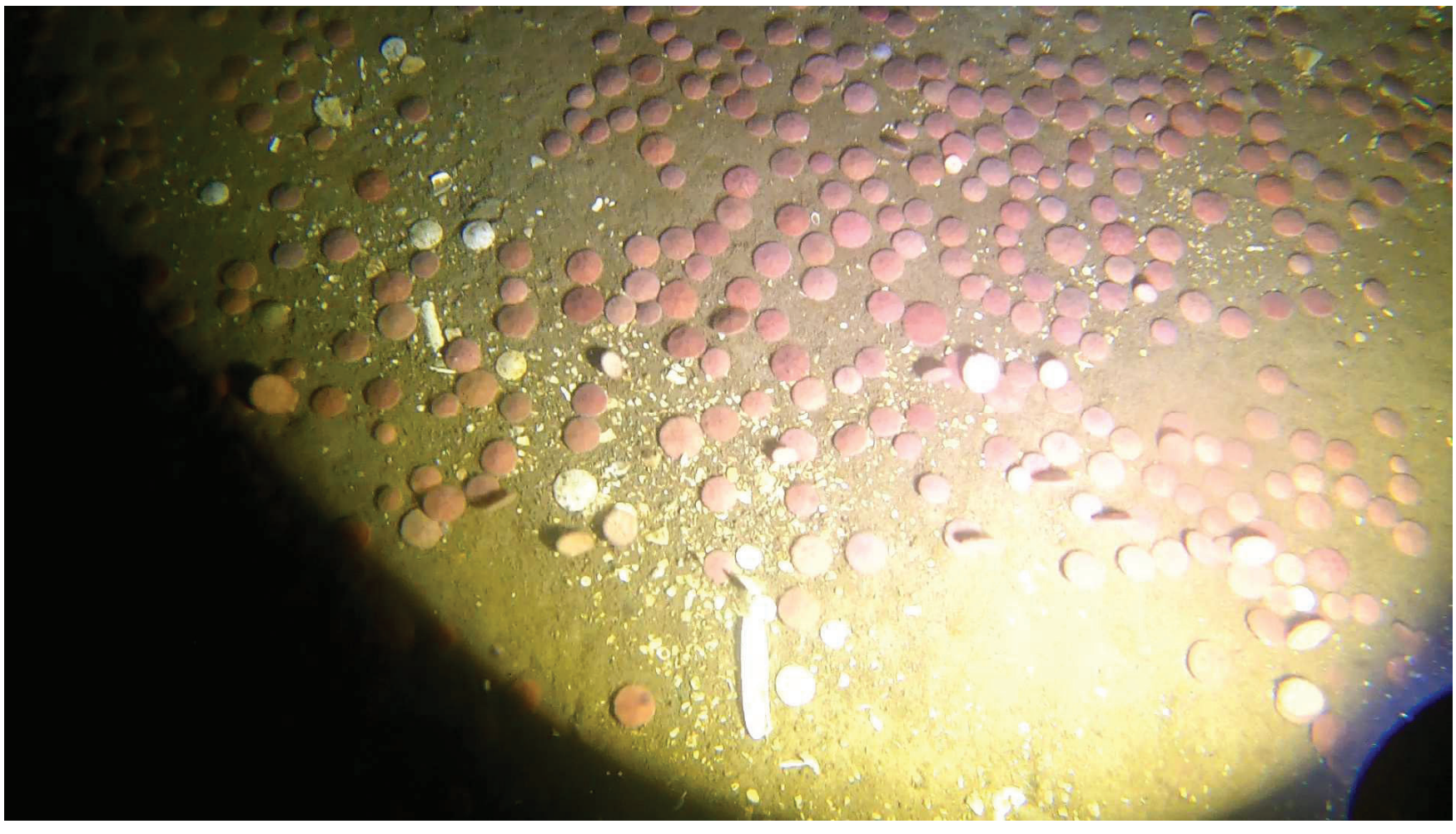


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB025A

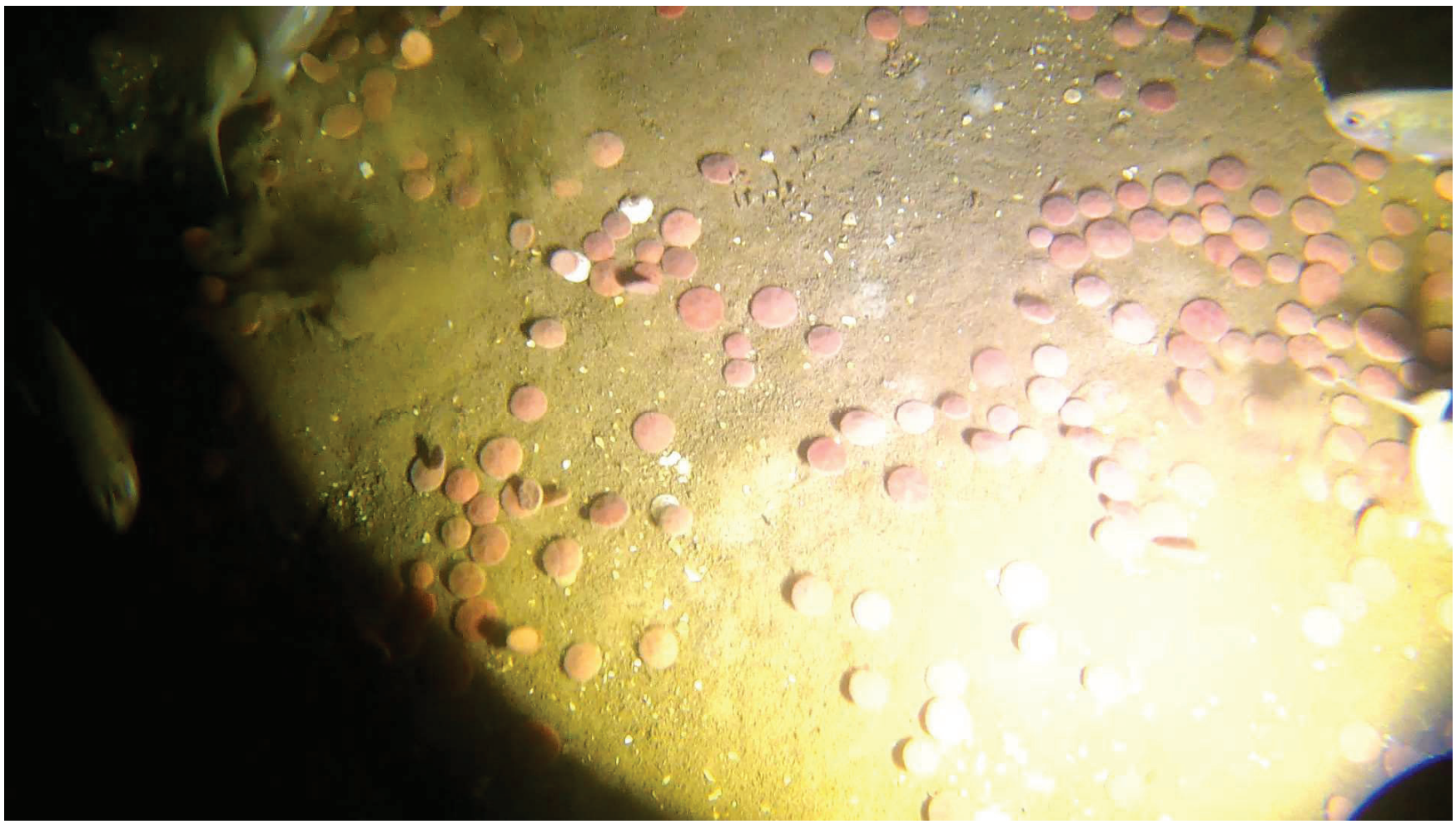


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB025B

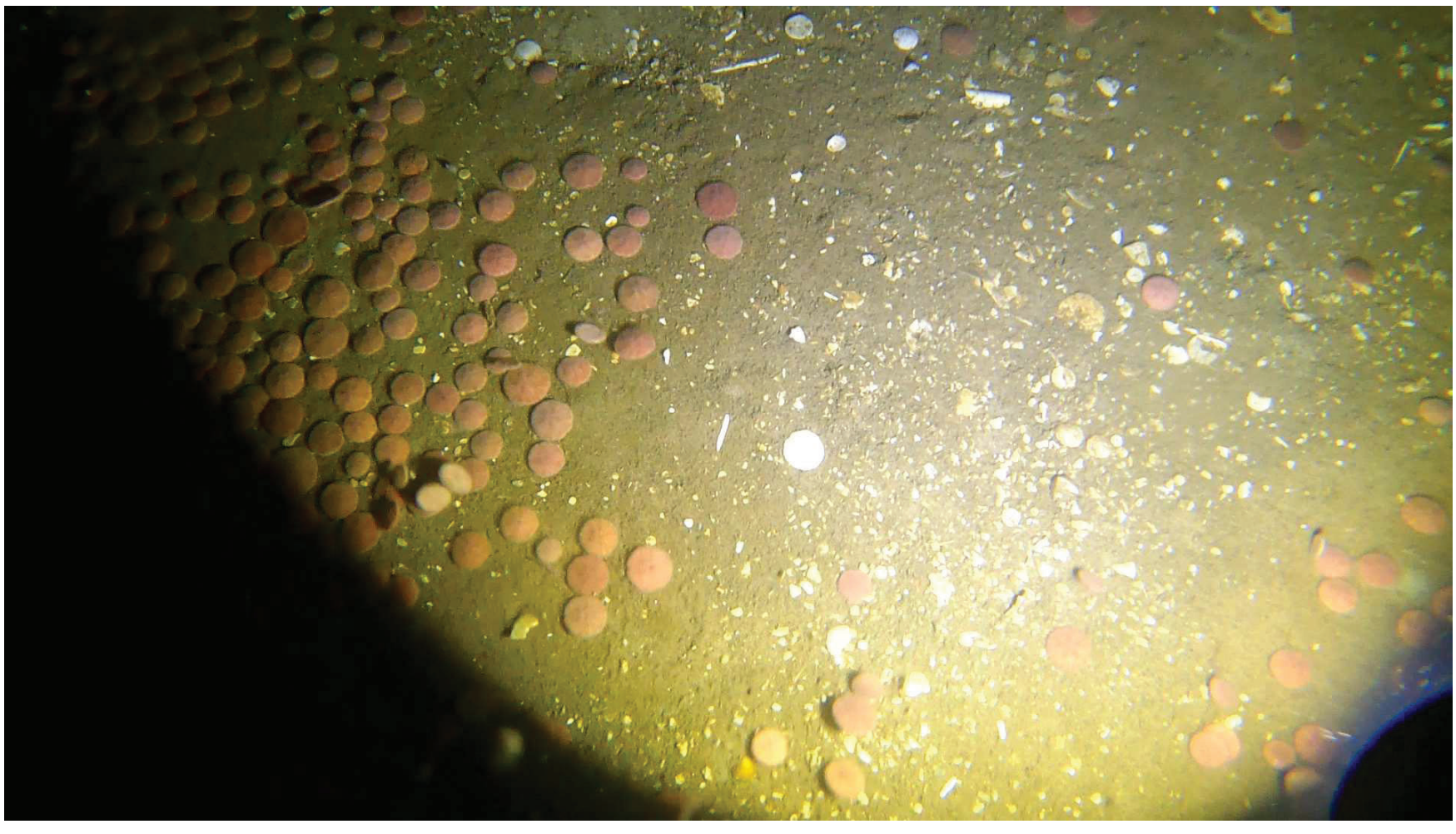


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB025C



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB026



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB027

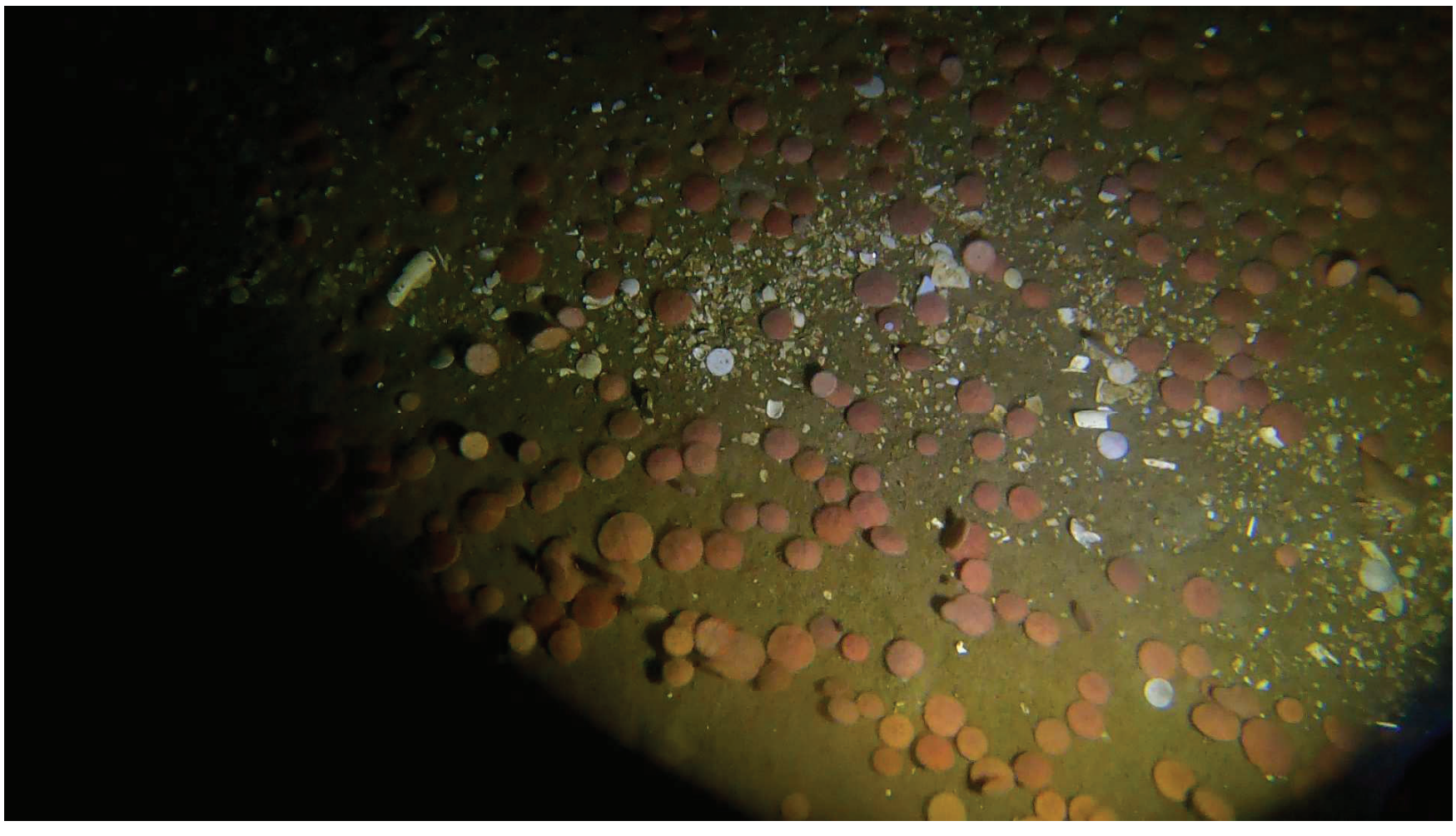


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB028A

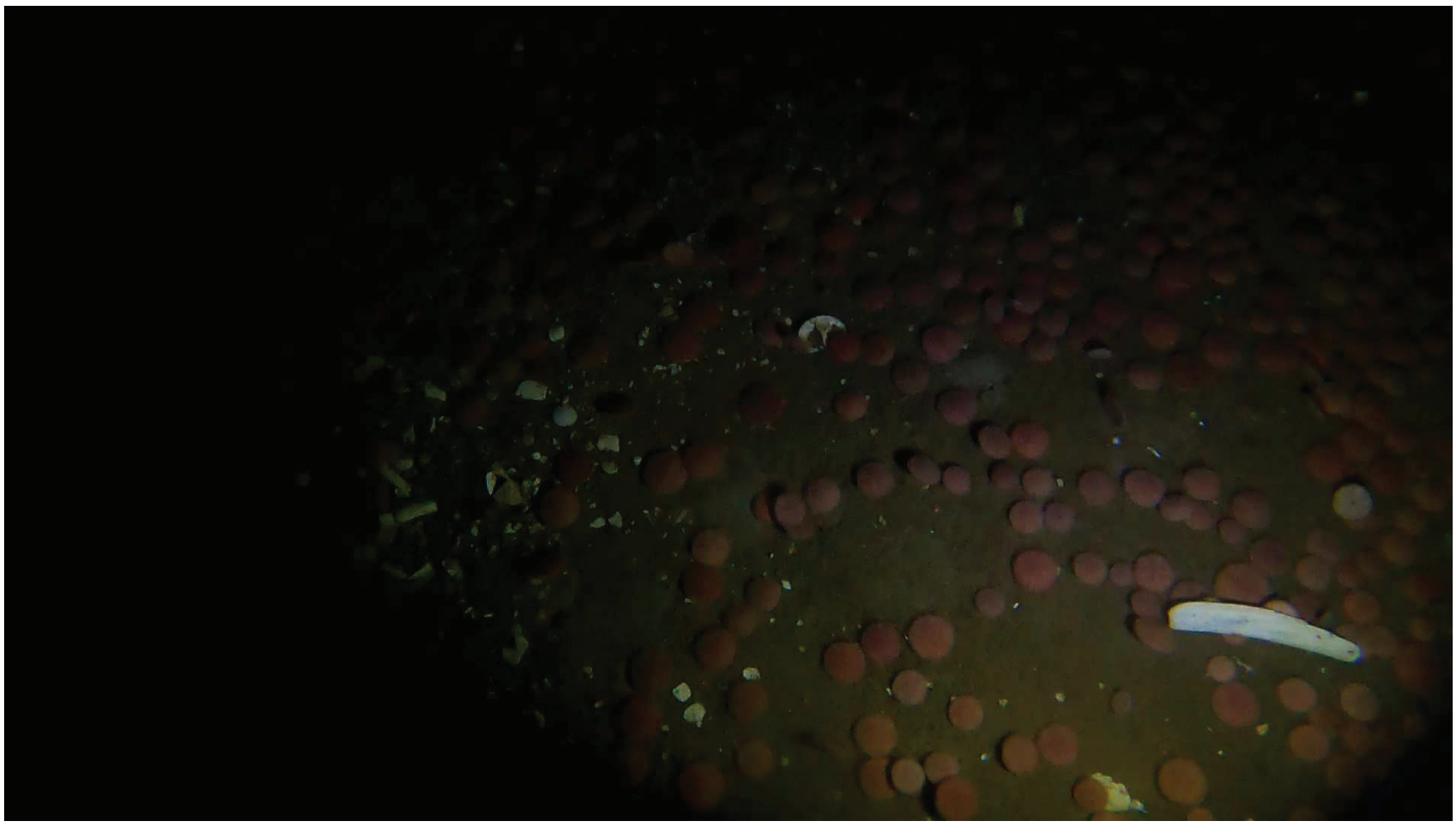


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB028B

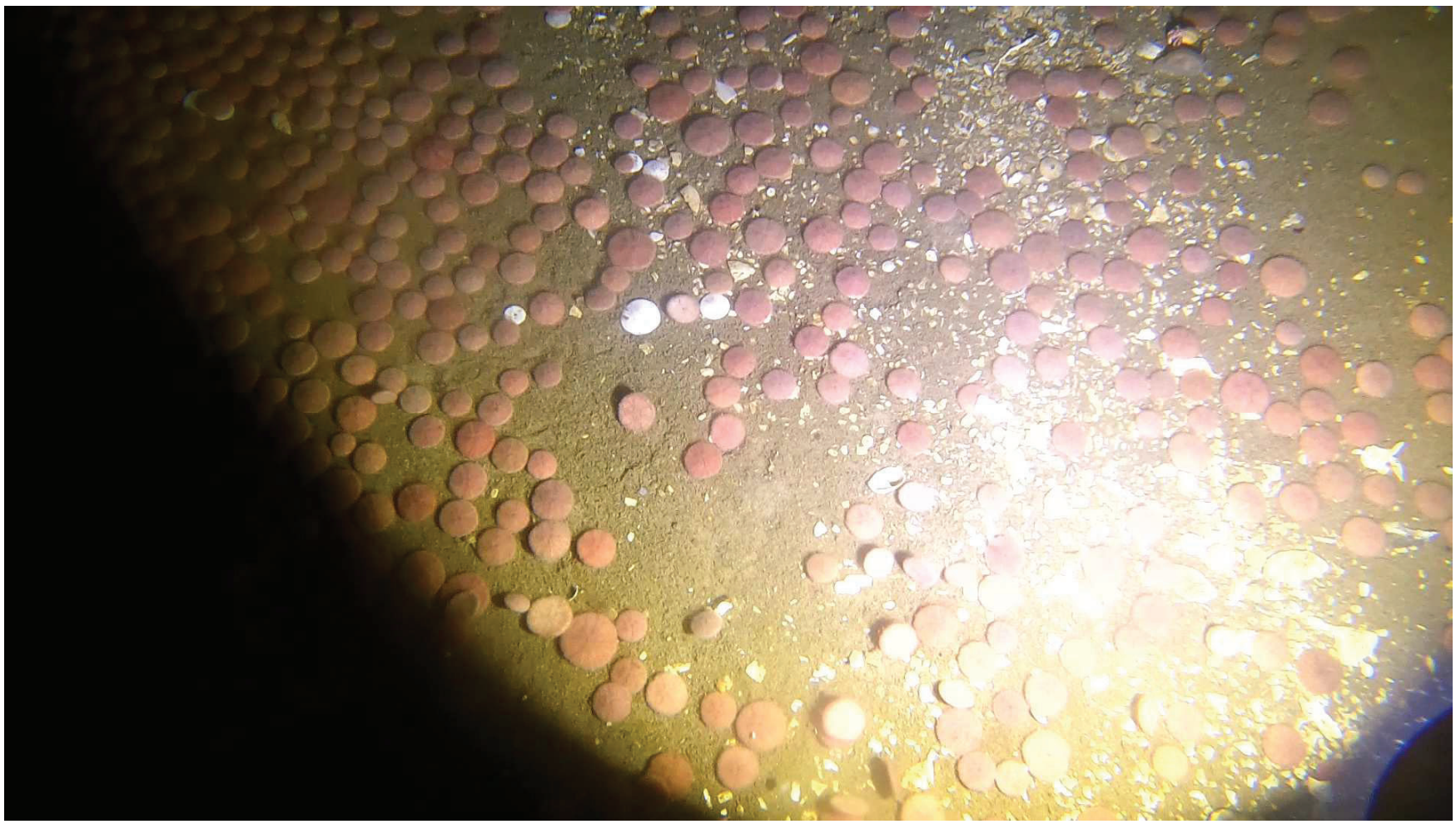


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB028C

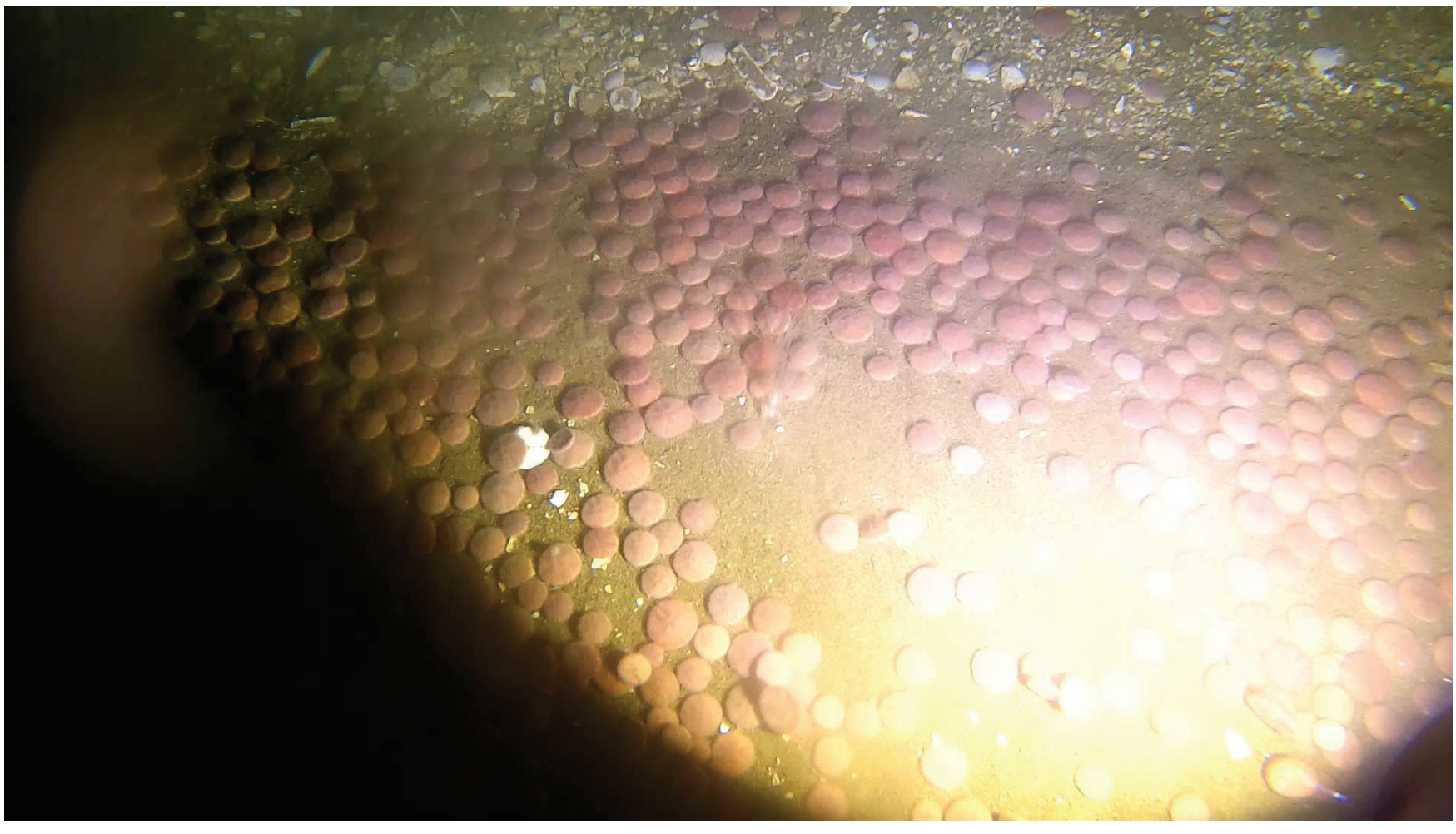


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB029

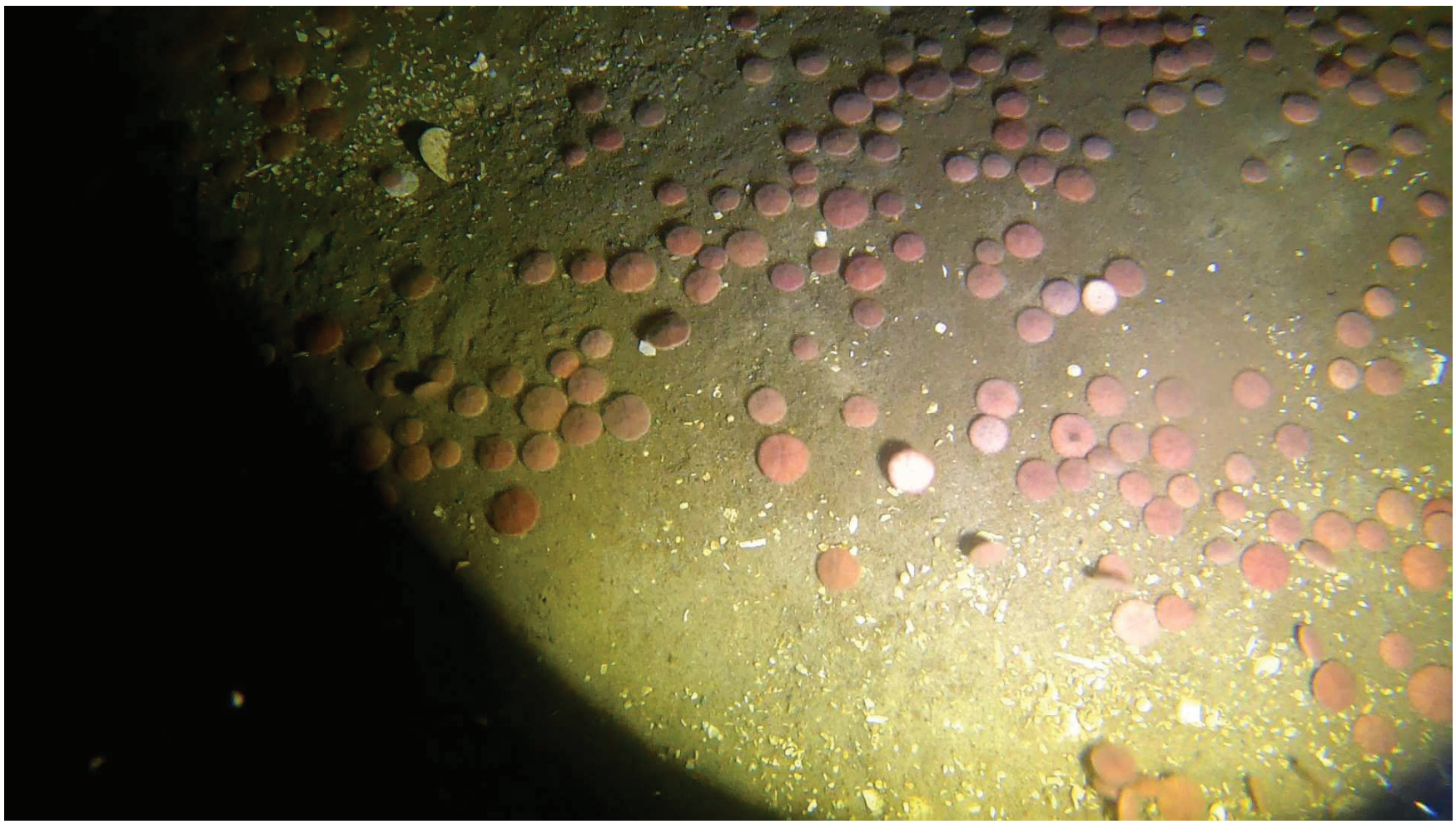


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB030

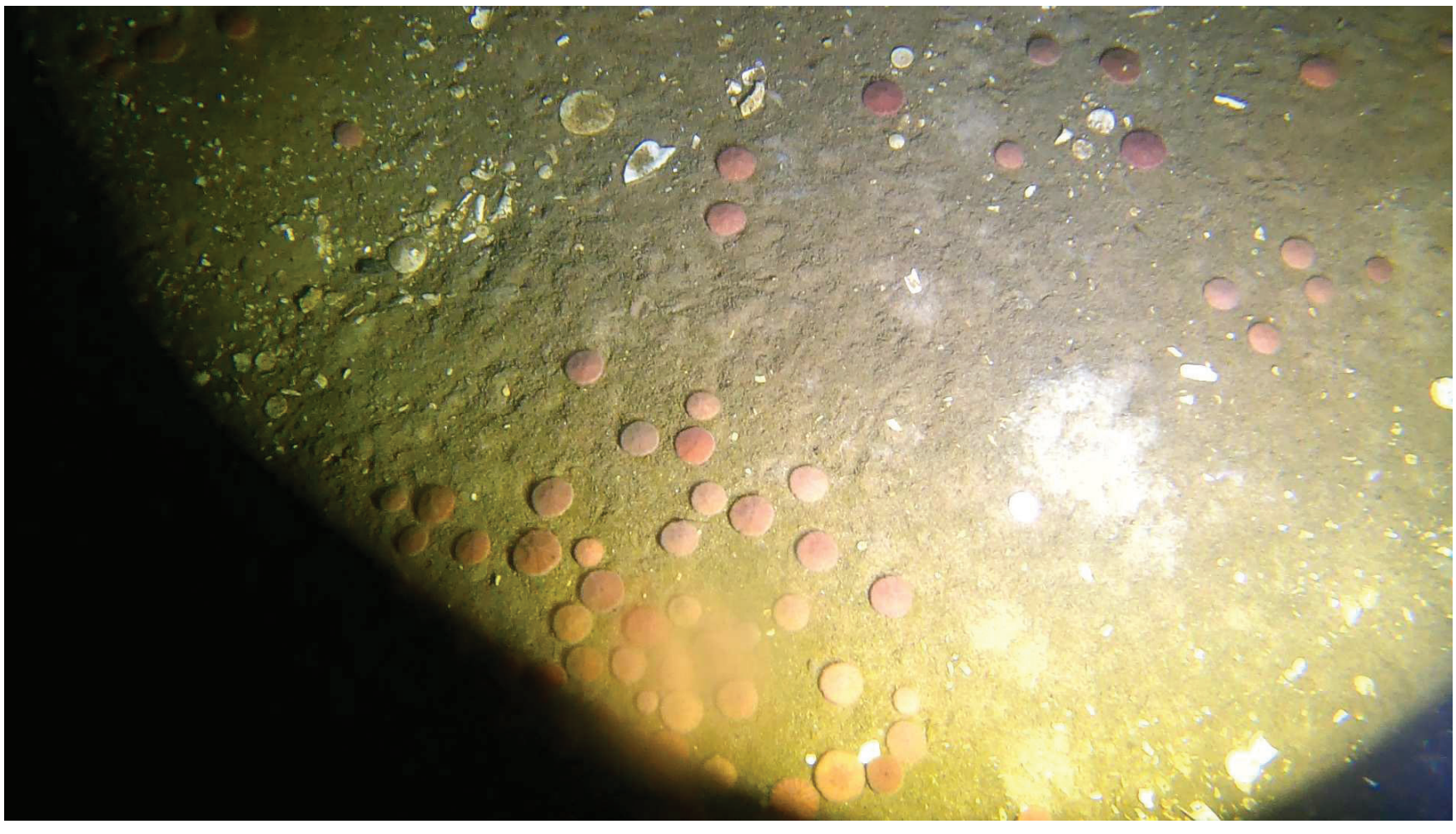


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB031A



Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB031B

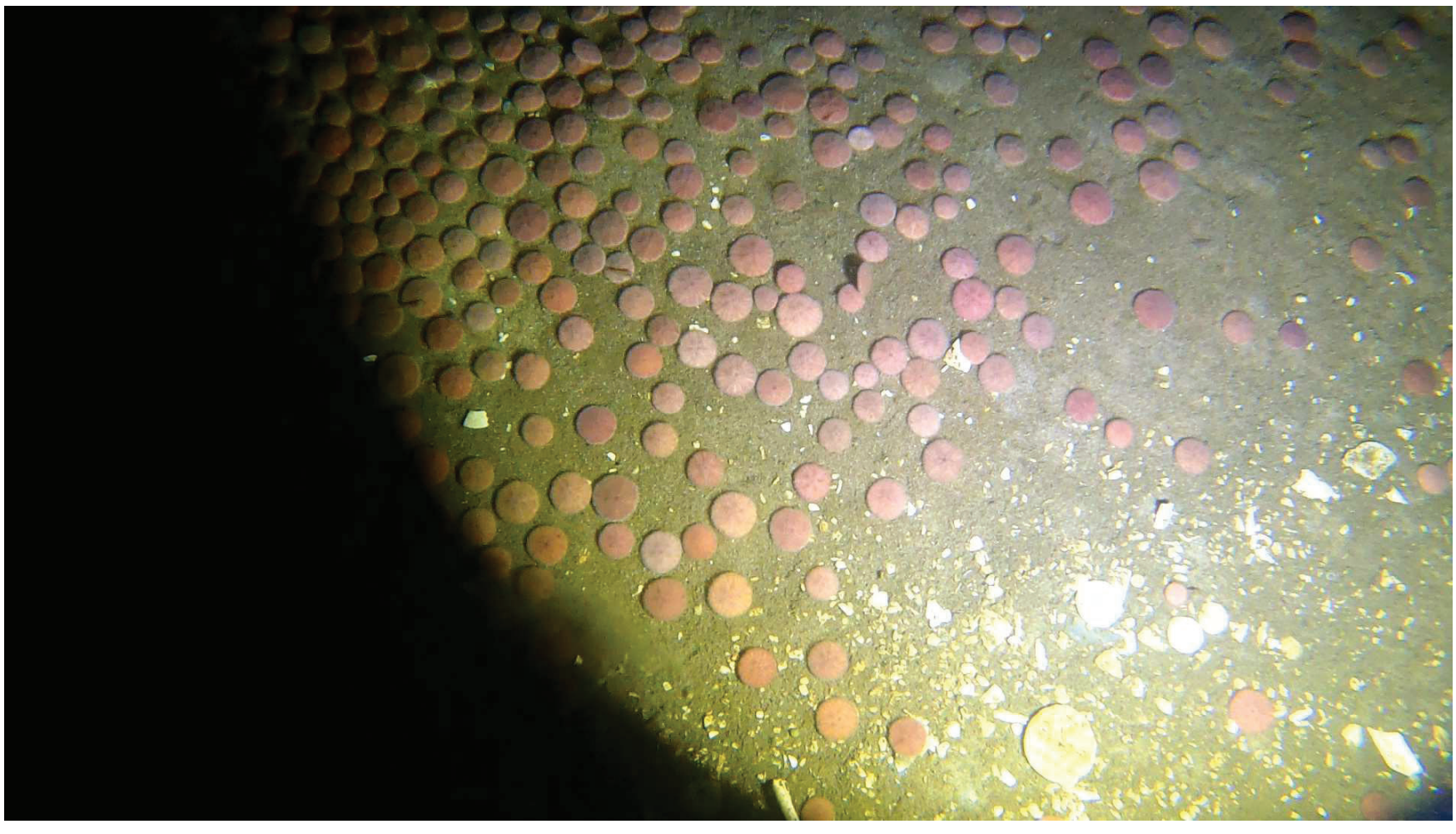


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB031C

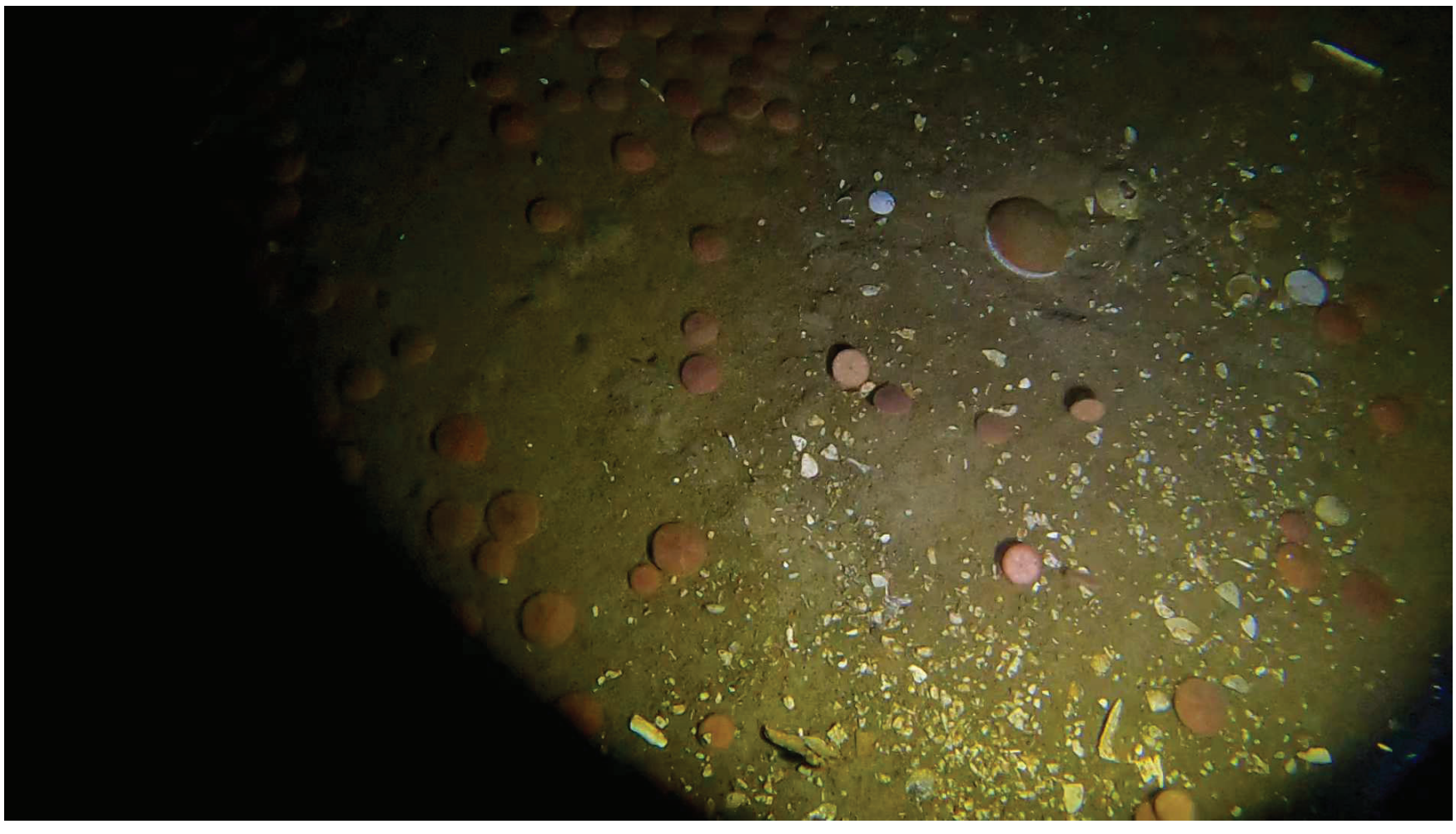


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB032



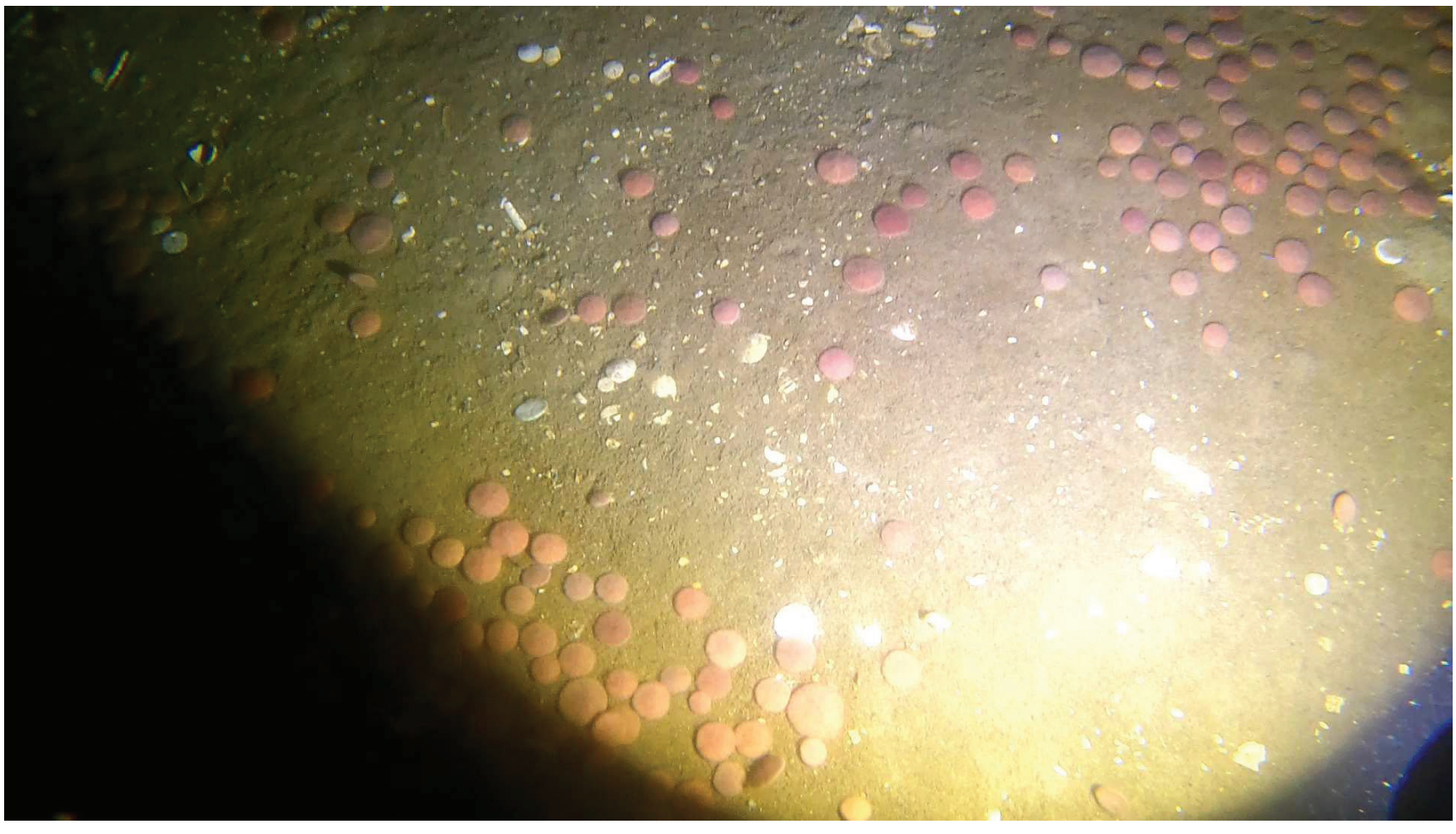
TRC

Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB033A

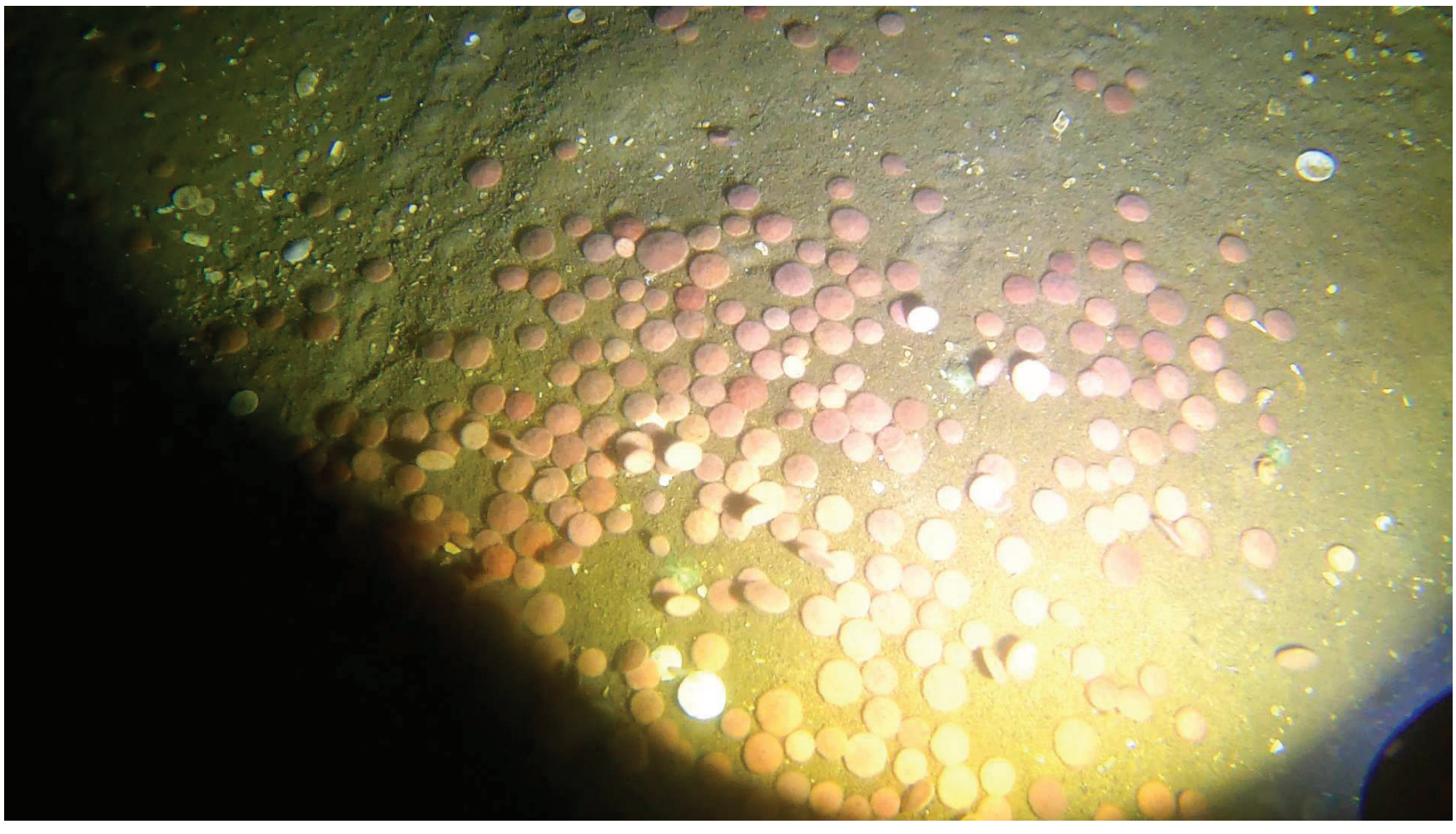


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB033B

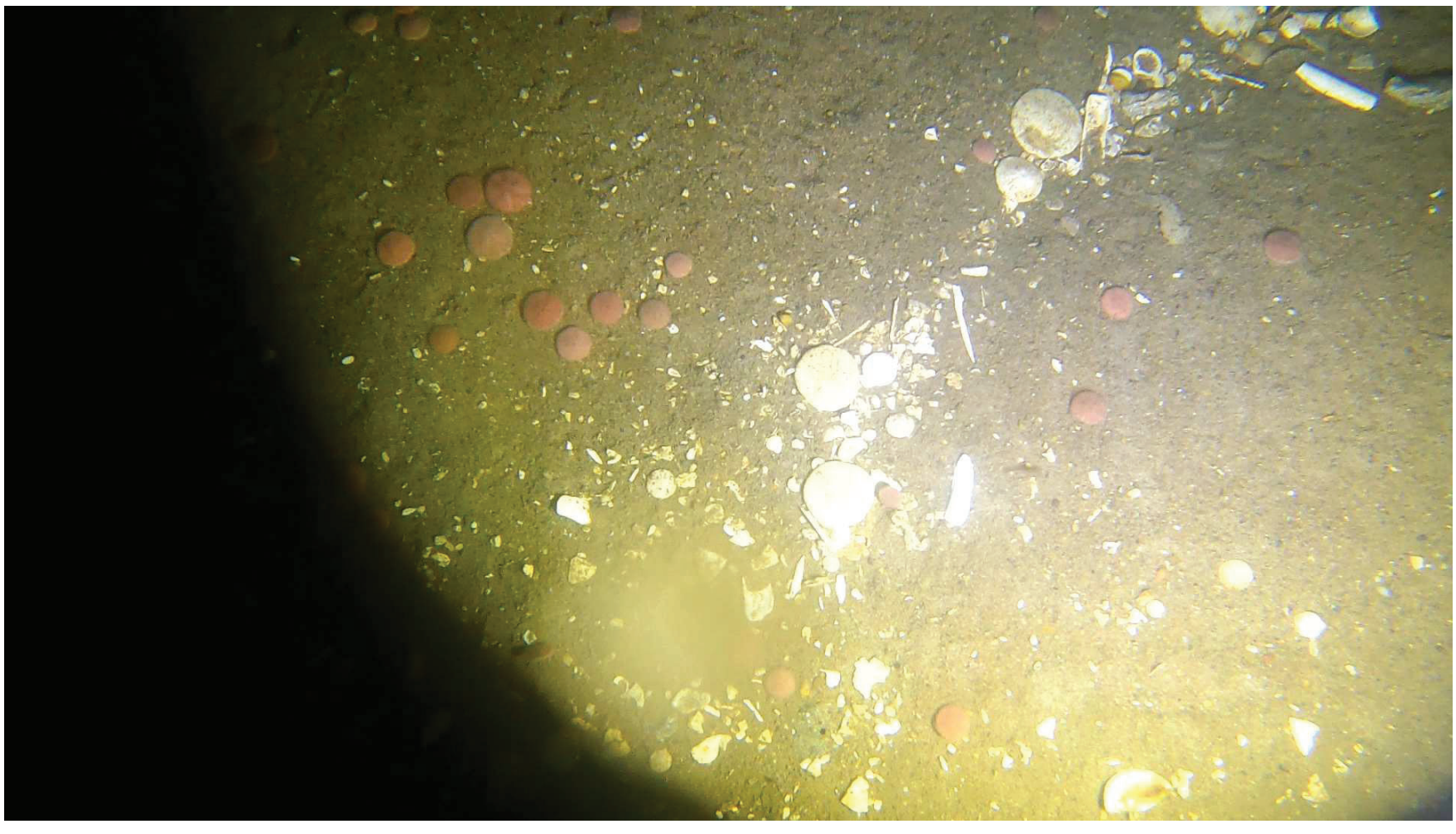


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB033C

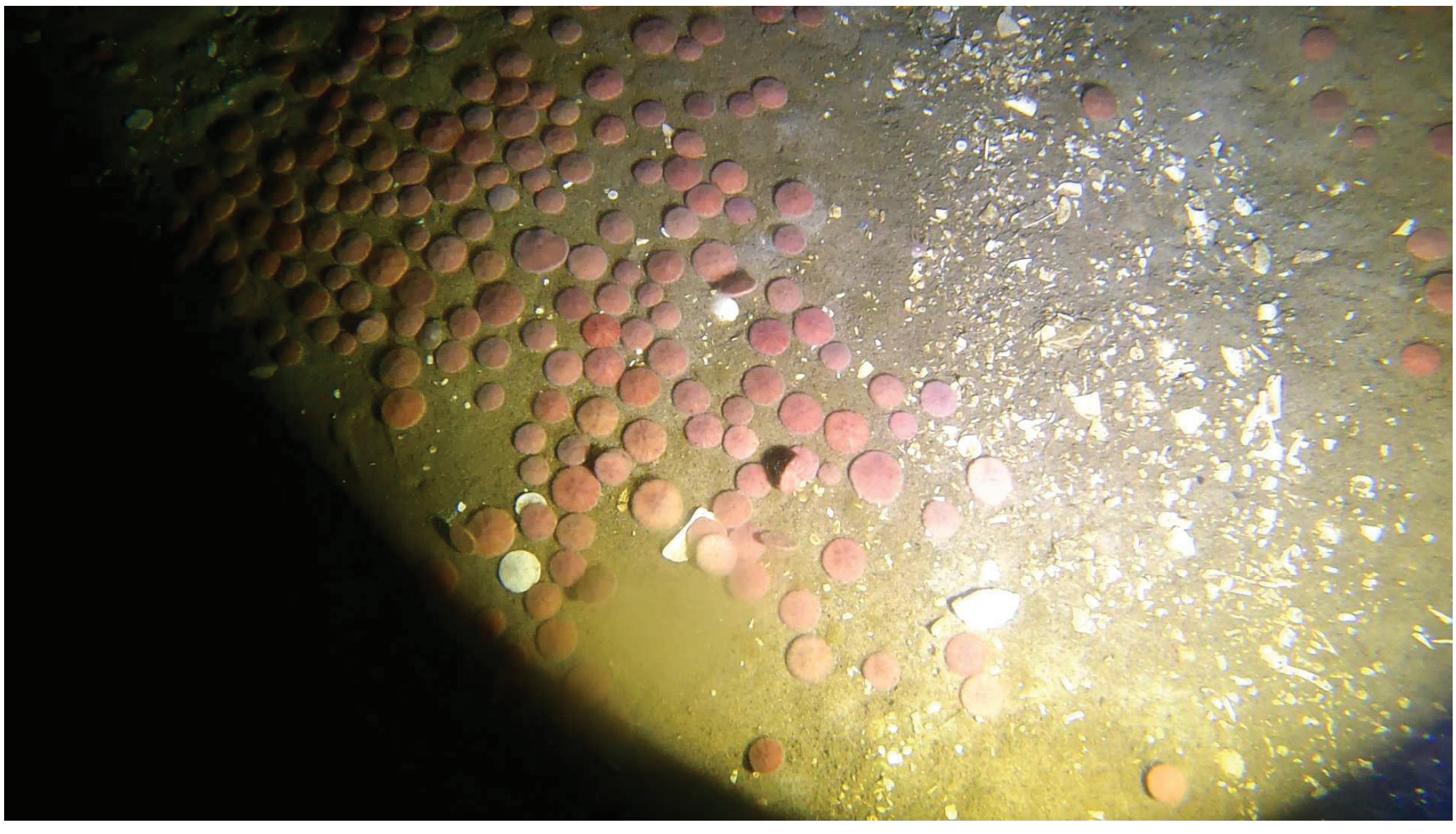


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB034

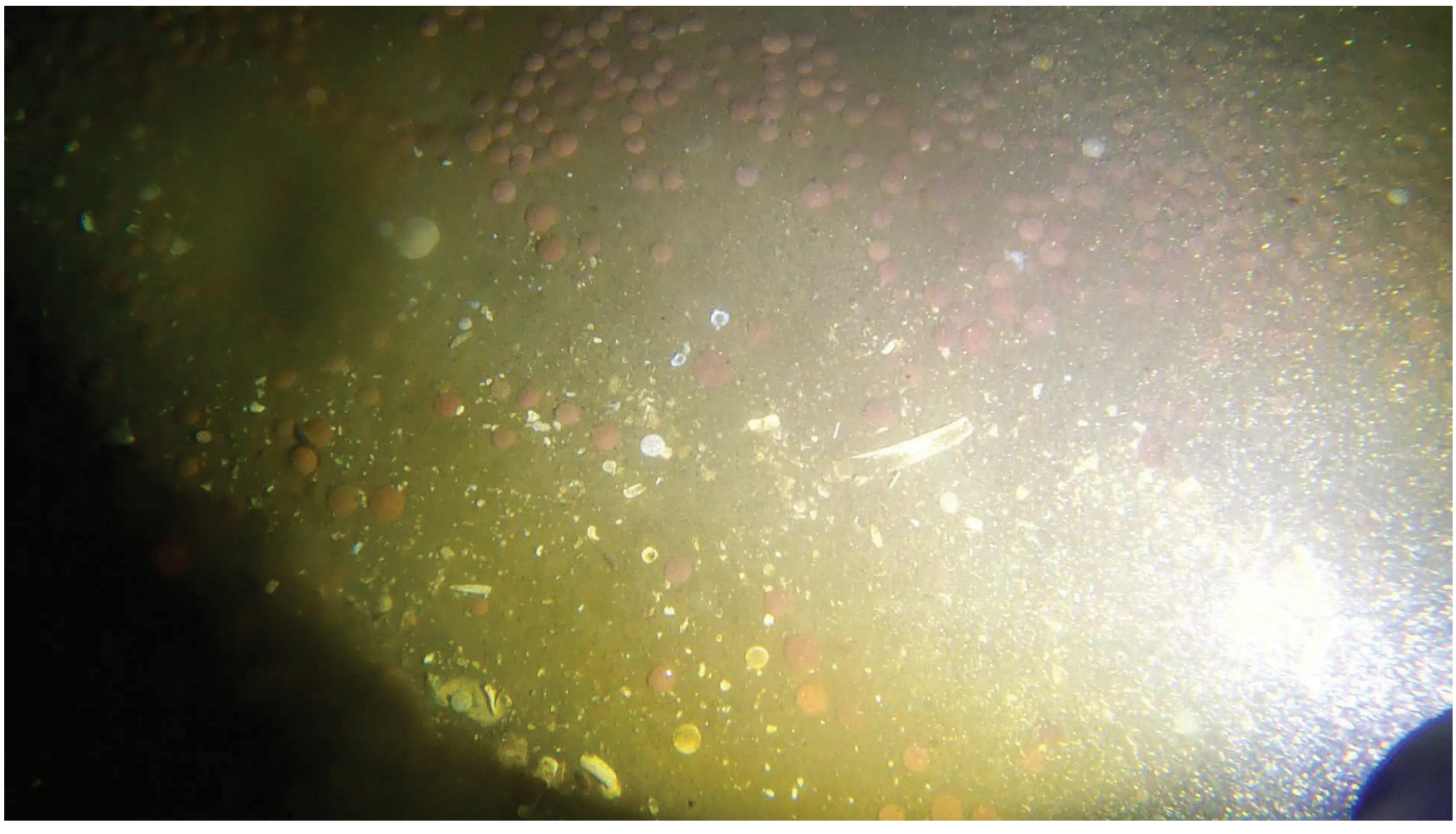


Appendix I: Benthic Grab Camera Images

Vineyard Mid-Atlantic OCS-A 544 Benthic Survey

BENTHIC GRAB IMAGE

544LA22-GB035



Appendix J: Particle Size Distribution from Grabs

Sample ID	% Gravel	% Sand	% Mud	% Shell
544LA22-GB001A	0.46	98.00	0.08	1.46
544LA22-GB001B	0.73	98.68	0.03	0.56
544LA22-GB001C	0.45	99.03	0.08	0.44
544LA22-GB002A	0.88	99.06	0.05	0.01
544LA22-GB002B	1.33	98.40	0.16	0.11
544LA22-GB002C	0.72	99.04	0.04	0.19
544LA22-GB003	2.55	96.03	0.02	1.40
544LA22-GB004	3.54	96.21	0.03	0.22
544LA22-GB005	4.03	94.60	0.15	1.21
544LA22-GB006A	0.02	98.79	0.04	1.15
544LA22-GB006B	0.30	98.88	0.22	0.59
544LA22-GB006C	0.03	99.15	0.11	0.71
544LA22-GB007A	1.12	98.22	0.08	0.59
544LA22-GB007B	0.74	96.59	1.55	1.13
544LA22-GB007C	1.57	97.26	0.04	1.13
544LA22-GB008	0.31	96.68	0.10	2.92
544LA22-GB009A	0.95	96.45	0.02	2.57
544LA22-GB009B	1.83	93.98	0.16	4.03
544LA22-GB009C	0.32	98.23	0.05	1.40
544LA22-GB010	8.98	89.93	0.02	1.07
544LA22-GB011A	3.16	96.34	0.10	0.40
544LA22-GB011B	1.05	98.45	0.01	0.49
544LA22-GB011C	3.13	96.00	0.12	0.75
544LA22-GB012	2.15	97.81	0.04	0.00
544LA22-GB013	2.94	94.69	0.12	2.25
544LA22-GB014A	0.39	97.03	0.03	2.55
544LA22-GB014B	0.50	97.86	0.15	1.49
544LA22-GB014C	0.70	98.59	0.08	0.63
544LA22-GB015A	0.03	99.74	0.06	0.17
544LA22-GB015B	0.10	98.82	0.14	0.94
544LA22-GB015C	0.02	98.97	0.16	0.85
544LA22-GB016	0.10	99.07	0.13	0.70
544LA22-GB017A	0.05	99.60	0.13	0.22
544LA22-GB017B	0.26	99.34	0.10	0.30
544LA22-GB017C	0.07	99.15	0.13	0.64
544LA22-GB018	0.05	97.07	0.18	2.71
544LA22-GB019	1.14	98.09	0.12	0.66
544LA22-GB020	0.43	99.01	0.01	0.55
544LA22-GB021	0.87	98.88	0.11	0.14
544LA22-GB022A	0.00	99.03	0.11	0.86
544LA22-GB022B	0.05	99.38	0.13	0.45
544LA22-GB022C	0.02	99.43	0.13	0.42
544LA22-GB023A	0.03	98.90	0.28	0.79

Sample ID	% Gravel	% Sand	% Mud	% Shell
544LA22-GB023B	0.01	99.26	0.07	0.66
544LA22-GB023C	0.03	99.61	0.09	0.27
544LA22-GB024	1.21	97.23	0.06	1.50
544LA22-GB025A	0.12	99.09	0.04	0.75
544LA22-GB025B	0.02	98.74	0.16	1.08
544LA22-GB025C	0.02	97.59	0.15	2.24
544LA22-GB026	0.01	99.20	0.07	0.71
544LA22-GB027	0.17	96.83	0.05	2.95
544LA22-GB028A	0.42	98.34	0.04	1.19
544LA22-GB028B	0.44	98.26	0.10	1.21
544LA22-GB028C	0.34	98.50	0.04	1.12
544LA22-GB029	0.65	98.31	0.03	1.01
544LA22-GB030	0.02	99.03	0.05	0.90
544LA22-GB031A	0.70	97.73	0.08	1.49
544LA22-GB031B	0.43	98.84	0.12	0.60
544LA22-GB031C	0.14	98.54	0.26	1.06
544LA22-GB032	0.26	98.94	0.08	0.71
544LA22-GB033A	0.97	98.34	0.10	0.59
544LA22-GB033B	1.01	98.76	0.02	0.20
544LA22-GB033C	1.50	97.12	0.13	1.26
544LA22-GB034	0.99	96.32	0.14	2.55
544LA22-GB035	0.50	98.53	0.12	0.85

Appendix K: Grain Size Analysis

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB01A
Water Depth (m)	42.4

Grain Size Data

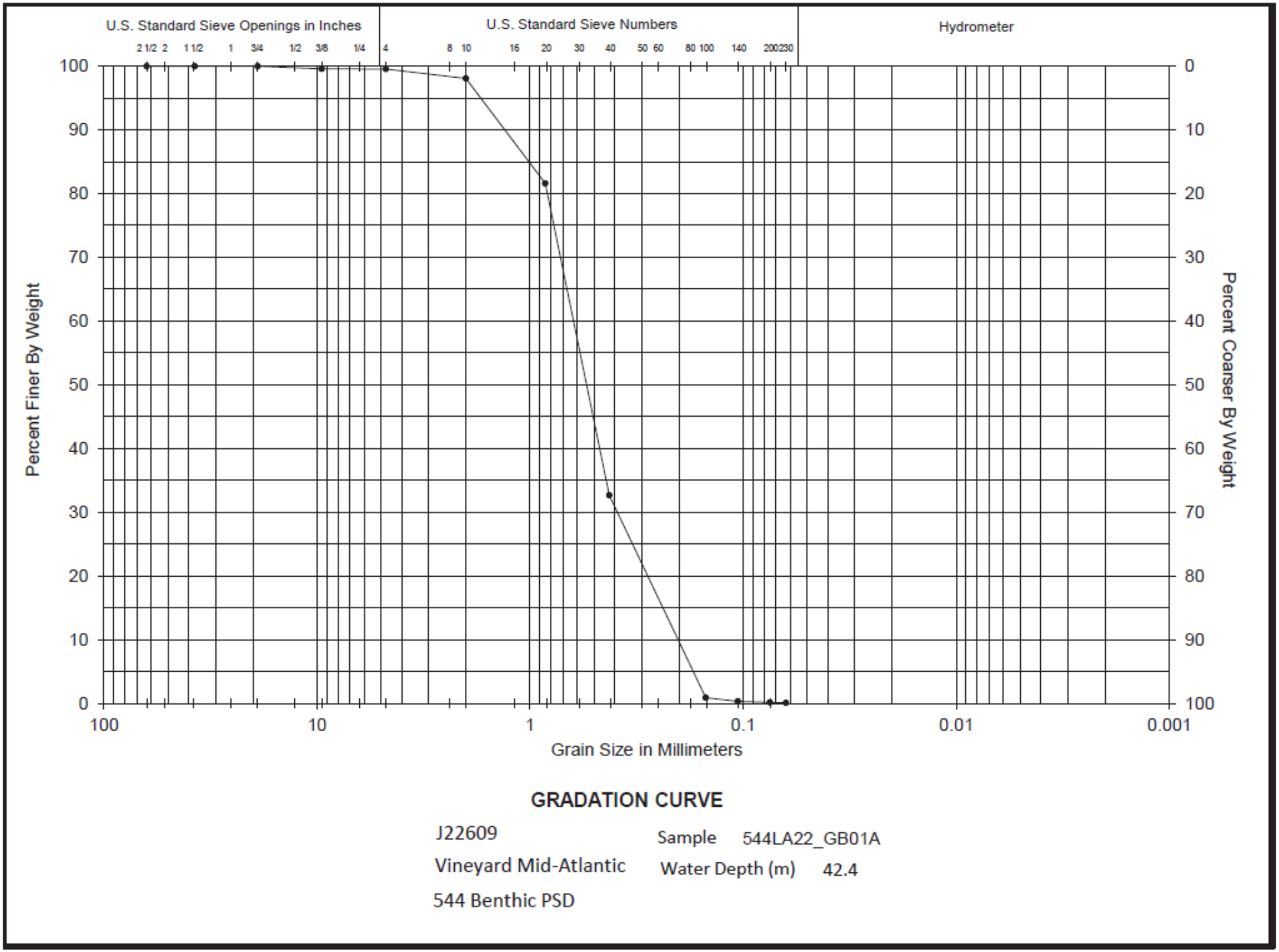
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.59	0.41	
4.75	4	99.56	0.44	
2	10	98.08	1.92	76.29
0.85	20	81.59	18.41	
0.425	40	32.67	67.33	
0.15	100	0.88	99.12	
0.106	140	0.31	99.69	
0.075	200	0.14	99.86	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.08
% Passing #230	0.08
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.46
% Gravel-Sized Shell	> 2.00 mm	1.46
% Sand	0.0625 - 2.00 mm	98.00
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	17.97
% Medium Sand	0.25 - 0.50 mm	48.92
% Fine Sand	0.0625 - 0.25 mm	32.59

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	32.67	0.425	0.88	0.150	0.202
D30	30	32.67	0.425	0.88	0.150	0.389
D50	50	81.59	0.850	32.67	0.425	0.543
D60	60	81.59	0.850	32.67	0.425	0.626

Uniformity Coefficient (Cu)	3.095
Coefficient of Curvature (Cc)	1.198



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB01A

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB01B
Water Depth (m)	42.4

Grain Size Data

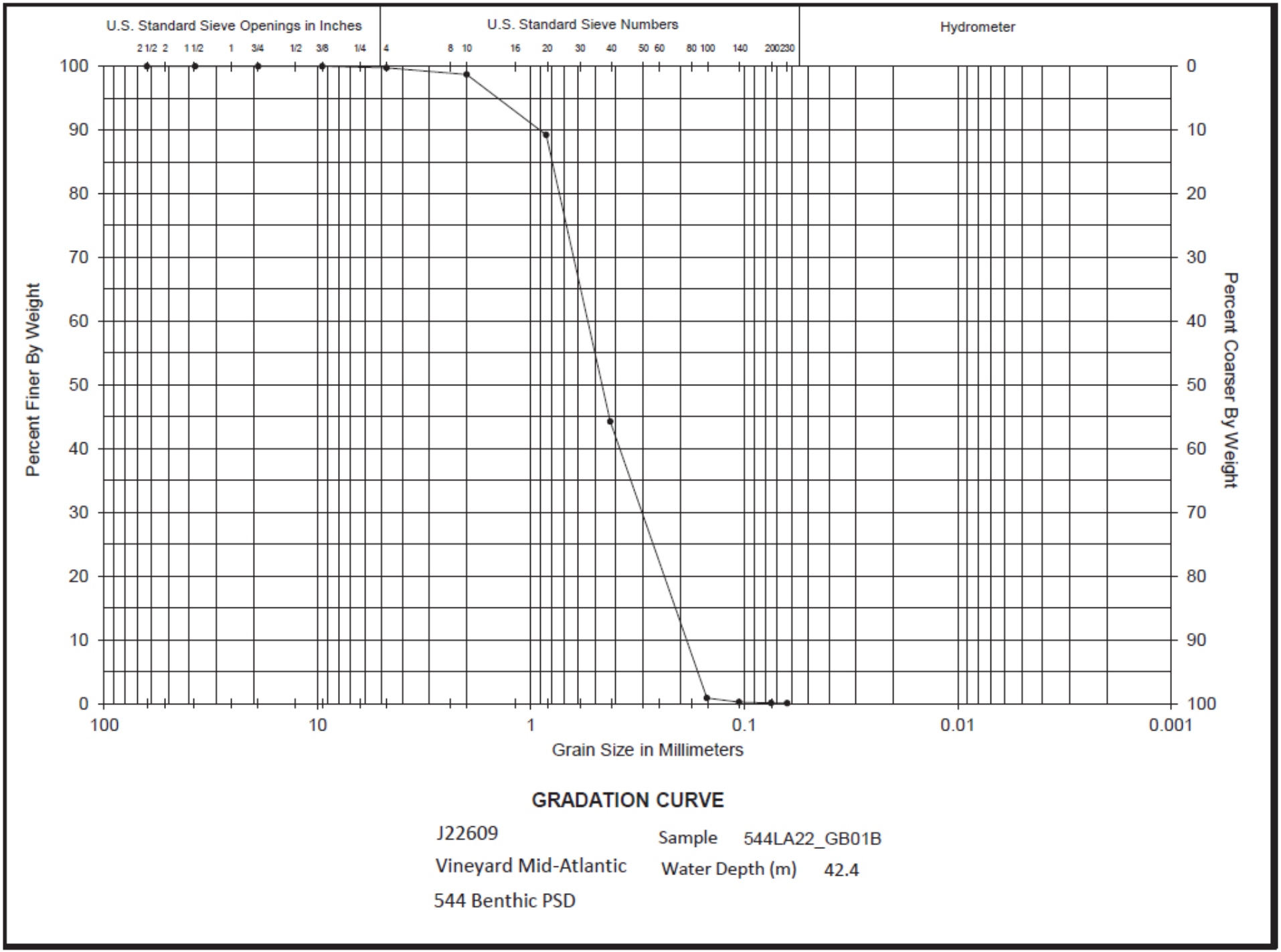
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.74	0.26	
2	10	98.71	1.29	43.48
0.85	20	89.24	10.76	
0.425	40	44.27	55.73	
0.15	100	0.86	99.14	
0.106	140	0.21	99.79	
0.075	200	0.07	99.93	
0.063	230	0.03	99.97	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.71
% Passing #230	0.03
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.73
% Gravel-Sized Shell	> 2.00 mm	0.56
% Sand	0.0625 - 2.00 mm	98.68
% Silt and Clay	< 0.0625 mm	0.03
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	10.50
% Medium Sand	0.25 - 0.50 mm	44.97
% Fine Sand	0.0625 - 0.25 mm	44.24

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	44.27	0.425	0.86	0.150	0.187
D30	30	44.27	0.425	0.86	0.150	0.302
D50	50	89.24	0.850	44.27	0.425	0.464
D60	60	89.24	0.850	44.27	0.425	0.542

Uniformity Coefficient (Cu)	2.900
Coefficient of Curvature (Cc)	0.900



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB01B

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB01C
Water Depth (m)	42.4

Grain Size Data

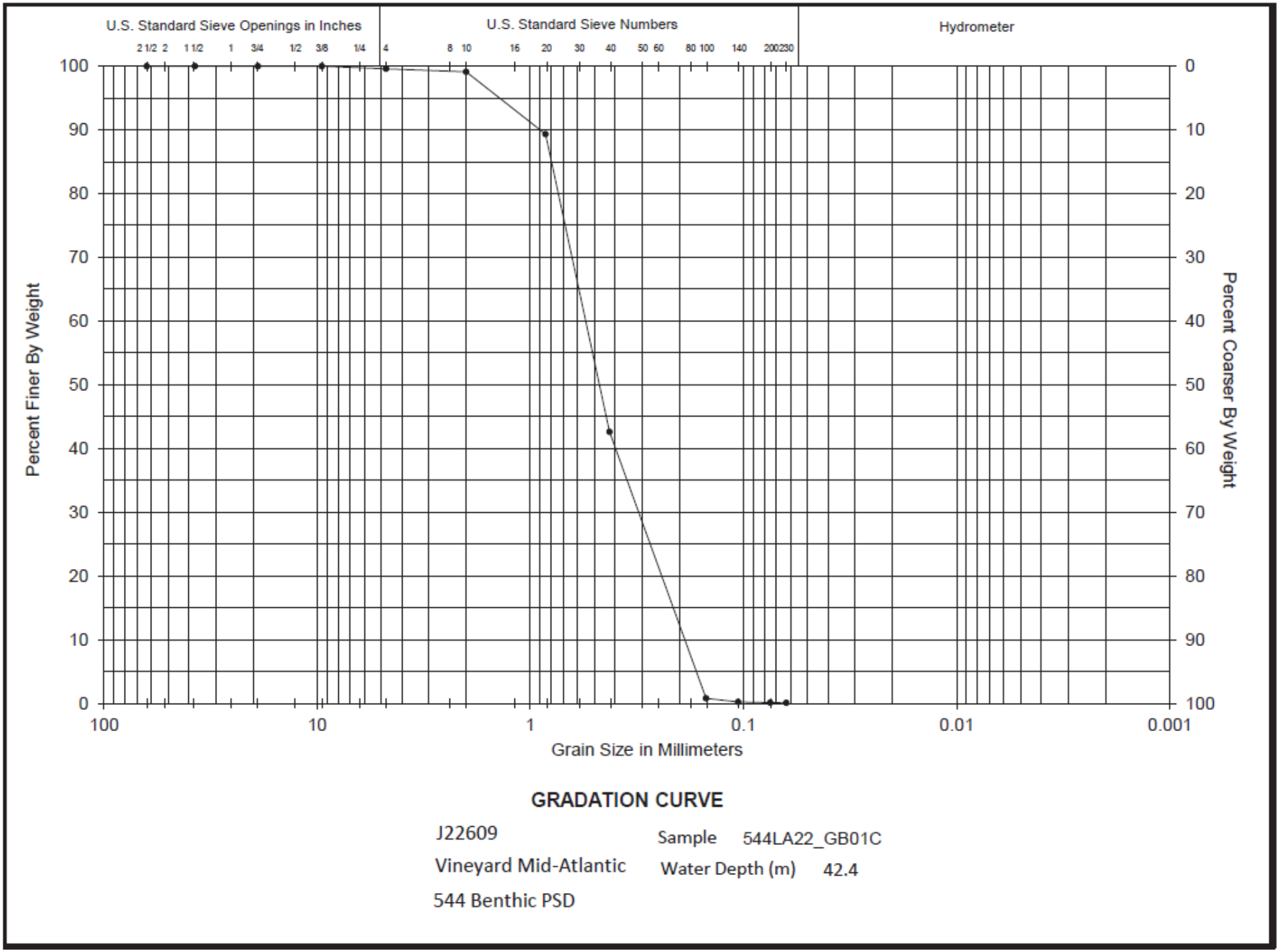
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.58	0.42	
2	10	99.11	0.89	49.44
0.85	20	89.34	10.66	
0.425	40	42.60	57.40	
0.15	100	0.77	99.23	
0.106	140	0.21	99.79	
0.075	200	0.10	99.90	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.11
% Passing #230	0.08
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.45
% Gravel-Sized Shell	> 2.00 mm	0.44
% Sand	0.0625 - 2.00 mm	99.03
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	10.25
% Medium Sand	0.25 - 0.50 mm	46.74
% Fine Sand	0.0625 - 0.25 mm	42.52

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	42.60	0.425	0.77	0.150	0.189
D30	30	42.60	0.425	0.77	0.150	0.311
D50	50	89.34	0.850	42.60	0.425	0.474
D60	60	89.34	0.850	42.60	0.425	0.550

Uniformity Coefficient (Cu)	2.914
Coefficient of Curvature (Cc)	0.929



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB01C

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB02A
Water Depth (m)	42.4

Grain Size Data

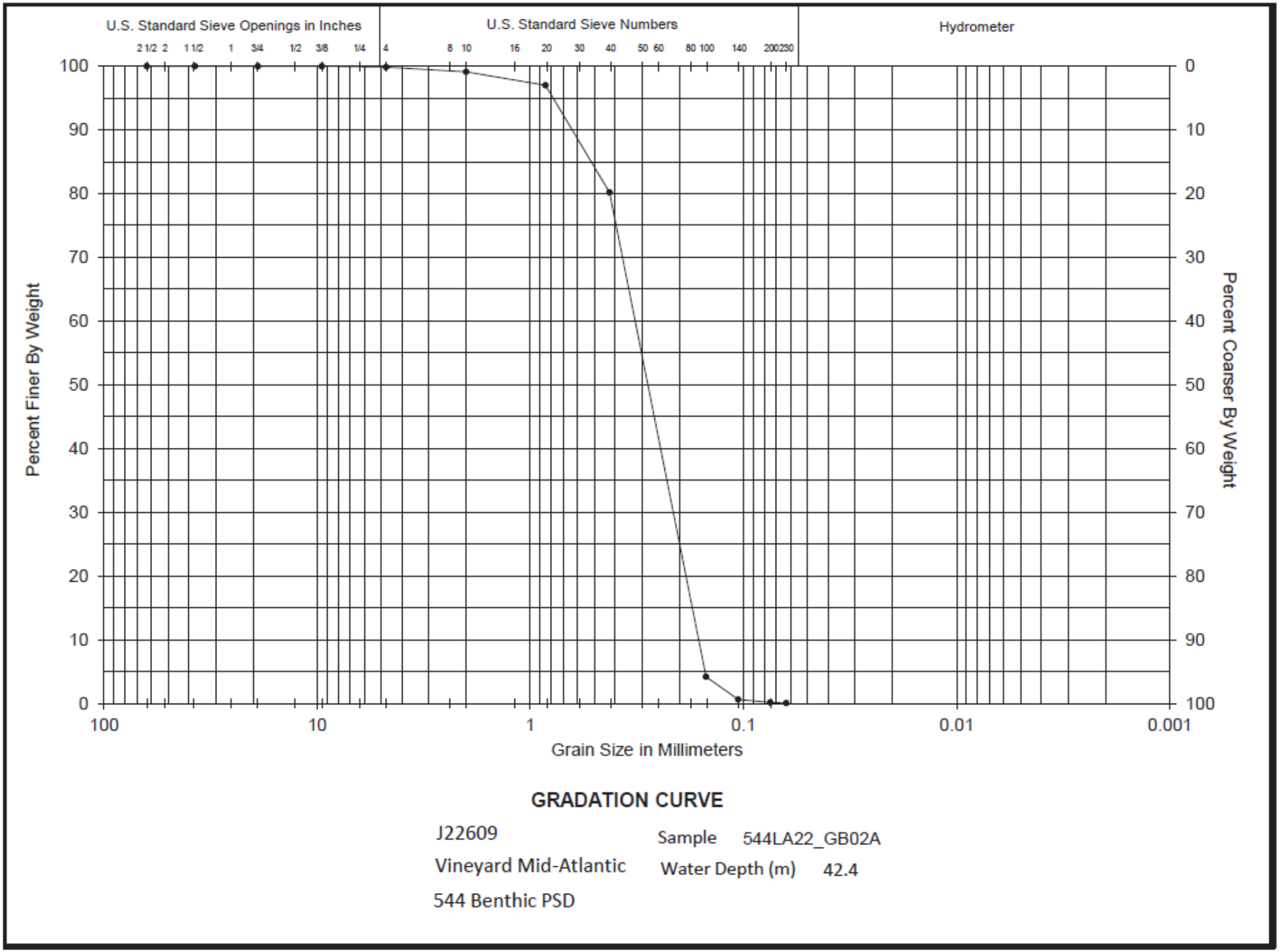
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.84	0.16	
2	10	99.11	0.89	1.31
0.85	20	97.01	2.99	
0.425	40	80.19	19.81	
0.15	100	4.17	95.83	
0.106	140	0.62	99.38	
0.075	200	0.13	99.87	
0.063	230	0.05	99.95	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.11
% Passing #230	0.05
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.88
% Gravel-Sized Shell	> 2.00 mm	0.01
% Sand	0.0625 - 2.00 mm	99.06
% Silt and Clay	< 0.0625 mm	0.05
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.83
% Medium Sand	0.25 - 0.50 mm	16.82
% Fine Sand	0.0625 - 0.25 mm	80.14

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	80.19	0.425	4.17	0.150	0.162
D30	30	80.19	0.425	4.17	0.150	0.214
D50	50	80.19	0.425	4.17	0.150	0.281
D60	60	80.19	0.425	4.17	0.150	0.322

Uniformity Coefficient (Cu)	1.984
Coefficient of Curvature (Cc)	0.872



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB02A

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB02B
Water Depth (m)	42.4

Grain Size Data

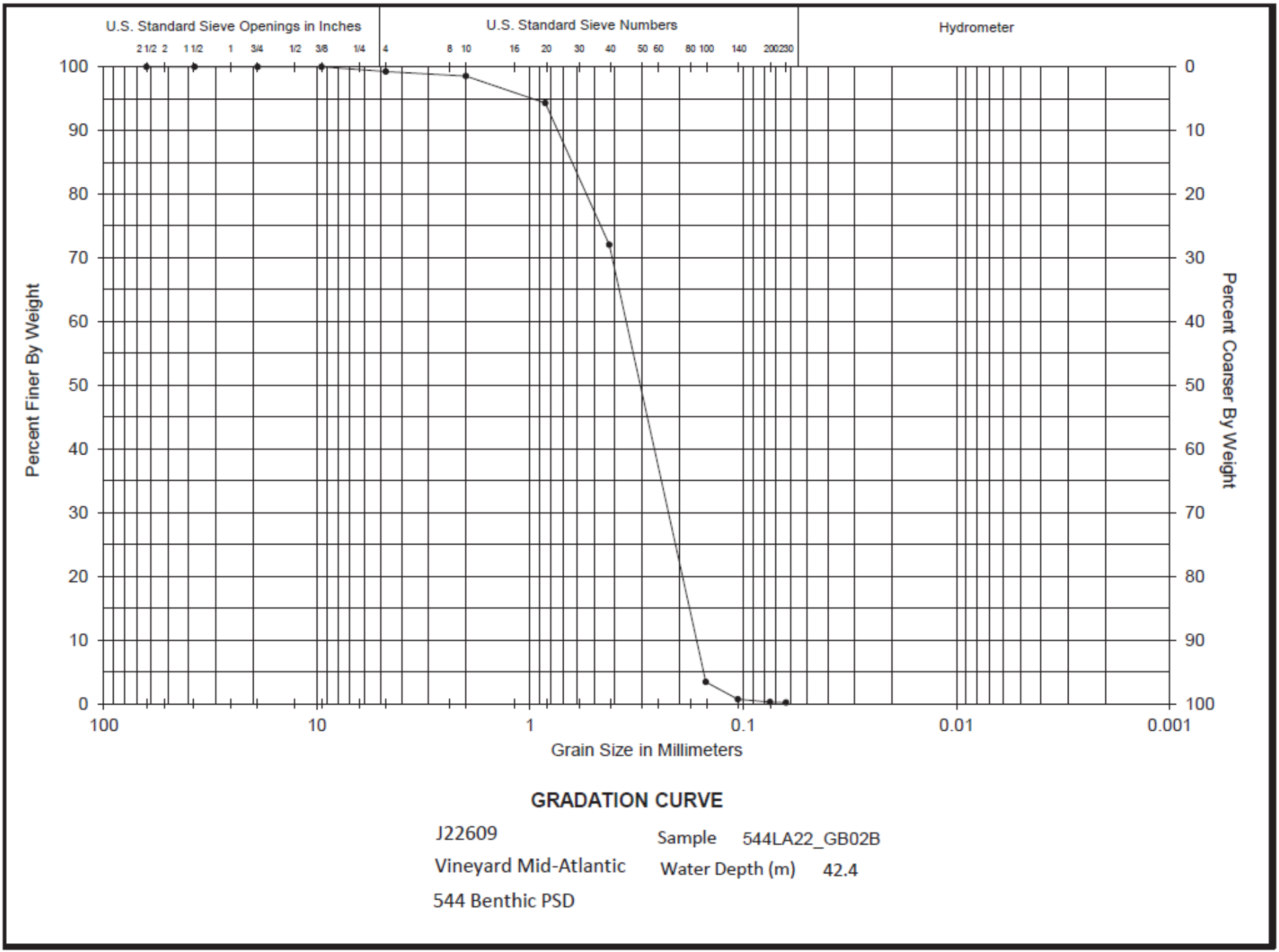
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.25	0.75	
2	10	98.56	1.44	7.84
0.85	20	94.31	5.69	
0.425	40	72.06	27.94	
0.15	100	3.42	96.58	
0.106	140	0.67	99.33	
0.075	200	0.24	99.76	
0.063	230	0.16	99.84	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.56
% Passing #230	0.16
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.33
% Gravel-Sized Shell	> 2.00 mm	0.11
% Sand	0.0625 - 2.00 mm	98.40
% Silt and Clay	< 0.0625 mm	0.16
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.93
% Medium Sand	0.25 - 0.50 mm	22.25
% Fine Sand	0.0625 - 0.25 mm	71.90

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	72.06	0.425	3.42	0.150	0.166
D30	30	72.06	0.425	3.42	0.150	0.225
D50	50	72.06	0.425	3.42	0.150	0.304
D60	60	72.06	0.425	3.42	0.150	0.354

Uniformity Coefficient (Cu)	2.135
Coefficient of Curvature (Cc)	0.859



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB02B

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB02C
Water Depth (m)	42.4

Grain Size Data

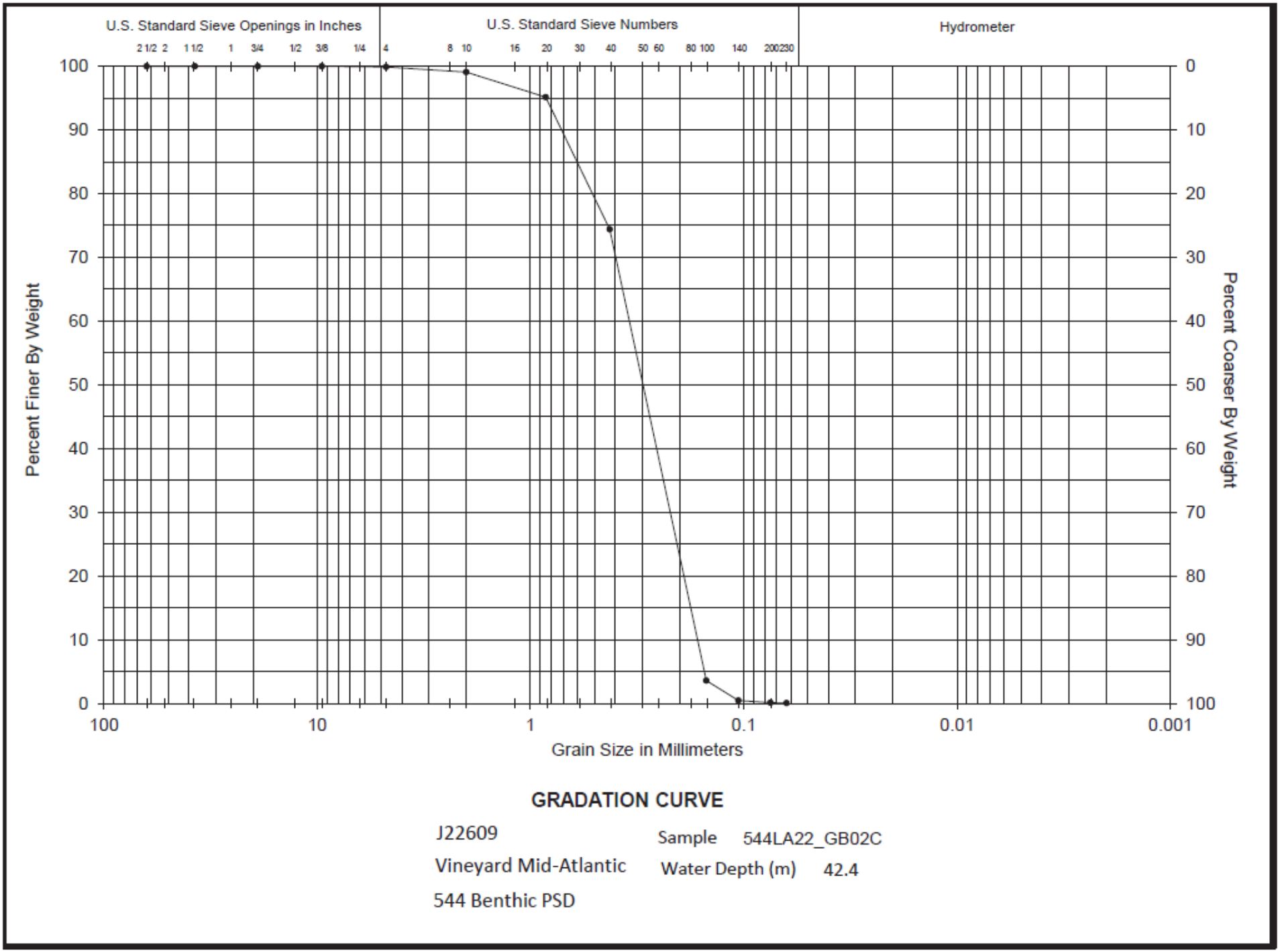
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.88	0.12	
2	10	99.08	0.92	20.86
0.85	20	95.15	4.85	
0.425	40	74.40	25.60	
0.15	100	3.57	96.43	
0.106	140	0.44	99.56	
0.075	200	0.10	99.90	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.08
% Passing #230	0.04
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.72
% Gravel-Sized Shell	> 2.00 mm	0.19
% Sand	0.0625 - 2.00 mm	99.04
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.73
% Medium Sand	0.25 - 0.50 mm	20.75
% Fine Sand	0.0625 - 0.25 mm	74.35

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	74.40	0.425	3.57	0.150	0.165
D30	30	74.40	0.425	3.57	0.150	0.221
D50	50	74.40	0.425	3.57	0.150	0.297
D60	60	74.40	0.425	3.57	0.150	0.344

Uniformity Coefficient (Cu)	2.086
Coefficient of Curvature (Cc)	0.863



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB02C

Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB03
Water Depth (m)	42.4

Grain Size Data

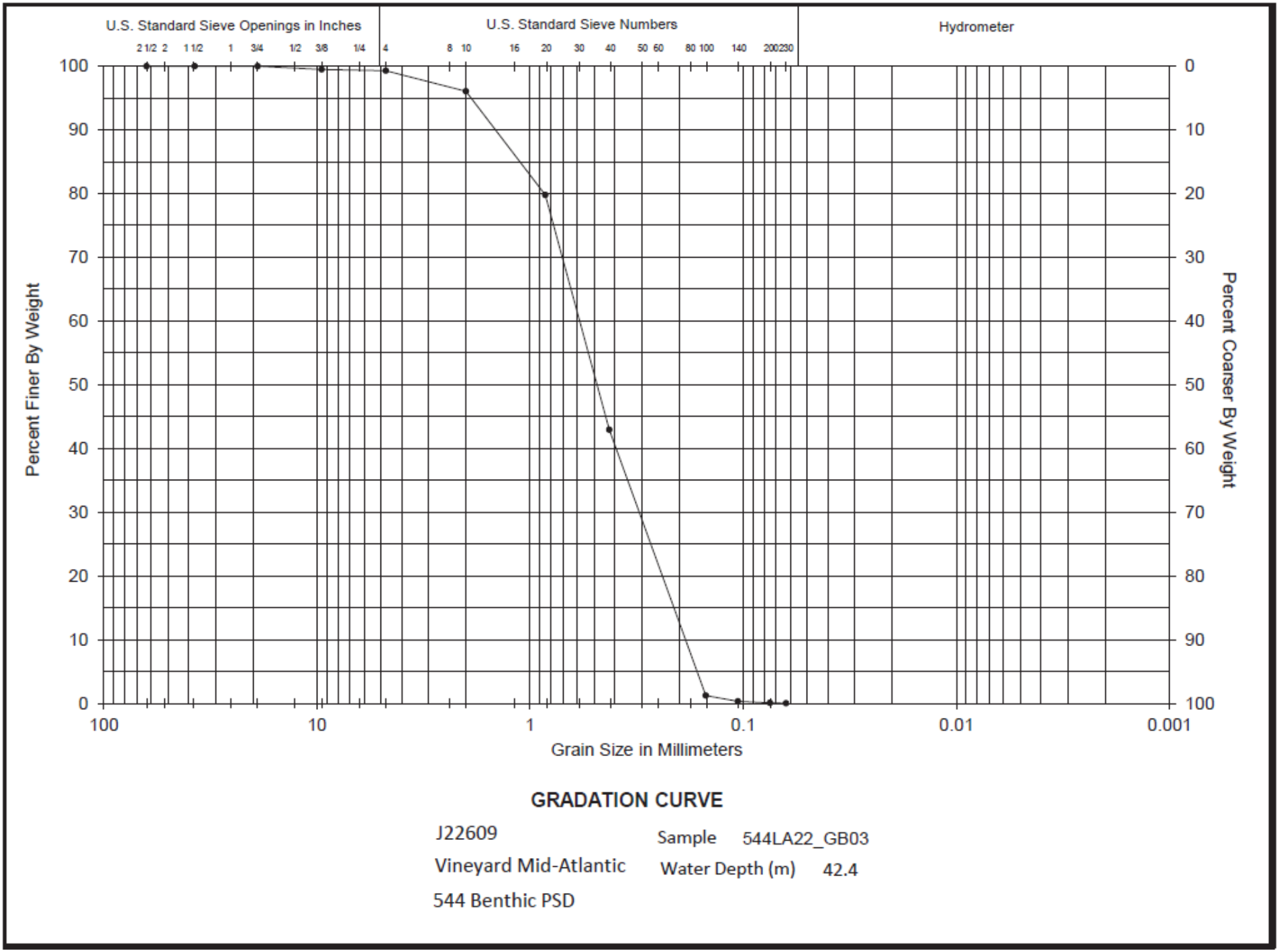
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.48	0.52	
4.75	4	99.28	0.72	
2	10	96.05	3.95	35.47
0.85	20	79.80	20.20	
0.425	40	42.95	57.05	
0.15	100	1.21	98.79	
0.106	140	0.32	99.68	
0.075	200	0.07	99.93	
0.063	230	0.02	99.98	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.05
% Passing #230	0.02
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	2.55
% Gravel-Sized Shell	> 2.00 mm	1.40
% Sand	0.0625 - 2.00 mm	96.03
% Silt and Clay	< 0.0625 mm	0.02
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	19.48
% Medium Sand	0.25 - 0.50 mm	36.85
% Fine Sand	0.0625 - 0.25 mm	42.93

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	42.95	0.425	1.21	0.150	0.187
D30	30	42.95	0.425	1.21	0.150	0.308
D50	50	79.80	0.850	42.95	0.425	0.485
D60	60	79.80	0.850	42.95	0.425	0.586

Uniformity Coefficient (Cu)	3.135
Coefficient of Curvature (Cc)	0.865



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB03
Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB04
Water Depth (m)	40.2

Grain Size Data

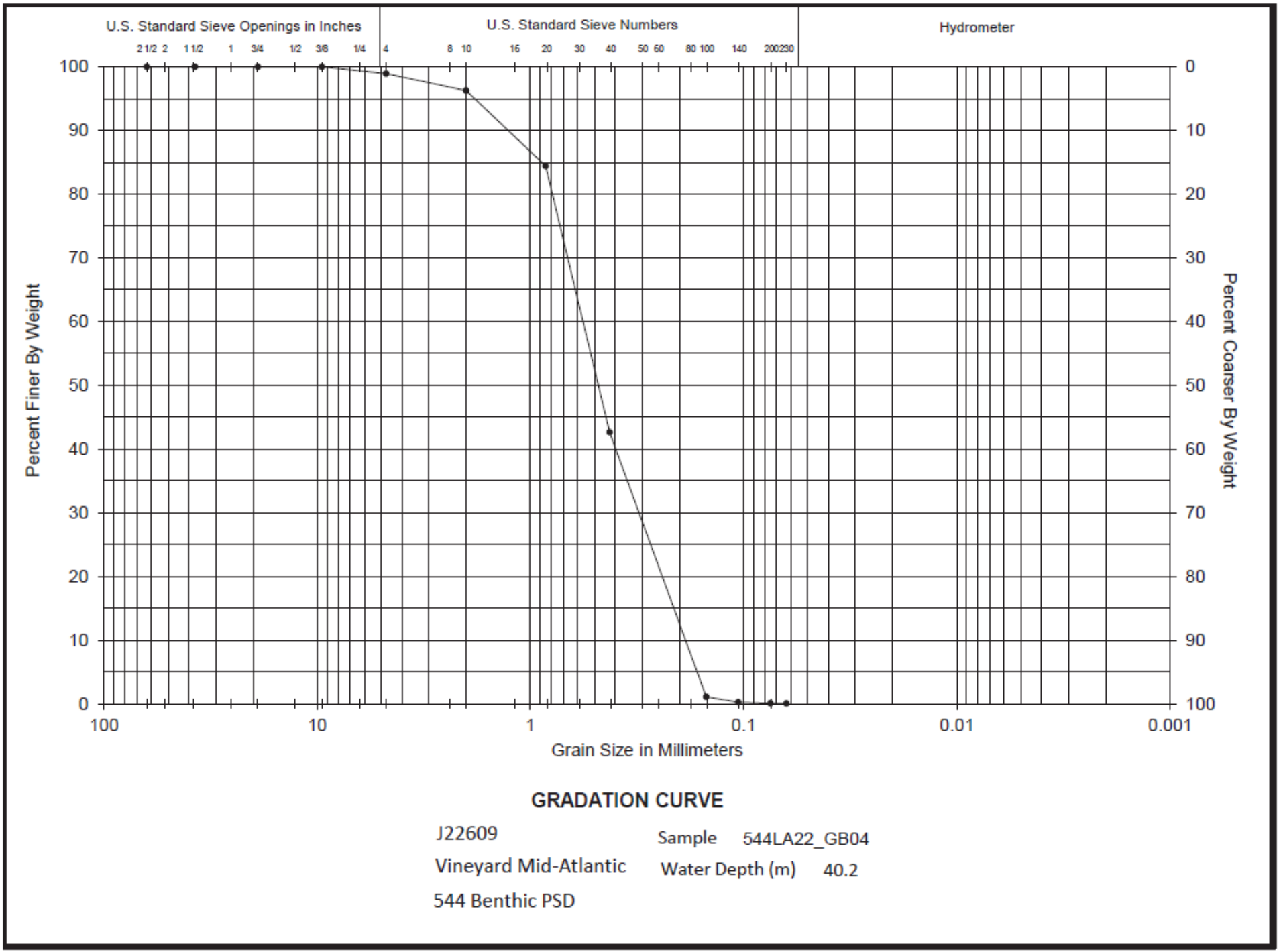
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.93	1.07	
2	10	96.24	3.76	5.81
0.85	20	84.41	15.59	
0.425	40	42.61	57.39	
0.15	100	1.07	98.93	
0.106	140	0.24	99.76	
0.075	200	0.06	99.94	
0.063	230	0.03	99.97	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.24
% Passing #230	0.03
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	3.54
% Gravel-Sized Shell	> 2.00 mm	0.22
% Sand	0.0625 - 2.00 mm	96.21
% Silt and Clay	< 0.0625 mm	0.03
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	14.52
% Medium Sand	0.25 - 0.50 mm	41.80
% Fine Sand	0.0625 - 0.25 mm	42.58

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	42.61	0.425	1.07	0.150	0.188
D30	30	42.61	0.425	1.07	0.150	0.310
D50	50	84.41	0.850	42.61	0.425	0.480
D60	60	84.41	0.850	42.61	0.425	0.567

Uniformity Coefficient (Cu)	3.022
Coefficient of Curvature (Cc)	0.902



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB04
Water Depth (m) 40.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB05
Water Depth (m)	43.1

Grain Size Data

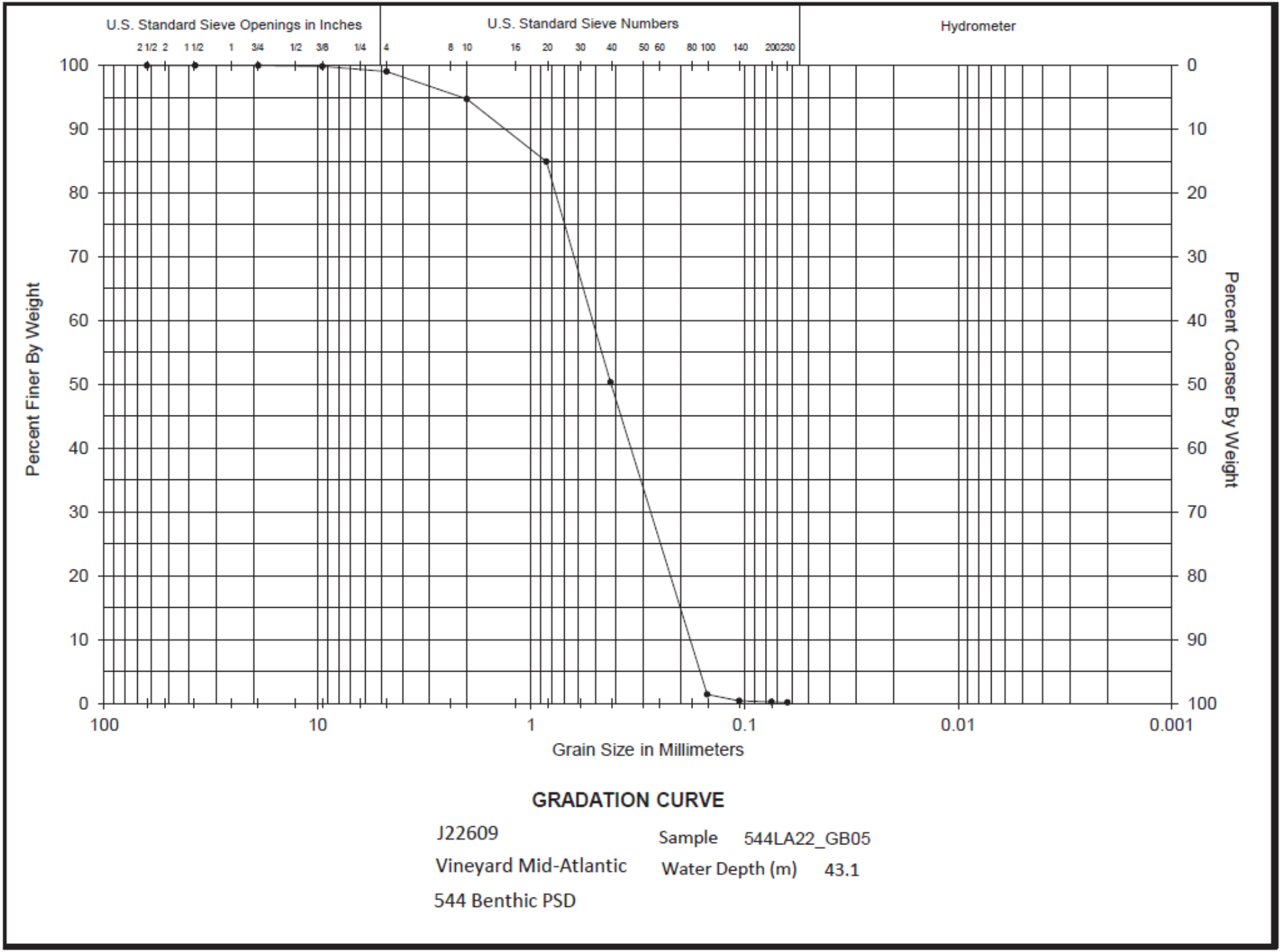
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.84	0.16	
4.75	4	99.04	0.96	
2	10	94.76	5.24	23.14
0.85	20	84.92	15.08	
0.425	40	50.35	49.65	
0.15	100	1.37	98.63	
0.106	140	0.37	99.63	
0.075	200	0.20	99.80	
0.063	230	0.15	99.85	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	94.76
% Passing #230	0.15
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	4.03
% Gravel-Sized Shell	> 2.00 mm	1.21
% Sand	0.0625 - 2.00 mm	94.60
% Silt and Clay	< 0.0625 mm	0.15
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	14.12
% Medium Sand	0.25 - 0.50 mm	34.57
% Fine Sand	0.0625 - 0.25 mm	50.20

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	50.35	0.425	1.37	0.150	0.180
D30	30	50.35	0.425	1.37	0.150	0.276
D50	50	50.35	0.425	1.37	0.150	0.422
D60	60	84.92	0.850	50.35	0.425	0.516

Uniformity Coefficient (Cu)	2.862
Coefficient of Curvature (Cc)	0.818



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB05
Water Depth (m) 43.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB06A
Water Depth (m)	43.5

Grain Size Data

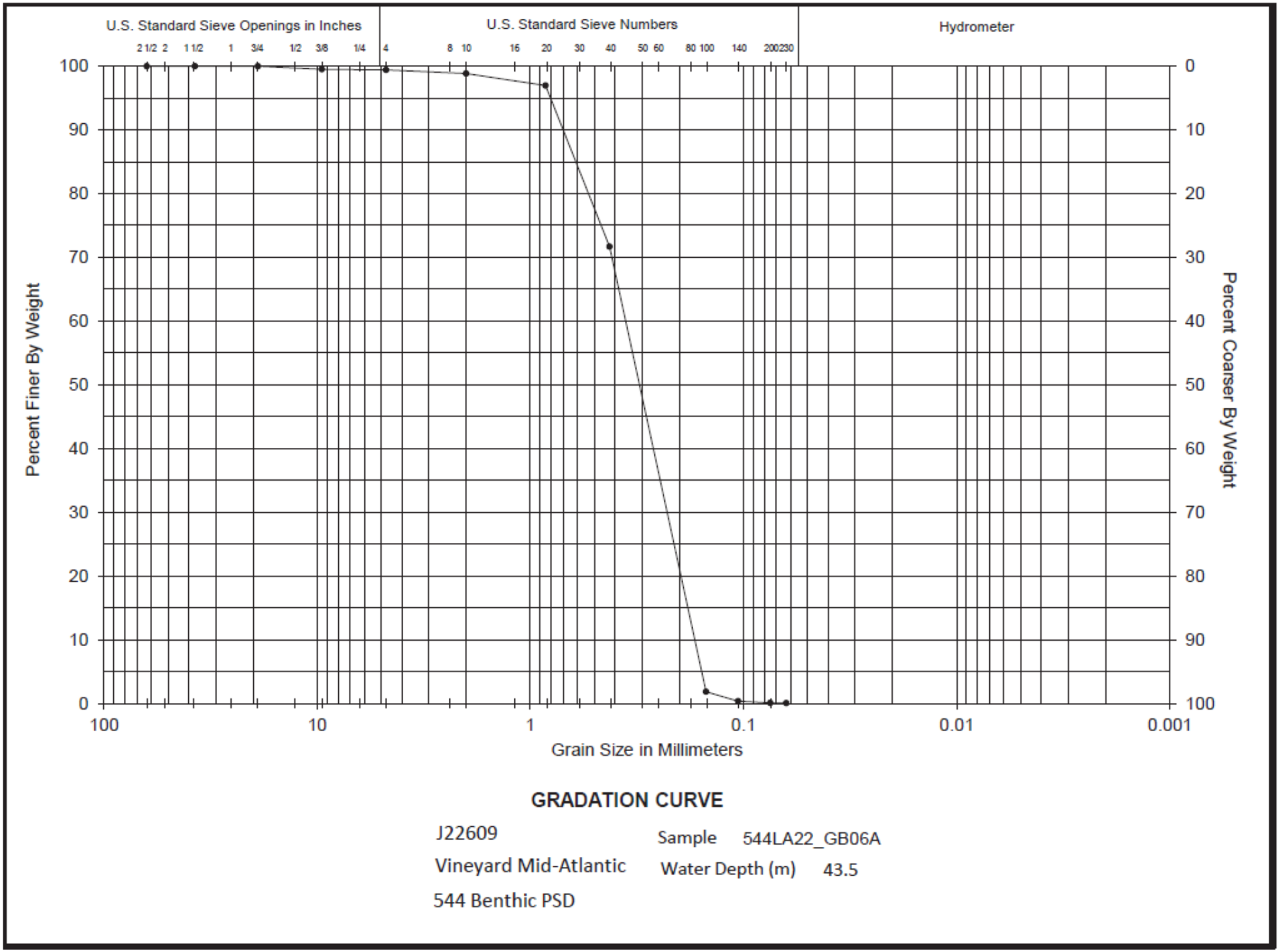
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.51	0.49	
4.75	4	99.40	0.60	
2	10	98.83	1.17	98.68
0.85	20	96.95	3.05	
0.425	40	71.67	28.33	
0.15	100	1.84	98.16	
0.106	140	0.35	99.65	
0.075	200	0.08	99.92	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.83
% Passing #230	0.04
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	1.15
% Sand	0.0625 - 2.00 mm	98.79
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.45
% Medium Sand	0.25 - 0.50 mm	25.28
% Fine Sand	0.0625 - 0.25 mm	71.63

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	71.67	0.425	1.84	0.150	0.169
D30	30	71.67	0.425	1.84	0.150	0.228
D50	50	71.67	0.425	1.84	0.150	0.308
D60	60	71.67	0.425	1.84	0.150	0.357

Uniformity Coefficient (Cu)	2.108
Coefficient of Curvature (Cc)	0.861



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB06A

Water Depth (m) 43.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB06B
Water Depth (m)	43.5

Grain Size Data

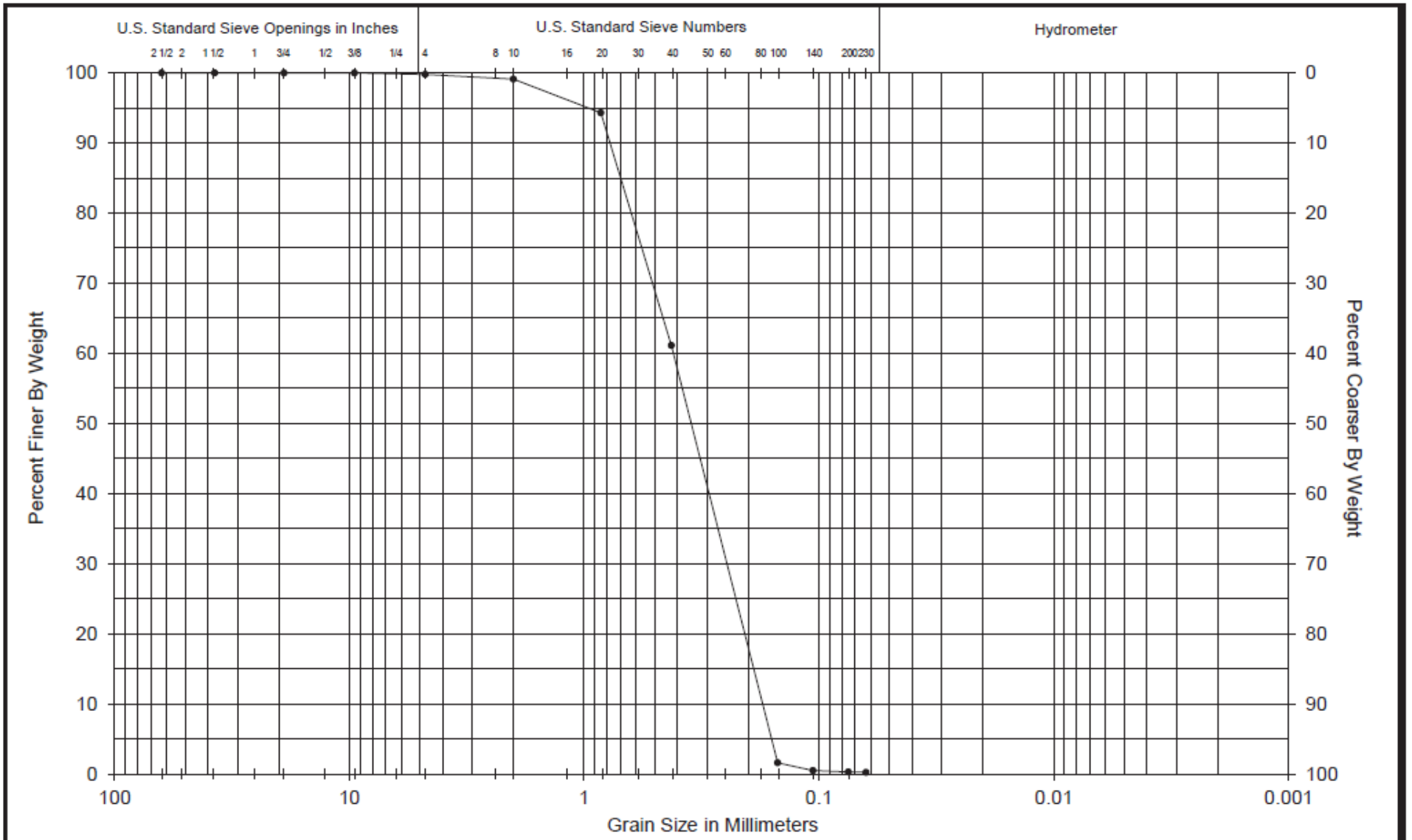
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.78	0.22	
2	10	99.11	0.89	66.04
0.85	20	94.31	5.69	
0.425	40	61.13	38.87	
0.15	100	1.60	98.40	
0.106	140	0.47	99.53	
0.075	200	0.27	99.73	
0.063	230	0.22	99.78	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.11
% Passing #230	0.22
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.30
% Gravel-Sized Shell	> 2.00 mm	0.59
% Sand	0.0625 - 2.00 mm	98.88
% Silt and Clay	< 0.0625 mm	0.22
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	5.47
% Medium Sand	0.25 - 0.50 mm	33.18
% Fine Sand	0.0625 - 0.25 mm	60.91

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	61.13	0.425	1.60	0.150	0.174
D30	30	61.13	0.425	1.60	0.150	0.247
D50	50	61.13	0.425	1.60	0.150	0.350
D60	60	61.13	0.425	1.60	0.150	0.417

Uniformity Coefficient (Cu)	2.398
Coefficient of Curvature (Cc)	0.839



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB06B

Water Depth (m) 43.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB06C
Water Depth (m)	43.5

Grain Size Data

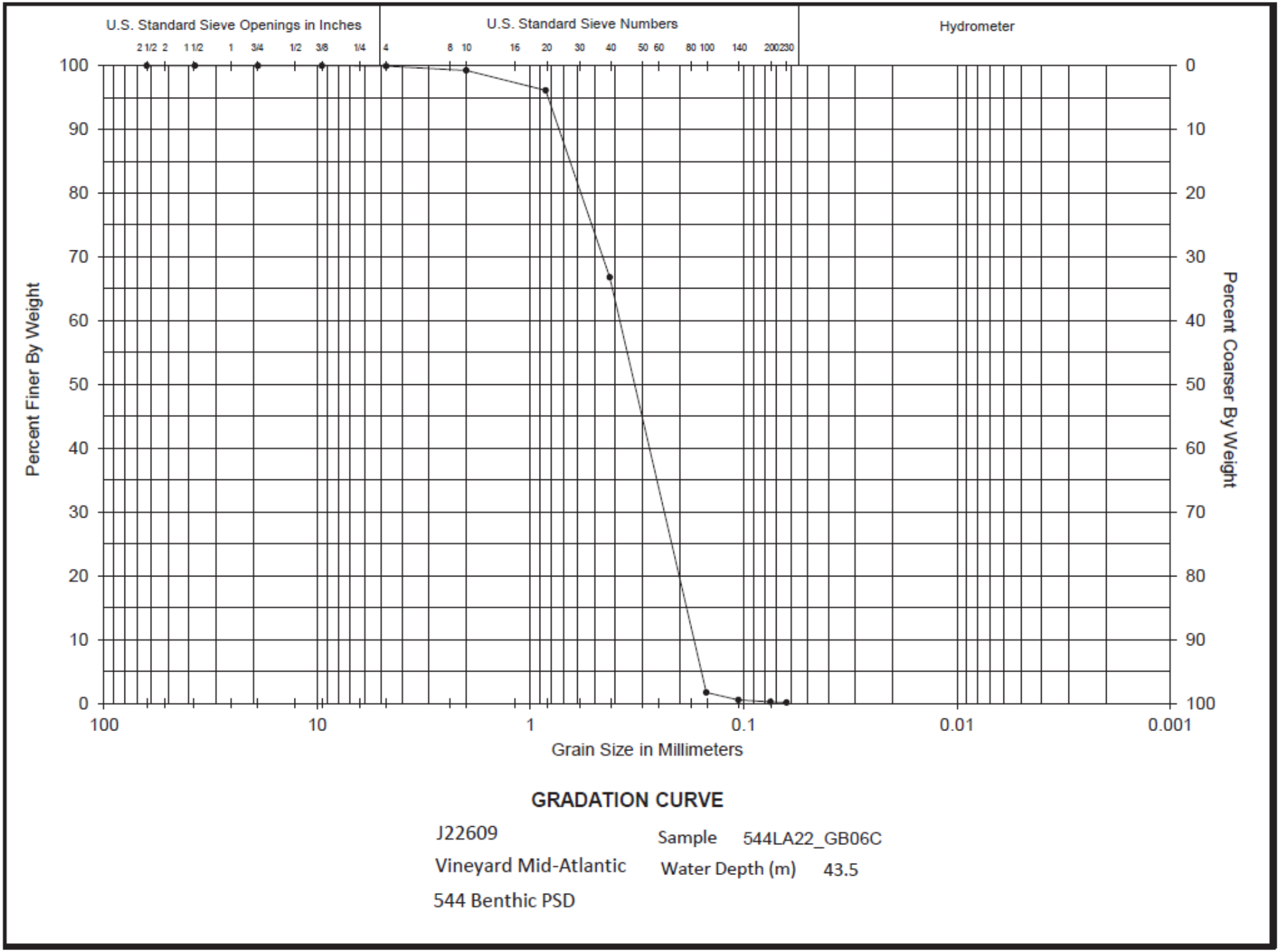
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.94	0.06	
2	10	99.26	0.74	95.68
0.85	20	96.14	3.86	
0.425	40	66.81	33.19	
0.15	100	1.70	98.30	
0.106	140	0.53	99.47	
0.075	200	0.21	99.79	
0.063	230	0.11	99.89	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.26
% Passing #230	0.11
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.71
% Sand	0.0625 - 2.00 mm	99.15
% Silt and Clay	< 0.0625 mm	0.11
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.80
% Medium Sand	0.25 - 0.50 mm	29.33
% Fine Sand	0.0625 - 0.25 mm	66.70

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	66.81	0.425	1.70	0.150	0.171
D30	30	66.81	0.425	1.70	0.150	0.236
D50	50	66.81	0.425	1.70	0.150	0.325
D60	60	66.81	0.425	1.70	0.150	0.381

Uniformity Coefficient (Cu)	2.225
Coefficient of Curvature (Cc)	0.852



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB06C
Water Depth (m) 43.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB07A
Water Depth (m)	40.9

Grain Size Data

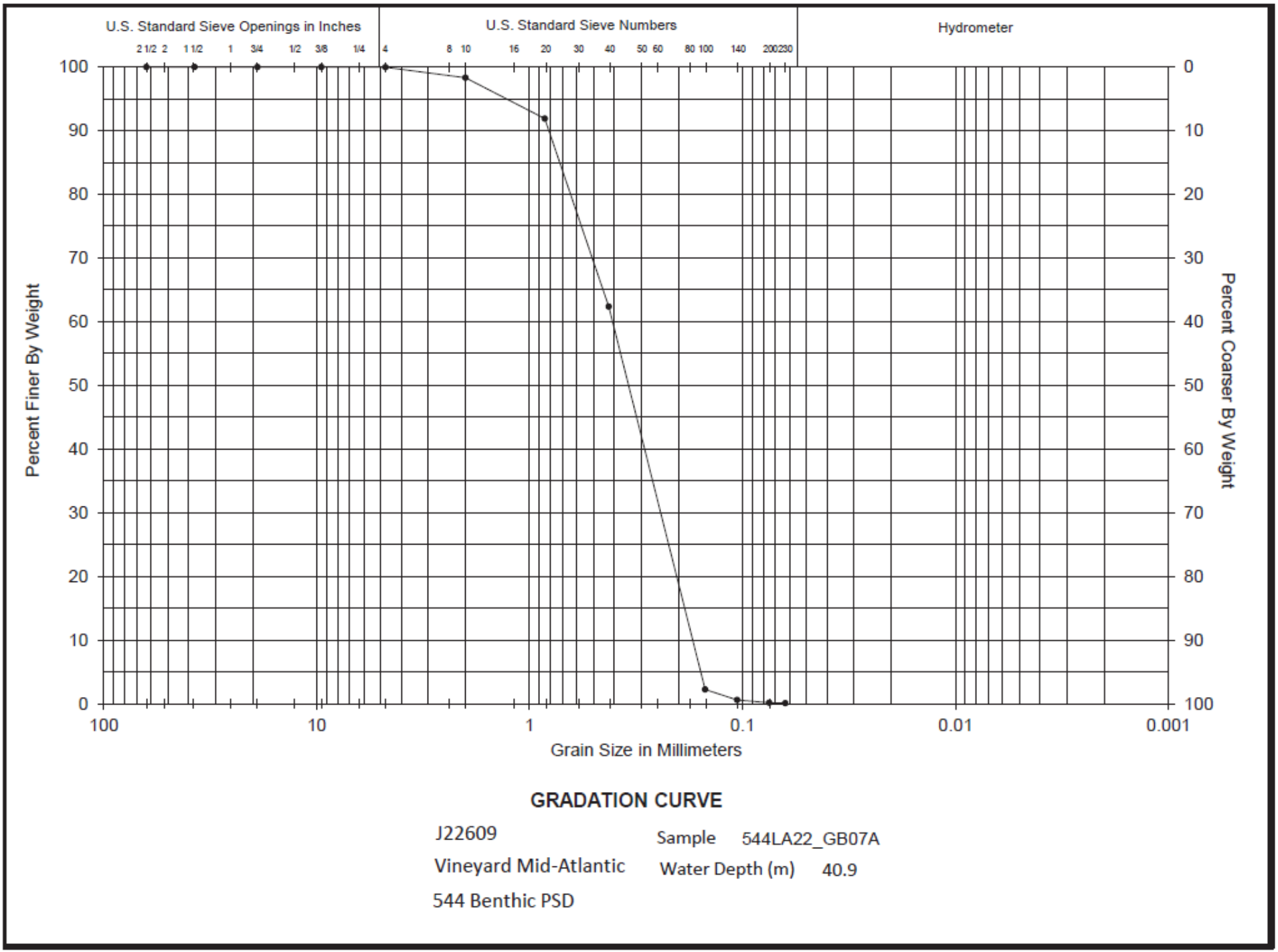
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	98.29	1.71	34.53
0.85	20	91.90	8.10	
0.425	40	62.38	37.62	
0.15	100	2.22	97.78	
0.106	140	0.57	99.43	
0.075	200	0.16	99.84	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.29
% Passing #230	0.08
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.12
% Gravel-Sized Shell	> 2.00 mm	0.59
% Sand	0.0625 - 2.00 mm	98.22
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.07
% Medium Sand	0.25 - 0.50 mm	29.52
% Fine Sand	0.0625 - 0.25 mm	62.30

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	62.38	0.425	2.22	0.150	0.172
D30	30	62.38	0.425	2.22	0.150	0.243
D50	50	62.38	0.425	2.22	0.150	0.343
D60	60	62.38	0.425	2.22	0.150	0.408

Uniformity Coefficient (Cu)	2.376
Coefficient of Curvature (Cc)	0.841



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB07A

Water Depth (m) 40.9

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB07B
Water Depth (m)	40.9

Grain Size Data

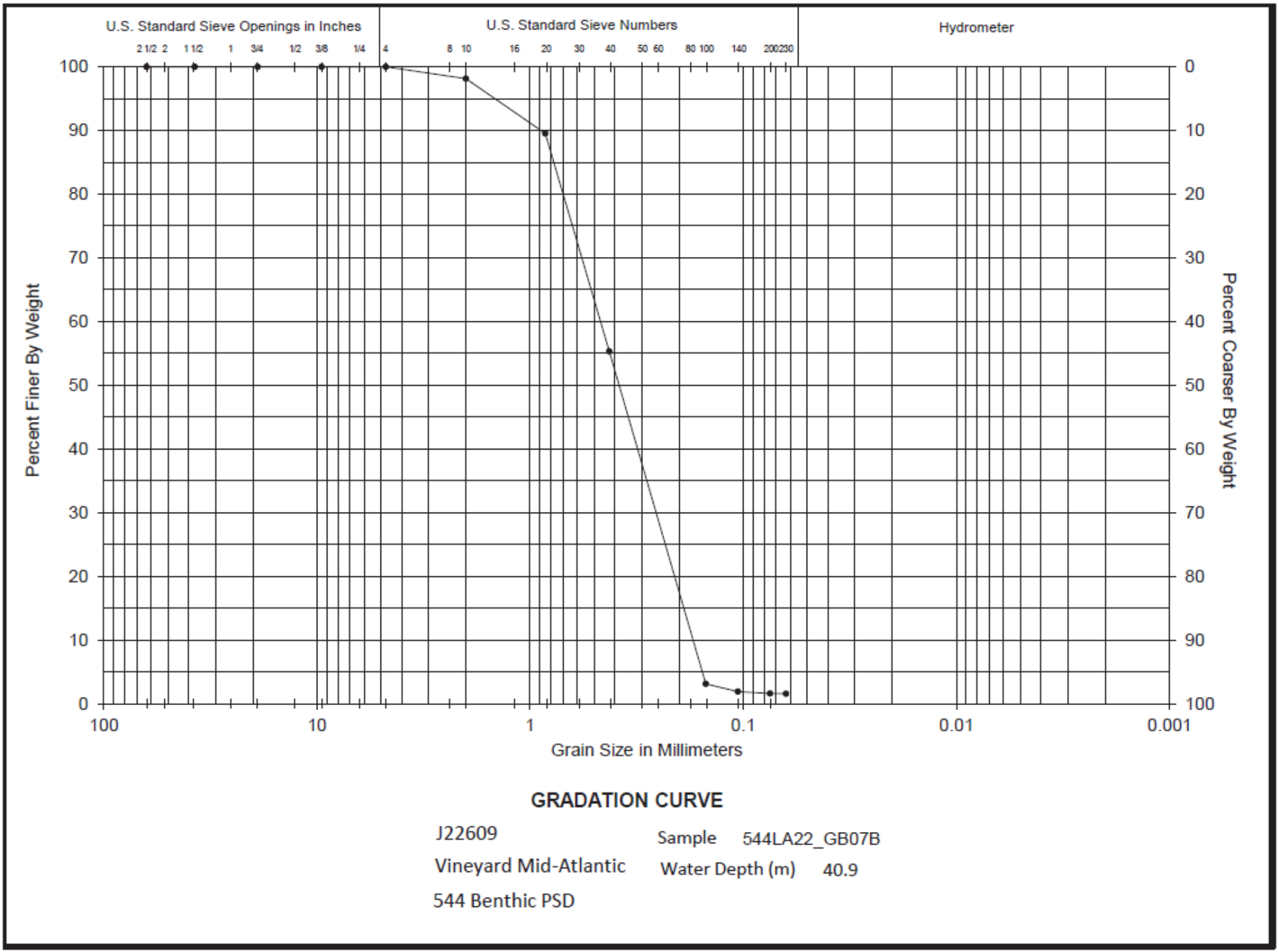
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	98.14	1.86	60.57
0.85	20	89.53	10.47	
0.425	40	55.31	44.69	
0.15	100	3.10	96.90	
0.106	140	1.90	98.10	
0.075	200	1.60	98.40	
0.063	230	1.55	98.45	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.14
% Passing #230	1.55
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.74
% Gravel-Sized Shell	> 2.00 mm	1.13
% Sand	0.0625 - 2.00 mm	96.59
% Silt and Clay	< 0.0625 mm	1.55
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	10.47
% Medium Sand	0.25 - 0.50 mm	34.21
% Fine Sand	0.0625 - 0.25 mm	53.76

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	55.31	0.425	3.10	0.150	0.172
D30	30	55.31	0.425	3.10	0.150	0.257
D50	50	55.31	0.425	3.10	0.150	0.382
D60	60	89.53	0.850	55.31	0.425	0.467

Uniformity Coefficient (Cu)	2.715
Coefficient of Curvature (Cc)	0.818



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB07B

Water Depth (m) 40.9

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB07C
Water Depth (m)	40.9

Grain Size Data

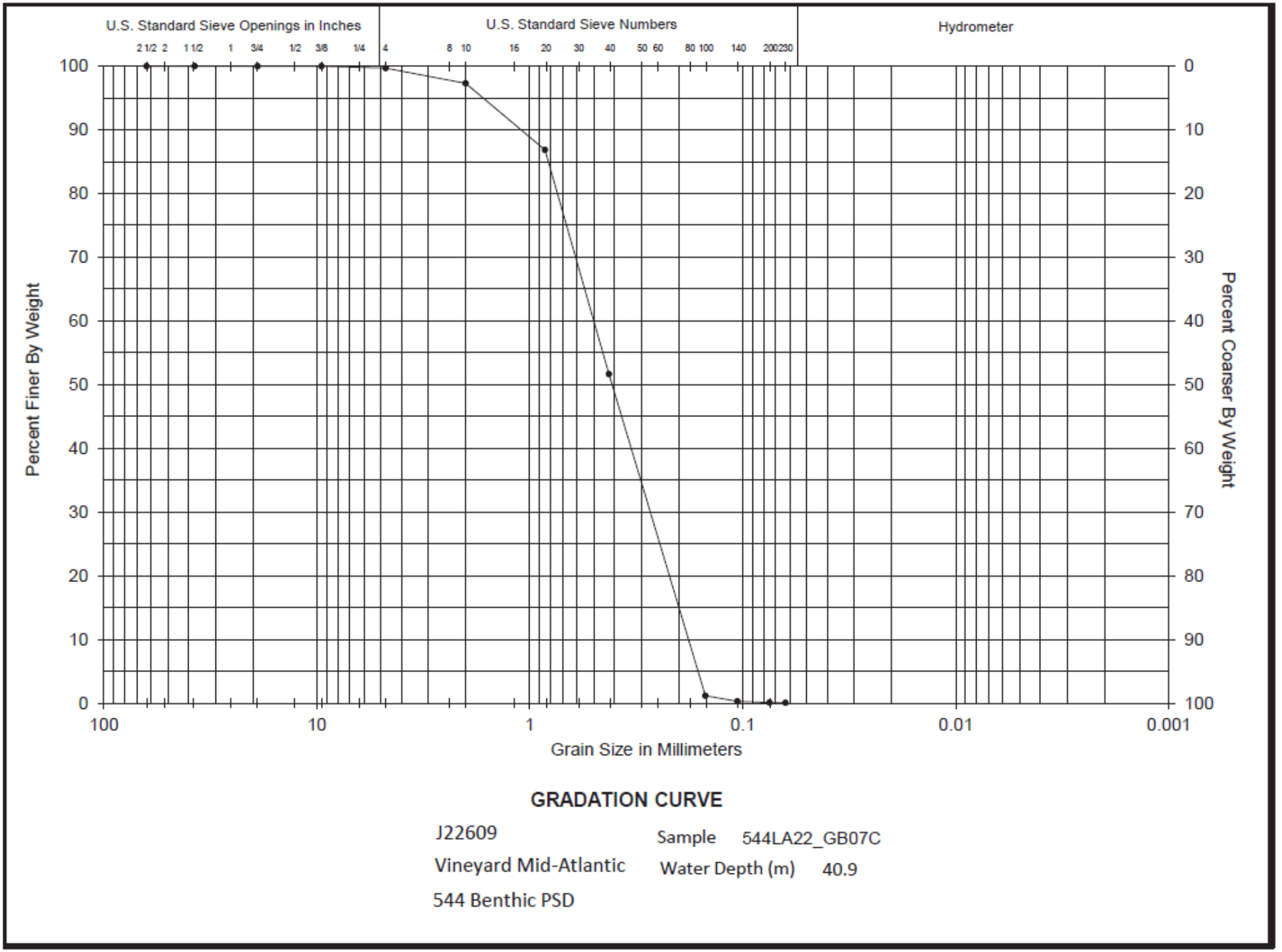
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.69	0.31	
2	10	97.30	2.70	41.90
0.85	20	86.83	13.17	
0.425	40	51.66	48.34	
0.15	100	1.16	98.84	
0.106	140	0.28	99.72	
0.075	200	0.09	99.91	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.30
% Passing #230	0.04
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.57
% Gravel-Sized Shell	> 2.00 mm	1.13
% Sand	0.0625 - 2.00 mm	97.26
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	12.86
% Medium Sand	0.25 - 0.50 mm	35.17
% Fine Sand	0.0625 - 0.25 mm	51.62

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	51.66	0.425	1.16	0.150	0.180
D30	30	51.66	0.425	1.16	0.150	0.272
D50	50	51.66	0.425	1.16	0.150	0.411
D60	60	86.83	0.850	51.66	0.425	0.501

Uniformity Coefficient (Cu)	2.783
Coefficient of Curvature (Cc)	0.820



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB07C

Water Depth (m) 40.9

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB08
Water Depth (m)	42.3

Grain Size Data

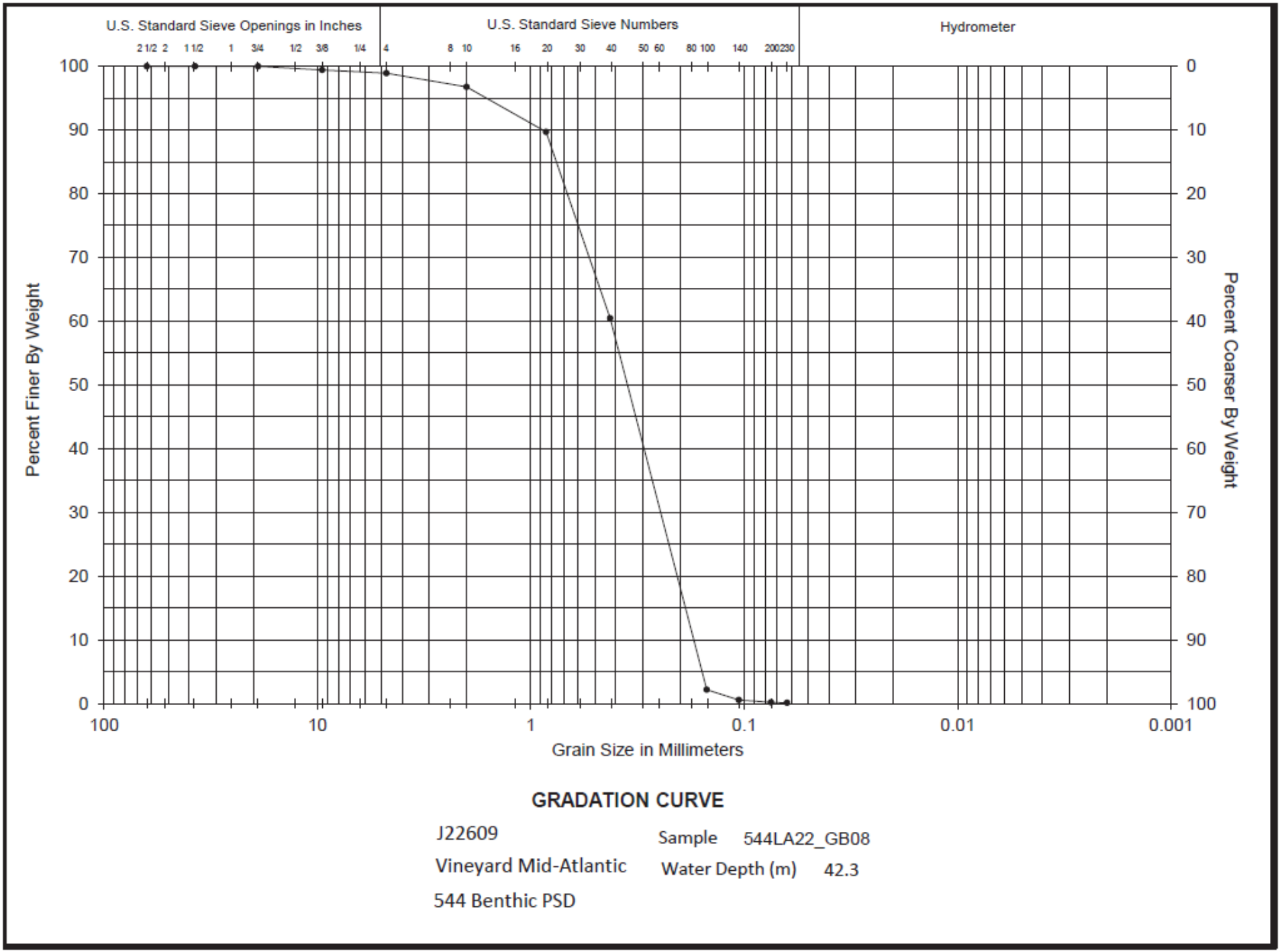
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.41	0.59	
4.75	4	98.92	1.08	
2	10	96.78	3.22	90.48
0.85	20	89.72	10.28	
0.425	40	60.46	39.54	
0.15	100	2.16	97.84	
0.106	140	0.54	99.46	
0.075	200	0.17	99.83	
0.063	230	0.10	99.90	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.78
% Passing #230	0.10
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.31
% Gravel-Sized Shell	> 2.00 mm	2.92
% Sand	0.0625 - 2.00 mm	96.68
% Silt and Clay	< 0.0625 mm	0.10
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	9.20
% Medium Sand	0.25 - 0.50 mm	29.26
% Fine Sand	0.0625 - 0.25 mm	60.36

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	60.46	0.425	2.16	0.150	0.173
D30	30	60.46	0.425	2.16	0.150	0.247
D50	50	60.46	0.425	2.16	0.150	0.353
D60	60	60.46	0.425	2.16	0.150	0.422

Uniformity Coefficient (Cu)	2.443
Coefficient of Curvature (Cc)	0.836



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB08

Water Depth (m) 42.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB09A
Water Depth (m)	43.2

Grain Size Data

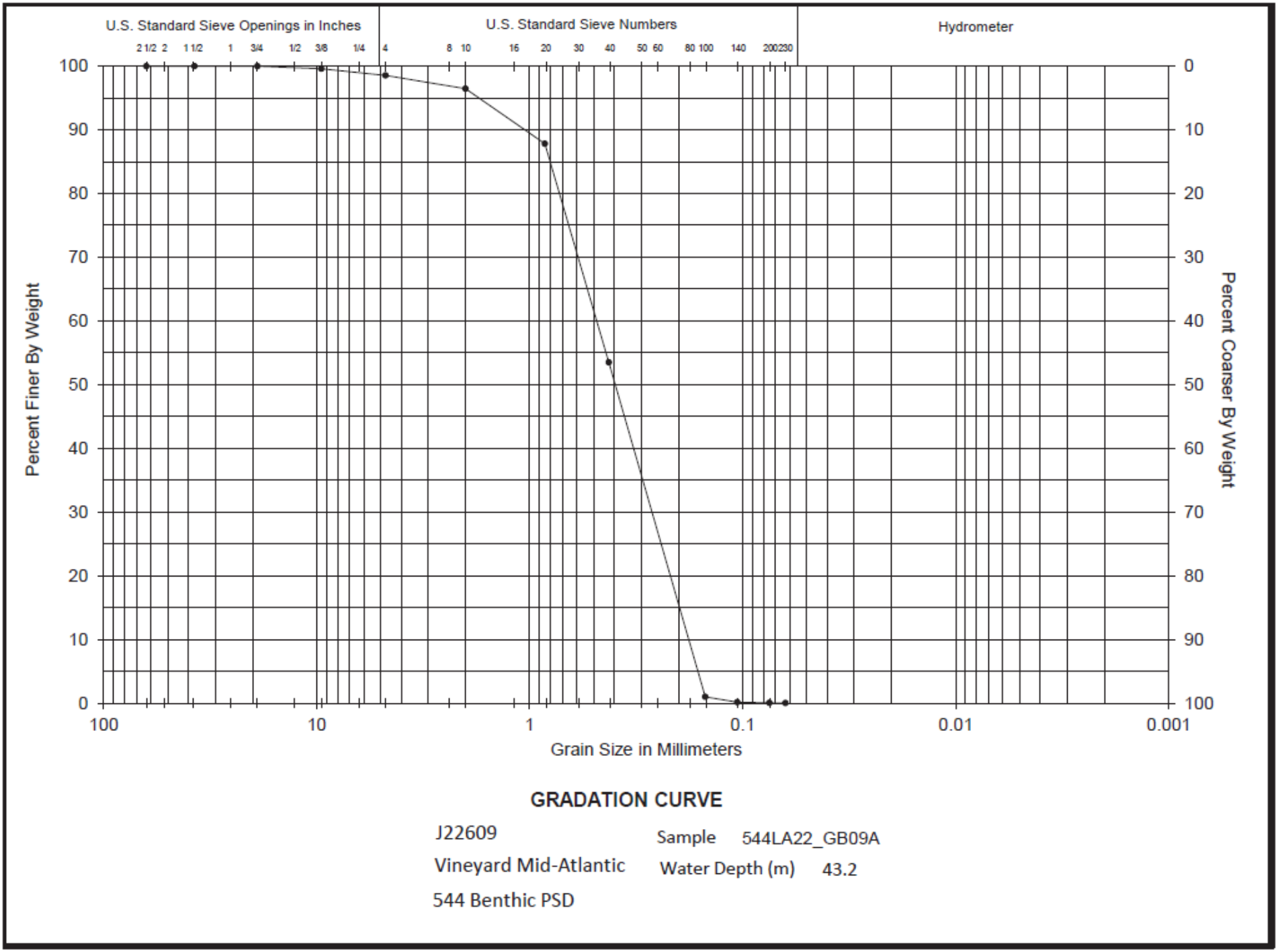
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.59	0.41	
4.75	4	98.54	1.46	
2	10	96.48	3.52	73.00
0.85	20	87.82	12.18	
0.425	40	53.50	46.50	
0.15	100	0.99	99.01	
0.106	140	0.14	99.86	
0.075	200	0.04	99.96	
0.063	230	0.02	99.98	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.48
% Passing #230	0.02
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.95
% Gravel-Sized Shell	> 2.00 mm	2.57
% Sand	0.0625 - 2.00 mm	96.45
% Silt and Clay	< 0.0625 mm	0.02
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	10.72
% Medium Sand	0.25 - 0.50 mm	34.32
% Fine Sand	0.0625 - 0.25 mm	53.48

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	53.50	0.425	0.99	0.150	0.179
D30	30	53.50	0.425	0.99	0.150	0.267
D50	50	53.50	0.425	0.99	0.150	0.396
D60	60	87.82	0.850	53.50	0.425	0.485

Uniformity Coefficient (Cu)	2.702
Coefficient of Curvature (Cc)	0.818



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB09A

Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB09B
Water Depth (m)	43.2

Grain Size Data

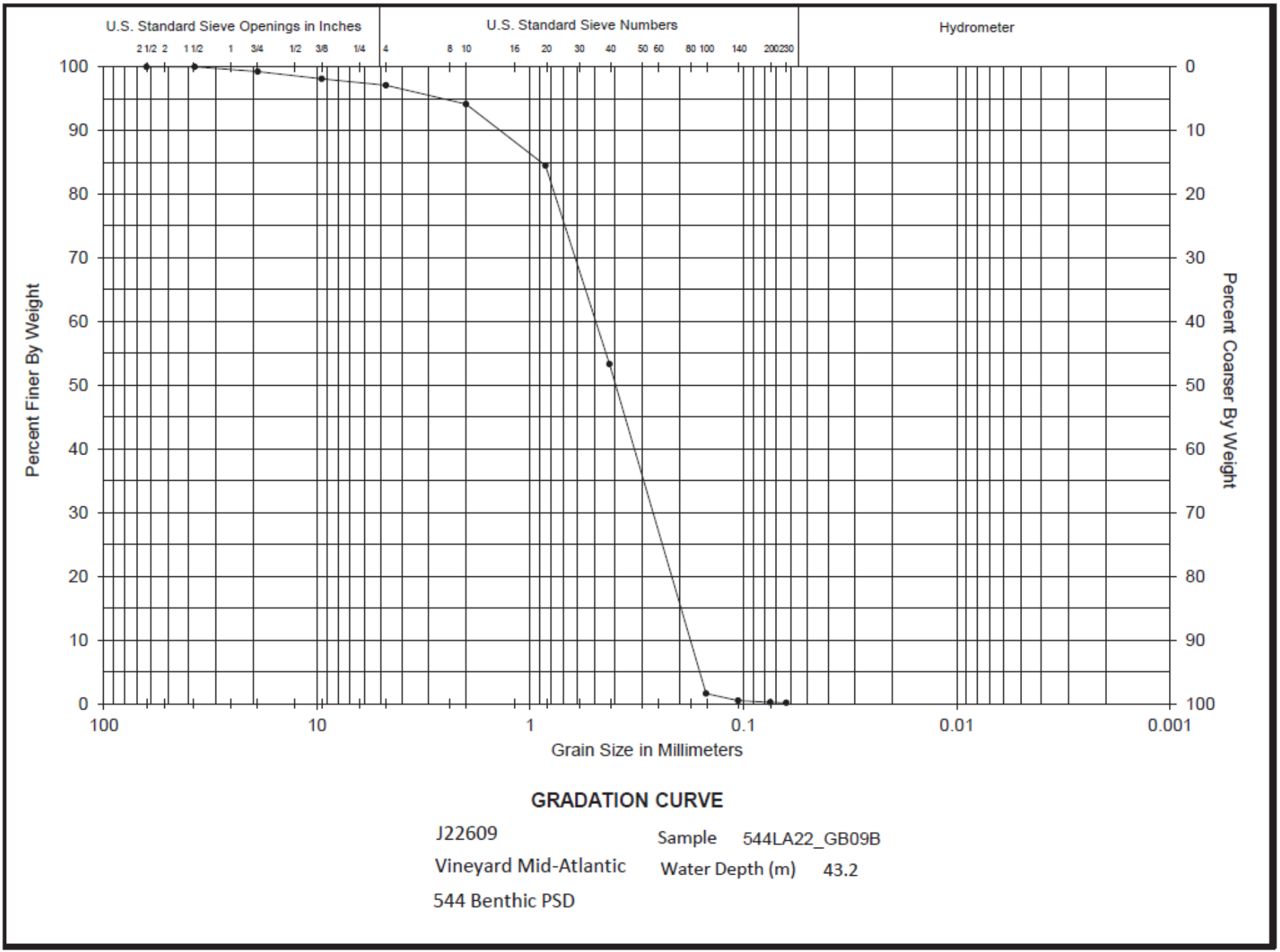
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.24	0.76	
9.5	3/8"	98.12	1.88	
4.75	4	97.09	2.91	
2	10	94.14	5.86	68.83
0.85	20	84.48	15.52	
0.425	40	53.33	46.67	
0.15	100	1.58	98.42	
0.106	140	0.47	99.53	
0.075	200	0.22	99.78	
0.063	230	0.16	99.84	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	94.14
% Passing #230	0.16
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.83
% Gravel-Sized Shell	> 2.00 mm	4.03
% Sand	0.0625 - 2.00 mm	93.98
% Silt and Clay	< 0.0625 mm	0.16
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	12.61
% Medium Sand	0.25 - 0.50 mm	31.16
% Fine Sand	0.0625 - 0.25 mm	53.17

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	53.33	0.425	1.58	0.150	0.178
D30	30	53.33	0.425	1.58	0.150	0.266
D50	50	53.33	0.425	1.58	0.150	0.397
D60	60	84.48	0.850	53.33	0.425	0.493

Uniformity Coefficient (Cu)	2.774
Coefficient of Curvature (Cc)	0.806



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB09B

Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB09C
Water Depth (m)	43.2

Grain Size Data

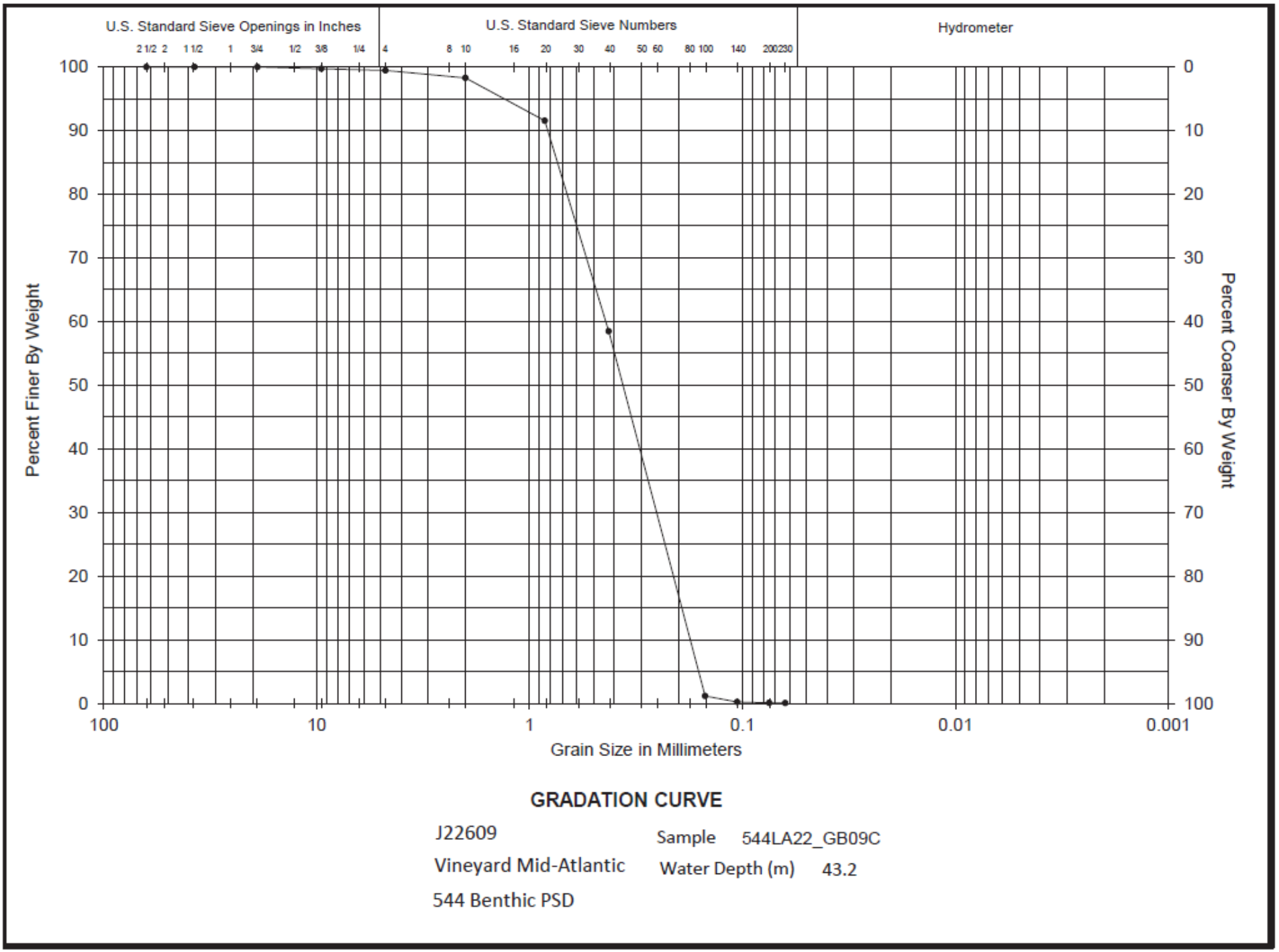
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.71	0.29	
4.75	4	99.44	0.56	
2	10	98.28	1.72	81.28
0.85	20	91.56	8.44	
0.425	40	58.48	41.52	
0.15	100	1.14	98.86	
0.106	140	0.20	99.80	
0.075	200	0.07	99.93	
0.063	230	0.05	99.95	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.28
% Passing #230	0.05
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.32
% Gravel-Sized Shell	> 2.00 mm	1.40
% Sand	0.0625 - 2.00 mm	98.23
% Silt and Clay	< 0.0625 mm	0.05
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	7.88
% Medium Sand	0.25 - 0.50 mm	33.08
% Fine Sand	0.0625 - 0.25 mm	58.43

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	58.48	0.425	1.14	0.150	0.176
D30	30	58.48	0.425	1.14	0.150	0.253
D50	50	58.48	0.425	1.14	0.150	0.364
D60	60	91.56	0.850	58.48	0.425	0.439

Uniformity Coefficient (Cu)	2.490
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB09C

Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB10
Water Depth (m)	43.2

Grain Size Data

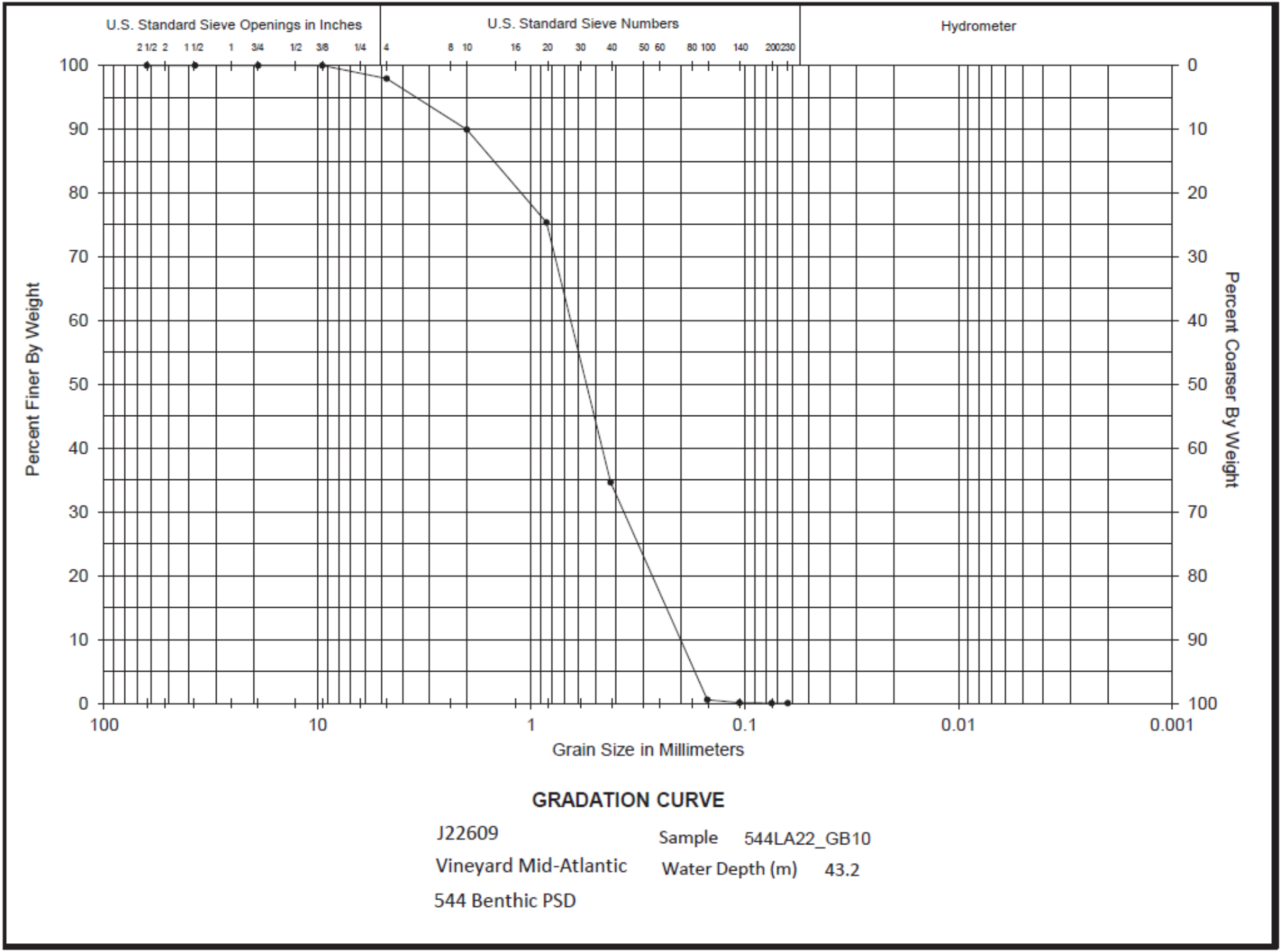
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	97.95	2.05	
2	10	89.95	10.05	10.62
0.85	20	75.39	24.61	
0.425	40	34.62	65.38	
0.15	100	0.54	99.46	
0.106	140	0.09	99.91	
0.075	200	0.02	99.98	
0.063	230	0.02	99.98	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	89.95
% Passing #230	0.02
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	8.98
% Gravel-Sized Shell	> 2.00 mm	1.07
% Sand	0.0625 - 2.00 mm	89.93
% Silt and Clay	< 0.0625 mm	0.02
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	22.56
% Medium Sand	0.25 - 0.50 mm	40.77
% Fine Sand	0.0625 - 0.25 mm	34.60

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	34.62	0.425	0.54	0.150	0.200
D30	30	34.62	0.425	0.54	0.150	0.369
D50	50	75.39	0.850	34.62	0.425	0.552
D60	60	75.39	0.850	34.62	0.425	0.654

Uniformity Coefficient (Cu)	3.267
Coefficient of Curvature (Cc)	1.039



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB10
Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB011A
Water Depth (m)	41.3

Grain Size Data

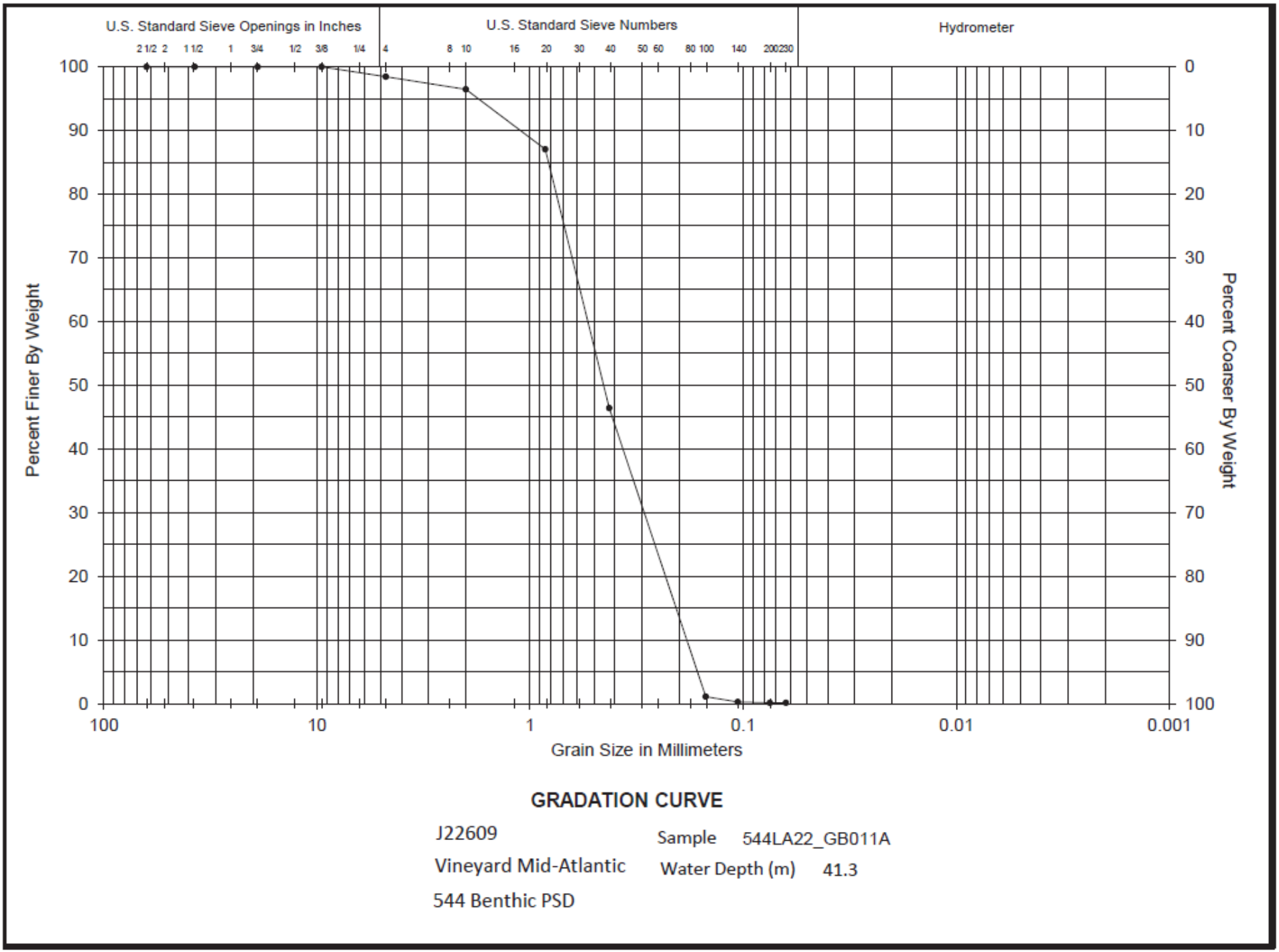
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.43	1.57	
2	10	96.45	3.55	11.13
0.85	20	87.06	12.94	
0.425	40	46.42	53.58	
0.15	100	1.08	98.92	
0.106	140	0.25	99.75	
0.075	200	0.12	99.88	
0.063	230	0.10	99.90	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.45
% Passing #230	0.10
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	3.16
% Gravel-Sized Shell	> 2.00 mm	0.40
% Sand	0.0625 - 2.00 mm	96.34
% Silt and Clay	< 0.0625 mm	0.10
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	11.37
% Medium Sand	0.25 - 0.50 mm	40.65
% Fine Sand	0.0625 - 0.25 mm	46.31

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	46.42	0.425	1.08	0.150	0.184
D30	30	46.42	0.425	1.08	0.150	0.291
D50	50	87.06	0.850	46.42	0.425	0.452
D60	60	87.06	0.850	46.42	0.425	0.536

Uniformity Coefficient (Cu)	2.910
Coefficient of Curvature (Cc)	0.861



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB011A
Water Depth (m) 41.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB011B
Water Depth (m)	41.3

Grain Size Data

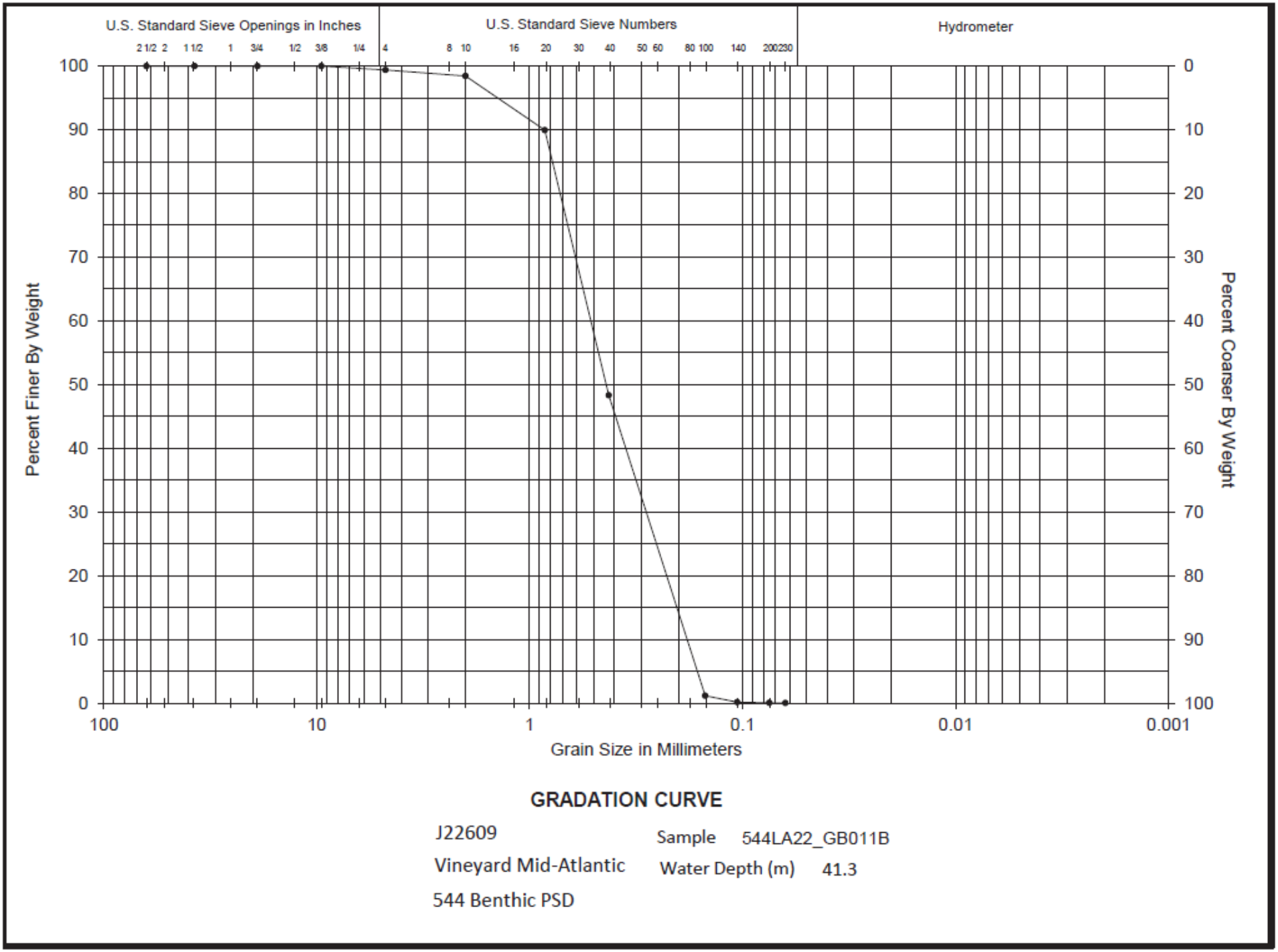
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.40	0.60	
2	10	98.46	1.54	31.61
0.85	20	89.93	10.07	
0.425	40	48.33	51.67	
0.15	100	1.16	98.84	
0.106	140	0.15	99.85	
0.075	200	0.03	99.97	
0.063	230	0.01	99.99	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.46
% Passing #230	0.01
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.05
% Gravel-Sized Shell	> 2.00 mm	0.49
% Sand	0.0625 - 2.00 mm	98.45
% Silt and Clay	< 0.0625 mm	0.01
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	9.46
% Medium Sand	0.25 - 0.50 mm	41.61
% Fine Sand	0.0625 - 0.25 mm	48.32

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	48.33	0.425	1.16	0.150	0.182
D30	30	48.33	0.425	1.16	0.150	0.284
D50	50	89.93	0.850	48.33	0.425	0.437
D60	60	89.93	0.850	48.33	0.425	0.516

Uniformity Coefficient (Cu)	2.831
Coefficient of Curvature (Cc)	0.854



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB011B

Water Depth (m) 41.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB011C
Water Depth (m)	41.3

Grain Size Data

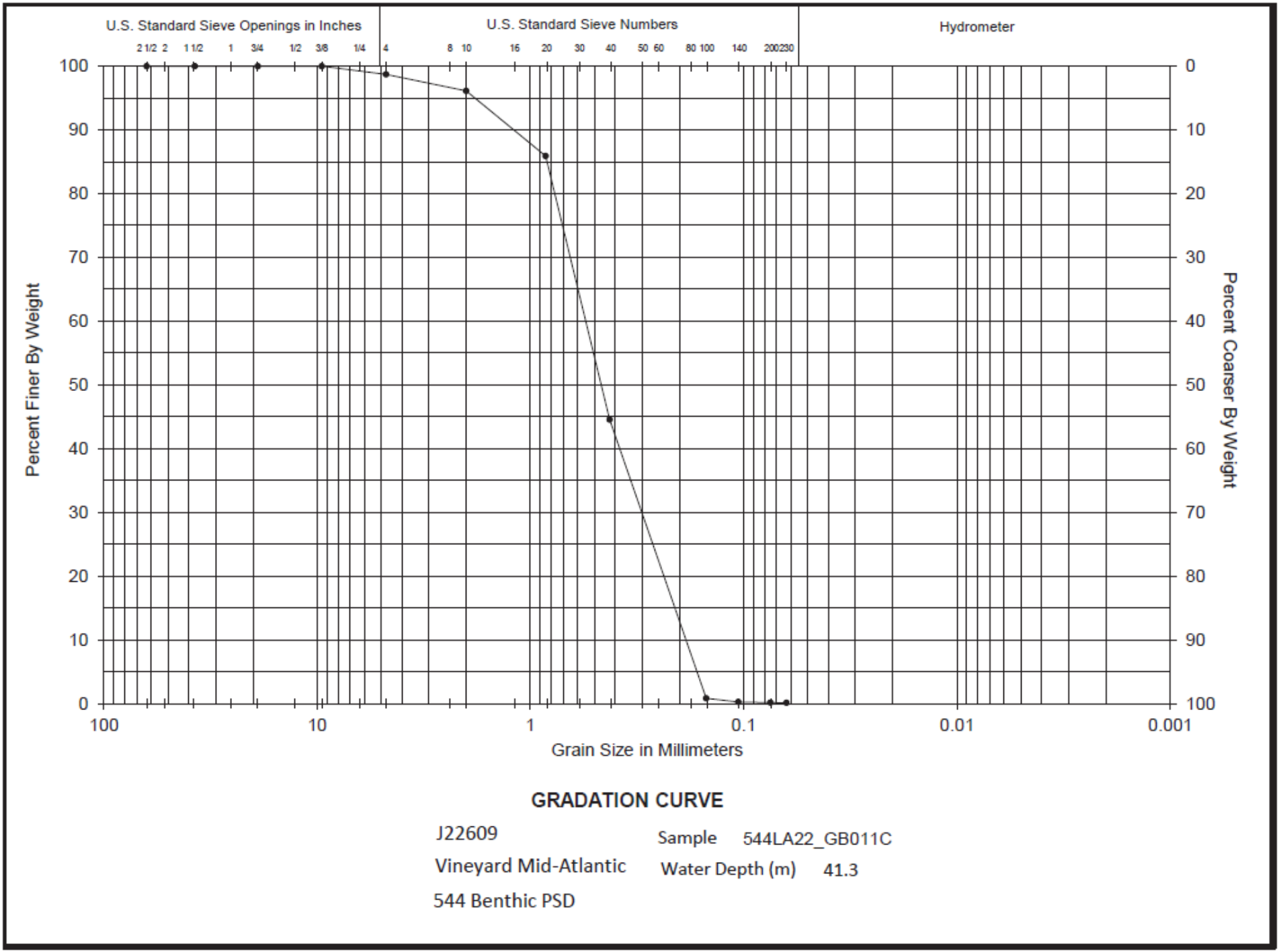
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.71	1.29	
2	10	96.12	3.88	19.40
0.85	20	85.90	14.10	
0.425	40	44.55	55.45	
0.15	100	0.81	99.19	
0.106	140	0.23	99.77	
0.075	200	0.13	99.87	
0.063	230	0.12	99.88	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.12
% Passing #230	0.12
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	3.13
% Gravel-Sized Shell	> 2.00 mm	0.75
% Sand	0.0625 - 2.00 mm	96.00
% Silt and Clay	< 0.0625 mm	0.12
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	12.81
% Medium Sand	0.25 - 0.50 mm	41.35
% Fine Sand	0.0625 - 0.25 mm	44.43

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	44.55	0.425	0.81	0.150	0.187
D30	30	44.55	0.425	0.81	0.150	0.301
D50	50	85.90	0.850	44.55	0.425	0.466
D60	60	85.90	0.850	44.55	0.425	0.551

Uniformity Coefficient (Cu)	2.950
Coefficient of Curvature (Cc)	0.879



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB011C

Water Depth (m) 41.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB012
Water Depth (m)	43.2

Grain Size Data

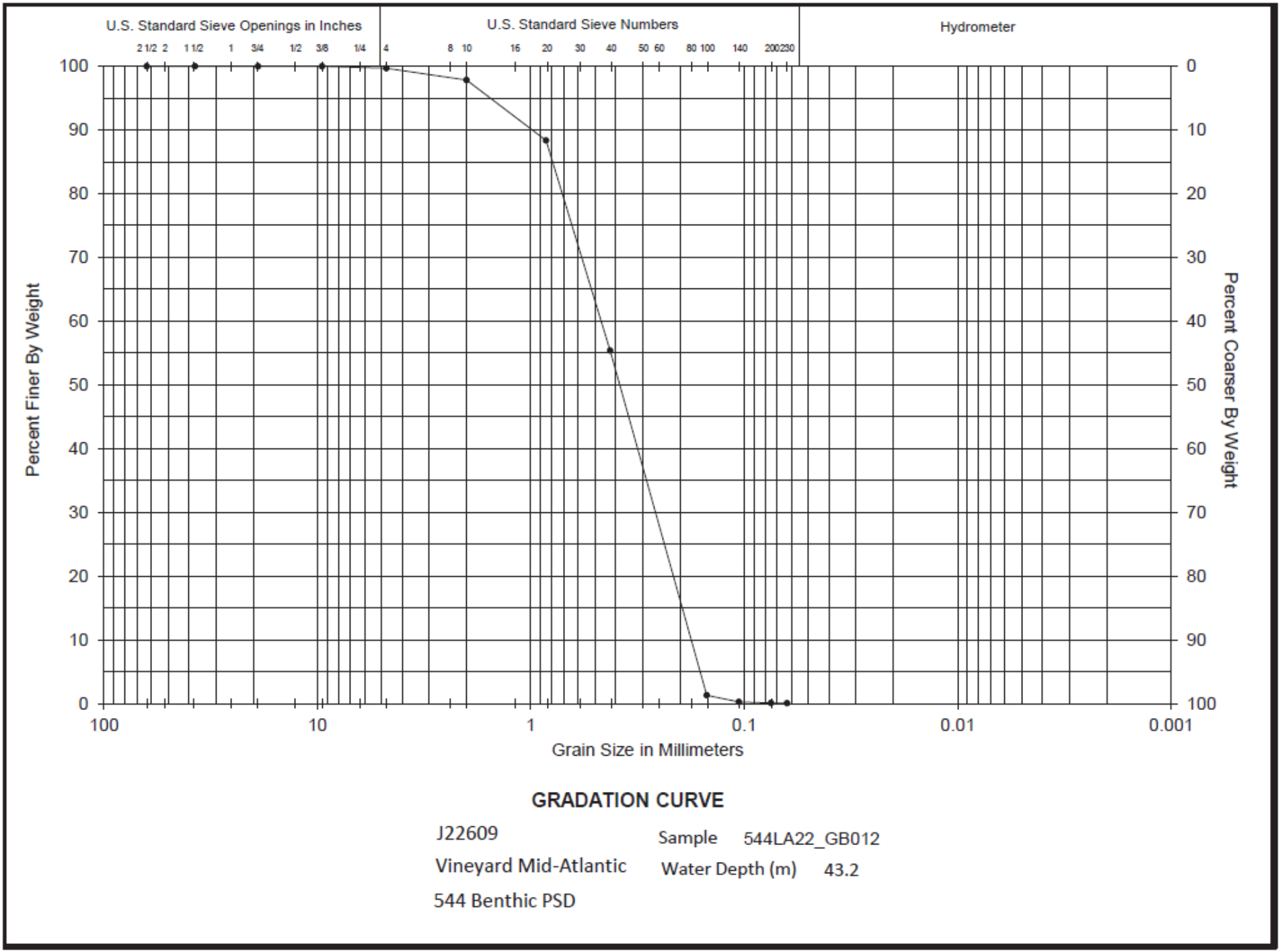
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.70	0.30	
2	10	97.85	2.15	0.00
0.85	20	88.35	11.65	
0.425	40	55.39	44.61	
0.15	100	1.28	98.72	
0.106	140	0.25	99.75	
0.075	200	0.07	99.93	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.85
% Passing #230	0.04
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	2.15
% Gravel-Sized Shell	> 2.00 mm	0.00
% Sand	0.0625 - 2.00 mm	97.81
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	11.35
% Medium Sand	0.25 - 0.50 mm	32.96
% Fine Sand	0.0625 - 0.25 mm	55.36

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	55.39	0.425	1.28	0.150	0.177
D30	30	55.39	0.425	1.28	0.150	0.261
D50	50	55.39	0.425	1.28	0.150	0.383
D60	60	88.35	0.850	55.39	0.425	0.468

Uniformity Coefficient (Cu)	2.639
Coefficient of Curvature (Cc)	0.818



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB012

Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB013
Water Depth (m)	43.8

Grain Size Data

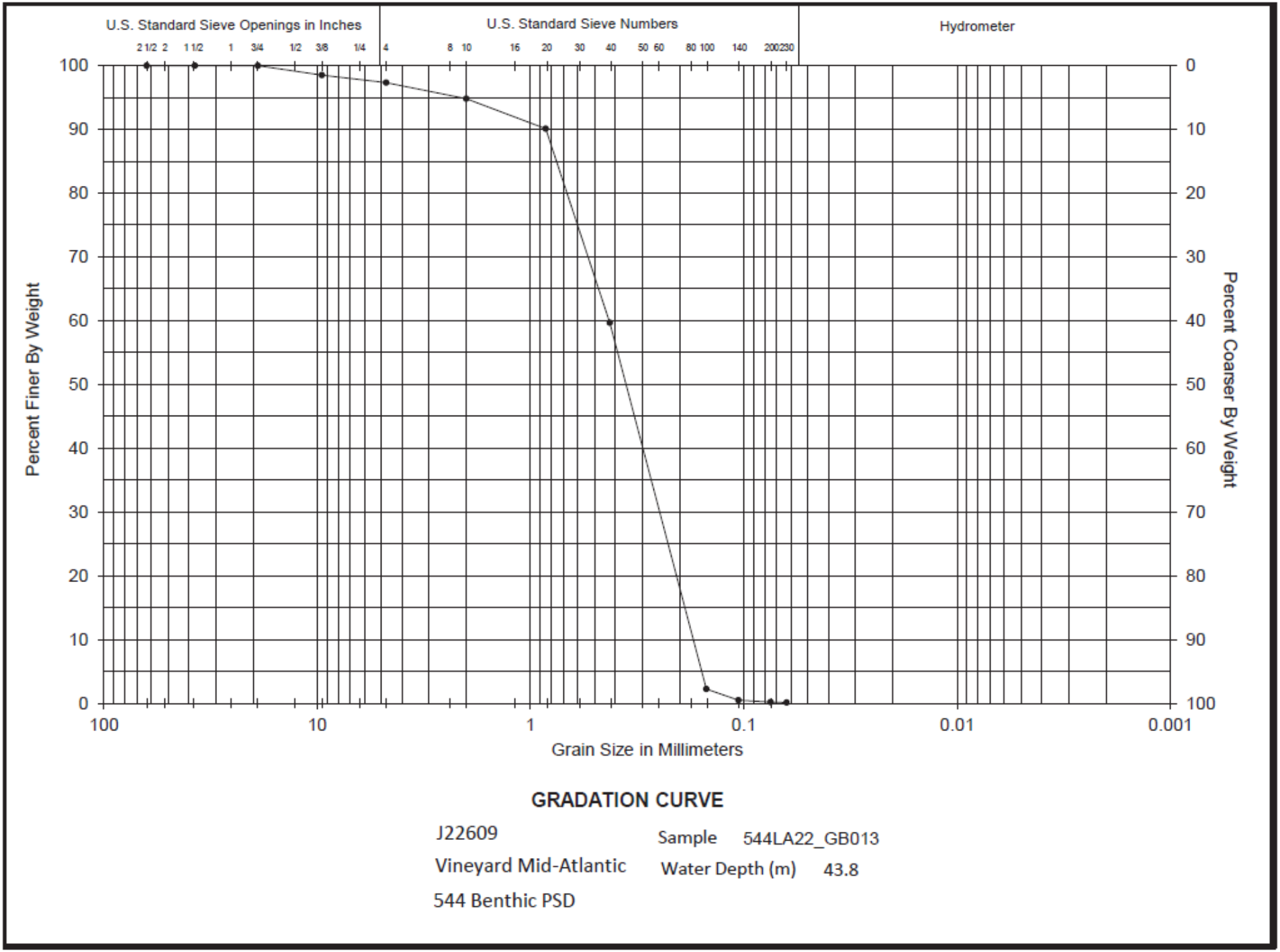
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	98.51	1.49	
4.75	4	97.34	2.66	
2	10	94.81	5.19	43.32
0.85	20	90.12	9.88	
0.425	40	59.70	40.30	
0.15	100	2.24	97.76	
0.106	140	0.48	99.52	
0.075	200	0.17	99.83	
0.063	230	0.12	99.88	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	94.81
% Passing #230	0.12
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	2.94
% Gravel-Sized Shell	> 2.00 mm	2.25
% Sand	0.0625 - 2.00 mm	94.69
% Silt and Clay	< 0.0625 mm	0.12
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	7.22
% Medium Sand	0.25 - 0.50 mm	30.42
% Fine Sand	0.0625 - 0.25 mm	59.58

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	59.70	0.425	2.24	0.150	0.173
D30	30	59.70	0.425	2.24	0.150	0.248
D50	50	59.70	0.425	2.24	0.150	0.356
D60	60	90.12	0.850	59.70	0.425	0.428

Uniformity Coefficient (Cu)	2.479
Coefficient of Curvature (Cc)	0.833



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB013

Water Depth (m) 43.8

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB014A
Water Depth (m)	43.7

Grain Size Data

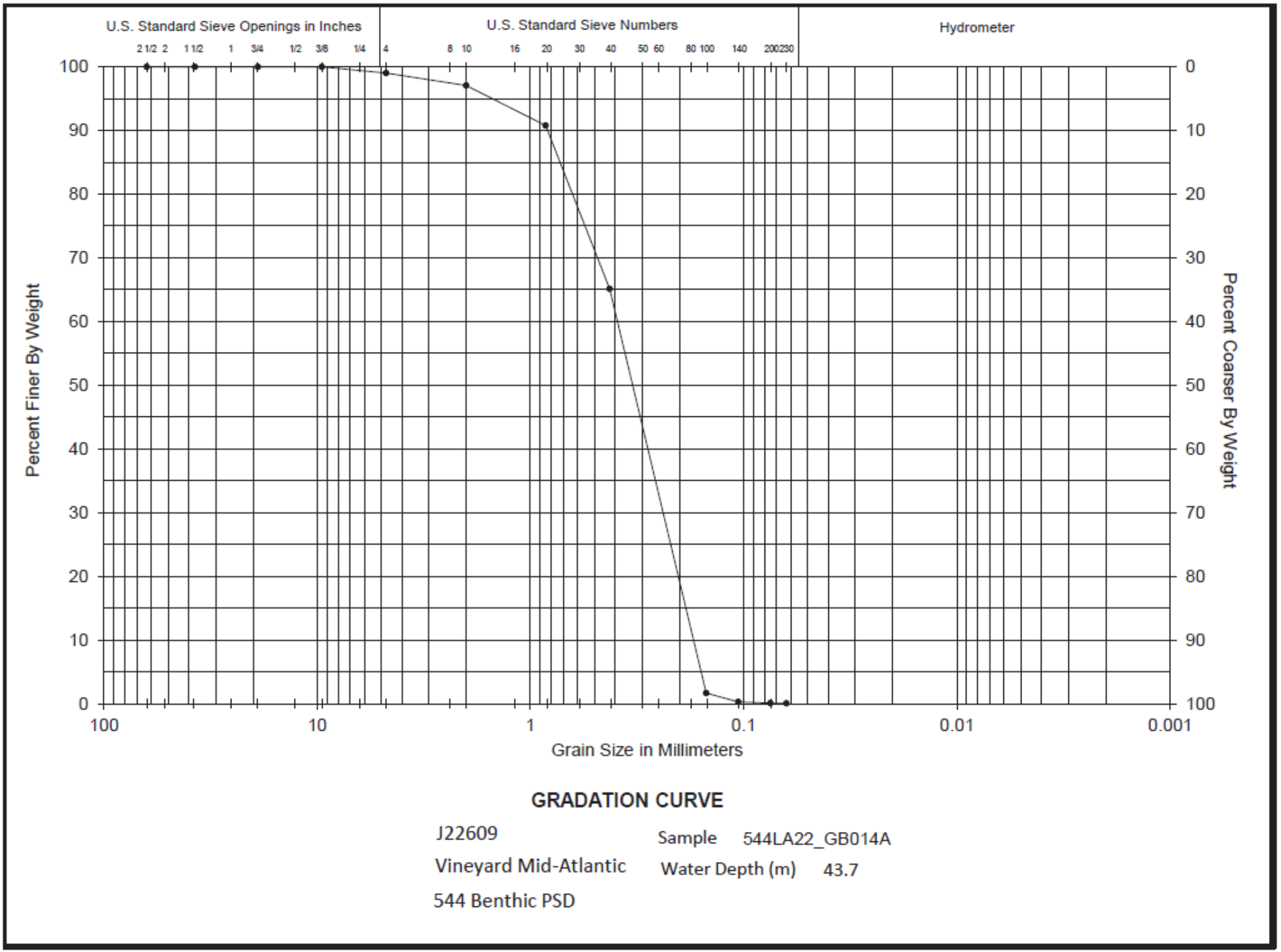
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.02	0.98	
2	10	97.06	2.94	86.80
0.85	20	90.79	9.21	
0.425	40	65.13	34.87	
0.15	100	1.65	98.35	
0.106	140	0.28	99.72	
0.075	200	0.06	99.94	
0.063	230	0.03	99.97	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.06
% Passing #230	0.03
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.39
% Gravel-Sized Shell	> 2.00 mm	2.55
% Sand	0.0625 - 2.00 mm	97.03
% Silt and Clay	< 0.0625 mm	0.03
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.23
% Medium Sand	0.25 - 0.50 mm	25.67
% Fine Sand	0.0625 - 0.25 mm	65.10

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	65.13	0.425	1.65	0.150	0.172
D30	30	65.13	0.425	1.65	0.150	0.239
D50	50	65.13	0.425	1.65	0.150	0.332
D60	60	65.13	0.425	1.65	0.150	0.391

Uniformity Coefficient (Cu)	2.271
Coefficient of Curvature (Cc)	0.849



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB014A

Water Depth (m) 43.7

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB014B
Water Depth (m)	43.7

Grain Size Data

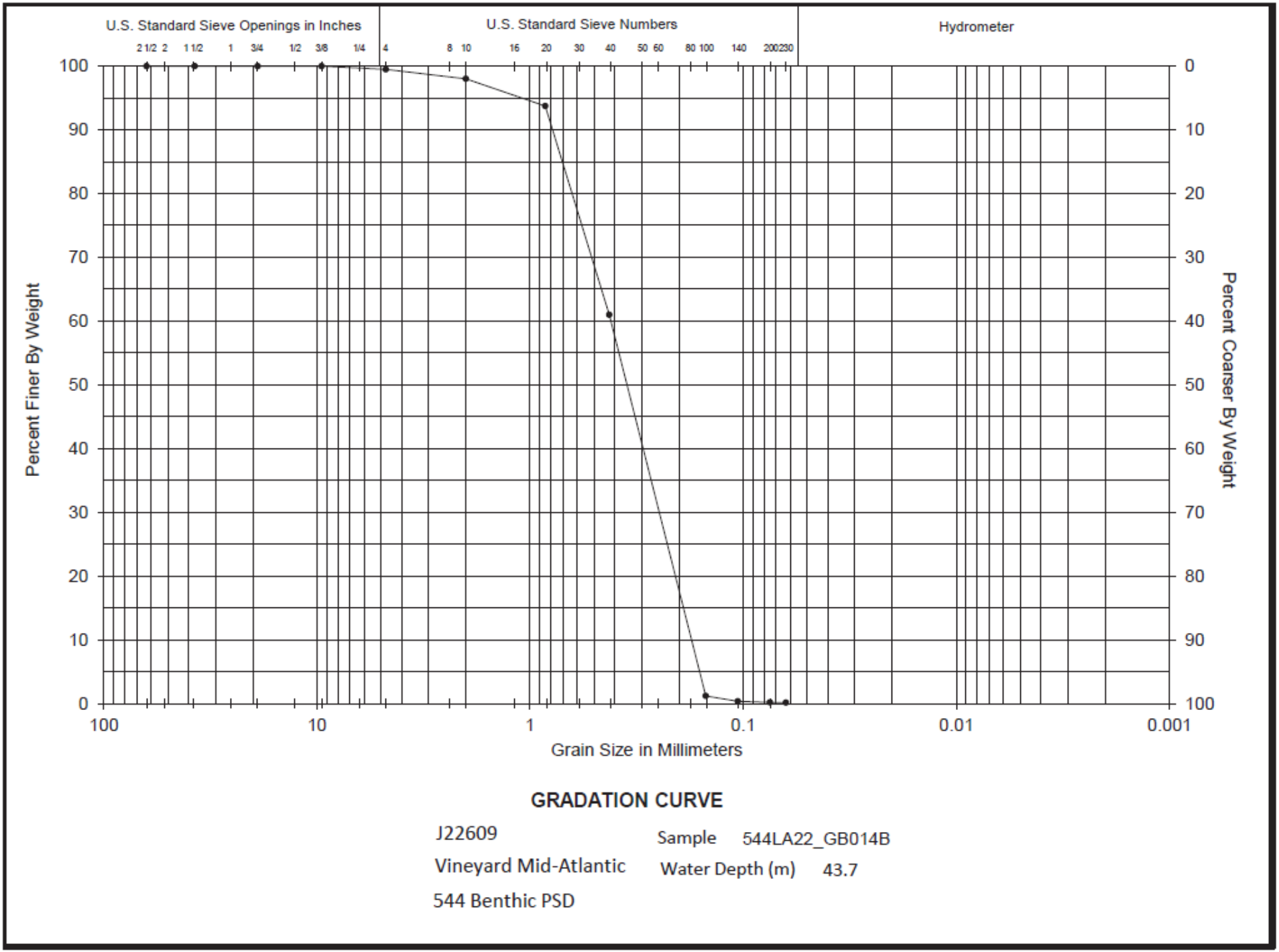
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.49	0.51	
2	10	98.01	1.99	75.00
0.85	20	93.73	6.27	
0.425	40	61.00	39.00	
0.15	100	1.18	98.82	
0.106	140	0.34	99.66	
0.075	200	0.18	99.82	
0.063	230	0.15	99.85	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.01
% Passing #230	0.15
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.50
% Gravel-Sized Shell	> 2.00 mm	1.49
% Sand	0.0625 - 2.00 mm	97.86
% Silt and Clay	< 0.0625 mm	0.15
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	5.76
% Medium Sand	0.25 - 0.50 mm	32.73
% Fine Sand	0.0625 - 0.25 mm	60.85

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	61.00	0.425	1.18	0.150	0.175
D30	30	61.00	0.425	1.18	0.150	0.248
D50	50	61.00	0.425	1.18	0.150	0.351
D60	60	61.00	0.425	1.18	0.150	0.418

Uniformity Coefficient (Cu)	2.388
Coefficient of Curvature (Cc)	0.840



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB014B

Water Depth (m) 43.7

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB014C
Water Depth (m)	43.7

Grain Size Data

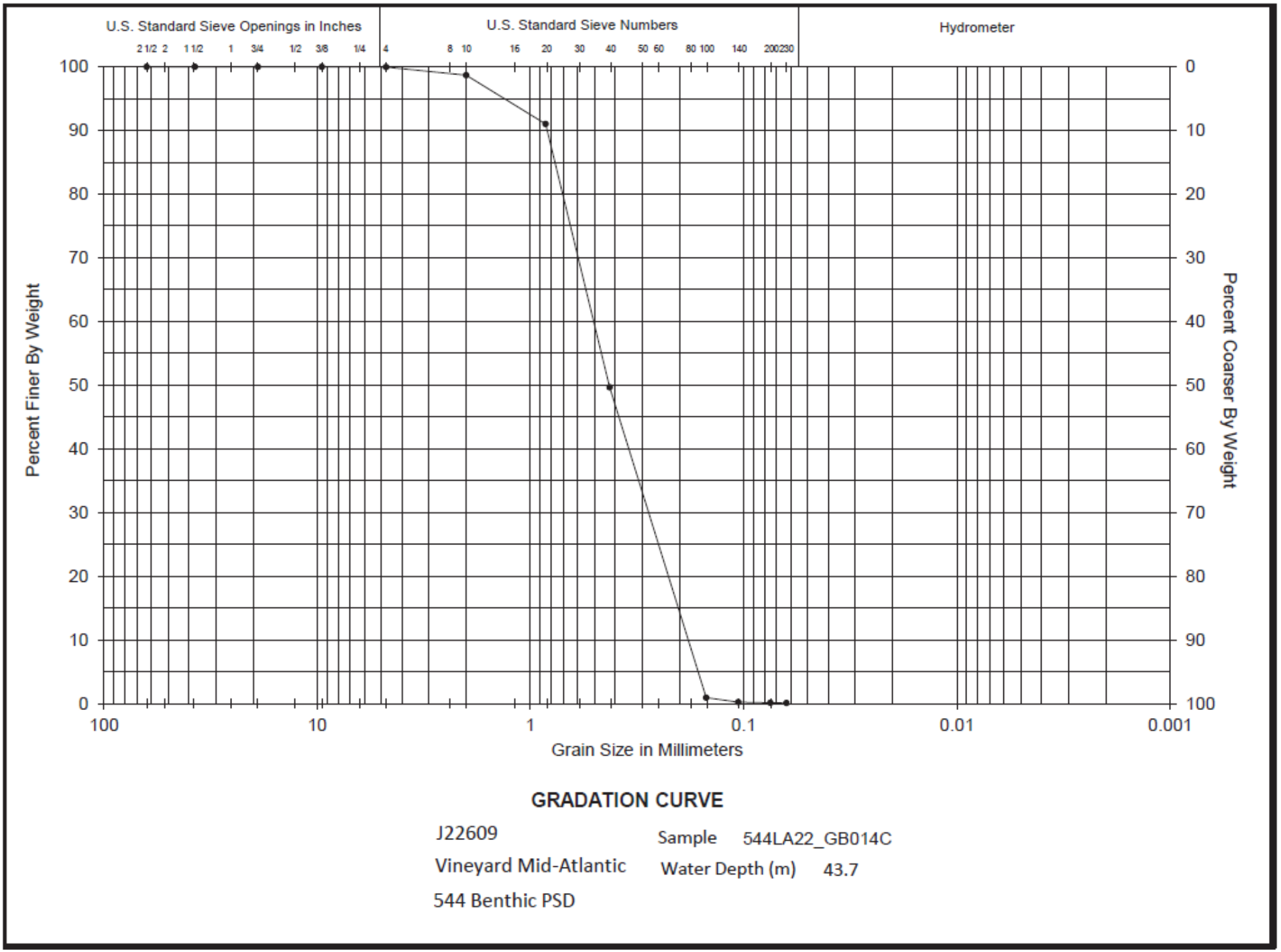
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.96	0.04	
2	10	98.67	1.33	47.45
0.85	20	91.02	8.98	
0.425	40	49.67	50.33	
0.15	100	0.91	99.09	
0.106	140	0.21	99.79	
0.075	200	0.10	99.90	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.67
% Passing #230	0.08
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.70
% Gravel-Sized Shell	> 2.00 mm	0.63
% Sand	0.0625 - 2.00 mm	98.59
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.94
% Medium Sand	0.25 - 0.50 mm	41.35
% Fine Sand	0.0625 - 0.25 mm	49.60

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	49.67	0.425	0.91	0.150	0.182
D30	30	49.67	0.425	0.91	0.150	0.279
D50	50	91.02	0.850	49.67	0.425	0.427
D60	60	91.02	0.850	49.67	0.425	0.505

Uniformity Coefficient (Cu)	2.774
Coefficient of Curvature (Cc)	0.847



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB014C
Water Depth (m) 43.7

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB015A
Water Depth (m)	41.1

Grain Size Data

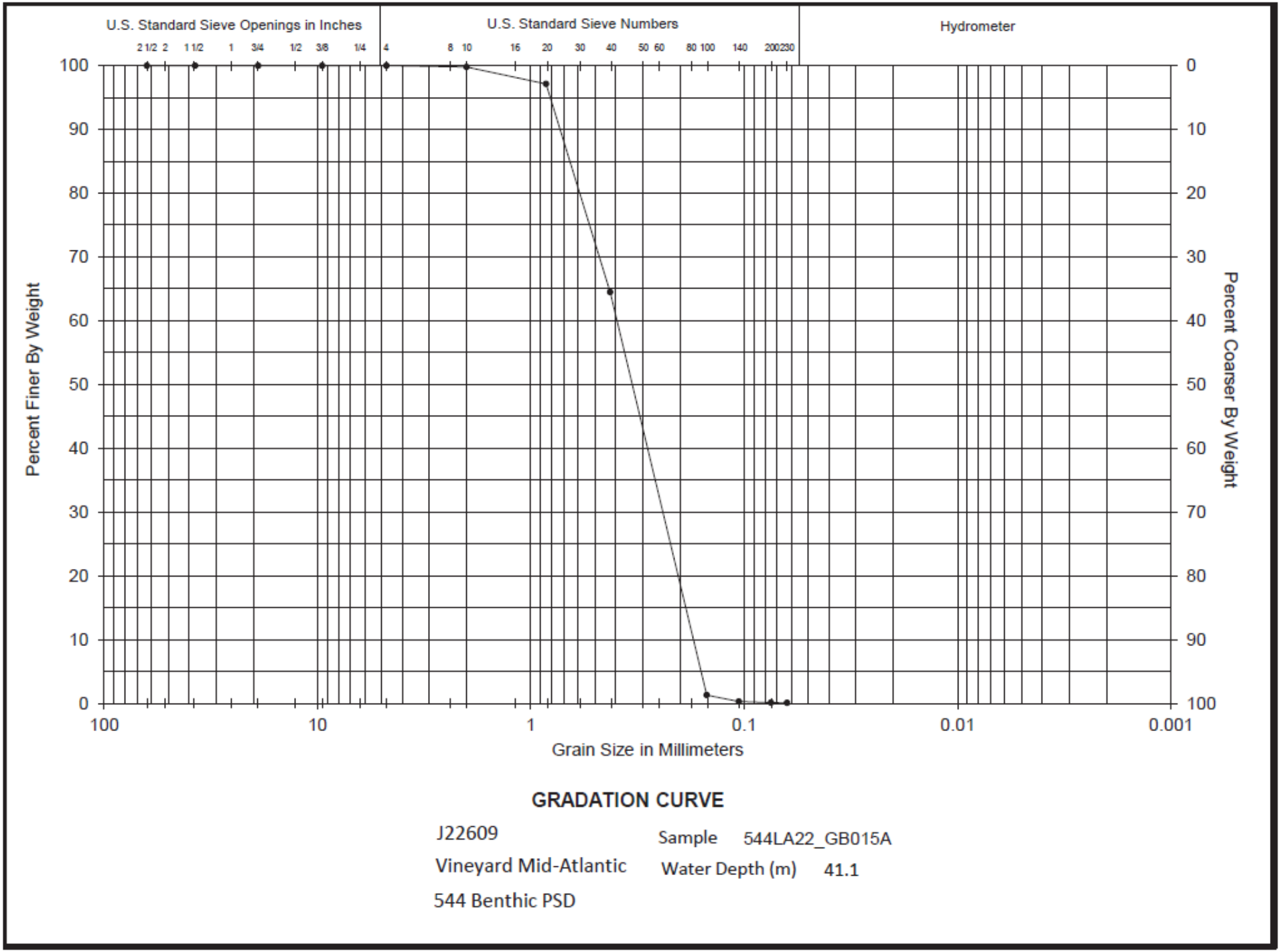
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.80	0.20	83.78
0.85	20	97.15	2.85	
0.425	40	64.48	35.52	
0.15	100	1.28	98.72	
0.106	140	0.26	99.74	
0.075	200	0.11	99.89	
0.063	230	0.06	99.94	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.80
% Passing #230	0.06
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.17
% Sand	0.0625 - 2.00 mm	99.74
% Silt and Clay	< 0.0625 mm	0.06
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.85
% Medium Sand	0.25 - 0.50 mm	32.67
% Fine Sand	0.0625 - 0.25 mm	64.42

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	64.48	0.425	1.28	0.150	0.173
D30	30	64.48	0.425	1.28	0.150	0.241
D50	50	64.48	0.425	1.28	0.150	0.335
D60	60	64.48	0.425	1.28	0.150	0.395

Uniformity Coefficient (Cu)	2.280
Coefficient of Curvature (Cc)	0.848



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB015A

Water Depth (m) 41.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB015B
Water Depth (m)	41.1

Grain Size Data

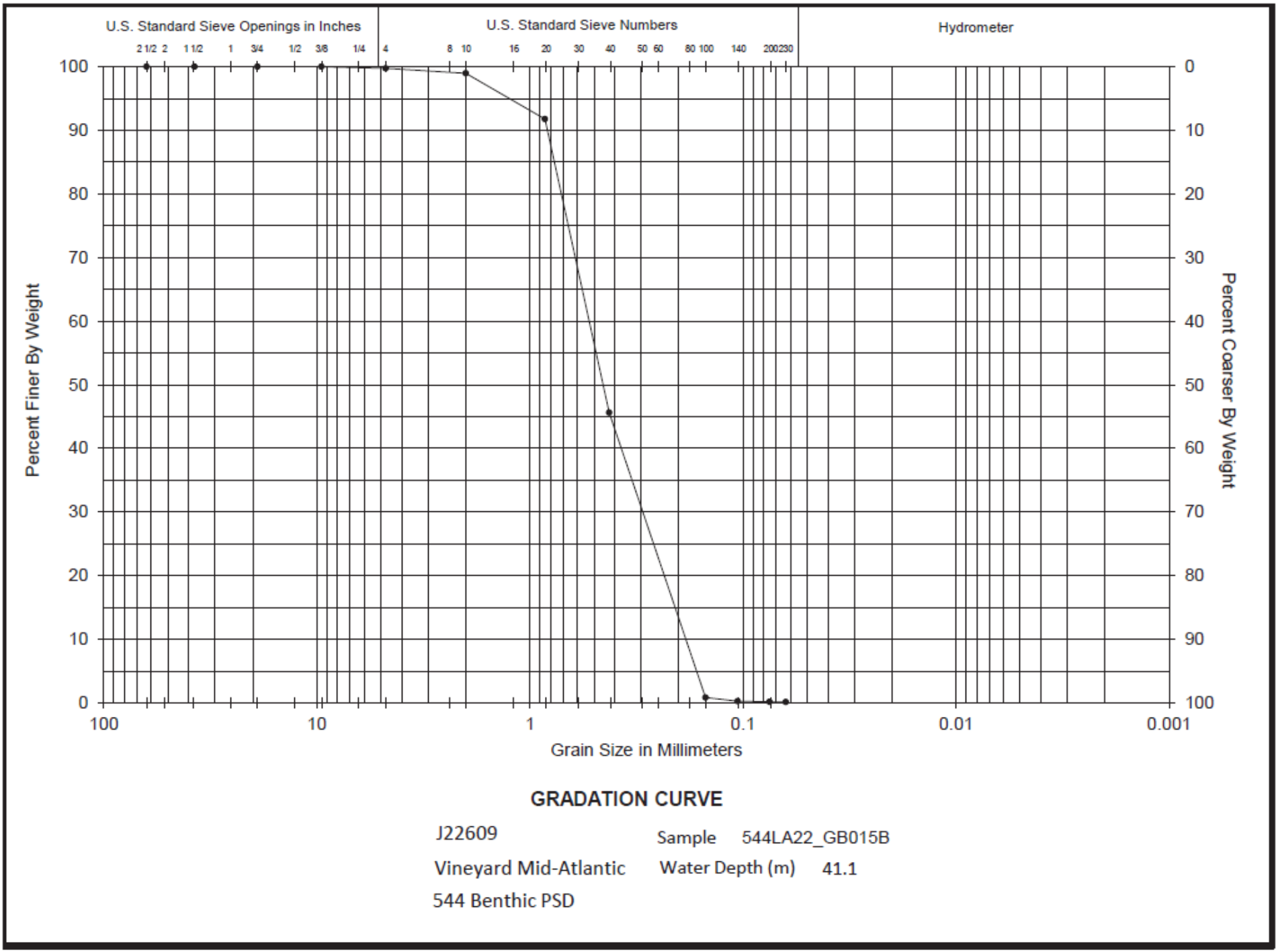
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.75	0.25	
2	10	98.96	1.04	90.48
0.85	20	91.77	8.23	
0.425	40	45.64	54.36	
0.15	100	0.85	99.15	
0.106	140	0.26	99.74	
0.075	200	0.17	99.83	
0.063	230	0.14	99.86	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.96
% Passing #230	0.14
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.10
% Gravel-Sized Shell	> 2.00 mm	0.94
% Sand	0.0625 - 2.00 mm	98.82
% Silt and Clay	< 0.0625 mm	0.14
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	7.99
% Medium Sand	0.25 - 0.50 mm	46.13
% Fine Sand	0.0625 - 0.25 mm	45.50

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	45.64	0.425	0.85	0.150	0.186
D30	30	45.64	0.425	0.85	0.150	0.295
D50	50	91.77	0.850	45.64	0.425	0.454
D60	60	91.77	0.850	45.64	0.425	0.527

Uniformity Coefficient (Cu)	2.842
Coefficient of Curvature (Cc)	0.892



GRADATION CURVE

J22609 Sample 544LA22_GB015B

Vineyard Mid-Atlantic Water Depth (m) 41.1

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB015C
Water Depth (m)	41.1

Grain Size Data

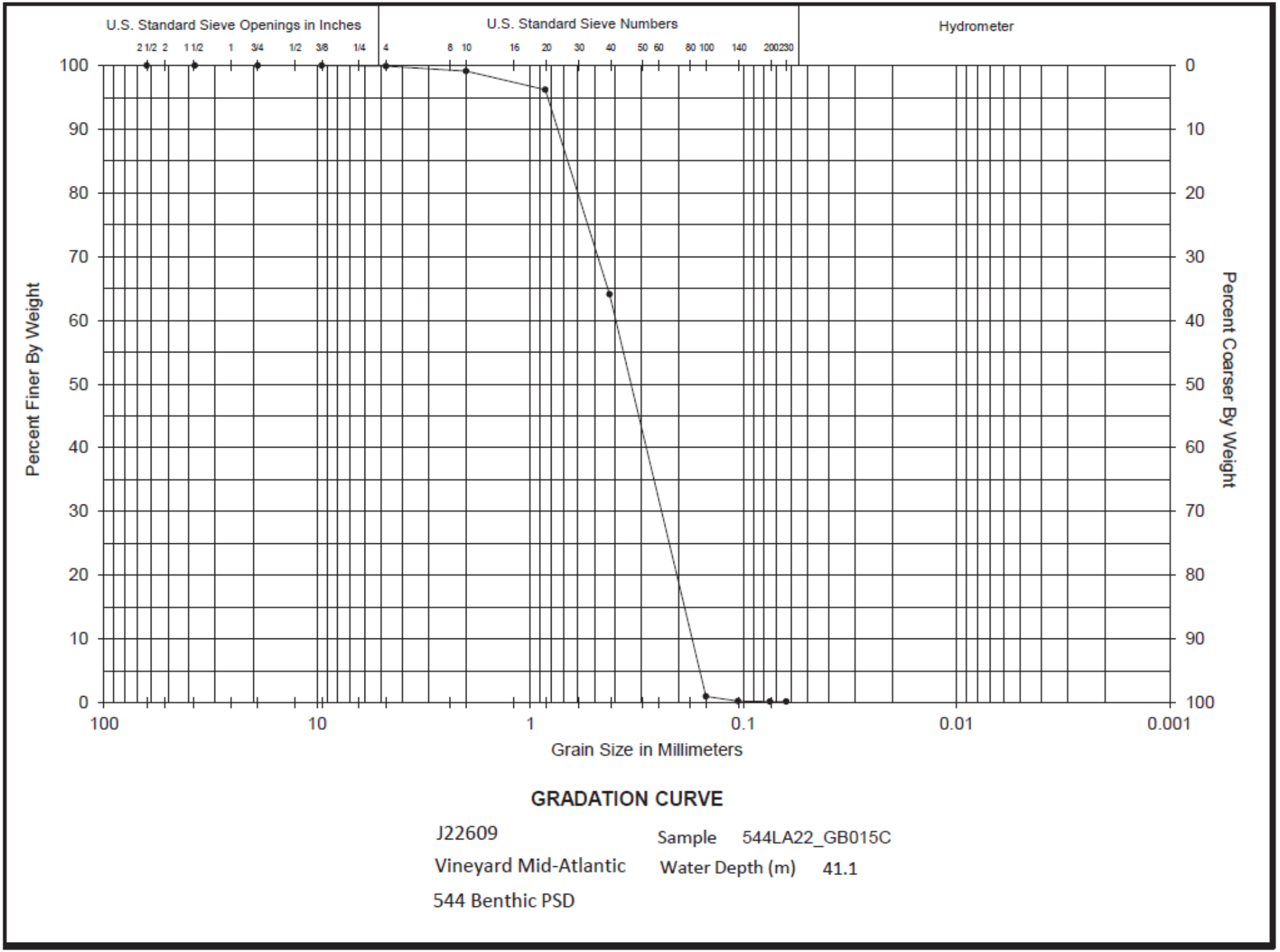
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.91	0.09	
2	10	99.13	0.87	97.50
0.85	20	96.20	3.80	
0.425	40	64.10	35.90	
0.15	100	0.99	99.01	
0.106	140	0.24	99.76	
0.075	200	0.16	99.84	
0.063	230	0.16	99.84	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.13
% Passing #230	0.16
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.85
% Sand	0.0625 - 2.00 mm	98.97
% Silt and Clay	< 0.0625 mm	0.16
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.71
% Medium Sand	0.25 - 0.50 mm	32.10
% Fine Sand	0.0625 - 0.25 mm	63.94

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	64.10	0.425	0.99	0.150	0.174
D30	30	64.10	0.425	0.99	0.150	0.242
D50	50	64.10	0.425	0.99	0.150	0.337
D60	60	64.10	0.425	0.99	0.150	0.397

Uniformity Coefficient (Cu)	2.282
Coefficient of Curvature (Cc)	0.848



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB015C
Water Depth (m) 41.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB16
Water Depth (m)	43.7

Grain Size Data

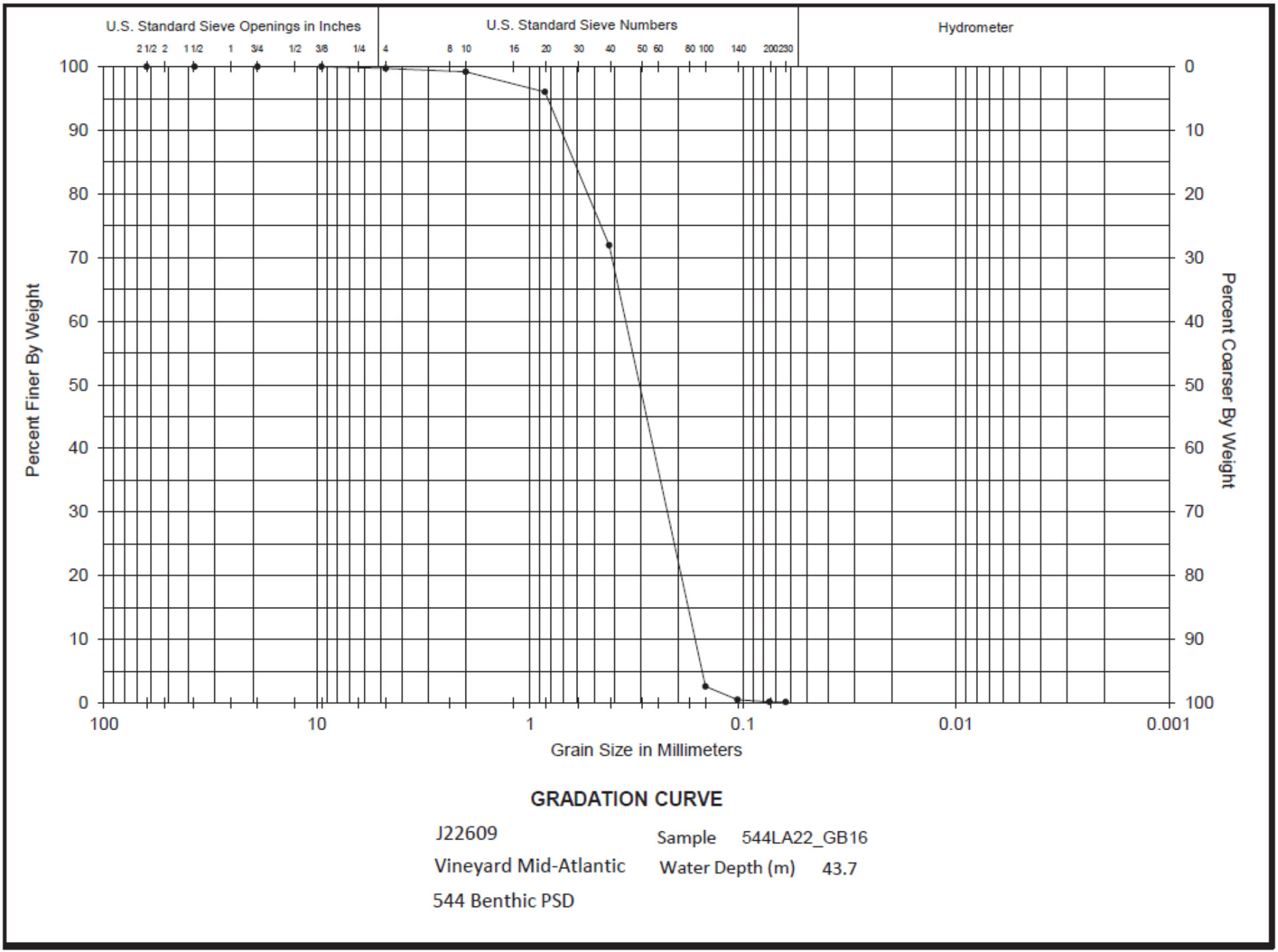
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.74	0.26	
2	10	99.20	0.80	87.58
0.85	20	96.03	3.97	
0.425	40	71.93	28.07	
0.15	100	2.60	97.40	
0.106	140	0.50	99.50	
0.075	200	0.17	99.83	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.20
% Passing #230	0.13
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.10
% Gravel-Sized Shell	> 2.00 mm	0.70
% Sand	0.0625 - 2.00 mm	99.07
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.71
% Medium Sand	0.25 - 0.50 mm	24.10
% Fine Sand	0.0625 - 0.25 mm	71.80

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	71.93	0.425	2.60	0.150	0.168
D30	30	71.93	0.425	2.60	0.150	0.226
D50	50	71.93	0.425	2.60	0.150	0.306
D60	60	71.93	0.425	2.60	0.150	0.355

Uniformity Coefficient (Cu)	2.119
Coefficient of Curvature (Cc)	0.861



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB16

Water Depth (m) 43.7

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB017A
Water Depth (m)	43.2

Grain Size Data

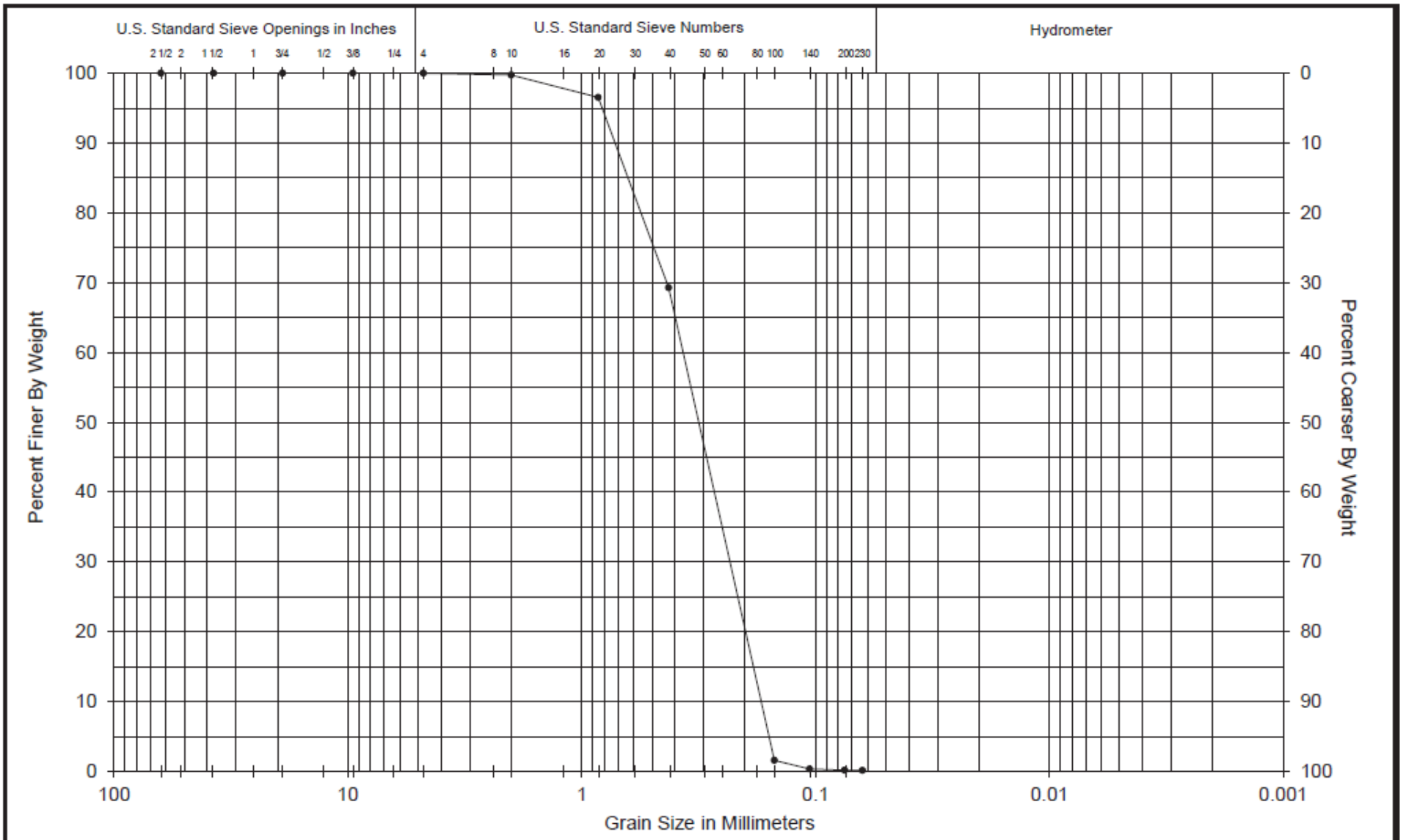
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.73	0.27	80.39
0.85	20	96.56	3.44	
0.425	40	69.29	30.71	
0.15	100	1.57	98.43	
0.106	140	0.34	99.66	
0.075	200	0.16	99.84	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.73
% Passing #230	0.13
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.05
% Gravel-Sized Shell	> 2.00 mm	0.22
% Sand	0.0625 - 2.00 mm	99.60
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.44
% Medium Sand	0.25 - 0.50 mm	27.27
% Fine Sand	0.0625 - 0.25 mm	69.16

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	69.29	0.425	1.57	0.150	0.171
D30	30	69.29	0.425	1.57	0.150	0.232
D50	50	69.29	0.425	1.57	0.150	0.316
D60	60	69.29	0.425	1.57	0.150	0.368

Uniformity Coefficient (Cu)	2.157
Coefficient of Curvature (Cc)	0.857



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB017A
Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB017B
Water Depth (m)	43.1

Grain Size Data

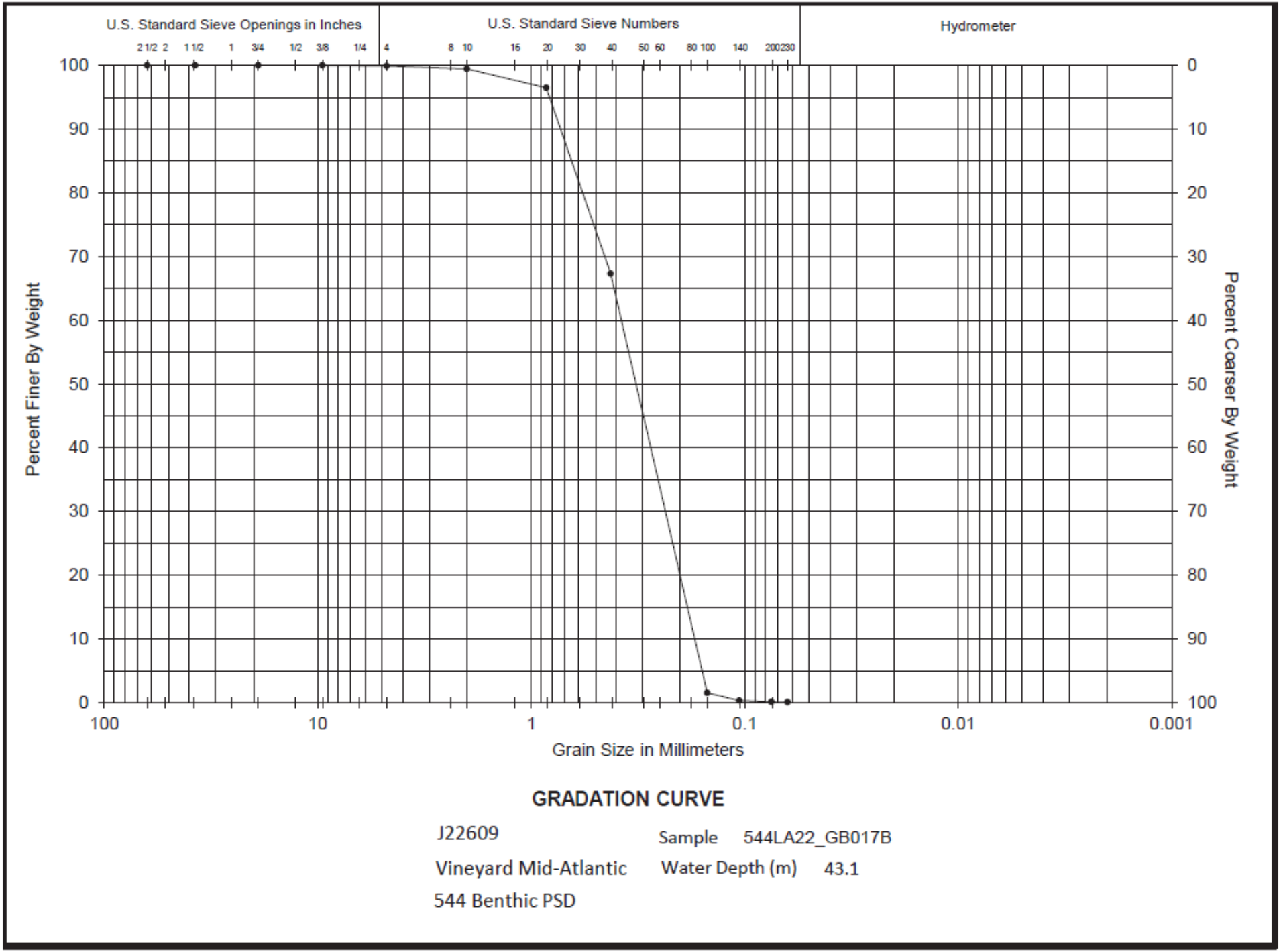
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.91	0.09	
2	10	99.44	0.56	53.78
0.85	20	96.49	3.51	
0.425	40	67.33	32.67	
0.15	100	1.57	98.43	
0.106	140	0.34	99.66	
0.075	200	0.13	99.87	
0.063	230	0.10	99.90	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.44
% Passing #230	0.10
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.26
% Gravel-Sized Shell	> 2.00 mm	0.30
% Sand	0.0625 - 2.00 mm	99.34
% Silt and Clay	< 0.0625 mm	0.10
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.42
% Medium Sand	0.25 - 0.50 mm	29.16
% Fine Sand	0.0625 - 0.25 mm	67.23

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	67.33	0.425	1.57	0.150	0.171
D30	30	67.33	0.425	1.57	0.150	0.235
D50	50	67.33	0.425	1.57	0.150	0.323
D60	60	67.33	0.425	1.57	0.150	0.378

Uniformity Coefficient (Cu)	2.207
Coefficient of Curvature (Cc)	0.854



GRADATION CURVE

J22609 Sample 544LA22_GB017B

Vineyard Mid-Atlantic Water Depth (m) 43.1

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB017C
Water Depth (m)	43.4

Grain Size Data

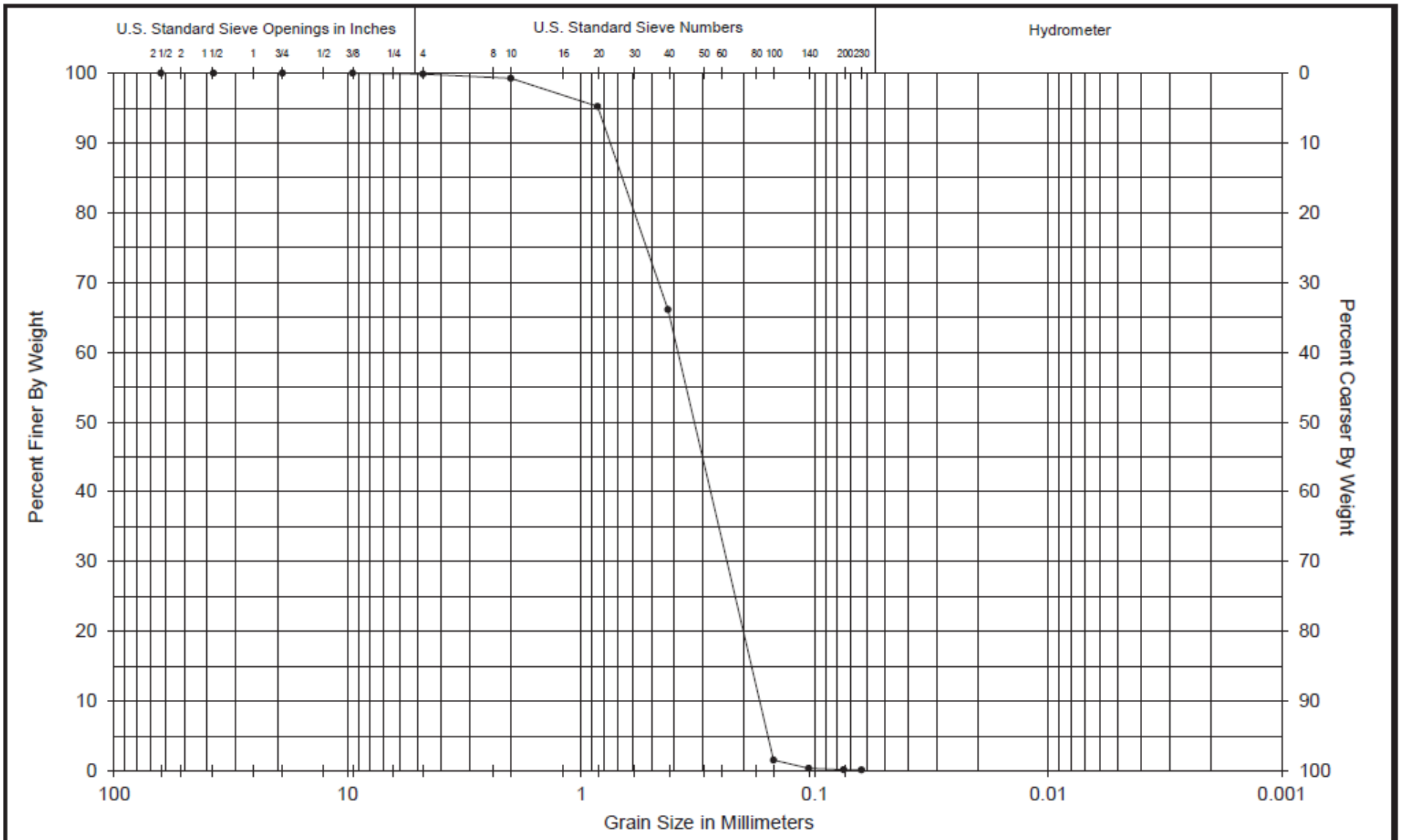
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.88	0.12	
2	10	99.29	0.71	89.51
0.85	20	95.23	4.77	
0.425	40	66.11	33.89	
0.15	100	1.54	98.46	
0.106	140	0.37	99.63	
0.075	200	0.16	99.84	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.29
% Passing #230	0.13
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.07
% Gravel-Sized Shell	> 2.00 mm	0.64
% Sand	0.0625 - 2.00 mm	99.15
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.65
% Medium Sand	0.25 - 0.50 mm	29.12
% Fine Sand	0.0625 - 0.25 mm	65.98

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	66.11	0.425	1.54	0.150	0.172
D30	30	66.11	0.425	1.54	0.150	0.237
D50	50	66.11	0.425	1.54	0.150	0.328
D60	60	66.11	0.425	1.54	0.150	0.385

Uniformity Coefficient (Cu)	2.240
Coefficient of Curvature (Cc)	0.851



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB017C

Water Depth (m) 43.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB18
Water Depth (m)	43

Grain Size Data

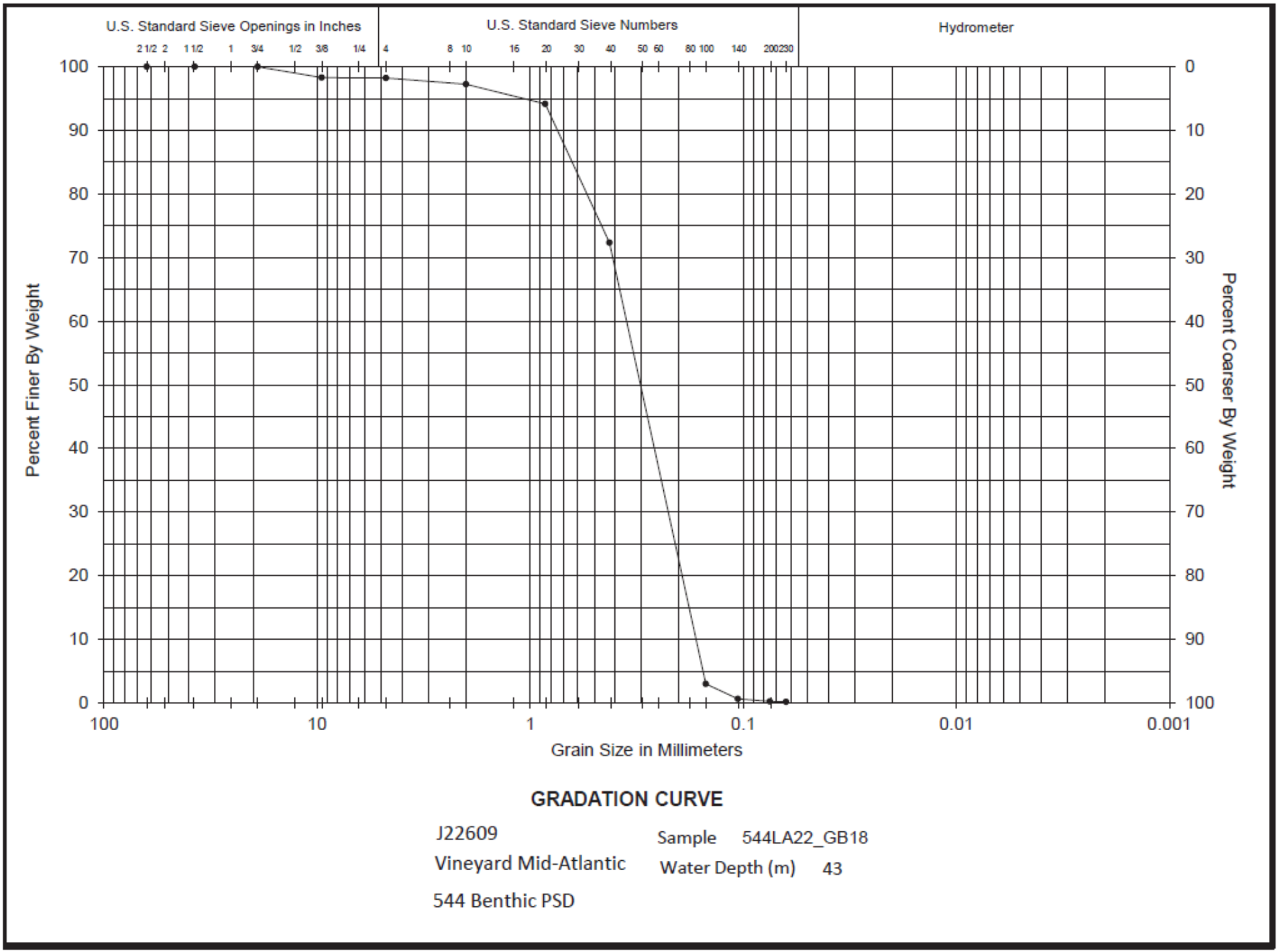
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	98.31	1.69	
4.75	4	98.22	1.78	
2	10	97.25	2.75	98.28
0.85	20	94.14	5.86	
0.425	40	72.34	27.66	
0.15	100	3.01	96.99	
0.106	140	0.65	99.35	
0.075	200	0.25	99.75	
0.063	230	0.18	99.82	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.25
% Passing #230	0.18
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.05
% Gravel-Sized Shell	> 2.00 mm	2.71
% Sand	0.0625 - 2.00 mm	97.07
% Silt and Clay	< 0.0625 mm	0.18
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.07
% Medium Sand	0.25 - 0.50 mm	21.80
% Fine Sand	0.0625 - 0.25 mm	72.16

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	72.34	0.425	3.01	0.150	0.167
D30	30	72.34	0.425	3.01	0.150	0.225
D50	50	72.34	0.425	3.01	0.150	0.304
D60	60	72.34	0.425	3.01	0.150	0.353

Uniformity Coefficient (Cu)	2.119
Coefficient of Curvature (Cc)	0.861



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB18
Water Depth (m) 43

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB19
Water Depth (m)	42.3

Grain Size Data

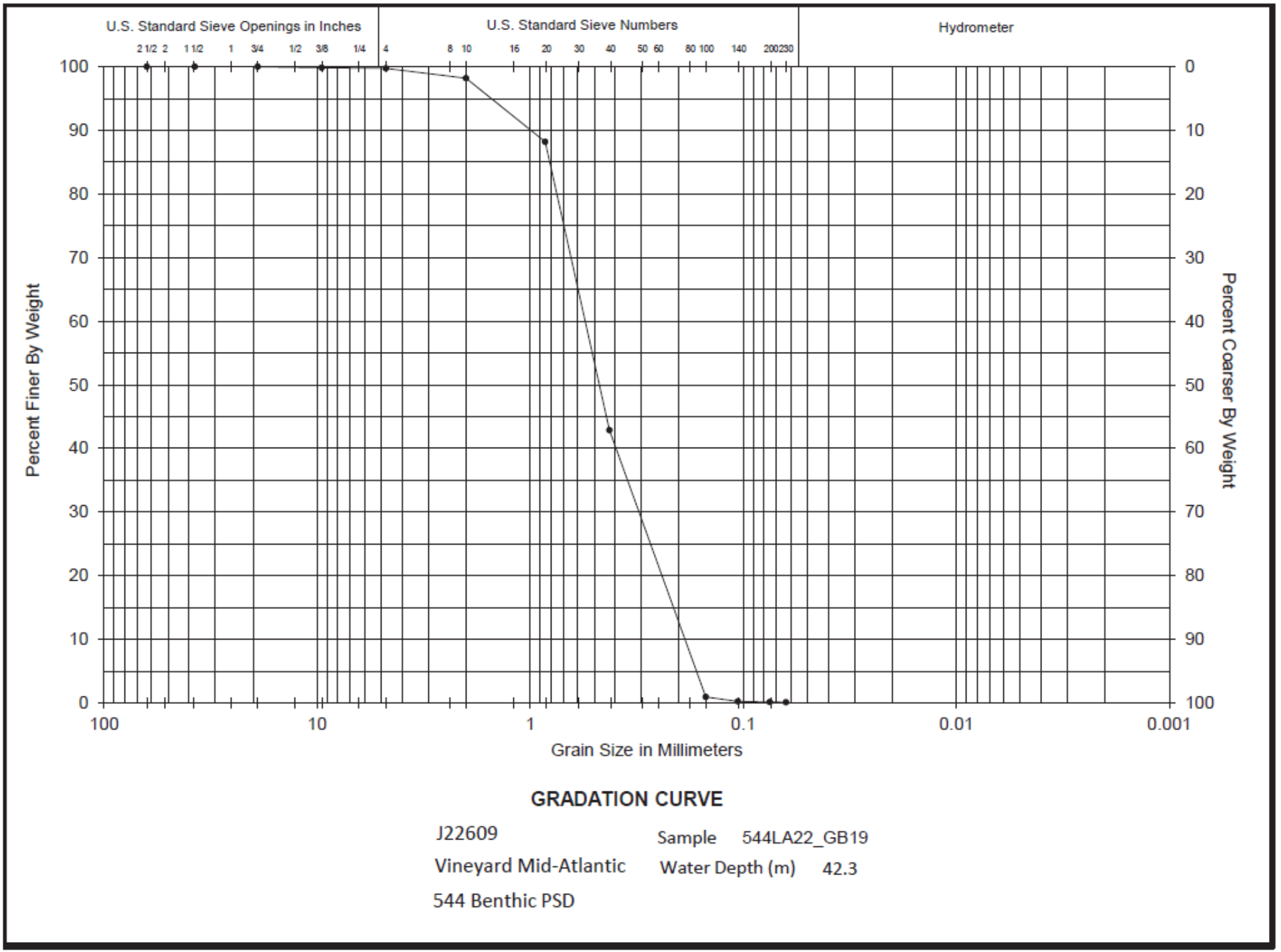
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.86	0.14	
4.75	4	99.74	0.26	
2	10	98.21	1.79	36.63
0.85	20	88.22	11.78	
0.425	40	42.87	57.13	
0.15	100	0.93	99.07	
0.106	140	0.23	99.77	
0.075	200	0.13	99.87	
0.063	230	0.12	99.88	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.21
% Passing #230	0.12
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.14
% Gravel-Sized Shell	> 2.00 mm	0.66
% Sand	0.0625 - 2.00 mm	98.09
% Silt and Clay	< 0.0625 mm	0.12
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	11.52
% Medium Sand	0.25 - 0.50 mm	45.35
% Fine Sand	0.0625 - 0.25 mm	42.75

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	42.87	0.425	0.93	0.150	0.188
D30	30	42.87	0.425	0.93	0.150	0.309
D50	50	88.22	0.850	42.87	0.425	0.474
D60	60	88.22	0.850	42.87	0.425	0.552

Uniformity Coefficient (Cu)	2.939
Coefficient of Curvature (Cc)	0.919



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB19

Water Depth (m) 42.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB20
Water Depth (m)	42.5

Grain Size Data

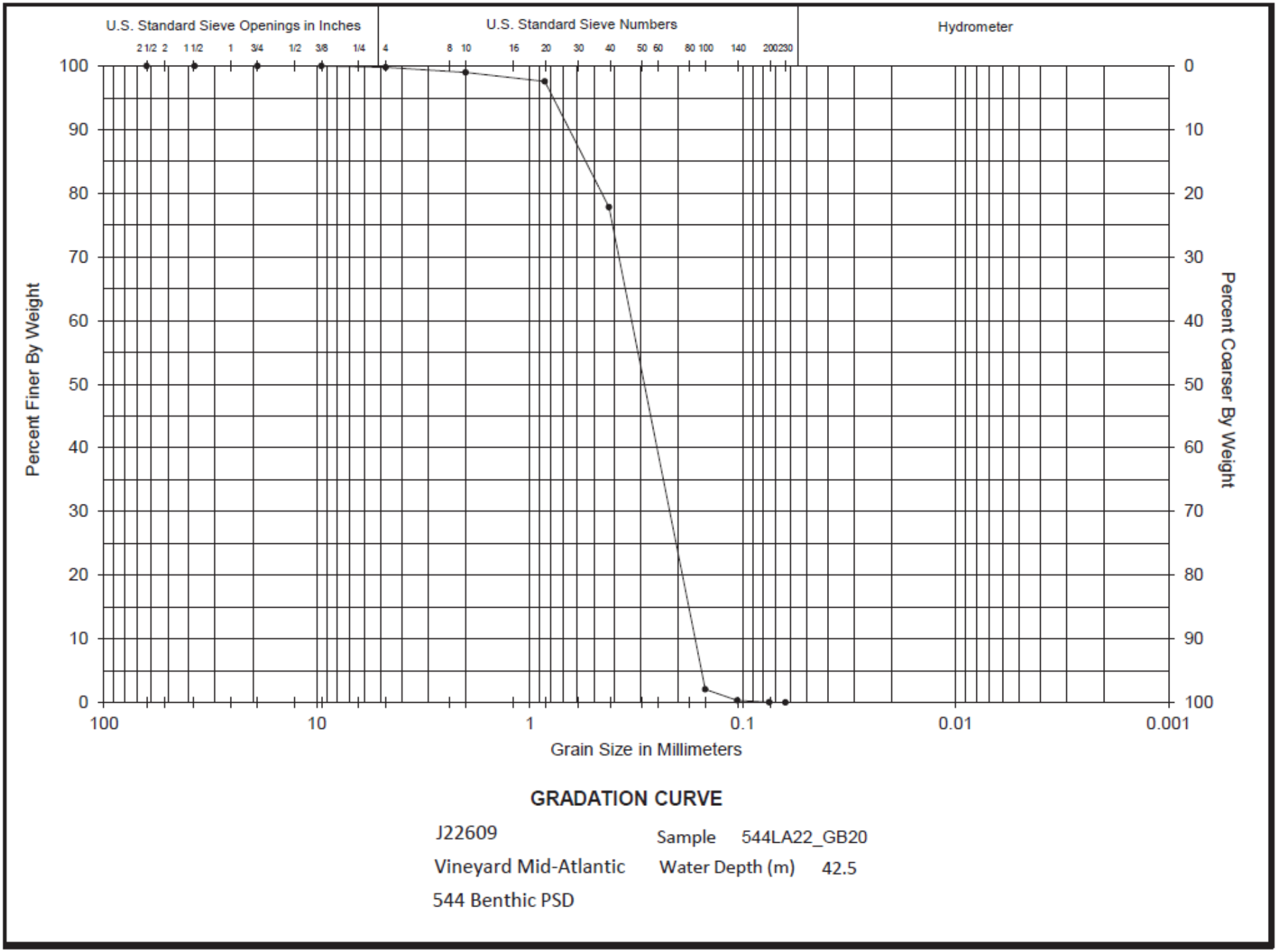
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.82	0.18	
2	10	99.02	0.98	56.42
0.85	20	97.59	2.41	
0.425	40	77.83	22.17	
0.15	100	2.07	97.93	
0.106	140	0.31	99.69	
0.075	200	0.03	99.97	
0.063	230	0.01	99.99	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.02
% Passing #230	0.01
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.43
% Gravel-Sized Shell	> 2.00 mm	0.55
% Sand	0.0625 - 2.00 mm	99.01
% Silt and Clay	< 0.0625 mm	0.01
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.23
% Medium Sand	0.25 - 0.50 mm	19.76
% Fine Sand	0.0625 - 0.25 mm	77.82

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	77.83	0.425	2.07	0.150	0.167
D30	30	77.83	0.425	2.07	0.150	0.220
D50	50	77.83	0.425	2.07	0.150	0.290
D60	60	77.83	0.425	2.07	0.150	0.333

Uniformity Coefficient (Cu)	1.988
Coefficient of Curvature (Cc)	0.872



GRADATION CURVE

J22609 Sample 544LA22_GB20

Vineyard Mid-Atlantic Water Depth (m) 42.5

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB21
Water Depth (m)	41.3

Grain Size Data

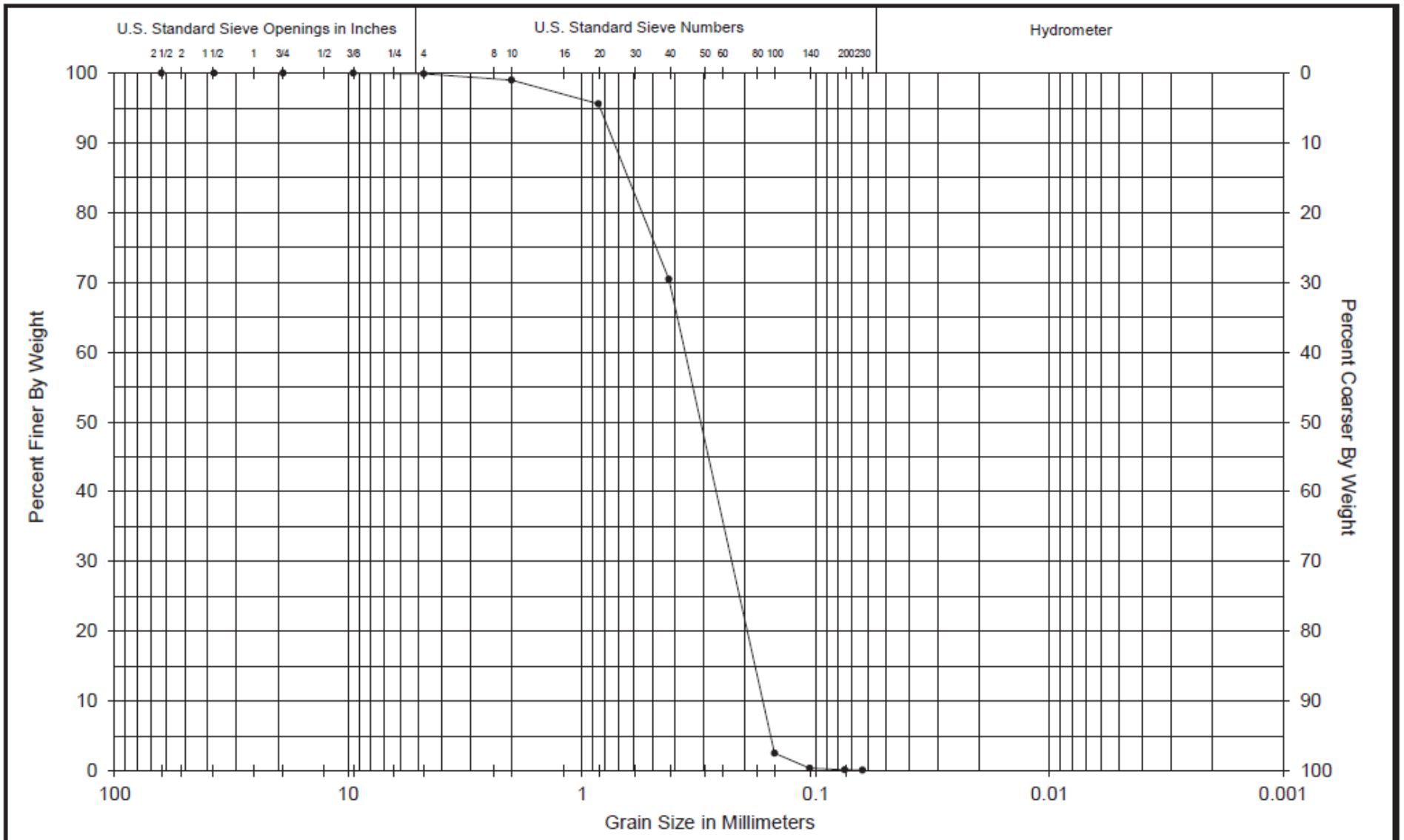
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.90	0.10	
2	10	98.99	1.01	13.71
0.85	20	95.60	4.40	
0.425	40	70.48	29.52	
0.15	100	2.54	97.46	
0.106	140	0.38	99.62	
0.075	200	0.14	99.86	
0.063	230	0.11	99.89	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.99
% Passing #230	0.11
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.87
% Gravel-Sized Shell	> 2.00 mm	0.14
% Sand	0.0625 - 2.00 mm	98.88
% Silt and Clay	< 0.0625 mm	0.11
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.30
% Medium Sand	0.25 - 0.50 mm	25.12
% Fine Sand	0.0625 - 0.25 mm	70.37

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	70.48	0.425	2.54	0.150	0.168
D30	30	70.48	0.425	2.54	0.150	0.229
D50	50	70.48	0.425	2.54	0.150	0.310
D60	60	70.48	0.425	2.54	0.150	0.362

Uniformity Coefficient (Cu)	2.152
Coefficient of Curvature (Cc)	0.858



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB21

Water Depth (m) 41.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB022A
Water Depth (m)	42.1

Grain Size Data

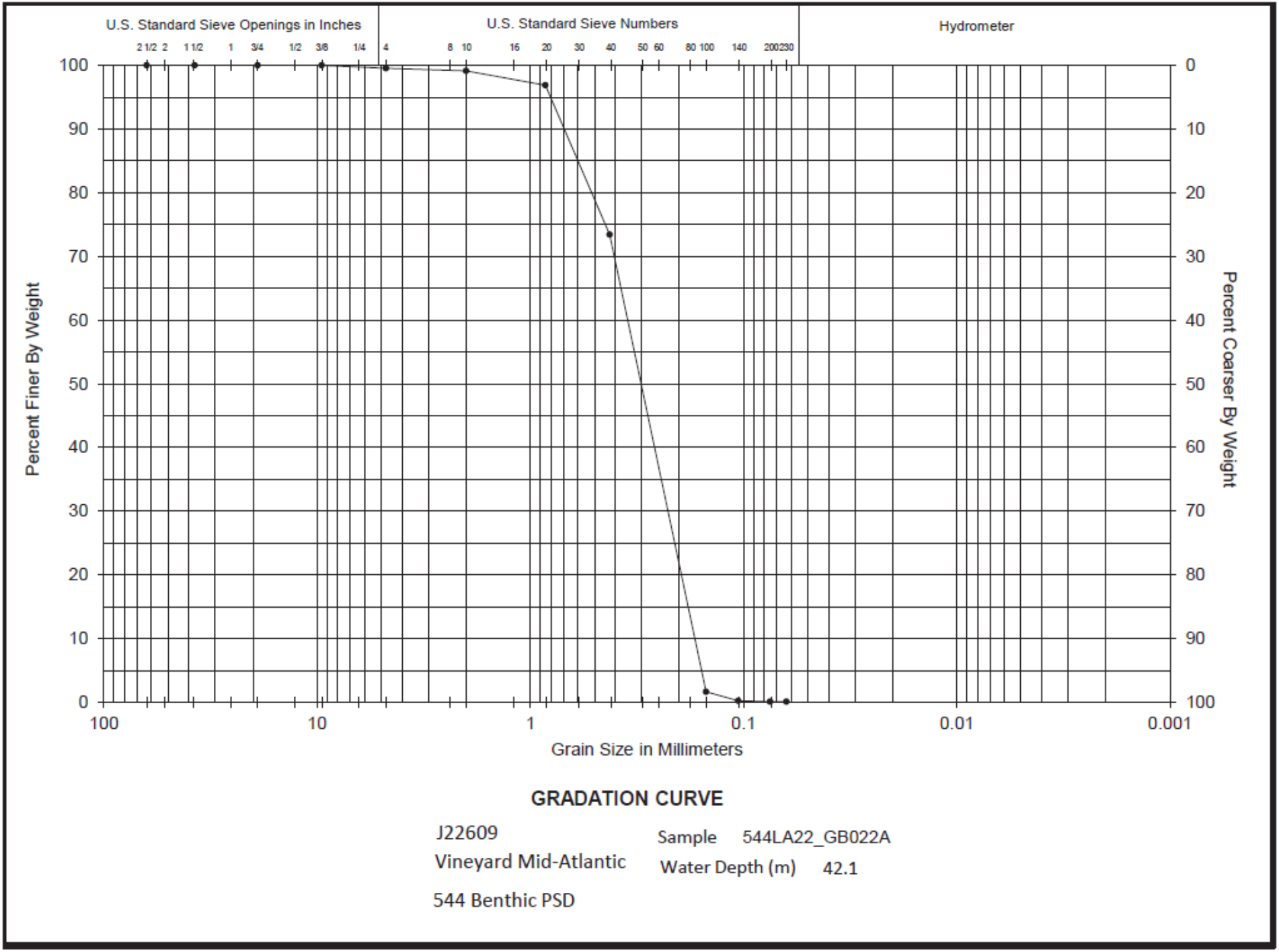
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.53	0.47	
2	10	99.14	0.86	100.00
0.85	20	96.90	3.10	
0.425	40	73.43	26.57	
0.15	100	1.66	98.34	
0.106	140	0.24	99.76	
0.075	200	0.11	99.89	
0.063	230	0.11	99.89	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.14
% Passing #230	0.11
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.86
% Sand	0.0625 - 2.00 mm	99.03
% Silt and Clay	< 0.0625 mm	0.11
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.63
% Medium Sand	0.25 - 0.50 mm	23.47
% Fine Sand	0.0625 - 0.25 mm	73.32

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	73.43	0.425	1.66	0.150	0.169
D30	30	73.43	0.425	1.66	0.150	0.226
D50	50	73.43	0.425	1.66	0.150	0.302
D60	60	73.43	0.425	1.66	0.150	0.350

Uniformity Coefficient (Cu)	2.066
Coefficient of Curvature (Cc)	0.865



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB022A
Water Depth (m) 42.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB022B
Water Depth (m)	42.1

Grain Size Data

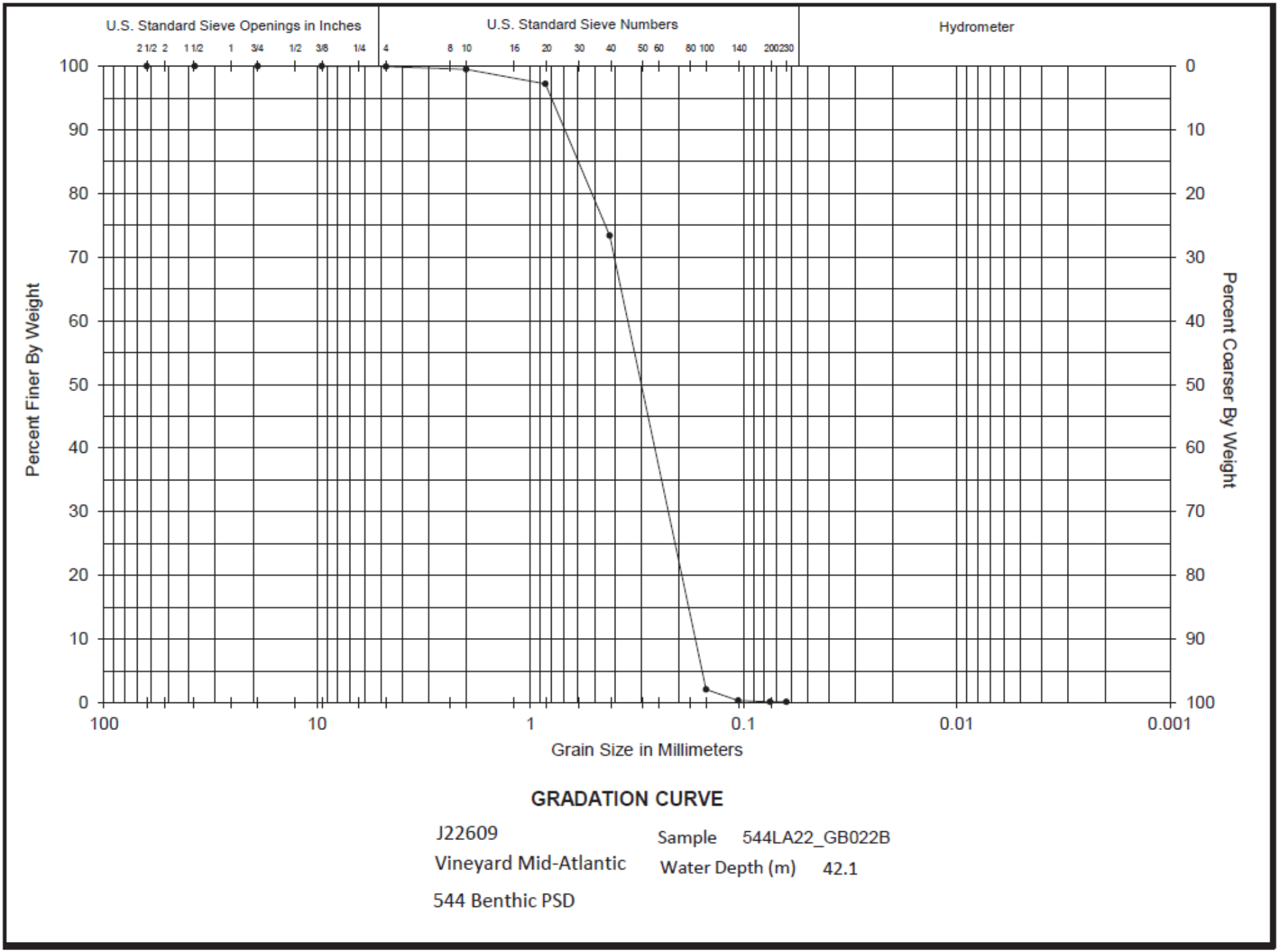
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.94	0.06	
2	10	99.51	0.49	90.53
0.85	20	97.21	2.79	
0.425	40	73.40	26.60	
0.15	100	2.10	97.90	
0.106	140	0.33	99.67	
0.075	200	0.14	99.86	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.51
% Passing #230	0.13
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.05
% Gravel-Sized Shell	> 2.00 mm	0.45
% Sand	0.0625 - 2.00 mm	99.38
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.73
% Medium Sand	0.25 - 0.50 mm	23.81
% Fine Sand	0.0625 - 0.25 mm	73.27

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	73.40	0.425	2.10	0.150	0.168
D30	30	73.40	0.425	2.10	0.150	0.225
D50	50	73.40	0.425	2.10	0.150	0.302
D60	60	73.40	0.425	2.10	0.150	0.349

Uniformity Coefficient (Cu)	2.076
Coefficient of Curvature (Cc)	0.864



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB022B
Water Depth (m) 42.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB022C
Water Depth (m)	42.1

Grain Size Data

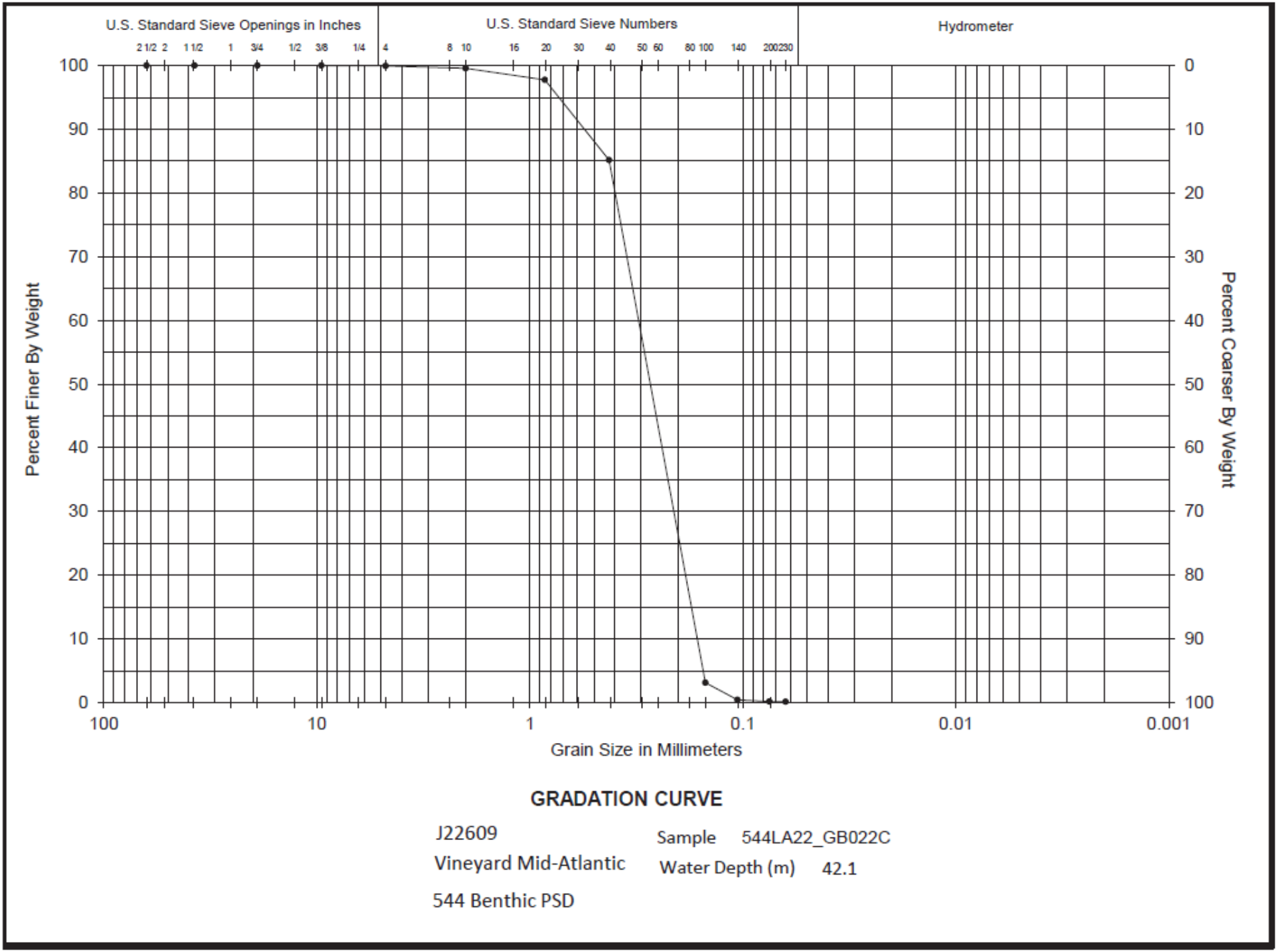
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.94	0.06	
2	10	99.56	0.44	96.51
0.85	20	97.77	2.23	
0.425	40	85.19	14.81	
0.15	100	3.13	96.87	
0.106	140	0.44	99.56	
0.075	200	0.16	99.84	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.56
% Passing #230	0.13
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.42
% Sand	0.0625 - 2.00 mm	99.43
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.18
% Medium Sand	0.25 - 0.50 mm	12.57
% Fine Sand	0.0625 - 0.25 mm	85.06

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	85.19	0.425	3.13	0.150	0.164
D30	30	85.19	0.425	3.13	0.150	0.211
D50	50	85.19	0.425	3.13	0.150	0.272
D60	60	85.19	0.425	3.13	0.150	0.309

Uniformity Coefficient (Cu)	1.886
Coefficient of Curvature (Cc)	0.881



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB022C
Water Depth (m) 42.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB023A
Water Depth (m)	44.3

Grain Size Data

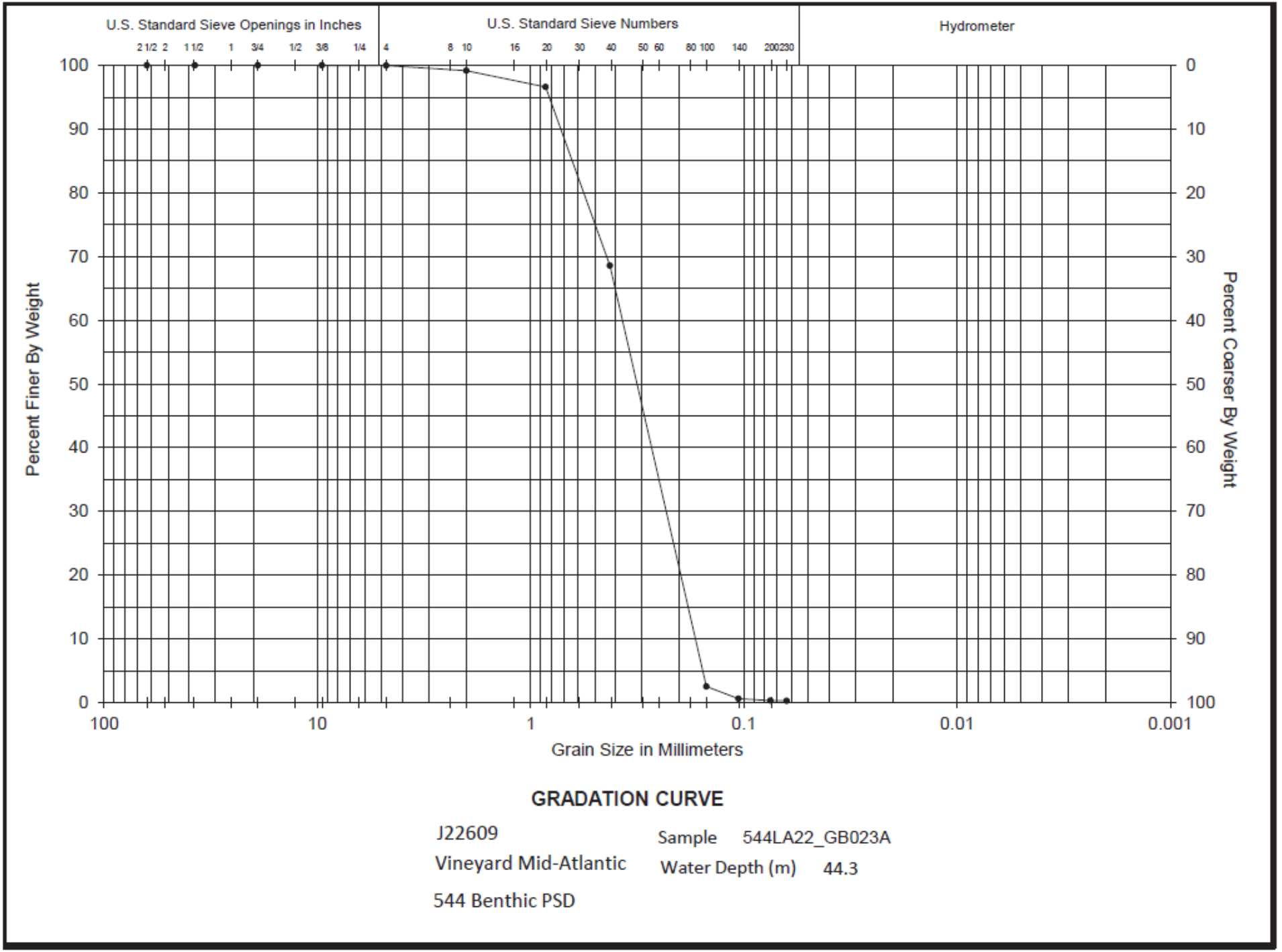
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.18	0.82	96.84
0.85	20	96.62	3.38	
0.425	40	68.57	31.43	
0.15	100	2.51	97.49	
0.106	140	0.61	99.39	
0.075	200	0.32	99.68	
0.063	230	0.28	99.72	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.18
% Passing #230	0.28
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.79
% Sand	0.0625 - 2.00 mm	98.90
% Silt and Clay	< 0.0625 mm	0.28
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.35
% Medium Sand	0.25 - 0.50 mm	28.05
% Fine Sand	0.0625 - 0.25 mm	68.30

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	68.57	0.425	2.51	0.150	0.169
D30	30	68.57	0.425	2.51	0.150	0.231
D50	50	68.57	0.425	2.51	0.150	0.317
D60	60	68.57	0.425	2.51	0.150	0.371

Uniformity Coefficient (Cu)	2.200
Coefficient of Curvature (Cc)	0.854



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB023A
Water Depth (m) 44.3

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB023B
Water Depth (m)	43.5

Grain Size Data

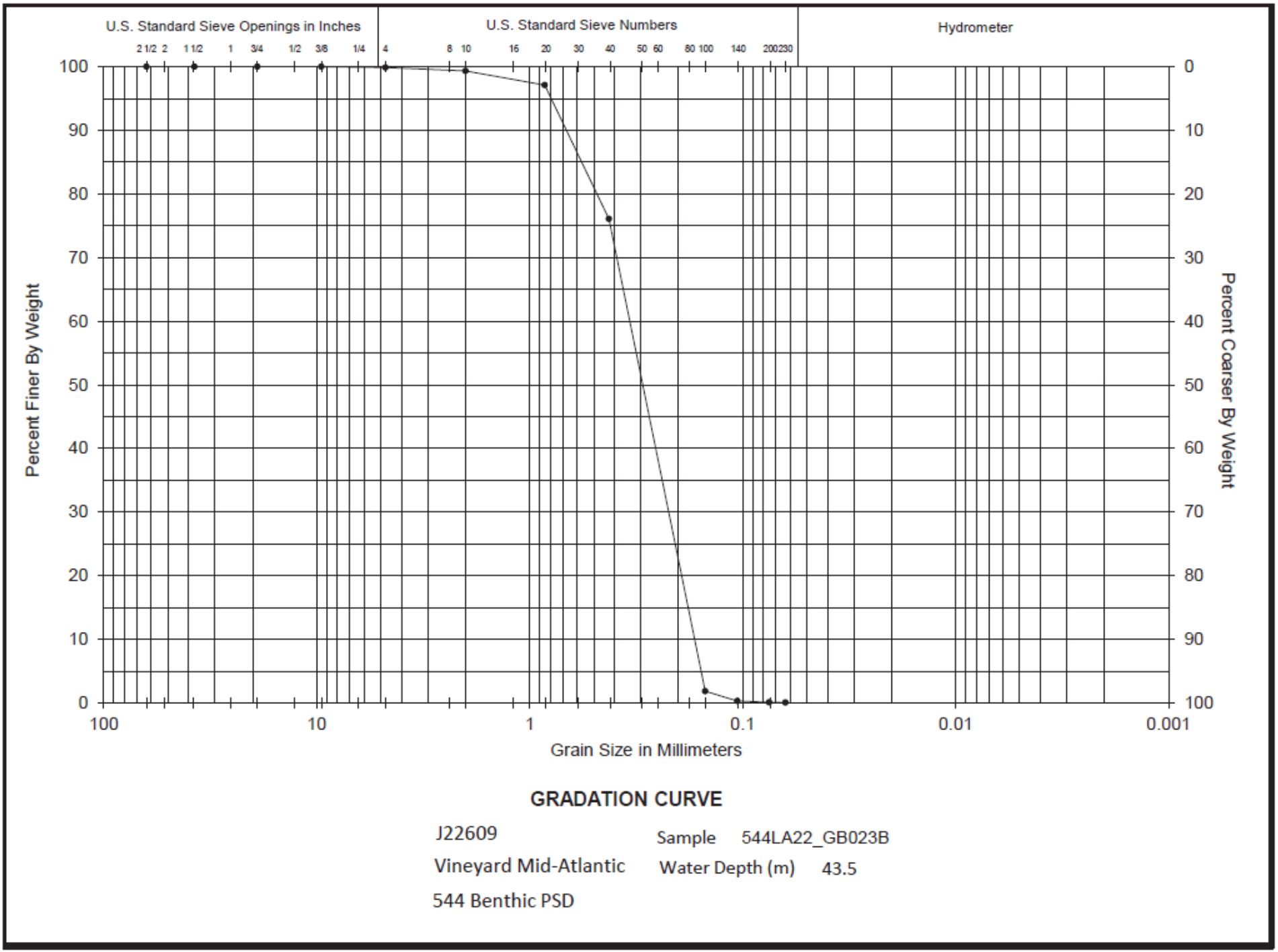
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.90	0.10	
2	10	99.33	0.67	98.44
0.85	20	97.11	2.89	
0.425	40	76.09	23.91	
0.15	100	1.85	98.15	
0.106	140	0.31	99.69	
0.075	200	0.10	99.90	
0.063	230	0.07	99.93	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.33
% Passing #230	0.07
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.66
% Sand	0.0625 - 2.00 mm	99.26
% Silt and Clay	< 0.0625 mm	0.07
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.78
% Medium Sand	0.25 - 0.50 mm	21.02
% Fine Sand	0.0625 - 0.25 mm	76.02

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	76.09	0.425	1.85	0.150	0.168
D30	30	76.09	0.425	1.85	0.150	0.223
D50	50	76.09	0.425	1.85	0.150	0.295
D60	60	76.09	0.425	1.85	0.150	0.339

Uniformity Coefficient (Cu)	2.017
Coefficient of Curvature (Cc)	0.869



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB023B

Water Depth (m) 43.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB023C
Water Depth (m)	43.2

Grain Size Data

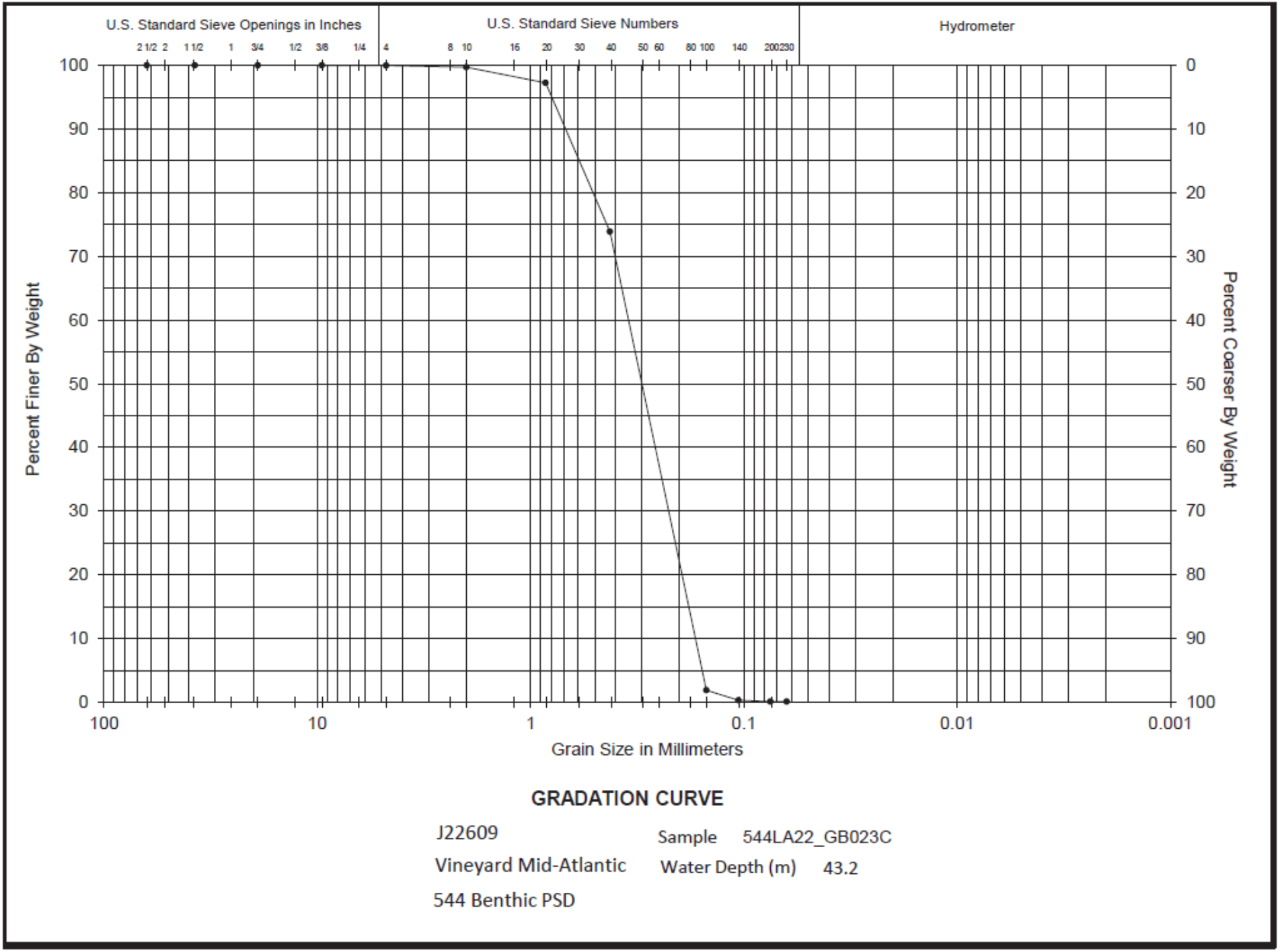
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.70	0.30	90.91
0.85	20	97.25	2.75	
0.425	40	73.90	26.10	
0.15	100	1.87	98.13	
0.106	140	0.30	99.70	
0.075	200	0.11	99.89	
0.063	230	0.09	99.91	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.70
% Passing #230	0.09
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.27
% Sand	0.0625 - 2.00 mm	99.61
% Silt and Clay	< 0.0625 mm	0.09
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.72
% Medium Sand	0.25 - 0.50 mm	23.34
% Fine Sand	0.0625 - 0.25 mm	73.81

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	73.90	0.425	1.87	0.150	0.169
D30	30	73.90	0.425	1.87	0.150	0.225
D50	50	73.90	0.425	1.87	0.150	0.301
D60	60	73.90	0.425	1.87	0.150	0.348

Uniformity Coefficient (Cu)	2.060
Coefficient of Curvature (Cc)	0.865



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB023C

Water Depth (m) 43.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB24
Water Depth (m)	41.2

Grain Size Data

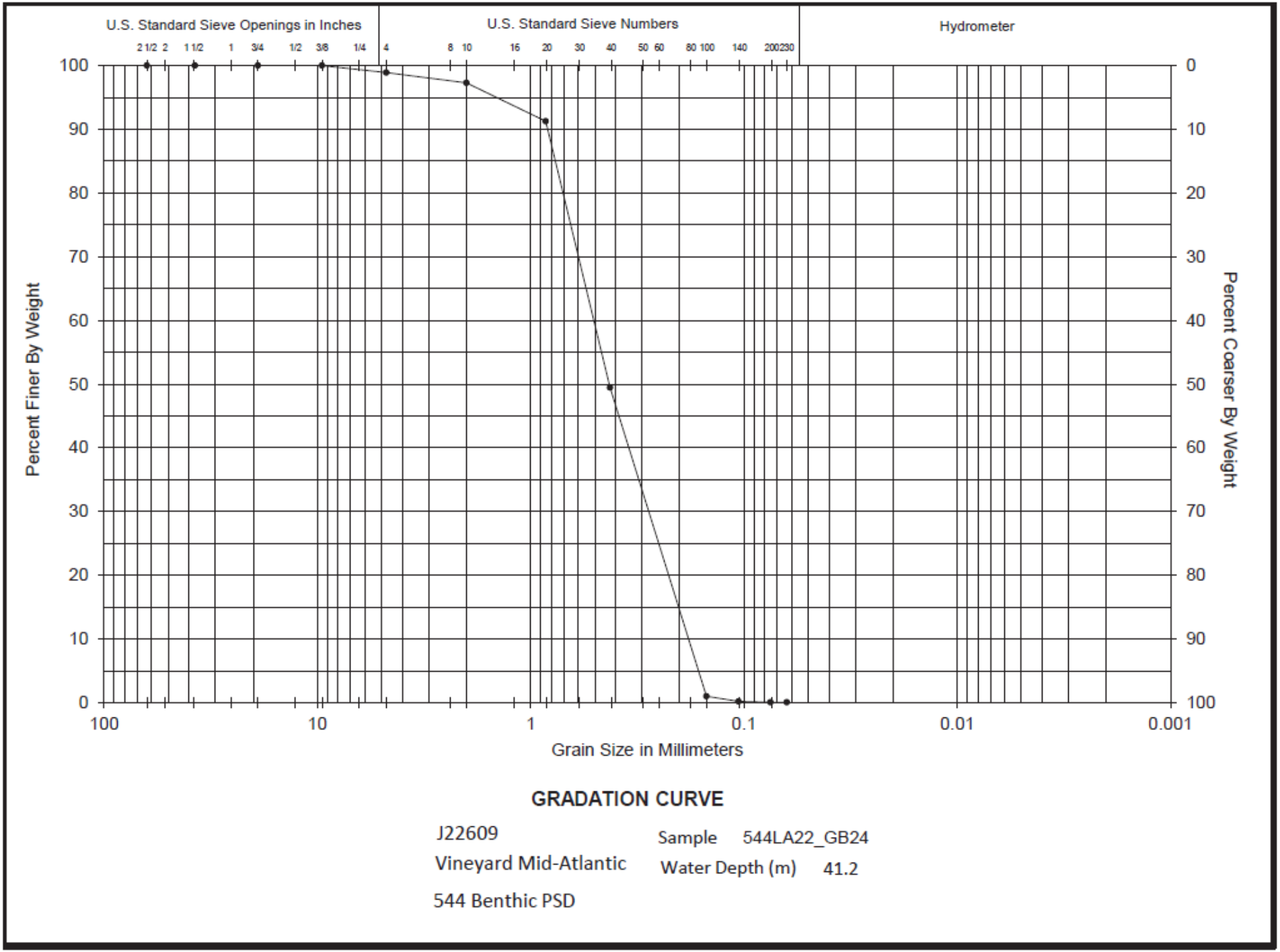
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.89	1.11	
2	10	97.29	2.71	55.38
0.85	20	91.25	8.75	
0.425	40	49.46	50.54	
0.15	100	1.01	98.99	
0.106	140	0.21	99.79	
0.075	200	0.08	99.92	
0.063	230	0.06	99.94	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.29
% Passing #230	0.06
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.21
% Gravel-Sized Shell	> 2.00 mm	1.50
% Sand	0.0625 - 2.00 mm	97.23
% Silt and Clay	< 0.0625 mm	0.06
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	7.64
% Medium Sand	0.25 - 0.50 mm	41.79
% Fine Sand	0.0625 - 0.25 mm	49.40

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	49.46	0.425	1.01	0.150	0.182
D30	30	49.46	0.425	1.01	0.150	0.280
D50	50	91.25	0.850	49.46	0.425	0.429
D60	60	91.25	0.850	49.46	0.425	0.506

Uniformity Coefficient (Cu)	2.782
Coefficient of Curvature (Cc)	0.849



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB24

Water Depth (m) 41.2

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB025A
Water Depth (m)	42.5

Grain Size Data

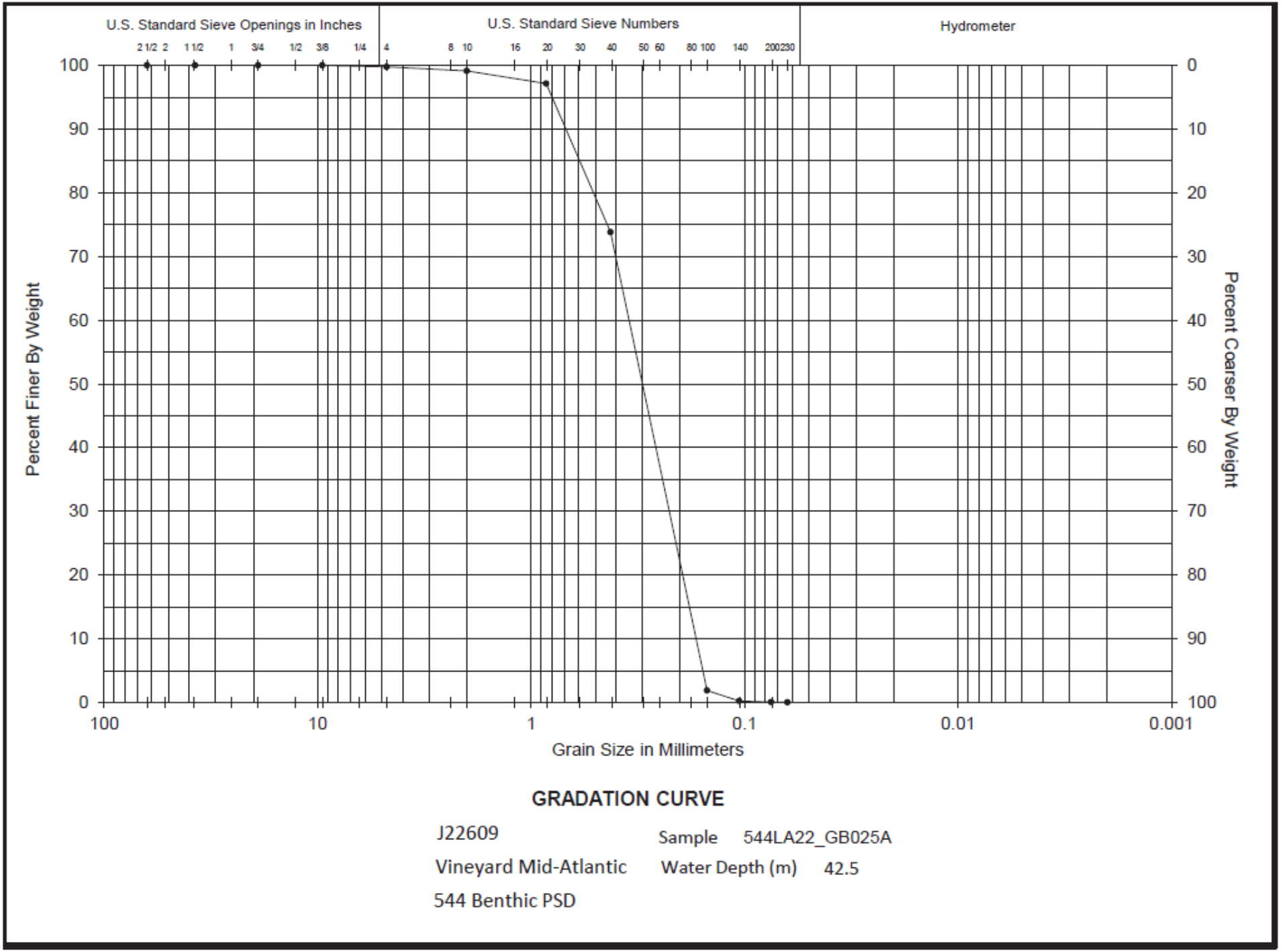
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.77	0.23	
2	10	99.13	0.87	86.55
0.85	20	97.16	2.84	
0.425	40	73.83	26.17	
0.15	100	1.88	98.12	
0.106	140	0.24	99.76	
0.075	200	0.06	99.94	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.13
% Passing #230	0.04
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.12
% Gravel-Sized Shell	> 2.00 mm	0.75
% Sand	0.0625 - 2.00 mm	99.09
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.61
% Medium Sand	0.25 - 0.50 mm	23.33
% Fine Sand	0.0625 - 0.25 mm	73.79

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	73.83	0.425	1.88	0.150	0.169
D30	30	73.83	0.425	1.88	0.150	0.225
D50	50	73.83	0.425	1.88	0.150	0.301
D60	60	73.83	0.425	1.88	0.150	0.348

Uniformity Coefficient (Cu)	2.062
Coefficient of Curvature (Cc)	0.865



GRADATION CURVE

J22609 Sample 544LA22_GB025A

Vineyard Mid-Atlantic Water Depth (m) 42.5

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB025B
Water Depth (m)	42.5

Grain Size Data

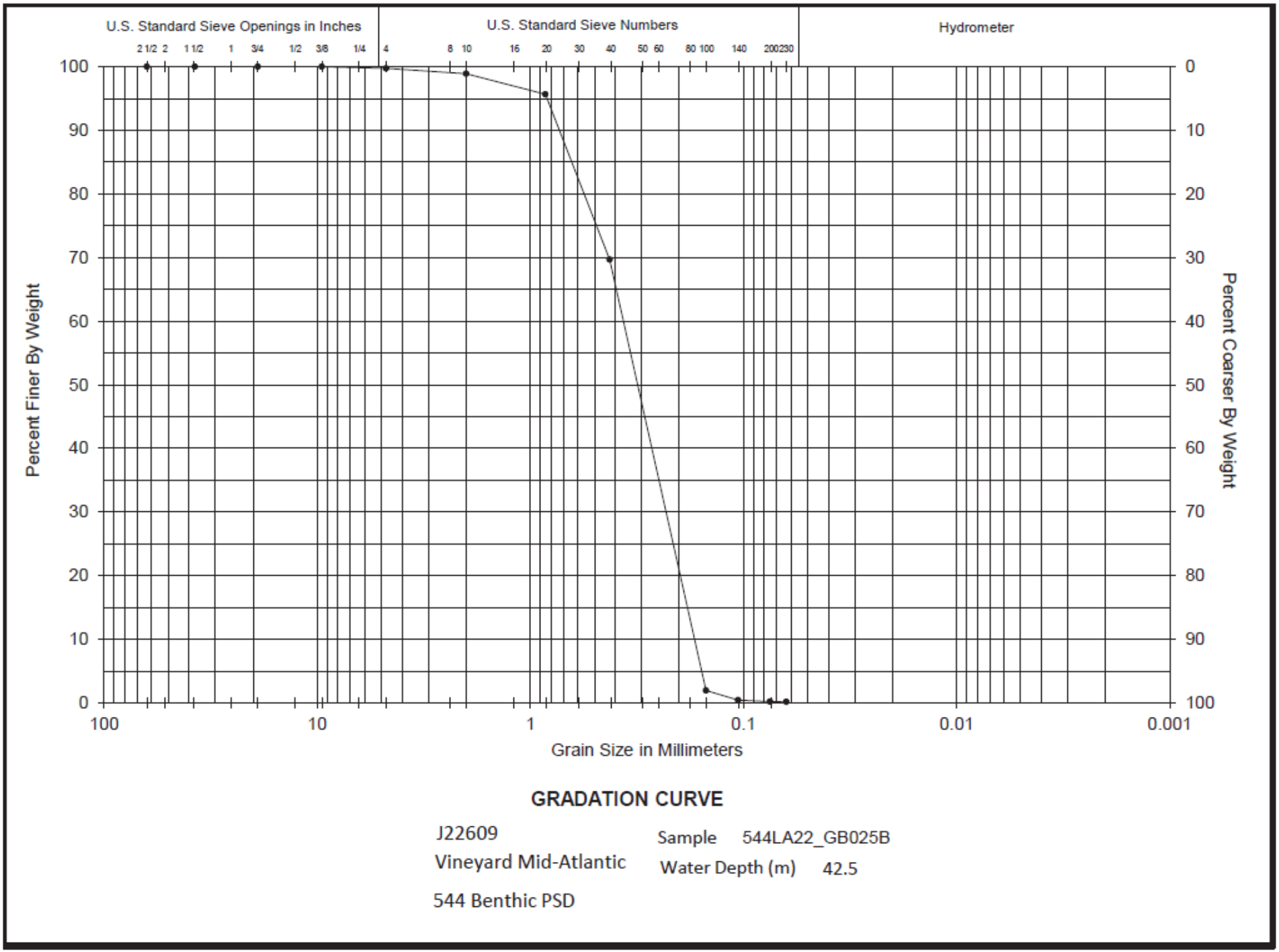
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.74	0.26	
2	10	98.90	1.10	98.49
0.85	20	95.67	4.33	
0.425	40	69.71	30.29	
0.15	100	1.96	98.04	
0.106	140	0.46	99.54	
0.075	200	0.21	99.79	
0.063	230	0.16	99.84	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.90
% Passing #230	0.16
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	1.08
% Sand	0.0625 - 2.00 mm	98.74
% Silt and Clay	< 0.0625 mm	0.16
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.07
% Medium Sand	0.25 - 0.50 mm	25.96
% Fine Sand	0.0625 - 0.25 mm	69.55

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	69.71	0.425	1.96	0.150	0.170
D30	30	69.71	0.425	1.96	0.150	0.231
D50	50	69.71	0.425	1.96	0.150	0.314
D60	60	69.71	0.425	1.96	0.150	0.366

Uniformity Coefficient (Cu)	2.157
Coefficient of Curvature (Cc)	0.858



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB025B

Water Depth (m) 42.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB025C
Water Depth (m)	42.5

Grain Size Data

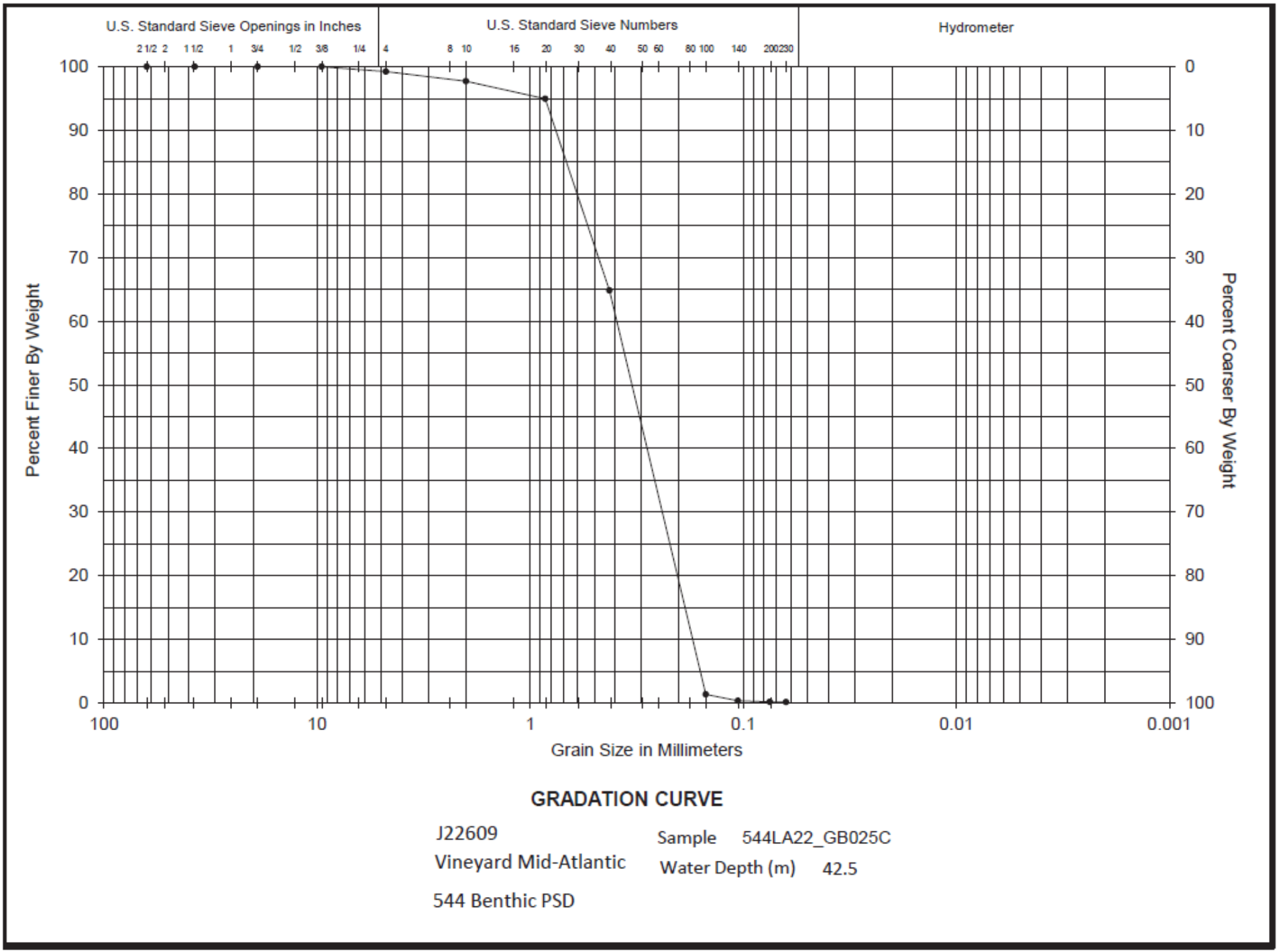
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.24	0.76	
2	10	97.73	2.27	98.99
0.85	20	94.98	5.02	
0.425	40	64.84	35.16	
0.15	100	1.34	98.66	
0.106	140	0.34	99.66	
0.075	200	0.18	99.82	
0.063	230	0.15	99.85	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.73
% Passing #230	0.15
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	2.24
% Sand	0.0625 - 2.00 mm	97.59
% Silt and Clay	< 0.0625 mm	0.15
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.26
% Medium Sand	0.25 - 0.50 mm	30.14
% Fine Sand	0.0625 - 0.25 mm	64.69

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	64.84	0.425	1.34	0.150	0.173
D30	30	64.84	0.425	1.34	0.150	0.240
D50	50	64.84	0.425	1.34	0.150	0.333
D60	60	64.84	0.425	1.34	0.150	0.393

Uniformity Coefficient (Cu)	2.271
Coefficient of Curvature (Cc)	0.849



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB025C
Water Depth (m) 42.5

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB26
Water Depth (m)	42.4

Grain Size Data

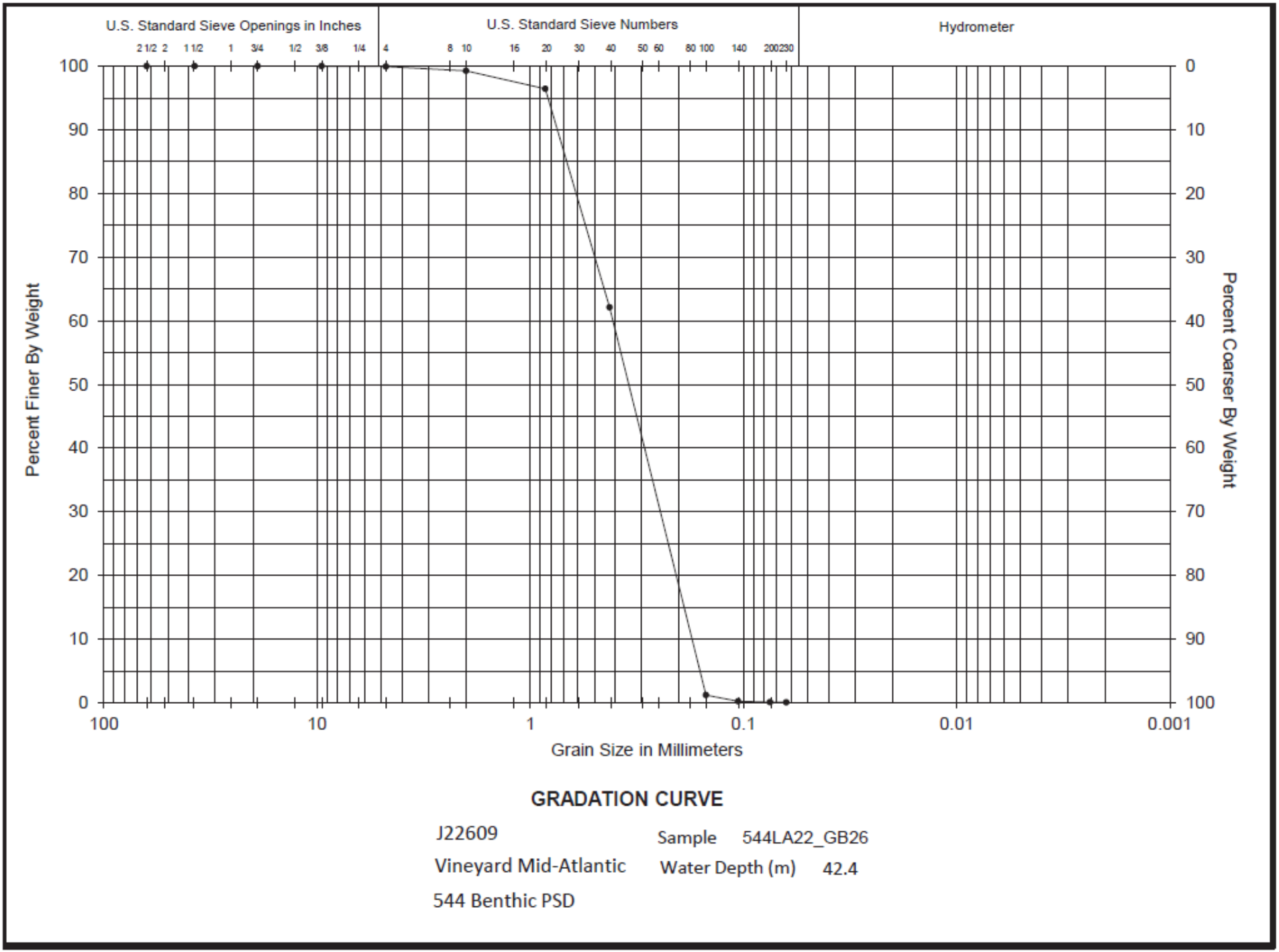
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.94	0.06	
2	10	99.27	0.73	98.08
0.85	20	96.46	3.54	
0.425	40	62.13	37.87	
0.15	100	1.20	98.80	
0.106	140	0.24	99.76	
0.075	200	0.10	99.90	
0.063	230	0.07	99.93	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.27
% Passing #230	0.07
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.71
% Sand	0.0625 - 2.00 mm	99.20
% Silt and Clay	< 0.0625 mm	0.07
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.48
% Medium Sand	0.25 - 0.50 mm	34.33
% Fine Sand	0.0625 - 0.25 mm	62.06

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	62.13	0.425	1.20	0.150	0.174
D30	30	62.13	0.425	1.20	0.150	0.245
D50	50	62.13	0.425	1.20	0.150	0.345
D60	60	62.13	0.425	1.20	0.150	0.410

Uniformity Coefficient (Cu)	2.350
Coefficient of Curvature (Cc)	0.843



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB26
Water Depth (m) 42.4

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB27
Water Depth (m)	44.3

Grain Size Data

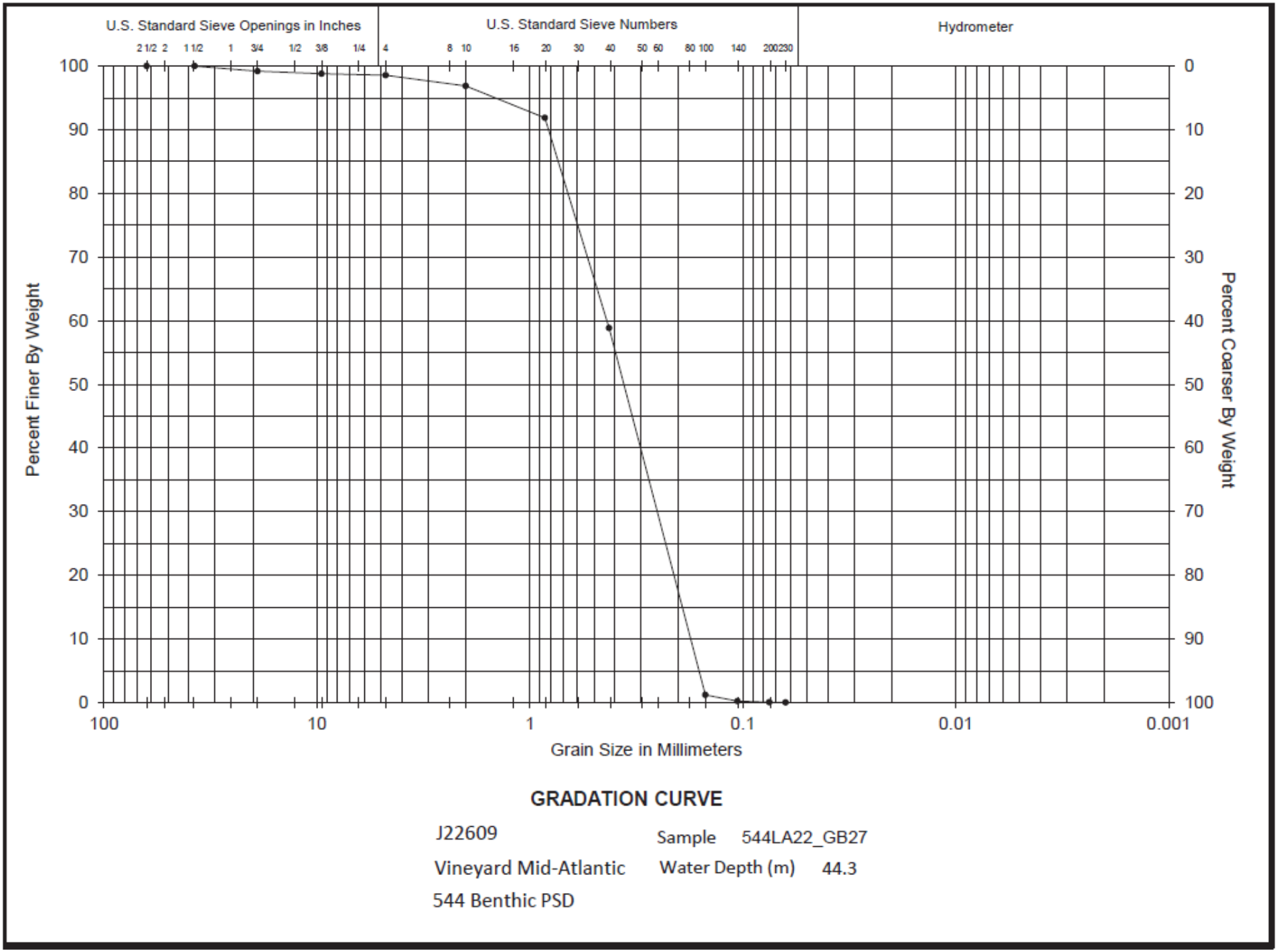
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.22	0.78	
9.5	3/8"	98.81	1.19	
4.75	4	98.57	1.43	
2	10	96.88	3.12	94.53
0.85	20	91.87	8.13	
0.425	40	58.85	41.15	
0.15	100	1.21	98.79	
0.106	140	0.22	99.78	
0.075	200	0.07	99.93	
0.063	230	0.05	99.95	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.88
% Passing #230	0.05
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.17
% Gravel-Sized Shell	> 2.00 mm	2.95
% Sand	0.0625 - 2.00 mm	96.83
% Silt and Clay	< 0.0625 mm	0.05
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	6.69
% Medium Sand	0.25 - 0.50 mm	33.03
% Fine Sand	0.0625 - 0.25 mm	58.80

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	58.85	0.425	1.21	0.150	0.176
D30	30	58.85	0.425	1.21	0.150	0.252
D50	50	58.85	0.425	1.21	0.150	0.362
D60	60	91.87	0.850	58.85	0.425	0.435

Uniformity Coefficient (Cu)	2.476
Coefficient of Curvature (Cc)	0.832



GRADATION CURVE

J22609 Sample 544LA22_GB27

Vineyard Mid-Atlantic Water Depth (m) 44.3

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB028A
Water Depth (m)	40.1

Grain Size Data

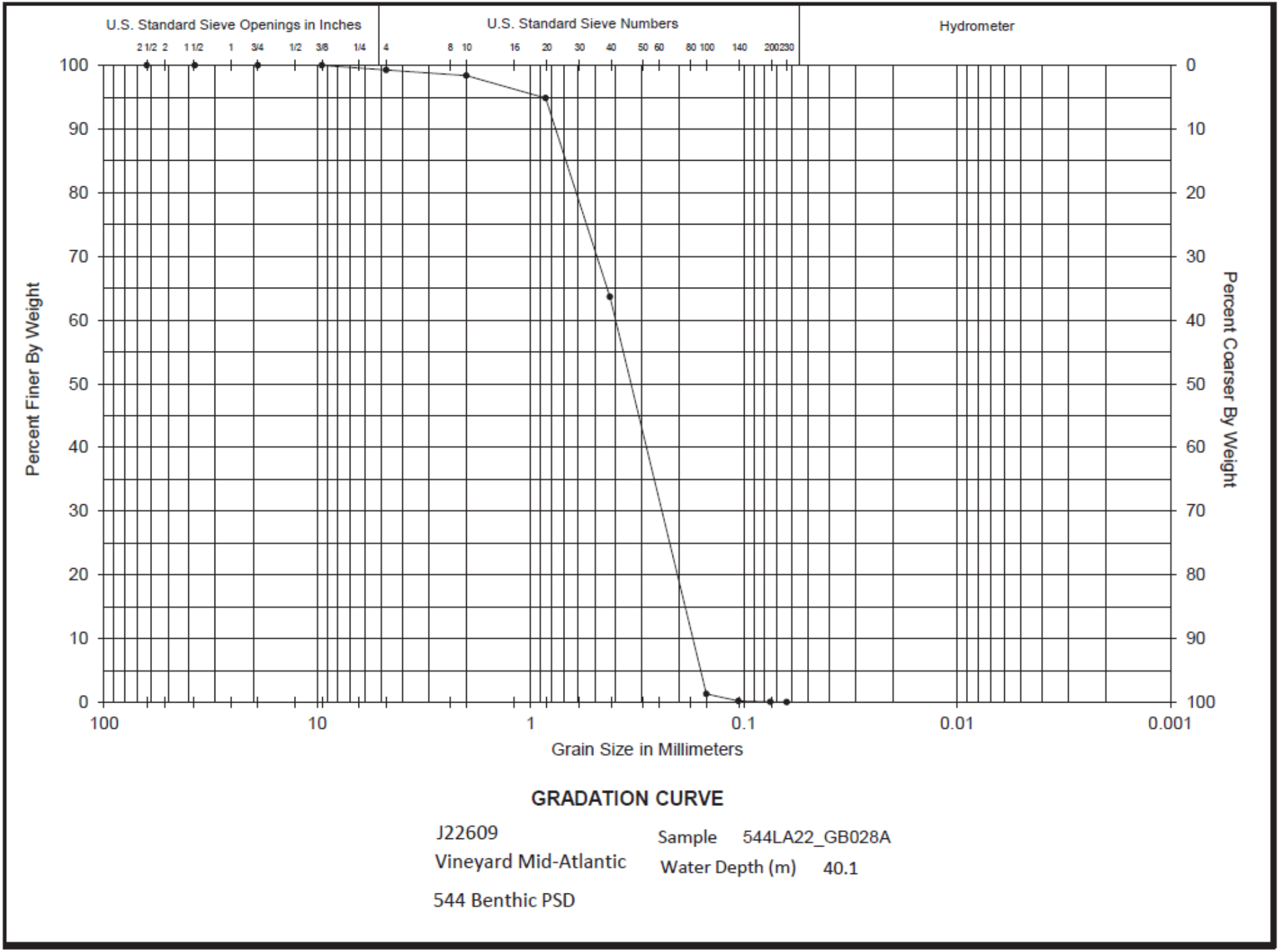
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.27	0.73	
2	10	98.38	1.62	73.88
0.85	20	94.85	5.15	
0.425	40	63.66	36.34	
0.15	100	1.33	98.67	
0.106	140	0.21	99.79	
0.075	200	0.06	99.94	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.38
% Passing #230	0.04
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.42
% Gravel-Sized Shell	> 2.00 mm	1.19
% Sand	0.0625 - 2.00 mm	98.34
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.42
% Medium Sand	0.25 - 0.50 mm	31.19
% Fine Sand	0.0625 - 0.25 mm	63.62

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	63.66	0.425	1.33	0.150	0.173
D30	30	63.66	0.425	1.33	0.150	0.242
D50	50	63.66	0.425	1.33	0.150	0.338
D60	60	63.66	0.425	1.33	0.150	0.400

Uniformity Coefficient (Cu)	2.306
Coefficient of Curvature (Cc)	0.846



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB028A
Water Depth (m) 40.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB028B
Water Depth (m)	40.1

Grain Size Data

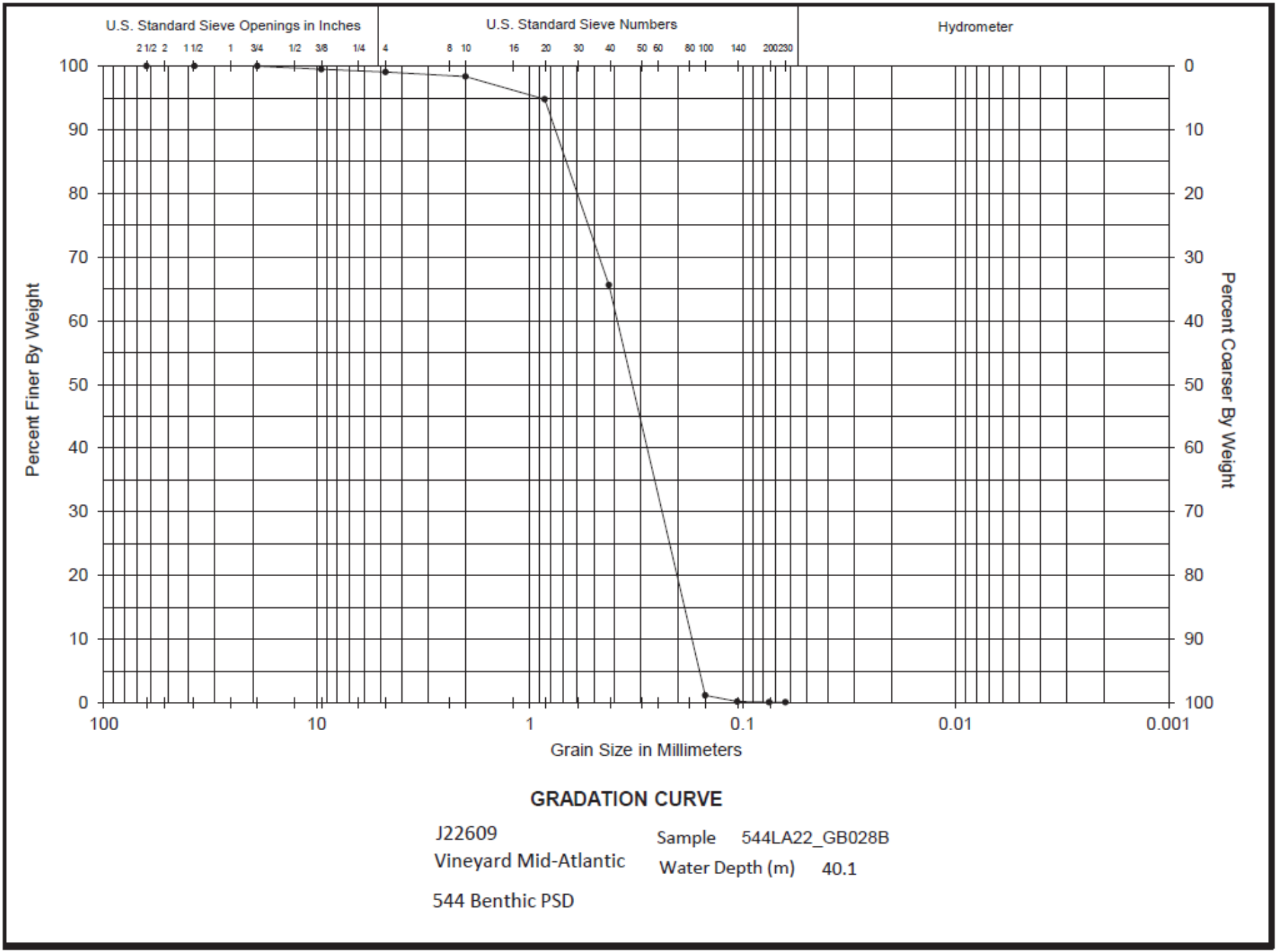
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.52	0.48	
4.75	4	99.06	0.94	
2	10	98.35	1.65	73.33
0.85	20	94.78	5.22	
0.425	40	65.62	34.38	
0.15	100	1.17	98.83	
0.106	140	0.21	99.79	
0.075	200	0.10	99.90	
0.063	230	0.10	99.90	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.35
% Passing #230	0.10
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.44
% Gravel-Sized Shell	> 2.00 mm	1.21
% Sand	0.0625 - 2.00 mm	98.26
% Silt and Clay	< 0.0625 mm	0.10
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.28
% Medium Sand	0.25 - 0.50 mm	29.16
% Fine Sand	0.0625 - 0.25 mm	65.53

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	65.62	0.425	1.17	0.150	0.173
D30	30	65.62	0.425	1.17	0.150	0.239
D50	50	65.62	0.425	1.17	0.150	0.330
D60	60	65.62	0.425	1.17	0.150	0.388

Uniformity Coefficient (Cu)	2.243
Coefficient of Curvature (Cc)	0.851



GRADATION CURVE

J22609
Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB028B
Water Depth (m) 40.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB028C
Water Depth (m)	40.1

Grain Size Data

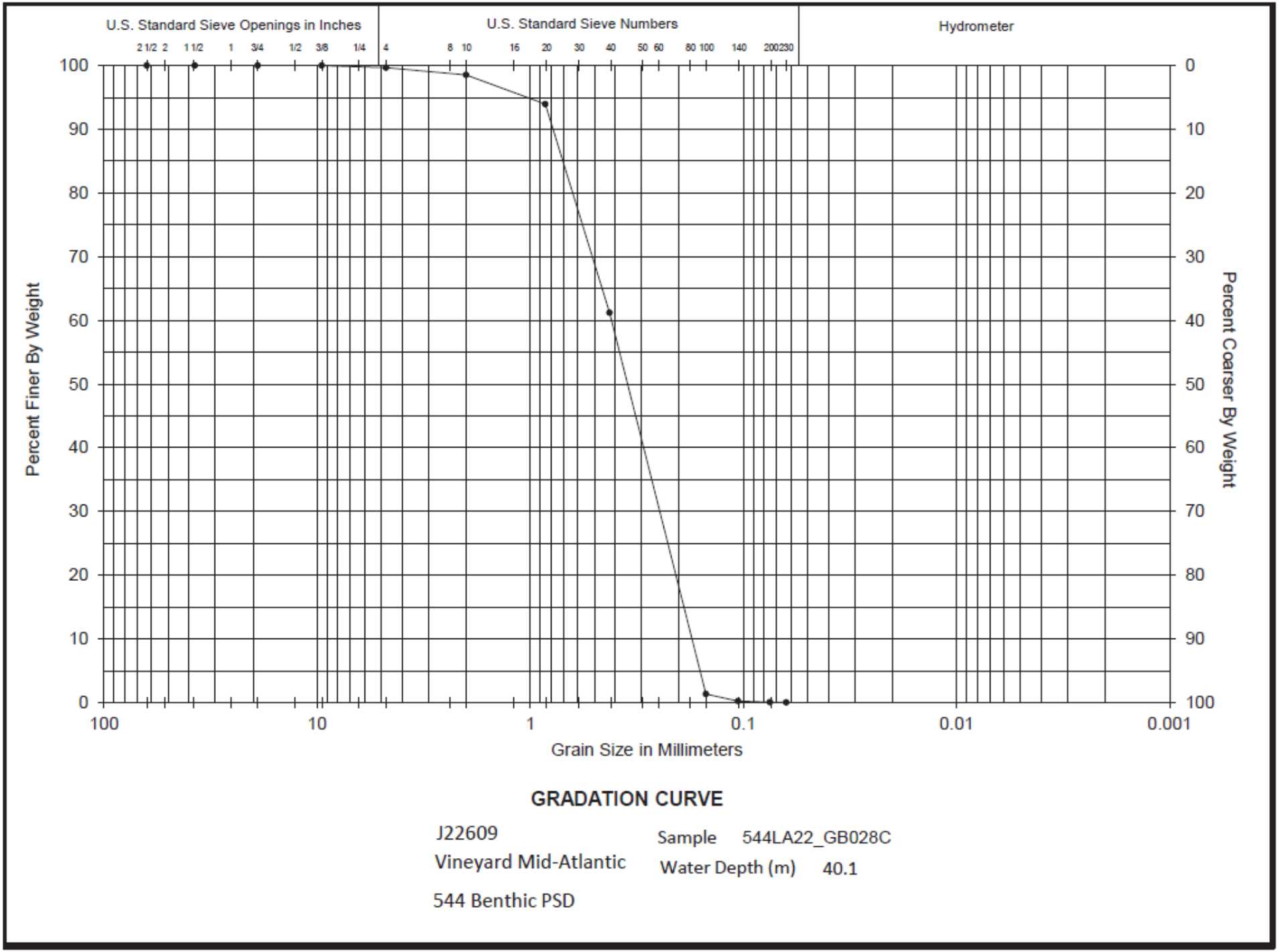
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.67	0.33	
2	10	98.54	1.46	76.47
0.85	20	93.96	6.04	
0.425	40	61.22	38.78	
0.15	100	1.36	98.64	
0.106	140	0.24	99.76	
0.075	200	0.07	99.93	
0.063	230	0.04	99.96	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.54
% Passing #230	0.04
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.34
% Gravel-Sized Shell	> 2.00 mm	1.12
% Sand	0.0625 - 2.00 mm	98.50
% Silt and Clay	< 0.0625 mm	0.04
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	5.71
% Medium Sand	0.25 - 0.50 mm	32.74
% Fine Sand	0.0625 - 0.25 mm	61.18

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	61.22	0.425	1.36	0.150	0.174
D30	30	61.22	0.425	1.36	0.150	0.247
D50	50	61.22	0.425	1.36	0.150	0.350
D60	60	61.22	0.425	1.36	0.150	0.416

Uniformity Coefficient (Cu)	2.386
Coefficient of Curvature (Cc)	0.840



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB028C
Water Depth (m) 40.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB29
Water Depth (m)	40.1

Grain Size Data

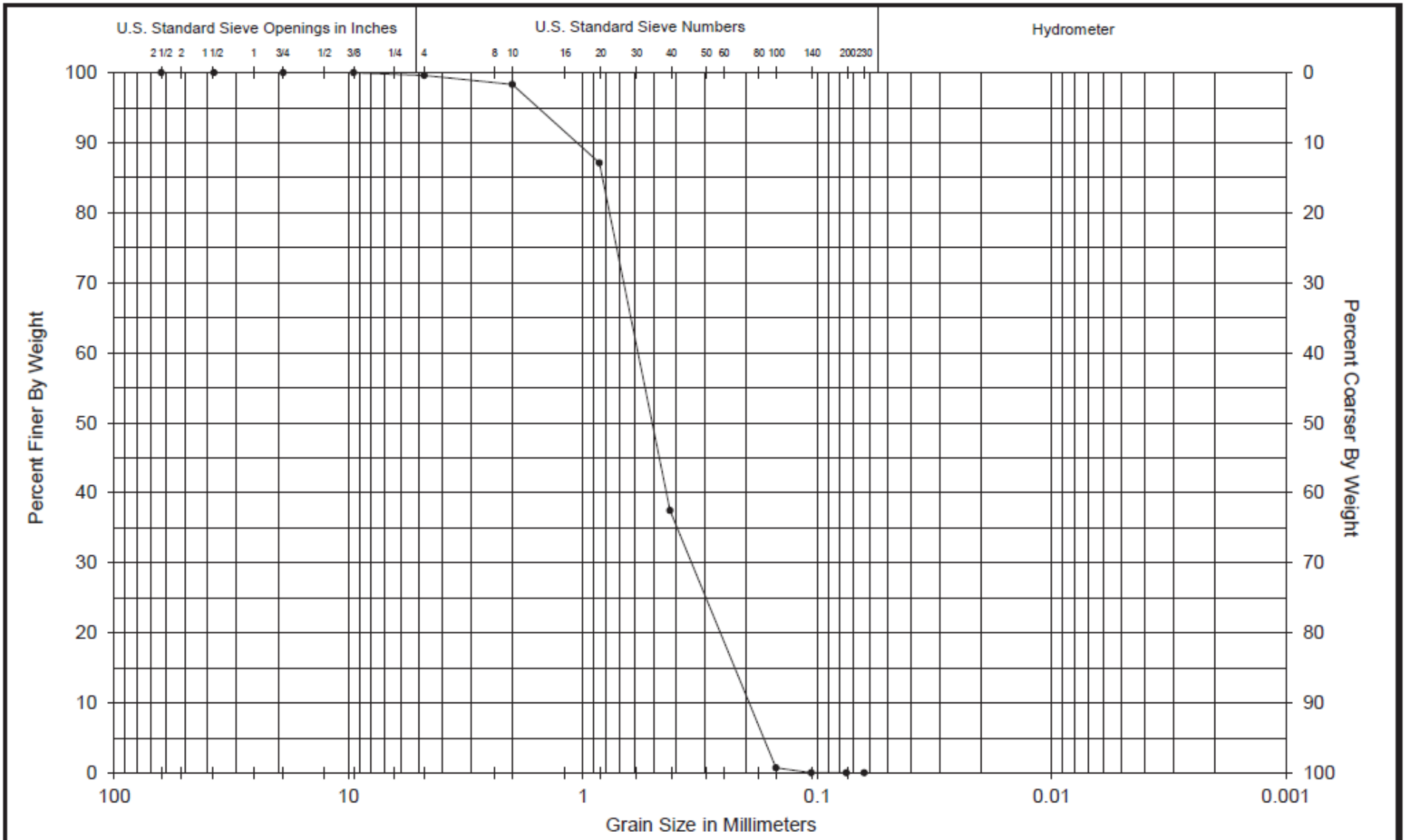
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.61	0.39	
2	10	98.34	1.66	60.87
0.85	20	87.11	12.89	
0.425	40	37.48	62.52	
0.15	100	0.76	99.24	
0.106	140	0.04	99.96	
0.075	200	0.03	99.97	
0.063	230	0.03	99.97	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.34
% Passing #230	0.03
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.65
% Gravel-Sized Shell	> 2.00 mm	1.01
% Sand	0.0625 - 2.00 mm	98.31
% Silt and Clay	< 0.0625 mm	0.03
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	12.50
% Medium Sand	0.25 - 0.50 mm	49.63
% Fine Sand	0.0625 - 0.25 mm	37.45

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	37.48	0.425	0.76	0.150	0.195
D30	30	37.48	0.425	0.76	0.150	0.344
D50	50	87.11	0.850	37.48	0.425	0.506
D60	60	87.11	0.850	37.48	0.425	0.582

Uniformity Coefficient (Cu)	2.986
Coefficient of Curvature (Cc)	1.041



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB29
Water Depth (m) 40.1

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB30
Water Depth (m)	42.8

Grain Size Data

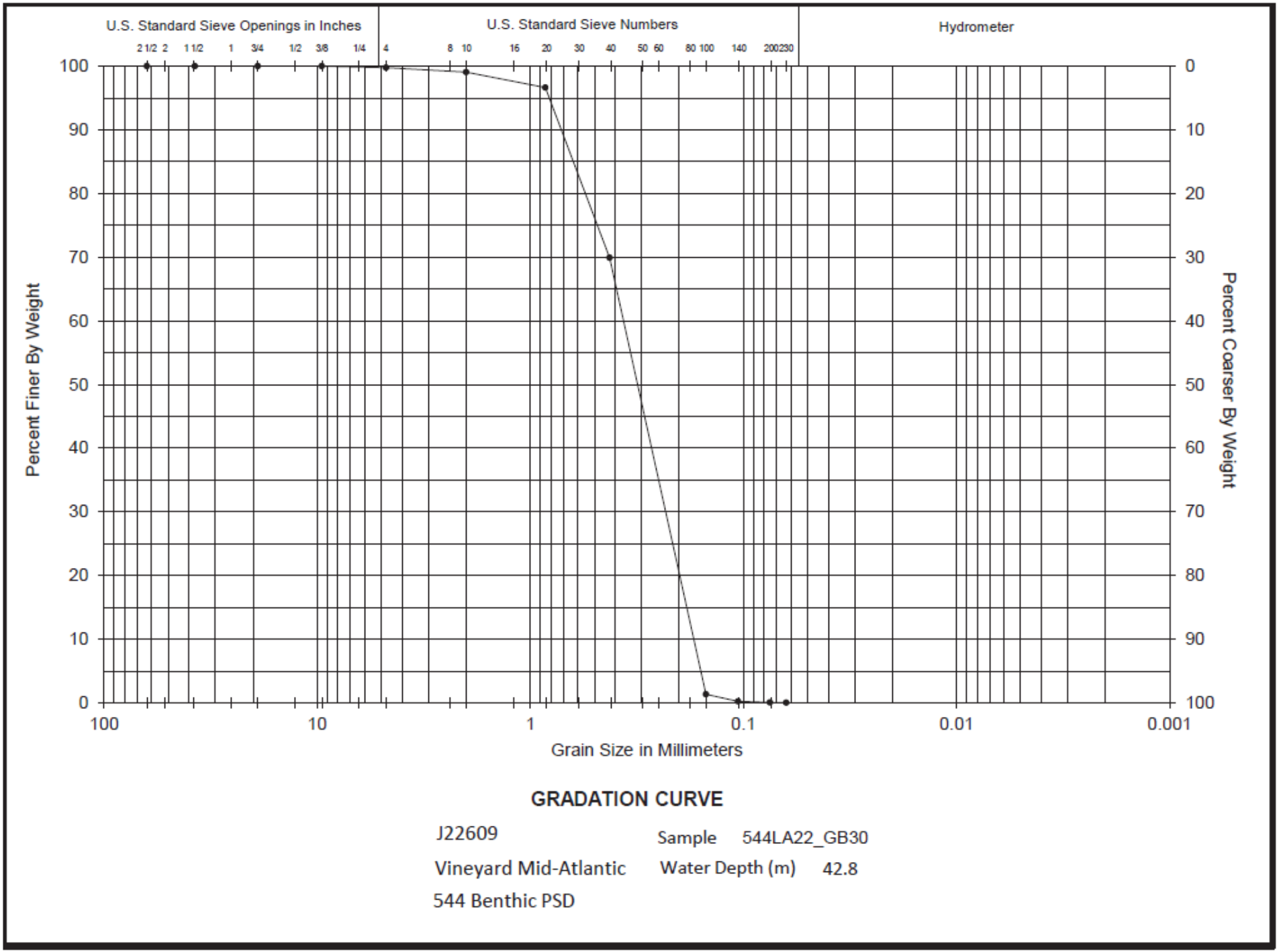
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.79	0.21	
2	10	99.08	0.92	97.93
0.85	20	96.64	3.36	
0.425	40	69.91	30.09	
0.15	100	1.35	98.65	
0.106	140	0.23	99.77	
0.075	200	0.08	99.92	
0.063	230	0.05	99.95	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.08
% Passing #230	0.05
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.90
% Sand	0.0625 - 2.00 mm	99.03
% Silt and Clay	< 0.0625 mm	0.05
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	3.15
% Medium Sand	0.25 - 0.50 mm	26.72
% Fine Sand	0.0625 - 0.25 mm	69.87

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	69.91	0.425	1.35	0.150	0.171
D30	30	69.91	0.425	1.35	0.150	0.232
D50	50	69.91	0.425	1.35	0.150	0.314
D60	60	69.91	0.425	1.35	0.150	0.366

Uniformity Coefficient (Cu)	2.137
Coefficient of Curvature (Cc)	0.859



GRADATION CURVE

J22609 Sample 544LA22_GB30

Vineyard Mid-Atlantic Water Depth (m) 42.8

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB31A
Water Depth (m)	43

Grain Size Data

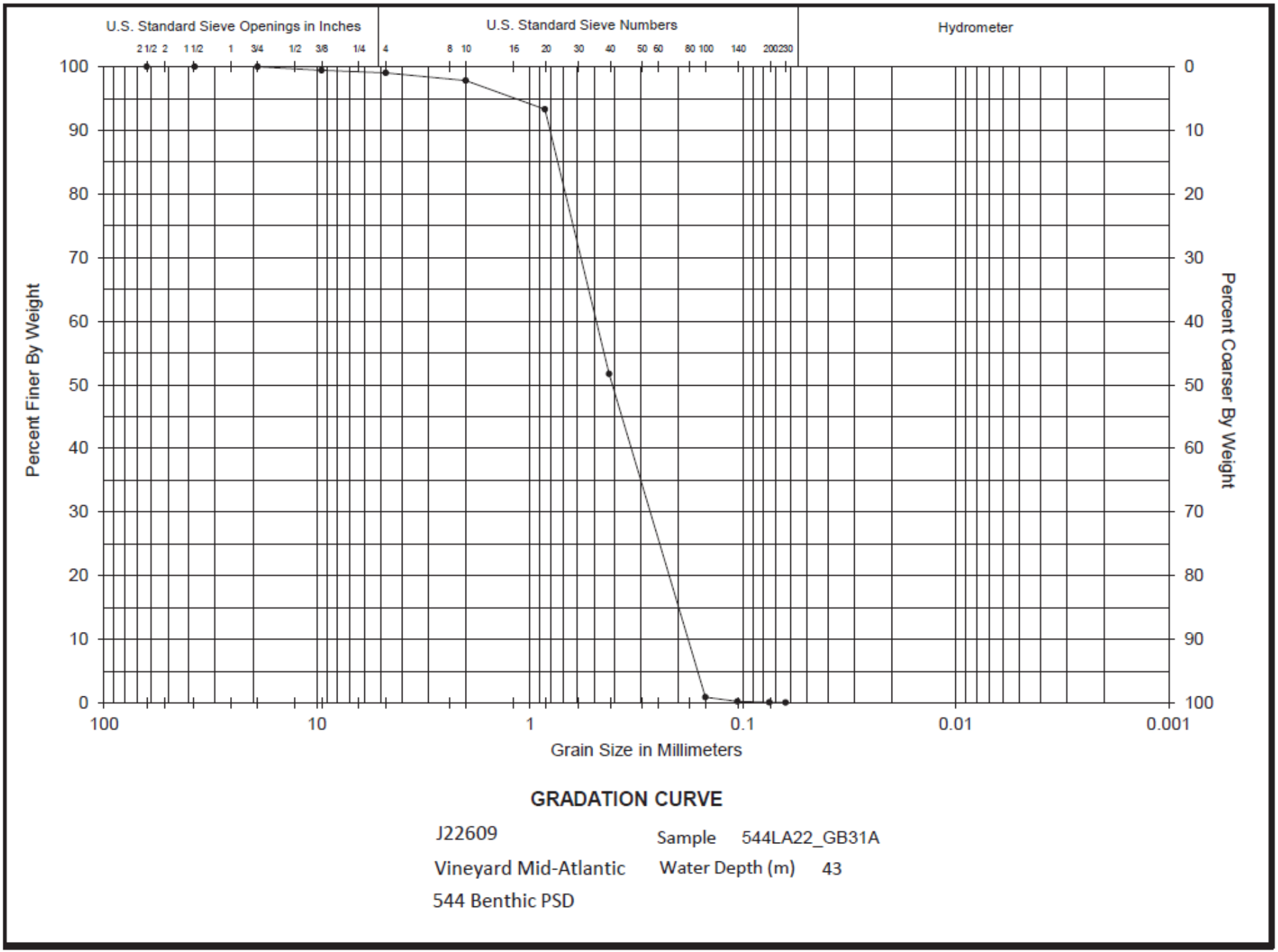
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.45	0.55	
4.75	4	99.03	0.97	
2	10	97.81	2.19	68.00
0.85	20	93.33	6.67	
0.425	40	51.74	48.26	
0.15	100	0.92	99.08	
0.106	140	0.22	99.78	
0.075	200	0.11	99.89	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.81
% Passing #230	0.08
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.70
% Gravel-Sized Shell	> 2.00 mm	1.49
% Sand	0.0625 - 2.00 mm	97.73
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	5.70
% Medium Sand	0.25 - 0.50 mm	41.59
% Fine Sand	0.0625 - 0.25 mm	51.66

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	51.74	0.425	0.92	0.150	0.181
D30	30	51.74	0.425	0.92	0.150	0.272
D50	50	51.74	0.425	0.92	0.150	0.410
D60	60	93.33	0.850	51.74	0.425	0.488

Uniformity Coefficient (Cu)	2.700
Coefficient of Curvature (Cc)	0.841



GRADATION CURVE

J22609 Sample 544LA22_GB31A

Vineyard Mid-Atlantic Water Depth (m) 43

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB31B
Water Depth (m)	43

Grain Size Data

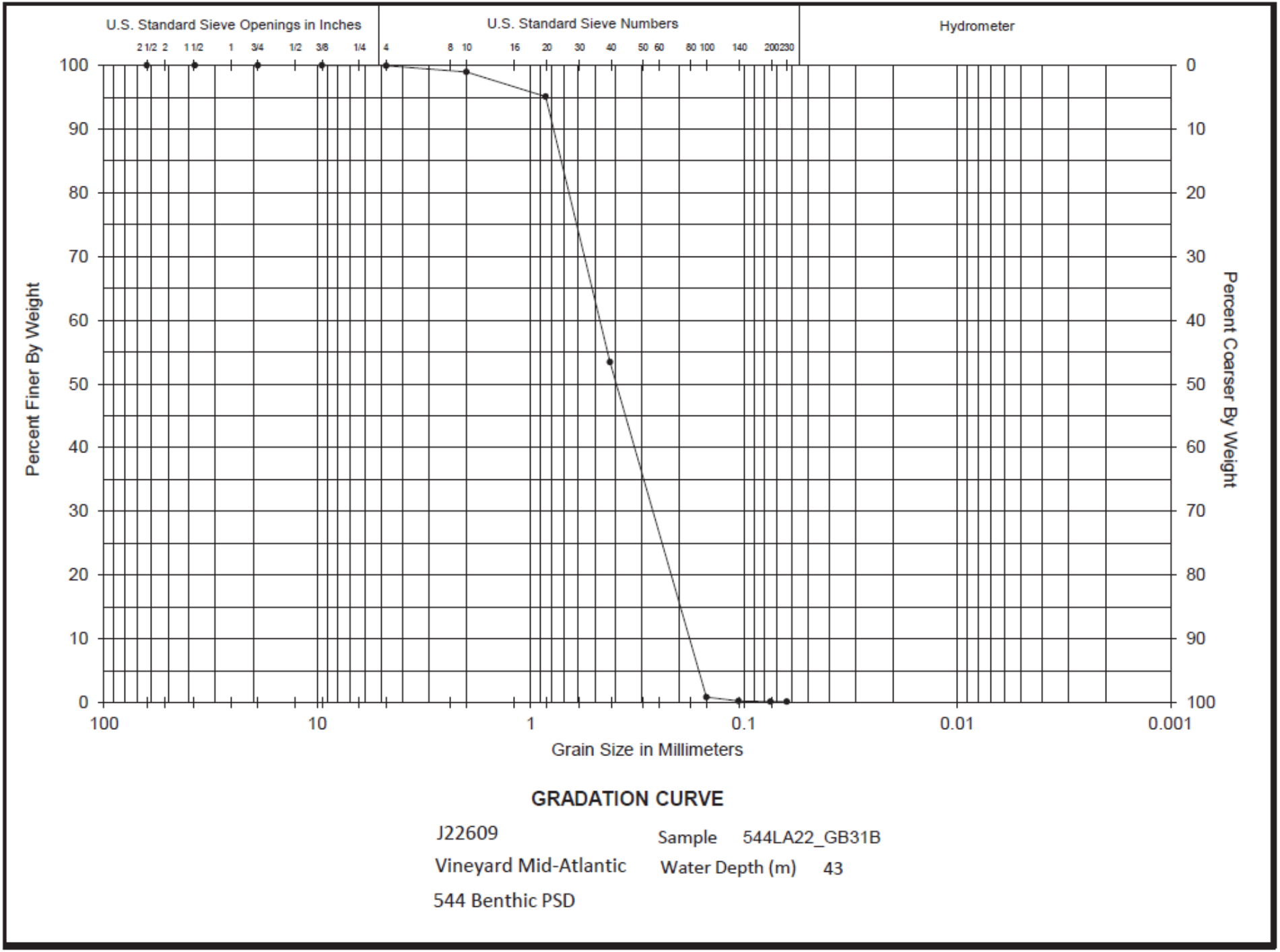
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.95	0.05	
2	10	98.96	1.04	58.15
0.85	20	95.11	4.89	
0.425	40	53.43	46.57	
0.15	100	0.84	99.16	
0.106	140	0.22	99.78	
0.075	200	0.14	99.86	
0.063	230	0.12	99.88	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.96
% Passing #230	0.12
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.43
% Gravel-Sized Shell	> 2.00 mm	0.60
% Sand	0.0625 - 2.00 mm	98.84
% Silt and Clay	< 0.0625 mm	0.12
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	4.85
% Medium Sand	0.25 - 0.50 mm	41.68
% Fine Sand	0.0625 - 0.25 mm	53.30

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	53.43	0.425	0.84	0.150	0.180
D30	30	53.43	0.425	0.84	0.150	0.267
D50	50	53.43	0.425	0.84	0.150	0.397
D60	60	95.11	0.850	53.43	0.425	0.474

Uniformity Coefficient (Cu)	2.636
Coefficient of Curvature (Cc)	0.838



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB31B

Water Depth (m) 43

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB31C
Water Depth (m)	43

Grain Size Data

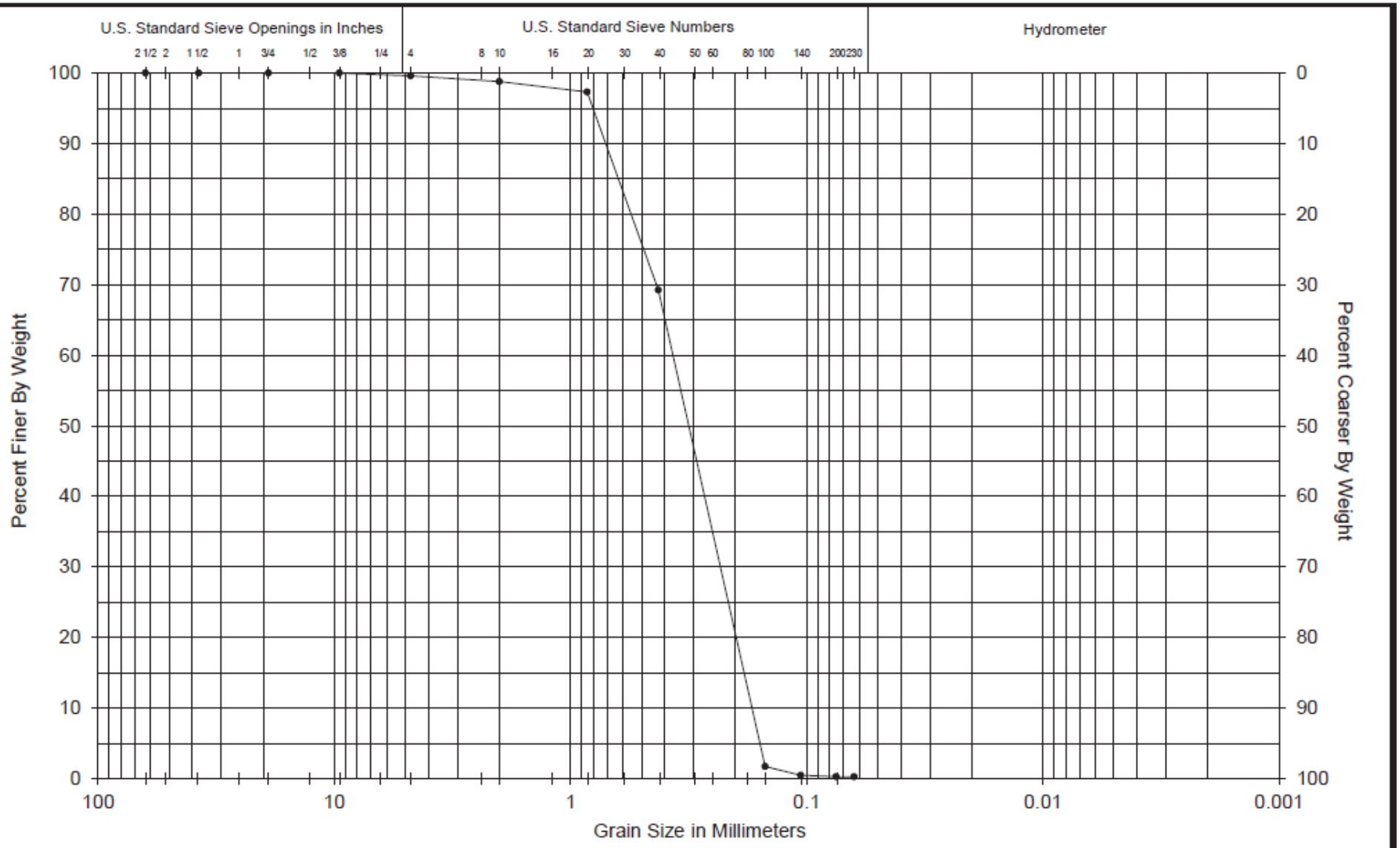
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.62	0.38	
2	10	98.81	1.19	88.64
0.85	20	97.34	2.66	
0.425	40	69.27	30.73	
0.15	100	1.73	98.27	
0.106	140	0.46	99.54	
0.075	200	0.28	99.72	
0.063	230	0.26	99.74	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.81
% Passing #230	0.26
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.14
% Gravel-Sized Shell	> 2.00 mm	1.06
% Sand	0.0625 - 2.00 mm	98.55
% Silt and Clay	< 0.0625 mm	0.26
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	2.28
% Medium Sand	0.25 - 0.50 mm	28.06
% Fine Sand	0.0625 - 0.25 mm	69.01

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	69.27	0.425	1.73	0.150	0.170
D30	30	69.27	0.425	1.73	0.150	0.232
D50	50	69.27	0.425	1.73	0.150	0.316
D60	60	69.27	0.425	1.73	0.150	0.368

Uniformity Coefficient (Cu)	2.162
Coefficient of Curvature (Cc)	0.857



GRADATION CURVE

J22609 Sample 544LA22_GB31C

Vineyard Mid-Atlantic Water Depth (m) 43

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB32
Water Depth (m)	40.7

Grain Size Data

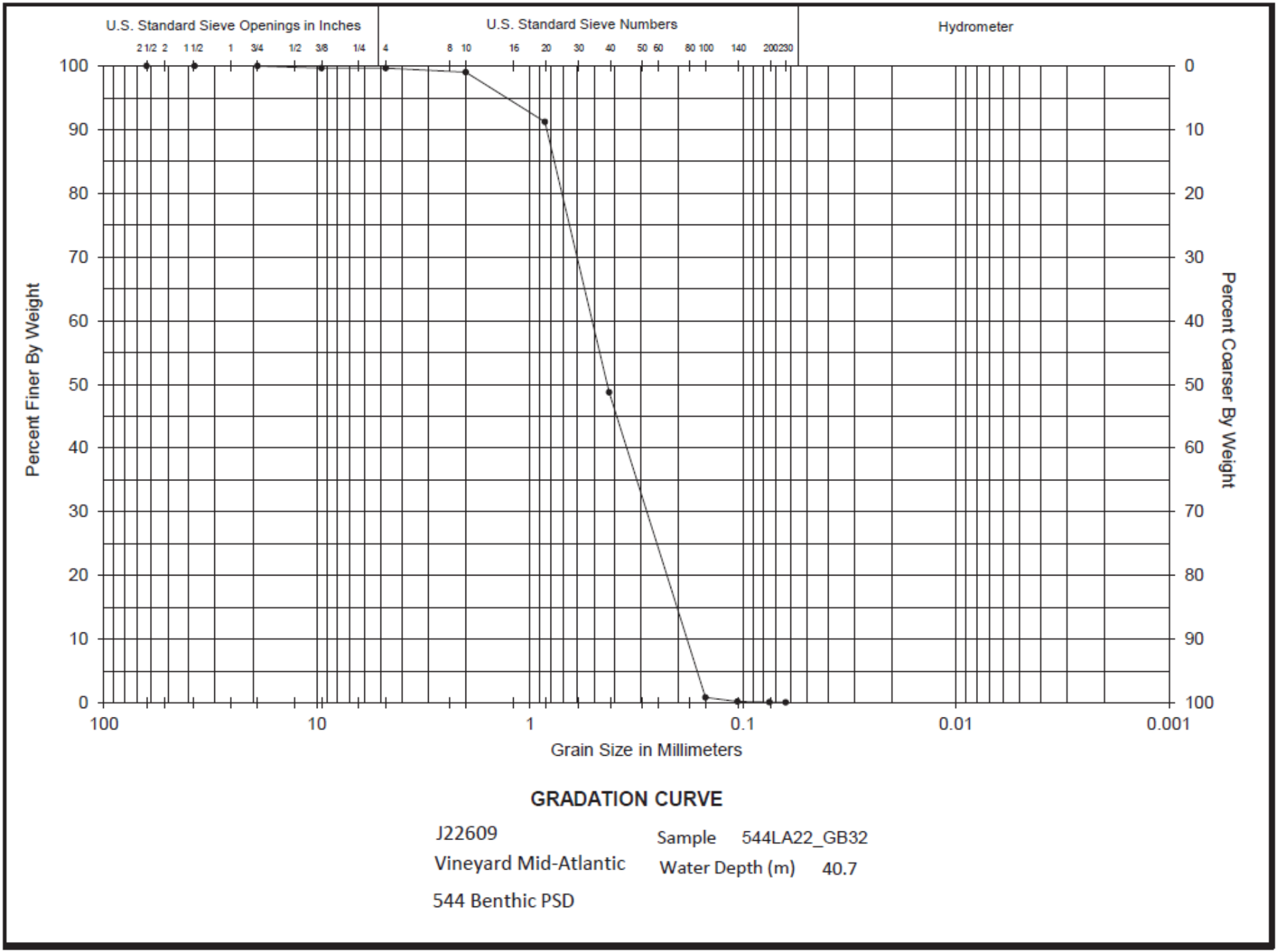
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.69	0.31	
4.75	4	99.69	0.31	
2	10	99.03	0.97	72.95
0.85	20	91.25	8.75	
0.425	40	48.76	51.24	
0.15	100	0.84	99.16	
0.106	140	0.20	99.80	
0.075	200	0.10	99.90	
0.063	230	0.08	99.92	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	99.03
% Passing #230	0.08
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.26
% Gravel-Sized Shell	> 2.00 mm	0.71
% Sand	0.0625 - 2.00 mm	98.94
% Silt and Clay	< 0.0625 mm	0.08
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.44
% Medium Sand	0.25 - 0.50 mm	42.49
% Fine Sand	0.0625 - 0.25 mm	48.67

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	48.76	0.425	0.84	0.150	0.183
D30	30	48.76	0.425	0.84	0.150	0.283
D50	50	91.25	0.850	48.76	0.425	0.434
D60	60	91.25	0.850	48.76	0.425	0.511

Uniformity Coefficient (Cu)	2.789
Coefficient of Curvature (Cc)	0.855



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB32
Water Depth (m) 40.7

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB33A
Water Depth (m)	43

Grain Size Data

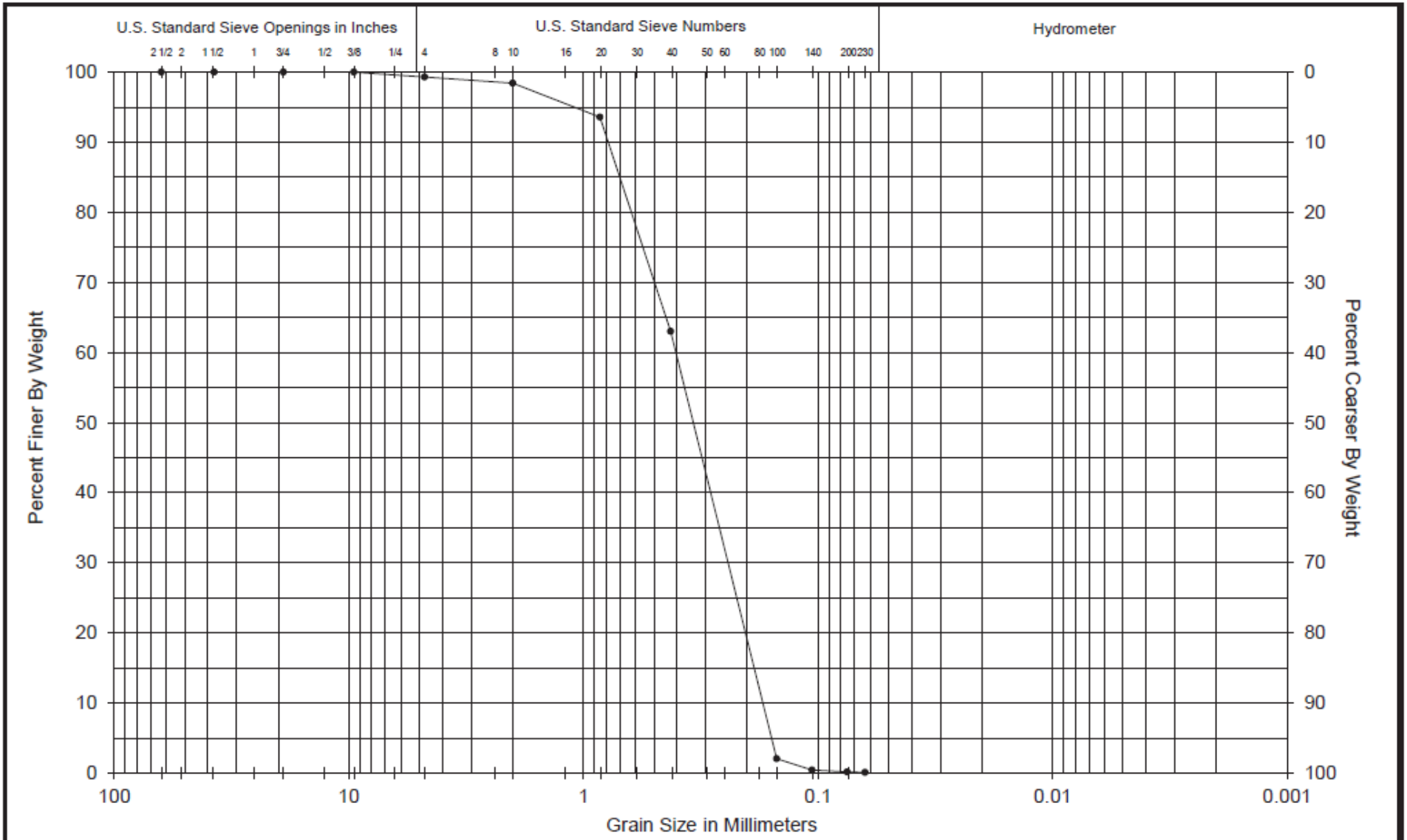
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.31	0.69	
2	10	98.44	1.56	37.73
0.85	20	93.57	6.43	
0.425	40	63.02	36.98	
0.15	100	2.07	97.93	
0.106	140	0.43	99.57	
0.075	200	0.16	99.84	
0.063	230	0.10	99.90	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.44
% Passing #230	0.10
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.97
% Gravel-Sized Shell	> 2.00 mm	0.59
% Sand	0.0625 - 2.00 mm	98.34
% Silt and Clay	< 0.0625 mm	0.10
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	5.74
% Medium Sand	0.25 - 0.50 mm	30.55
% Fine Sand	0.0625 - 0.25 mm	62.92

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	63.02	0.425	2.07	0.150	0.172
D30	30	63.02	0.425	2.07	0.150	0.242
D50	50	63.02	0.425	2.07	0.150	0.340
D60	60	63.02	0.425	2.07	0.150	0.404

Uniformity Coefficient (Cu)	2.350
Coefficient of Curvature (Cc)	0.843



GRADATION CURVE

J22609
Vineyard Mid-Atlantic
544 Benthic PSD

Sample 544LA22_GB33A
Water Depth (m) 43

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB33B
Water Depth (m)	43

Grain Size Data

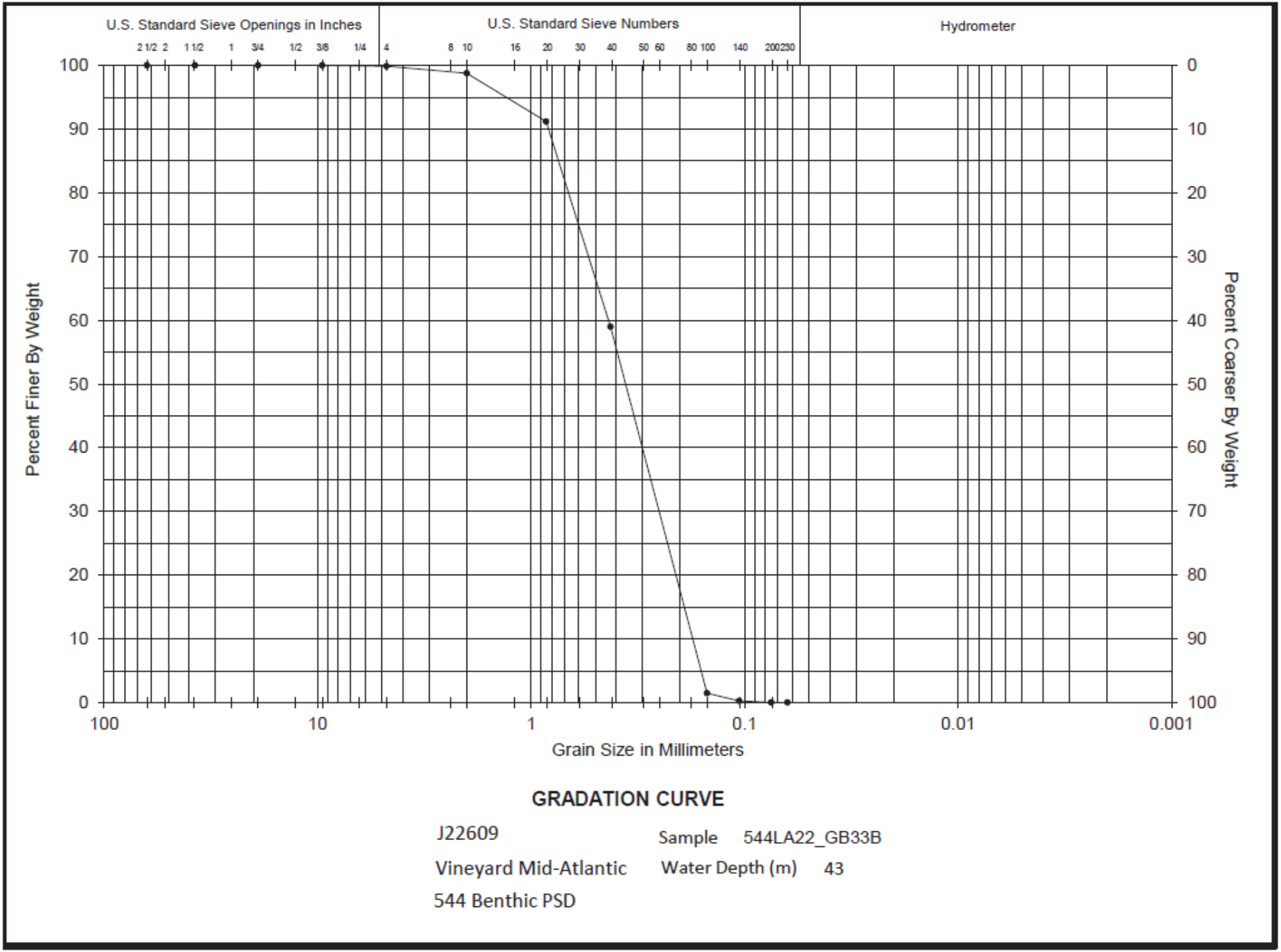
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.87	0.13	
2	10	98.78	1.22	16.79
0.85	20	91.18	8.82	
0.425	40	58.98	41.02	
0.15	100	1.48	98.52	
0.106	140	0.27	99.73	
0.075	200	0.05	99.95	
0.063	230	0.02	99.98	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.78
% Passing #230	0.02
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.01
% Gravel-Sized Shell	> 2.00 mm	0.20
% Sand	0.0625 - 2.00 mm	98.76
% Silt and Clay	< 0.0625 mm	0.02
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.69
% Medium Sand	0.25 - 0.50 mm	32.20
% Fine Sand	0.0625 - 0.25 mm	58.96

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	58.98	0.425	1.48	0.150	0.175
D30	30	58.98	0.425	1.48	0.150	0.251
D50	50	58.98	0.425	1.48	0.150	0.361
D60	60	91.18	0.850	58.98	0.425	0.434

Uniformity Coefficient (Cu)	2.482
Coefficient of Curvature (Cc)	0.831



GRADATION CURVE

J22609 Sample 544LA22_GB33B

Vineyard Mid-Atlantic Water Depth (m) 43

544 Benthic PSD

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB33C
Water Depth (m)	43

Grain Size Data

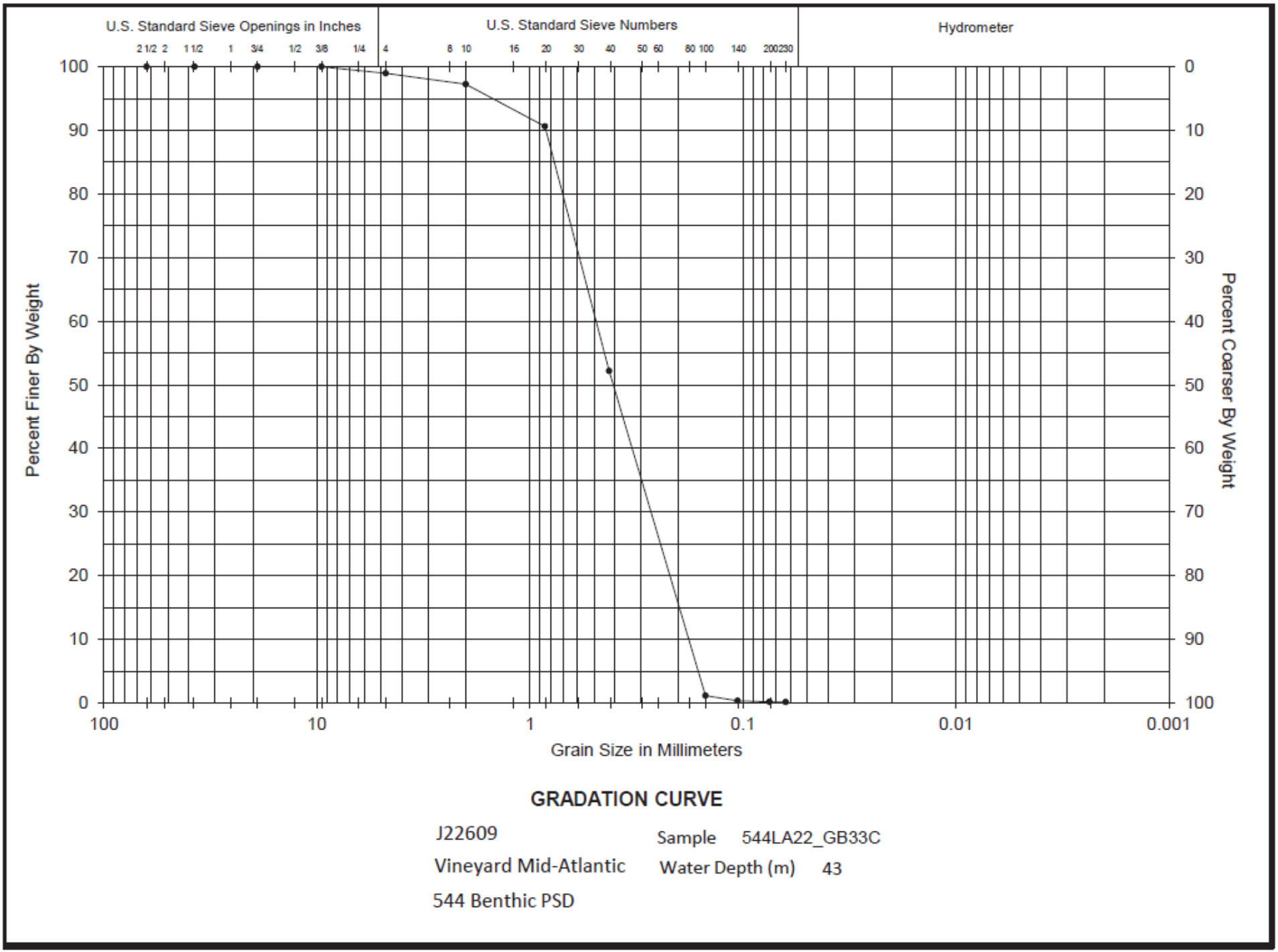
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.96	1.04	
2	10	97.24	2.76	45.59
0.85	20	90.64	9.36	
0.425	40	52.18	47.82	
0.15	100	1.16	98.84	
0.106	140	0.35	99.65	
0.075	200	0.16	99.84	
0.063	230	0.13	99.87	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	97.24
% Passing #230	0.13
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	1.50
% Gravel-Sized Shell	> 2.00 mm	1.26
% Sand	0.0625 - 2.00 mm	97.12
% Silt and Clay	< 0.0625 mm	0.13
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	8.33
% Medium Sand	0.25 - 0.50 mm	38.45
% Fine Sand	0.0625 - 0.25 mm	52.05

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	52.18	0.425	1.16	0.150	0.180
D30	30	52.18	0.425	1.16	0.150	0.270
D50	50	52.18	0.425	1.16	0.150	0.406
D60	60	90.64	0.850	52.18	0.425	0.489

Uniformity Coefficient (Cu)	2.723
Coefficient of Curvature (Cc)	0.831



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB33C

Water Depth (m) 43

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB34
Water Depth (m)	44.8

Grain Size Data

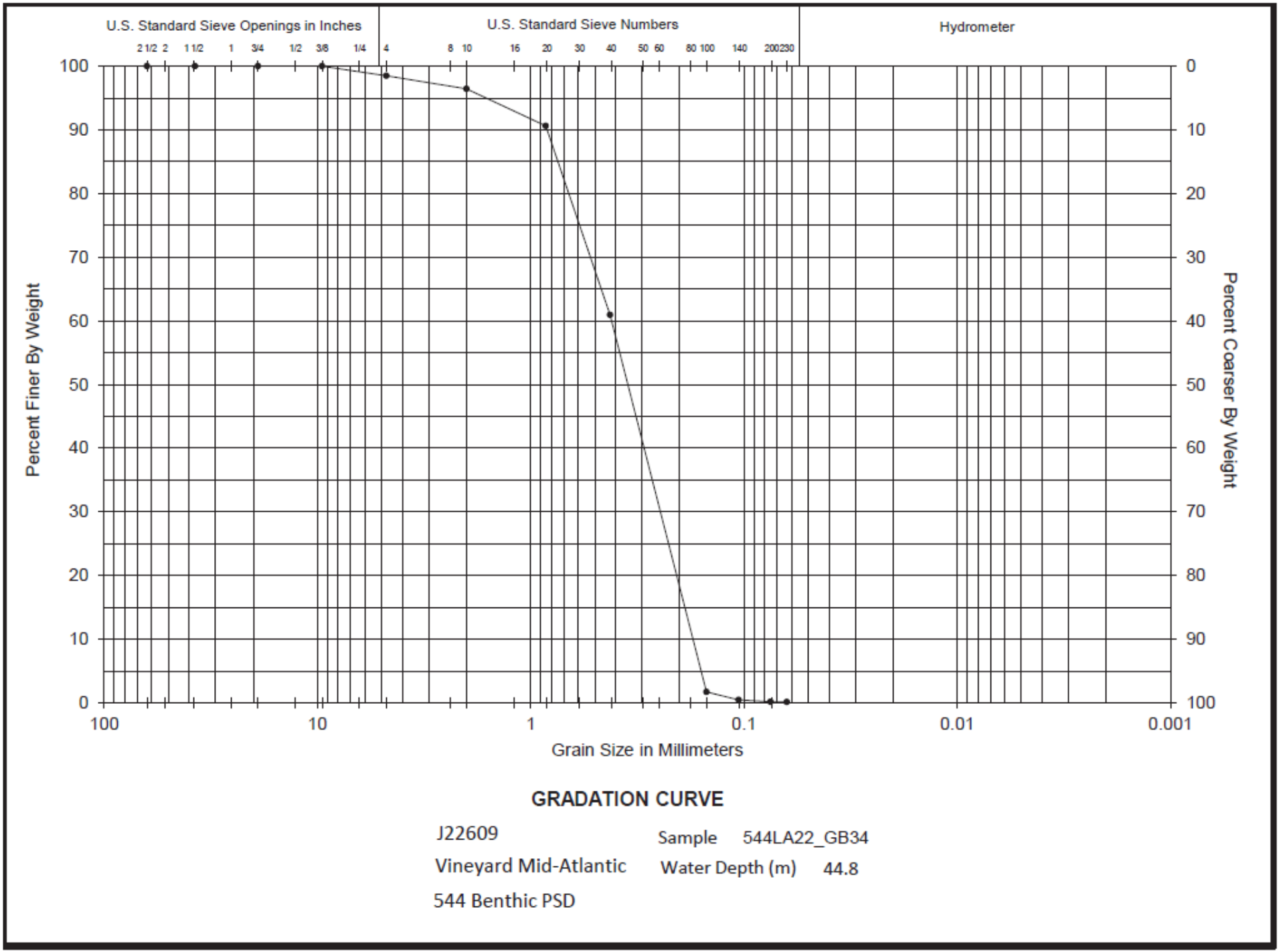
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.51	1.49	
2	10	96.45	3.55	71.96
0.85	20	90.63	9.37	
0.425	40	60.94	39.06	
0.15	100	1.72	98.28	
0.106	140	0.46	99.54	
0.075	200	0.18	99.82	
0.063	230	0.14	99.86	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	96.45
% Passing #230	0.14
% Pass 2μ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.99
% Gravel-Sized Shell	> 2.00 mm	2.55
% Sand	0.0625 - 2.00 mm	96.32
% Silt and Clay	< 0.0625 mm	0.14
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	7.88
% Medium Sand	0.25 - 0.50 mm	29.69
% Fine Sand	0.0625 - 0.25 mm	60.81

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	60.94	0.425	1.72	0.150	0.174
D30	30	60.94	0.425	1.72	0.150	0.247
D50	50	60.94	0.425	1.72	0.150	0.351
D60	60	60.94	0.425	1.72	0.150	0.418

Uniformity Coefficient (Cu)	2.409
Coefficient of Curvature (Cc)	0.839



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB34

Water Depth (m) 44.8

GRAIN SIZE DATA RESULTS

Job Number	J22609
Client	Vineyard Mid-Atlantic
Job Description	544 Benthic PSD
Sample ID	544LA22_GB35
Water Depth (m)	42.5

Grain Size Data

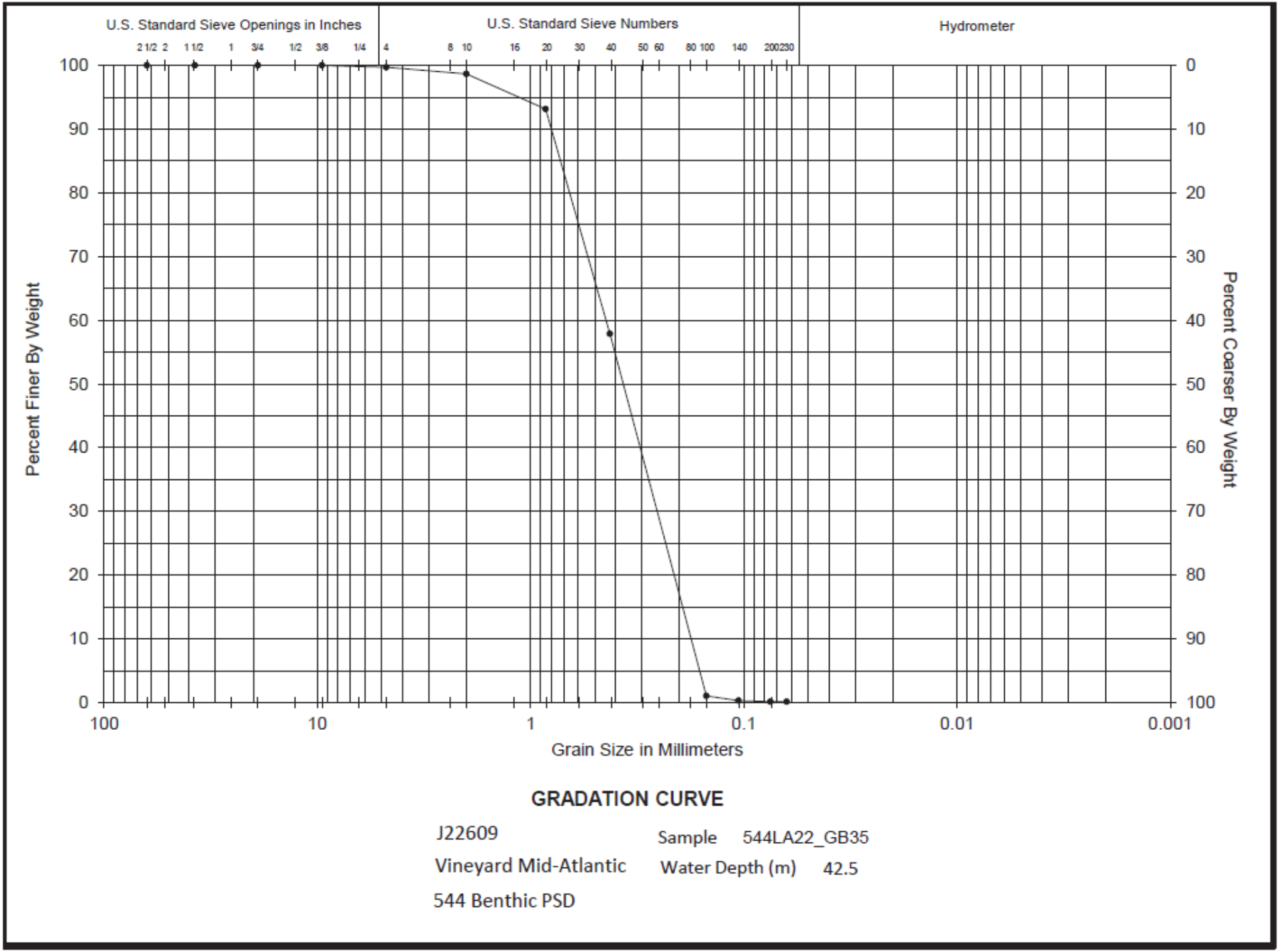
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.70	0.30	
2	10	98.66	1.34	63.01
0.85	20	93.14	6.86	
0.425	40	57.87	42.13	
0.15	100	1.06	98.94	
0.106	140	0.30	99.70	
0.075	200	0.14	99.86	
0.063	230	0.12	99.88	
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		
0.0000		#VALUE!		

% Passing #10	98.66
% Passing #230	0.12
% Pass 2µ	#VALUE!

Particle Size		
% Gravel	> 2.00 mm	0.50
% Gravel-Sized Shell	> 2.00 mm	0.85
% Sand	0.0625 - 2.00 mm	98.53
% Silt and Clay	< 0.0625 mm	0.12
% Silt	0.002 - 0.0625 mm	#VALUE!
% Clay	<0.002 mm	#VALUE!
% Coarse Sand	0.5 - 2.00 mm	6.56
% Medium Sand	0.25 - 0.50 mm	35.27
% Fine Sand	0.0625 - 0.25 mm	57.75

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	57.87	0.425	1.06	0.150	0.177
D30	30	57.87	0.425	1.06	0.150	0.255
D50	50	57.87	0.425	1.06	0.150	0.368
D60	60	93.14	0.850	57.87	0.425	0.443

Uniformity Coefficient (Cu)	2.508
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J22609

Vineyard Mid-Atlantic

544 Benthic PSD

Sample 544LA22_GB35

Water Depth (m) 42.5

Appendix L: Grab Summary Results

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																			
Crustacea																			
Byblis serrata		1						2						1					1
Caprellidae																			
Hippomedon serratus					1													1	
Phoxocephalus sp.												1							
Rhepoxynius epistomus																			
Diastylis sp.																			
Politolana sp.				1															
Tanaidacea				3						1									1
Echinodermata																			
Echinarachnius parma	9					8			6	1			1	1					1
Mollusca																			
Anadara sp.				1															
Astarte castanea						1													
Cyclocardia borealis								1		1								1	
Nucula proxima				1	1					1									
Arctica islandica										1									
Spisula solidisima										1									
Periploma papyratium											1								
Anomia simplex																			
Crepidula fornicata						1													
Naticidae																			
Acteocina canaliculata																			
Nemertea																			
Nemertea	1	1	4		1	1		1		2		1	1	1					
Oligochaeta																			
Enchytraeidae																			
Naididae w/out hair chaeta						1							2						
Naididae w/ hair chaeta					1		1					3	1		2			3	
Polychaeta																			
Lumbrinerides acuta	1			5	2					2	1								
Scoletoma sp.			1		2			1	1				1					1	2
Drilonereis sp.			1			1											1		
Glycera sp.			1	3								3		1					
Goniadidae					5		6		3	11									5

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																			
Nephtys sp.		3		1	1		1											1	
Aglaophamus circinata		1						1										2	
Nereididae				1	1	1								1					
Polynoidae																			
Sigalion arenicola										1									
Sthenelais sp.																			
Exogone sp.							1						1						
Syllidae														1	1				
Apistobranchus tullbergi													1						
Ampharetidae																			1
Cirratulidae		1												1	2				
Capitella sp.															1				
Maldanidae																			
Orbinia sp.																			
Aricidea sp.													1				1		
Paraonis sp.															1				
Polygordius sp.				5	2		1	1			3	5		2	2			19	23
Scalibregma inflatum								1				2		1					1
Total Organisms*	11	7	7	21	17	14	10	8	10	22	5	15	9	10	9	0	2	28	35
Taxa Richness*	3	5	4	9	10	7	5	7	3	10	3	6	8	9	6	0	2	7	8
Pielou's Evenness*	0.5463	0.9165	0.8322	0.894	0.9186	0.7456	0.7627	0.9796	0.8173	0.767	0.865	0.9151	0.9826	0.9849	0.9684	**	1	0.5997	0.5893
Shannon Diversity*	0.6002	1.475	1.154	1.964	2.115	1.451	1.228	1.906	0.8979	1.766	0.9503	1.64	2.043	2.164	1.735	0	0.6931	1.167	1.225

*All metrics were calculated using the corrected dataset presented above. Taxonomic ambiguity in the raw dataset was resolved using the RPMC-G method described in Cuffney et al. (2007) prior to calculation of metrics. The RPMC-G method was applied to the raw dataset as detailed below.

Parent taxa with lower abundances than their taxonomic children were removed from the dataset. The following taxa were removed: Amphipoda, Cumacea, *Astarte* sp., Bivalvia, Gastropoda, Lumbrineridae, Nephtyidae, Capitellidae, Paraonidae, Polychaeta.

Child taxa with lower abundance than their parent taxa were merged with the parent taxa. The following corrections were made to the dataset: *Glycera capitata* merged with *Glycera* sp., *Goniadella gracilis* merged with Goniadidae, *Sthenelais limicola* merged with *Sthenelais* sp.

Parent taxa with taxonomic children present in the dataset, but which were unique taxa (not any of the identified children taxa), were retained for analyses. The following taxa were retianed for analyses: Syllidae.

**Calculation of Pielou's evenness not possible, no taxa present in sample.

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																
Crustacea																
Byblis serrata						1	2	1					2			
Caprellidae													1			
Hippomedon serratus	1								1							
Phoxocephalus sp.				1				1		1						
Rhepoxynius epistomus								1								
Diastylis sp.											2					
Politolana sp.																
Tanaidacea																
Echinodermata																
Echinarachnius parma	6		1	11		1	6	4	13	1	6	7		7		
Mollusca																
Anadara sp.					1				1	2				1	1	
Astarte castanea				1										1	1	
Cyclocardia borealis	1			1				1	1						1	
Nucula proxima						1					3					
Arctica islandica																
Spisula solidisima																
Periploma papyratium																
Anomia simplex										1						
Crepidula fornicata																
Naticidae								1								
Acteocina canaliculata													2			
Nemertea																
Nemertea	1			3				1					1	1		
Oligochaeta																
Enchytraeidae				2												
Naididae w/out hair chaeta		1														
Naididae w/ hair chaeta				2		1								1	3	
Polychaeta																
Lumbrinerides acuta					3					2		1	2			
Scoletoma sp.	1			2		1	1	2	1	8	2		1	1	1	1
Drilonereis sp.	1					1										
Glycera sp.											1				1	
Goniadidae		2	1									4		1	4	2

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**
Organisms/sample																
Nephtys sp.							3	1						3		1
Aglaophamus circinata									2						1	1
Nereididae				1						1			1			
Polynoidae																1
Sigalion arenicola																
Sthenelais sp.					1	1			1							
Exogone sp.																
Syllidae																
Apistobranchus tullbergi																
Ampharetidae																
Cirratulidae																
Capitella sp.																
Maldanidae														1		
Orbinia sp.							1									
Aricidea sp.																
Paraonis sp.		2														
Polygordius sp.					1					1		2	2		2	
Scalibregma inflatum						2						1				
Total Organisms*	11	5	2	24	6	9	13	13	20	17	14	15	12	17	15	6
Taxa Richness*	6	3	2	9	4	8	5	9	7	8	5	5	8	9	9	5
Pielou's Evenness*	0.7928	0.9602	1	0.8048	0.8962	0.9826	0.8561	0.9247	0.6471	0.8135	0.8933	0.8313	0.9728	0.8365	0.9222	0.9697
Shannon Diversity*	1.421	1.055	0.6931	1.768	1.242	2.043	1.378	2.032	1.259	1.692	1.438	1.338	2.023	1.838	2.026	1.561

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																			
Crustacea																			
Byblis serrata		1						2						1					1
Amphipoda[1]										1									
Caprellidae																			
Hippomedon serratus					1													1	
Phoxocephalus sp.												1							
Rhepoxynius epistomus																			
Diastylis sp.																			
Cumacea[1]				1															
Politolana sp.				1															
Tanaidacea				3						1									1
Echinodermata																			
Echinarachnius parma	9					8			6	1			1	1					1
Mollusca																			
Anadara sp.				1															
Astarte castanea						1													
Astarte sp. [1]																			
Cyclocardia borealis								1		1								1	
Nucula proxima				1	1					1									
Arctica islandica										1									
Spisula solidisima										1									
Periploma papyratium											1								
Bivalvia[1]	1	1			1			1		3									2
Anomia simplex																			
Crepidula fornicata						1													
Naticidae																			
Gastropoda[1]																			
Acteocina canaliculata																			
Nemertea																			
Nemertea	1	1	4		1	1		1		2		1	1	1					
Oligochaeta																			
Enchytraeidae																			
Naididae w/out hair chaeta						1							2						
Naididae w/ hair chaeta					1		1					3	1		2			3	

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																			
Polychaeta																			
Lumbrineridae[1]													1						
Lumbrinerides acuta	1			5	2					2	1								
Scoletoma sp.			1		2			1	1				1					1	2
Drilonereis sp.			1			1											1		
Glycera capitata[2]												3							
Glycera sp.			1	3										1					
Goniadella gracilis[2]																			
Goniadidae					5		6		3	11									5
Nephtyidae[1]								1	1									1	
Nephtys sp.		3		1	1		1											1	
Aglaophamus circinata		1						1										2	
Nereididae				1	1	1								1					
Polynoidae																			
Sigalion arenicola										1									
Sthenelais sp.																			
Sthenelais limicola[2]																			
Exogone sp.							1						1						
Syllidae[3]														1	1				
Apistobranchus tullbergi													1						
Ampharetidae																			1
Cirratulidae		1												1	2				
Capitellidae[1]				1															
Capitella sp.															1				
Maldanidae																			
Orbinia sp.																			
Aricidea sp.													1				1		
Paraonidae[1]																	1		
Paraonis sp.															1				
Polygordius sp.				5	2		1	1			3	5		2	2			19	23
Scalibregma inflatum								1				2		1					1
Polychaeta[1]						1													
Total Organisms*	11	7	7	21	17	14	10	8	10	22	5	15	9	10	9	0	2	28	35
Taxa Richness*	3	5	4	9	10	7	5	7	3	10	3	6	8	9	6	0	2	7	8
Pielou's Evenness*	0.5463	0.9165	0.8322	0.894	0.9186	0.7456	0.7627	0.9796	0.8173	0.767	0.865	0.9151	0.9826	0.9849	0.9684	**	1	0.5997	0.5893
Shannon Diversity*	0.6002	1.475	1.154	1.964	2.115	1.451	1.228	1.906	0.8979	1.766	0.9503	1.64	2.043	2.164	1.735	0	0.6931	1.167	1.225

*All metrics were calculated after taxonomic ambiguity in the dataset presented above was resolved using the RPMC-G method described in Cuffney et al. (2007). The RPMC-G method was applied to the raw dataset as detailed below.

[1]Parent taxa with lower abundances than their taxonomic children were removed from the dataset.

[2]Child taxa with lower abundance than their parent taxa were merged with the parent taxa (*Glycera capitata* merged with *Glycera* sp., *Goniadella gracilis* merged with Goniadidae, *Sthenelais limicola* merged with *Sthenelais* sp.)

[3]Parent taxa with taxonomic children present in the dataset, but which were unique taxa (not any of the identified children taxa), were retained for analyses.

**Calculation of Pielou's evenness not possible, no taxa present in sample.

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																
Crustacea																
Byblis serrata						1	2	1					2			
Amphipoda[1]								1								
Caprellidae													1			
Hippomedon serratus	1								1							
Phoxocephalus sp.				1				1		1						
Rhepoxynius epistomus								1								
Diastylis sp.											2					
Cumacea[1]																
Politolana sp.																
Tanaidacea																
Echinodermata																
Echinarachnius parma	6		1	11		1	6	4	13	1	6	7		7		
Mollusca																
Anadara sp.					1				1	2				1	1	
Astarte castanea				1										1	1	
Astarte sp. [1]	1					1										
Cyclocardia borealis	1			1				1	1						1	
Nucula proxima						1					3					
Arctica islandica																
Spisula solidisima																
Periploma papyratium																
Bivalvia[1]	1			2					1							
Anomia simplex										1						
Crepidula fornicata																
Naticidae								1								
Gastropoda[1]			1							1			1			
Acteocina canaliculata													2			
Nemertea																
Nemertea	1			3				1					1	1		
Oligochaeta																
Enchytraeidae				2												
Naididae w/out hair chaeta		1														
Naididae w/ hair chaeta				2		1								1	3	

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/sample																
Polychaeta																
Lumbrineridae[1]																
Lumbrinerides acuta					3					2		1	2			
Scoletoma sp.	1			2		1	1	2	1	8	2		1	1	1	1
Drilonereis sp.	1					1										
Glycera capitata[2]																
Glycera sp.											1				1	
Goniadella gracilis[2]																2
Goniadidae		2	1									4		1	4	
Nephtyidae[1]	1				1					1	1		1			
Nephtys sp.							3	1						3		1
Aglaophamus circinata									2						1	1
Nereididae				1						1			1			
Polynoidae																1
Sigalion arenicola																
Sthenelais sp.					1				1							
Sthenelais limicola[2]						1										
Exogone sp.																
Syllidae[3]																
Apistobranchus tullbergi																
Ampharetidae																
Cirratulidae																
Capitellidae[1]																
Capitella sp.																
Maldanidae														1		
Orbinia sp.							1									
Aricidea sp.																
Paraonidae[1]				1											1	
Paraonis sp.		2														
Polygordius sp.					1					1		2	2		2	
Scalibregma inflatum						2						1				
Polychaeta[1]																
Total Organisms*	11	5	2	24	6	9	13	13	20	17	14	15	12	17	15	6
Taxa Richness*	6	3	2	9	4	8	5	9	7	8	5	5	8	9	9	5
Pielou's Evenness*	0.7928	0.9602	1	0.8048	0.8962	0.9826	0.8561	0.9247	0.6471	0.8135	0.8933	0.8313	0.9728	0.8365	0.9222	0.9697
Shannon Diversity*	1.421	1.055	0.6931	1.768	1.242	2.043	1.378	2.032	1.259	1.692	1.438	1.338	2.023	1.838	2.026	1.561

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
	Organisms/m^2																		
Crustacea																			
Byblis serrata		130.48						260.97						130.48					130.48
Caprellidae																			
Hippomedon serratus					130.48													130.48	
Phoxocephalus sp.												130.48							
Rhepoxynius epistomus																			
Diastylis sp.																			
Politolana sp.				130.48															
Tanaidacea				391.45						130.48									130.48
Echinodermata																			
Echinarachnius parma	2348.7					1043.9			782.9	130.48			130.48	130.48					130.48
Mollusca																			
Anadara sp.				130.48															
Astarte castanea						130.48													
Cyclocardia borealis								130.48		130.48								130.48	
Nucula proxima				130.48	130.48					130.48									
Arctica islandica										130.48									
Spisula solidisima										130.48									
Periploma papyratium											130.48								
Anomia simplex																			
Crepidula fornicata						130.48													
Naticidae																			
Acteocina canaliculata																			
Nemertea																			
Nemertea	260.97	130.48	869.88		130.48	130.48		130.48		260.97		130.48	130.48	130.48					
Oligochaeta																			
Enchytraeidae																			
Naididae w/out hair chaeta						130.48							260.97						
Naididae w/ hair chaeta					130.48		130.48					391.45	130.48		260.97			391.45	
Polychaeta																			
Lumbrinerides acuta	260.97			652.41	260.97					260.97	130.48								
Scoletoma sp.			217.47		260.97			130.48	130.48				130.48					130.48	260.97
Drilonereis sp.			217.47			130.48											130.48		
Glycera sp.			217.47	391.45								391.45		130.48					
Goniadidae					652.41		782.9		391.45	1435.3									652.41

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	**38.32**	**76.64**	**45.98**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**
Organisms/m^2																			
Nephtys sp.		391.45		130.48	130.48		130.48											130.48	
Aglaophamus circinata		130.48						130.48										260.97	
Nereididae				130.48	130.48	130.48								130.48					
Polynoidae																			
Sigalion arenicola										130.48									
Sthenelais sp.																			
Exogone sp.							130.48						130.48						
Syllidae														130.48	130.48				
Apistobranchus tullbergi													130.48						
Ampharetidae																			130.48
Cirratulidae		130.48												130.48	260.97				
Capitella sp.															130.48				
Maldanidae																			
Orbinia sp.																			
Aricidea sp.													130.48				130.48		
Paraonis sp.															130.48				
Polygordius sp.				652.41	260.97		130.48	130.48			391.45	652.41		260.97	260.97			2479.2	3001.1
Scalibregma inflatum								130.48				260.97		130.48					130.48
Total Organism Density*	2870.6	913.38	1522.3	2740.1	2218.2	1826.8	1304.8	1043.9	1304.8	2870.6	652.41	1957.2	1174.3	1304.8	1174.3	0	260.97	3653.5	4566.9
Taxa Richness*	3	5	4	9	10	7	5	7	3	10	3	6	8	9	6	0	2	7	8
Pielou's Evenness*	0.5463	0.9165	0.8322	0.894	0.9186	0.7456	0.7627	0.9796	0.8173	0.767	0.865	0.9151	0.9826	0.9849	0.9684	**	1	0.5997	0.5893
Shannon Diversity*	0.6002	1.475	1.154	1.964	2.115	1.451	1.228	1.906	0.8979	1.766	0.9503	1.64	2.043	2.164	1.735	0	0.6931	1.167	1.225

*All metrics were calculated using the corrected dataset presented above. Taxonomic ambiguity in the raw dataset was resolved using the RPMC-G method described in Cuffney et al. (2007) prior to calculation of metrics. The RPMC-G method was applied to the raw dataset as detailed below.
Parent taxa with lower abundances than their taxonomic children were removed from the dataset. The following taxa were removed: Amphipoda, Cumacea, *Astarte* sp., Bivalvia, Gastropoda, Lumbrineridae, Nephtyidae, Capitellidae, Paraonidae, Polychaeta.
Child taxa with lower abundance than their parent taxa were merged with the parent taxa. The following corrections were made to the dataset: *Glycera capitata* merged with *Glycera* sp., *Goniadella gracilis* merged with Goniadidae, *Sthenelais limicola* merged with *Sthenelais* sp.
Parent taxa with taxonomic children present in the dataset, but which were unique taxa (not any of the identified children taxa), were retained for analyses. The following taxa were retianed for analyses: Syllidae.
**Calculation of Pielou's evenness not possible, no taxa present in sample.

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/m^2																
Crustacea																
Byblis serrata						130.48	260.97	130.48					260.97			
Caprellidae													130.48			
Hippomedon serratus	130.48								130.48							
Phoxocephalus sp.				130.48				130.48		130.48						
Rhepoxynius epistomus								130.48								
Diastylis sp.											260.97					
Politolana sp.																
Tanaidacea																
Echinodermata																
Echinarachnius parma	782.9		130.48	1435.3		130.48	782.9	521.93	1696.3	130.48	782.9	913.38		913.38		
Mollusca																
Anadara sp.					130.48				130.48	260.97				130.48	130.48	
Astarte castanea				130.48										130.48	130.48	
Cyclocardia borealis	130.48			130.48				130.48	130.48						130.48	
Nucula proxima						130.48					391.45					
Arctica islandica																
Spisula solidisima																
Periploma papyratium																
Anomia simplex										130.48						
Crepidula fornicata																
Naticidae								130.48								
Acteocina canaliculata													260.97			
Nemertea																
Nemertea	130.48			391.45				130.48					130.48	130.48		
Oligochaeta																
Enchytraeidae				260.97												
Naididae w/out hair chaeta		130.48														
Naididae w/ hair chaeta				260.97		130.48								130.48	391.45	
Polychaeta																
Lumbrinerides acuta					391.45					260.97		130.48	260.97			
Scoletoma sp.	130.48			260.97		130.48	130.48	260.97	130.48	1043.9	260.97		130.48	130.48	130.48	130.48
Drilonereis sp.	130.48					130.48										
Glycera sp.											130.48				130.48	
Goniadidae		260.97	130.48									521.93		130.48	521.93	260.97

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**
Organisms/m^2																
Nephtys sp.							391.45	130.48						391.45		130.48
Aglaophamus circinata									260.97						130.48	130.48
Nereididae				130.48						130.48			130.48			
Polynoidae																130.48
Sigalion arenicola																
Sthenelais sp.					130.48				130.48							
Exogone sp.						130.48										
Syllidae																
Apistobranchus tullbergi																
Ampharetidae																
Cirratulidae																
Capitella sp.																
Maldanidae														130.48		
Orbinia sp.							130.48									
Aricidea sp.																
Paraonis sp.		260.97														
Polygordius sp.					130.48					130.48		260.97	260.97		260.97	
Scalibregma inflatum						260.97						130.48				
Total Organism Density*	1435.3	652.41	260.97	3131.6	782.9	1174.3	1696.3	1696.3	2609.7	2218.2	1826.8	1957.2	1565.8	2218.2	1957.2	782.9
Taxa Richness*	6	3	2	9	4	8	5	9	7	8	5	5	8	9	9	5
Pielou's Evenness*	0.7928	0.9602	1	0.8048	0.8962	0.9826	0.8561	0.9247	0.6471	0.8135	0.8933	0.8313	0.9728	0.8365	0.9222	0.9697
Shannon Diversity*	1.421	1.055	0.6931	1.768	1.242	2.043	1.378	2.032	1.259	1.692	1.438	1.338	2.023	1.838	2.026	1.561

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	38.32	76.64	45.98	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/m^2																			
Crustacea																			
Byblis serrata		130.48						260.97						130.48					130.48
Amphipoda[1]										130.48									
Caprellidae																			
Hippomedon serratus					130.48													130.48	
Phoxocephalus sp.												130.48							
Rhepoxynius epistomus																			
Diastylis sp.																			
Cumacea[1]				130.48															
Politolana sp.				130.48															
Tanaidacea				391.45						130.48									130.48
Echinodermata																			
Echinarachnius parma	2348.7					1043.9			782.9	130.48			130.48	130.48					130.48
Mollusca																			
Anadara sp.				130.48															
Astarte castanea						130.48													
Astarte sp. [1]																			
Cyclocardia borealis								130.48		130.48								130.48	
Nucula proxima				130.48	130.48					130.48									
Arctica islandica										130.48									
Spisula solidisima										130.48									
Periploma papyratium											130.48								
Bivalvia[1]	260.97	130.48			130.48			130.48		391.45									260.97
Anomia simplex																			
Crepidula fornicata						130.48													
Naticidae																			
Gastropoda[1]																			
Acteocina canaliculata																			
Nemertea																			
Nemertea	260.97	130.48	869.88		130.48	130.48		130.48		260.97		130.48	130.48	130.48					
Oligochaeta																			
Enchytraeidae																			
Naididae w/out hair chaeta						130.48							260.97						
Naididae w/ hair chaeta					130.48		130.48					391.45	130.48		260.97			391.45	

Sample ID	544LA22-GB001A	544LA22-GB002A	544LA22-GB003	544LA22-GB004	544LA22-GB005	544LA22-GB006A	544LA22-GB007A	544LA22-GB008	544LA22-GB009A	544LA22-GB010	544LA22-GB011A	544LA22-GB012	544LA22-GB013	544LA22-GB014A	544LA22-GB015A	544LA22-GB016	544LA22-GB017A	544LA22-GB018	544LA22-GB019
Area of Subsample (cm^2)	**38.32**	**76.64**	**45.98**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**
Organisms/m^2																			
Polychaeta																			
Lumbrineridae[1]													130.48						
Lumbrinerides acuta	260.97			652.41	260.97					260.97	130.48								
Scoletoma sp.			217.47		260.97			130.48	130.48				130.48					130.48	260.97
Drilonereis sp.			217.47			130.48											130.48		
Glycera capitata[2]												391.45							
Glycera sp.			217.47	391.45										130.48					
Goniadella gracilis[2]																			
Goniadidae					652.41		782.9		391.45	1435.3									652.41
Nephtyidae[1]								130.48	130.48									130.48	
Nephtys sp.		391.45		130.48	130.48		130.48											130.48	
Aglaophamus circinata		130.48						130.48										260.97	
Nereididae				130.48	130.48	130.48								130.48					
Polynoidae																			
Sigalion arenicola										130.48									
Sthenelais sp.																			
Sthenelais limicola[2]																			
Exogone sp.							130.48						130.48						
Syllidae[3]														130.48	130.48				
Apistobranchus tullbergi													130.48						
Ampharetidae																			130.48
Cirratulidae		130.48												130.48	260.97				
Capitellidae[1]				130.48															
Capitella sp.															130.48				
Maldanidae																			
Orbinia sp.																			
Aricidea sp.													130.48				130.48		
Paraonidae[1]																	130.48		
Paraonis sp.															130.48				
Polygordius sp.				652.41	260.97		130.48	130.48			391.45	652.41		260.97	260.97			2479.2	3001.1
Scalibregma inflatum								130.48				260.97		130.48					130.48
Polychaeta[1]						130.48													
Total Organisms*	2870.6	913.38	1522.3	2740.1	2218.2	1826.8	1304.8	1043.9	1304.8	2870.6	652.41	1957.2	1174.3	1304.8	1174.3	0	260.97	3653.5	4566.9
Taxa Richness*	3	5	4	9	10	7	5	7	3	10	3	6	8	9	6	0	2	7	8
Pielou's Evenness*	0.5463	0.9165	0.8322	0.894	0.9186	0.7456	0.7627	0.9796	0.8173	0.767	0.865	0.9151	0.9826	0.9849	0.9684	**	1	0.5997	0.5893
Shannon Diversity*	0.6002	1.475	1.154	1.964	2.115	1.451	1.228	1.906	0.8979	1.766	0.9503	1.64	2.043	2.164	1.735	0	0.6931	1.167	1.225

*All metrics were calculated after taxonomic ambiguity in the dataset presented above was resolved using the RPMC-G method described in Cuffney et al. (2007). The RPMC-G method was applied to the raw dataset as detailed below.
[1]Parent taxa with lower abundances than their taxonomic children were removed from the dataset.
[2]Child taxa with lower abundance than their parent taxa were merged with the parent taxa (*Glycera sapitata* merged with *Glycera* sp., *Goniadella gracilis* merged with Goniadidae, *Sthenelais limicola* merged with *Sthenelais* sp.)
[3]Parent taxa with taxonomic children present in the dataset, but which were unique taxa (not any of the identified children taxa), were retained for analyses.
**Calculation of Pielou's evenness not possible, no taxa present in sample.

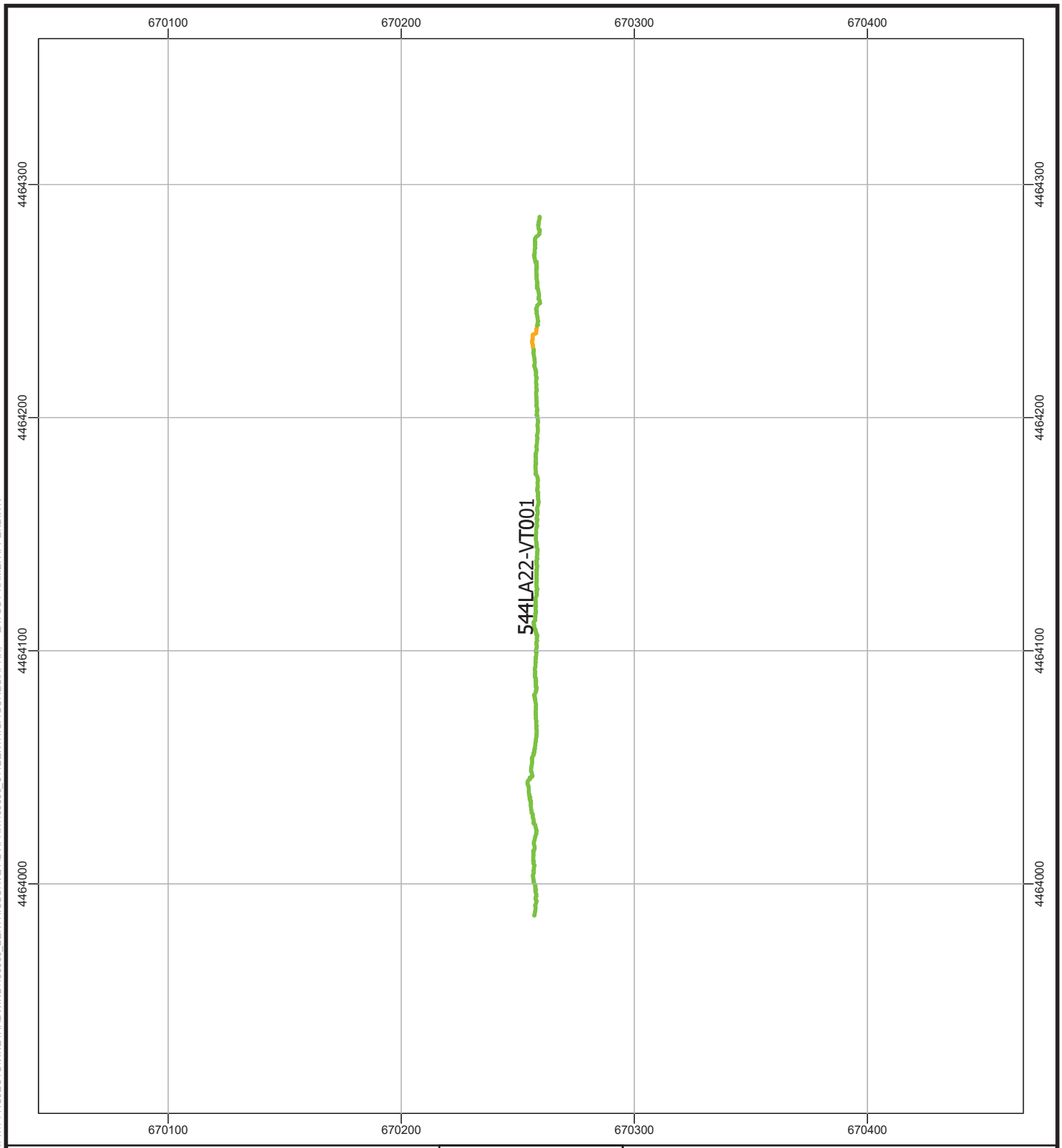
Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64	76.64
Organisms/m^2																
Crustacea																
Byblis serrata						130.48	260.97	130.48					260.97			
Amphipoda[1]								130.48								
Caprellidae													130.48			
Hippomedon serratus	130.48								130.48							
Phoxocephalus sp.				130.48				130.48		130.48						
Rhepoxynius epistomus								130.48								
Diastylis sp.											260.97					
Cumacea[1]																
Politolana sp.																
Tanaidacea																
Echinodermata																
Echinarachnius parma	782.9		130.483	1435.3		130.48	782.9	521.93	1696.3	130.48	782.9	913.38		913.38		
Mollusca																
Anadara sp.					130.48				130.48	260.97				130.48	130.48	
Astarte castanea				130.48										130.48	130.48	
Astarte sp. [1]	130.48					130.48										
Cyclocardia borealis	130.48			130.48				130.48	130.48						130.48	
Nucula proxima						130.48					391.45					
Arctica islandica																
Spisula solidisima																
Periploma papyratium																
Bivalvia[1]	130.48			260.97					130.48							
Anomia simplex										130.48						
Crepidula fornicata																
Naticidae								130.48								
Gastropoda[1]			130.483							130.48			130.48			
Acteocina canaliculata													260.97			
Nemertea																
Nemertea	130.48			391.45				130.48					130.48	130.48		
Oligochaeta																
Enchytraeidae				260.97												
Naididae w/out hair chaeta		130.48														
Naididae w/ hair chaeta				260.97		130.48								130.48	391.45	

Sample ID	544LA22-GB020	544LA22-GB021	544LA22-GB022A	544LA22-GB023A	544LA22-GB024	544LA22-GB025A	544LA22-GB026	544LA22-GB027	544LA22-GB028A	544LA22-GB029A	544LA22-GB030	544LA22-GB031A	544LA22-GB032	544LA22-GB033A	544LA22-GB034	544LA22-GB035
Area of Subsample (cm^2)	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**	**76.64**
Organisms/m^2																
Polychaeta																
Lumbrineridae[1]																
Lumbrinerides acuta					391.45					260.97		130.48	260.97			
Scoletoma sp.	130.48			260.97		130.48	130.48	260.97	130.48	1043.9	260.97		130.48	130.48	130.48	130.48
Drilonereis sp.	130.48					130.48										
Glycera capitata[2]																
Glycera sp.											130.48				130.48	
Goniadella gracilis[2]																260.97
Goniadidae		260.97	130.483									521.93		130.48	521.93	
Nephtyidae[1]	130.48				130.48					130.48	130.48		130.48			
Nephtys sp.							391.45	130.48						391.45		130.48
Aglaophamus circinata									260.97						130.48	130.48
Nereididae				130.48						130.48			130.48			
Polynoidae																130.48
Sigalion arenicola																
Sthenelais sp.					130.48				130.48							
Sthenelais limicola[2]						130.48										
Exogone sp.																
Syllidae[3]																
Apistobranchus tullbergi																
Ampharetidae																
Cirratulidae																
Capitellidae[1]																
Capitella sp.																
Maldanidae														130.48		
Orbinia sp.							130.48									
Aricidea sp.																
Paraonidae[1]				130.48											130.48	
Paraonis sp.		260.97														
Polygordius sp.					130.48					130.48		260.97	260.97		260.97	
Scalibregma inflatum						260.97						130.48				
Polychaeta[1]																
Total Organisms*	1435.3	652.41	260.965	3131.6	782.9	1174.3	1696.3	1696.3	2609.7	2218.2	1826.8	1957.2	1565.8	2218.2	1957.2	782.9
Taxa Richness*	6	3	2	9	4	8	5	9	7	8	5	5	8	9	9	5
Pielou's Evenness*	0.7928	0.9602	1	0.8048	0.8962	0.9826	0.8561	0.9247	0.6471	0.8135	0.8933	0.8313	0.9728	0.8365	0.9222	0.9697
Shannon Diversity*	1.421	1.055	0.6931	1.768	1.242	2.043	1.378	2.032	1.259	1.692	1.438	1.338	2.023	1.838	2.026	1.561

Appendix M: Underwater Video Summary Results

Transect ID	Dominant Substrate	Vertebrate Taxa	Invertebrate Taxa
544LA22-VT001	Muddy Sand	3	7
544LA22-VT002	Sand	3	8
544LA22-VT003	Sand	3	7
544LA22-VT004	Muddy Sand	4	7
544LA22-VT005	Sand	2	9
544LA22-VT006	Sand	5	6
544LA22-VT007	Sand	3	6
544LA22-VT008	Muddy Sand	4	6
544LA22-VT009	Sand	3	7
544LA22-VT010	Sand	2	7
544LA22-VT011	Sand	4	8
544LA22-VT012	Sand	3	11
544LA22-VT013	Sand	4	8
544LA22-VT014	Sand	3	5
544LA22-VT015	Sand	2	9
544LA22-VT016	Sand	4	8
544LA22-VT017	Sand	3	9
544LA22-VT018	Sand	4	7
544LA22-VT019	Sand	3	11
544LA22-VT020	Muddy Sand	2	10
544LA22-VT021	Sand	2	9
544LA22-VT022	Sand	0	7
544LA22-VT023	Sand	3	10
544LA22-VT024	Sand	1	6
544LA22-VT025	Sand	1	7
544LA22-VT026	Sand	5	7
544LA22-VT027	Sand	3	8
544LA22-VT028	Sand	2	9
544LA22-VT029	Sand	1	9
544LA22-VT030	Sand	3	10
544LA22-VT031	Sand	2	7
544LA22-VT032	Sand	3	9
544LA22-VT033	Sand	1	6
544LA22-VT034	Sand	4	10
544LA22-VT035	Sand	4	10

Appendix N: CMECS Classifications Maps for Video Surveys



Muddy Sand
Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

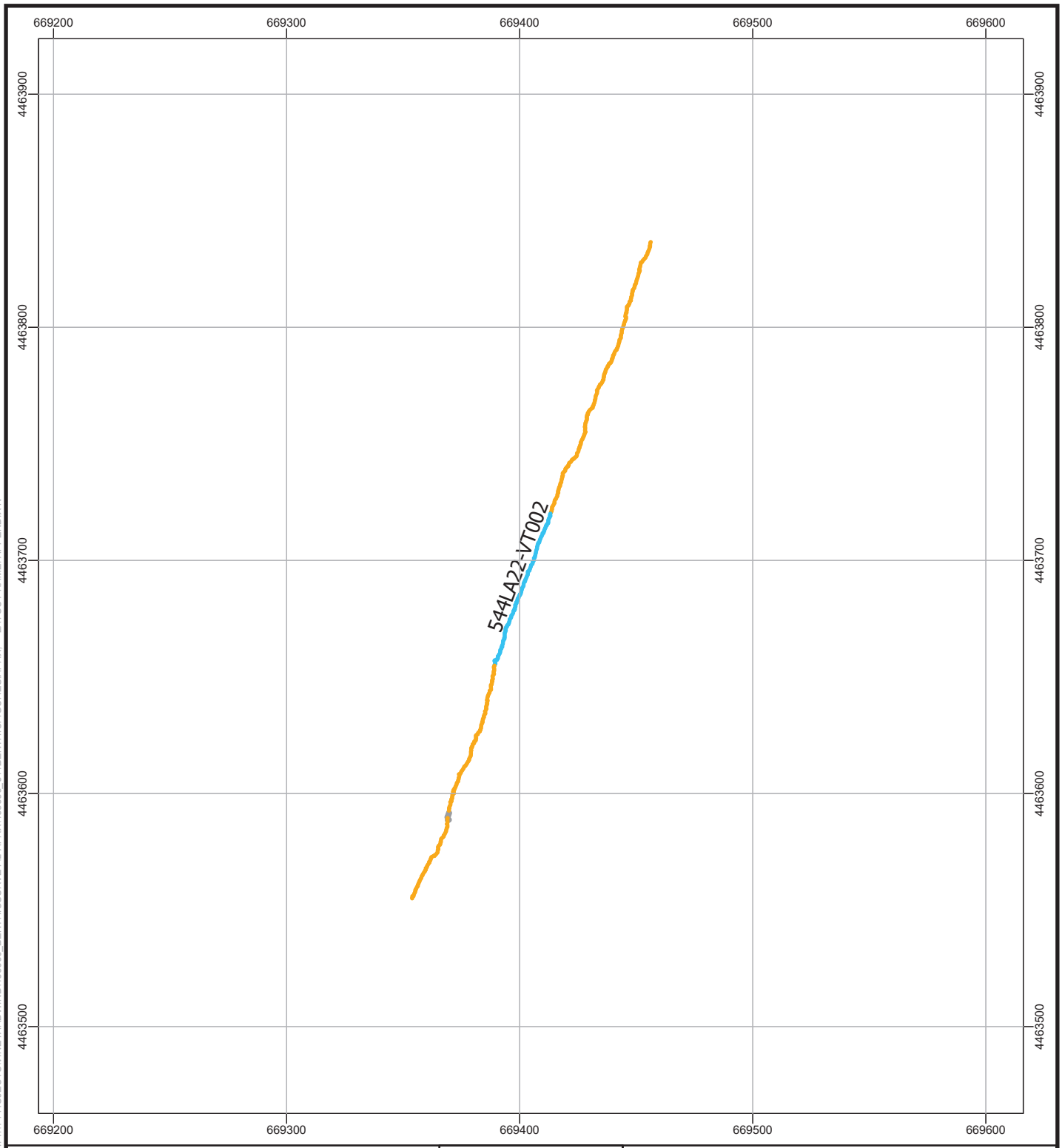
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT001

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravelly
Sand
Limited Visibility

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

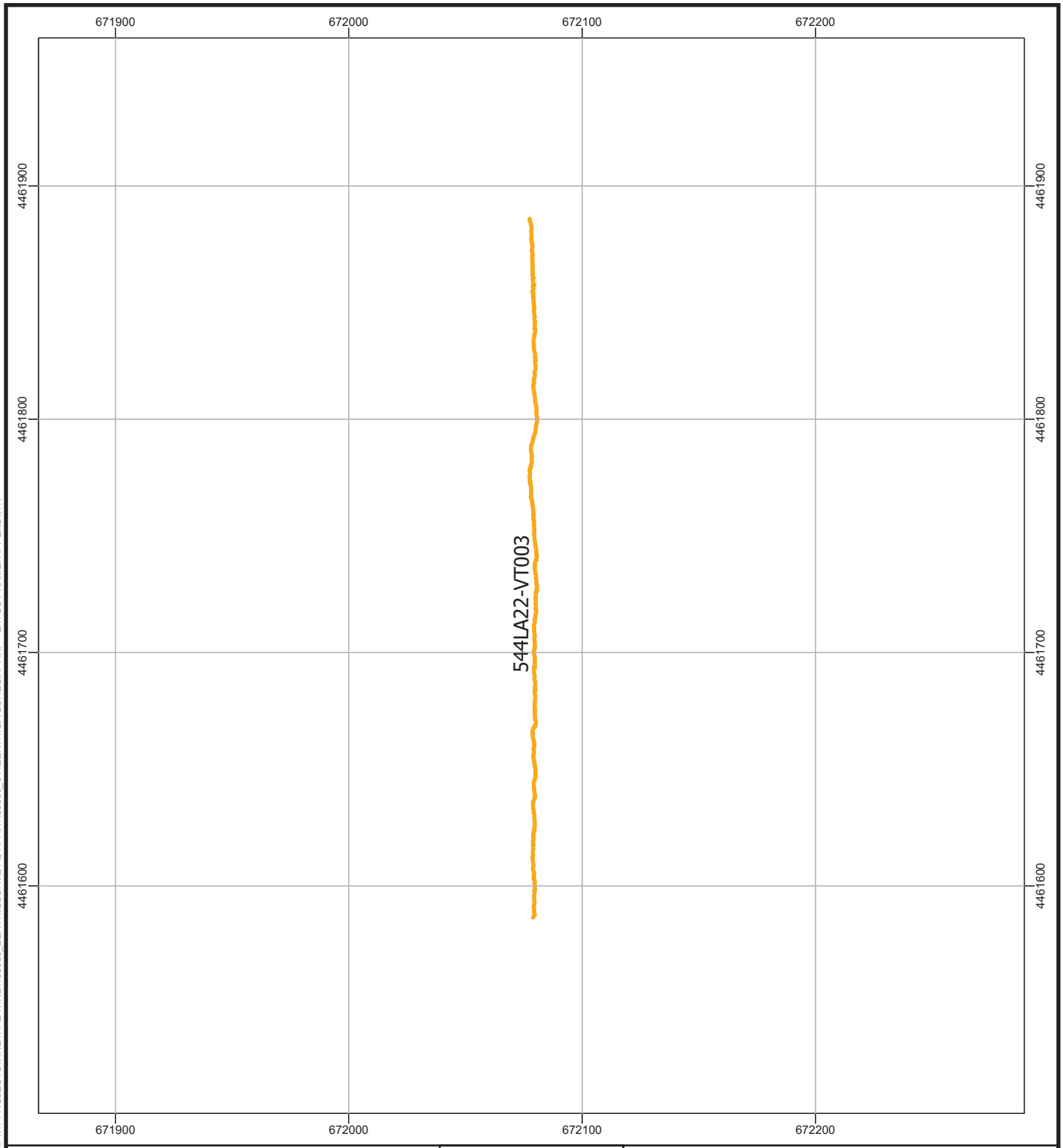
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT002

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

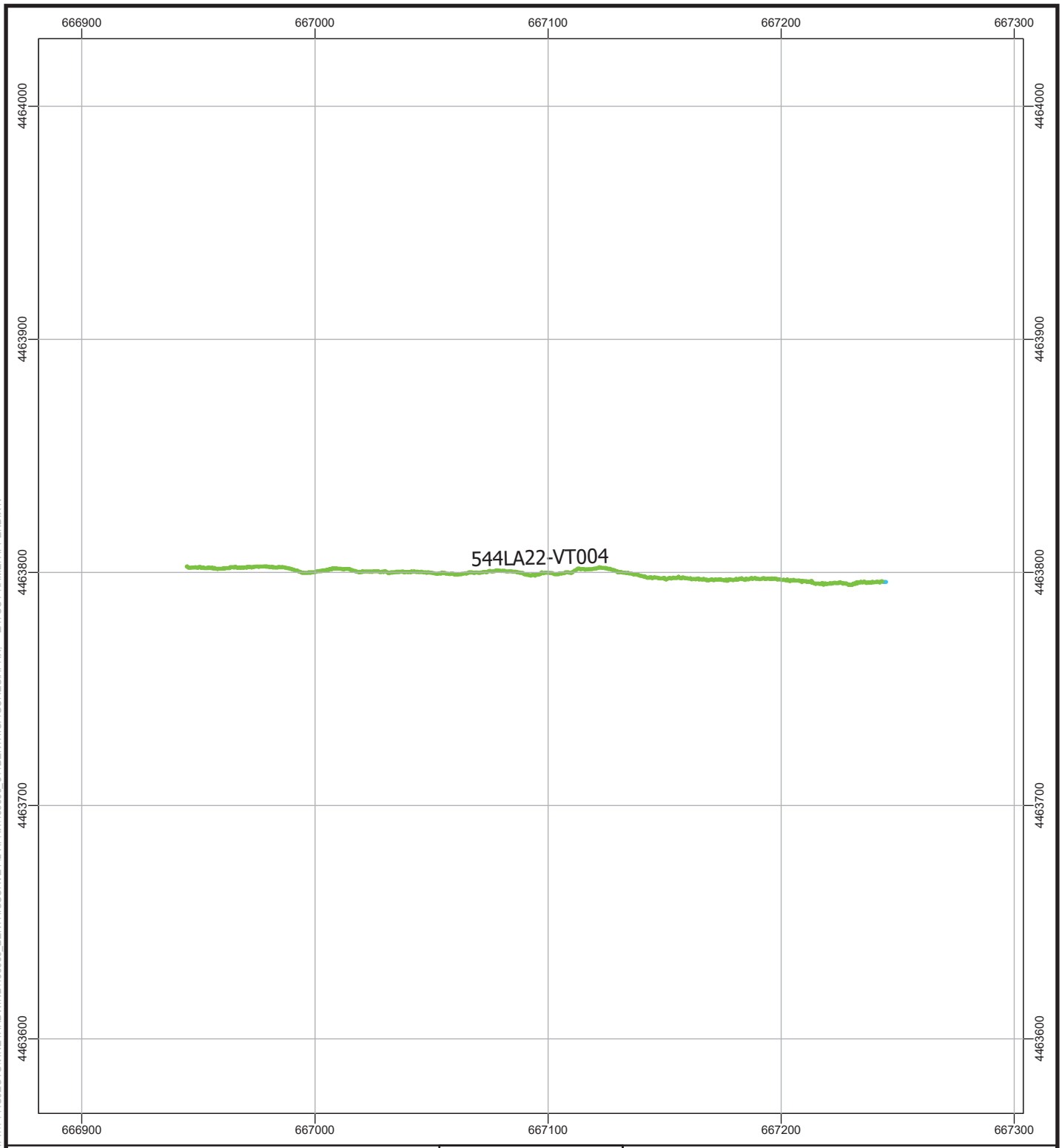
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT003

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravelly

Muddy Sand

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

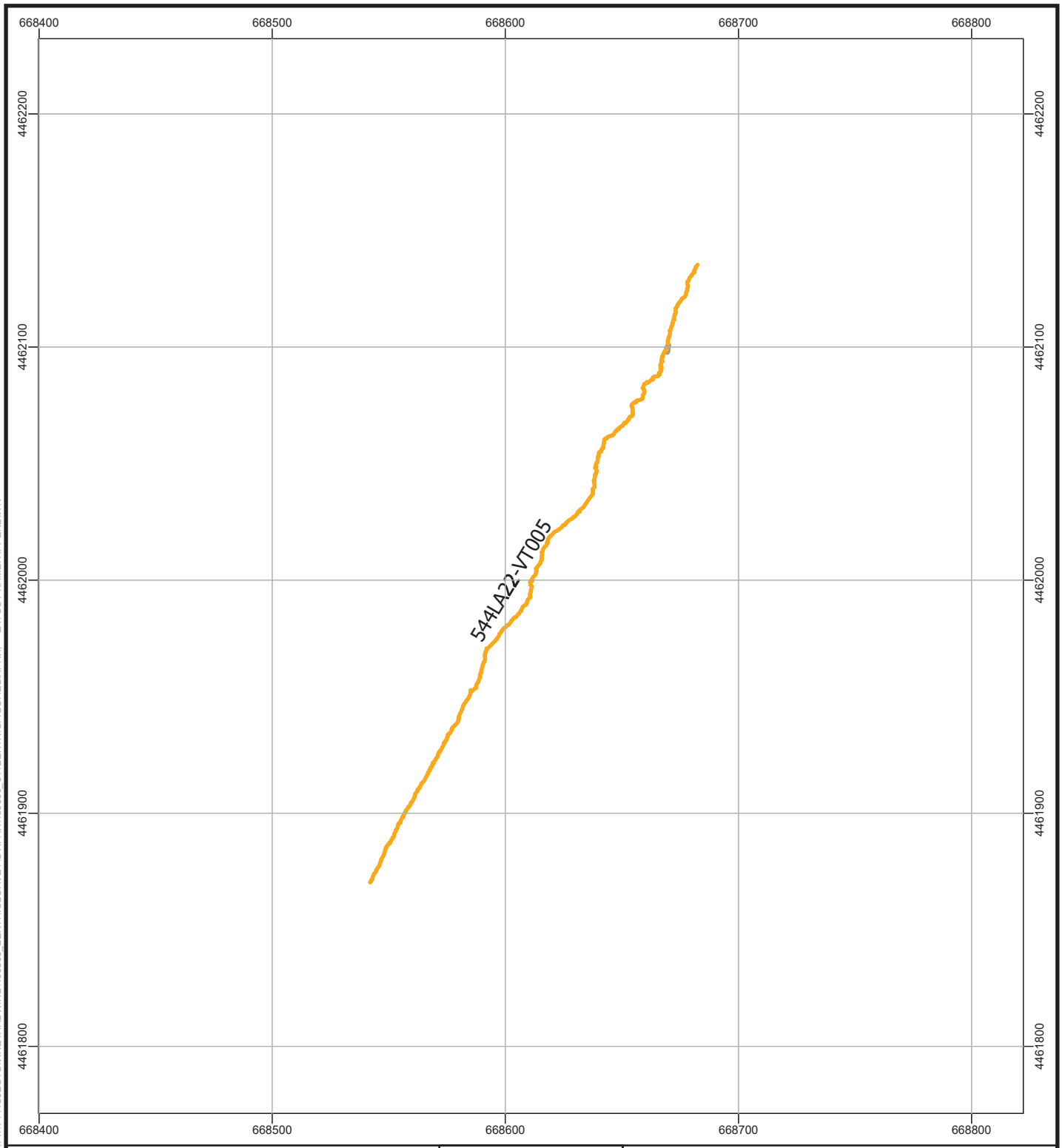
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT004

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

Limited Visibility

N

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

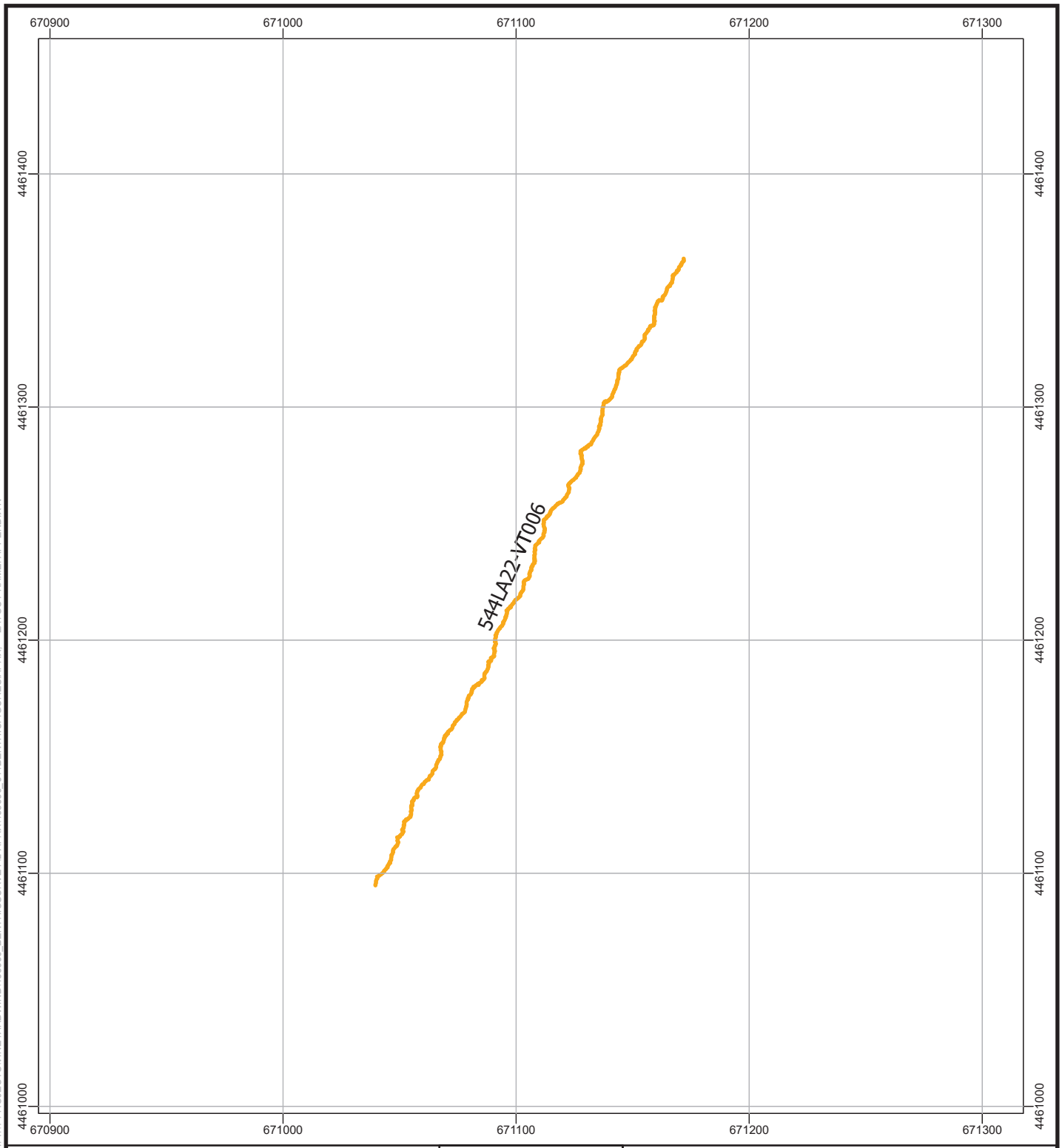
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT005

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

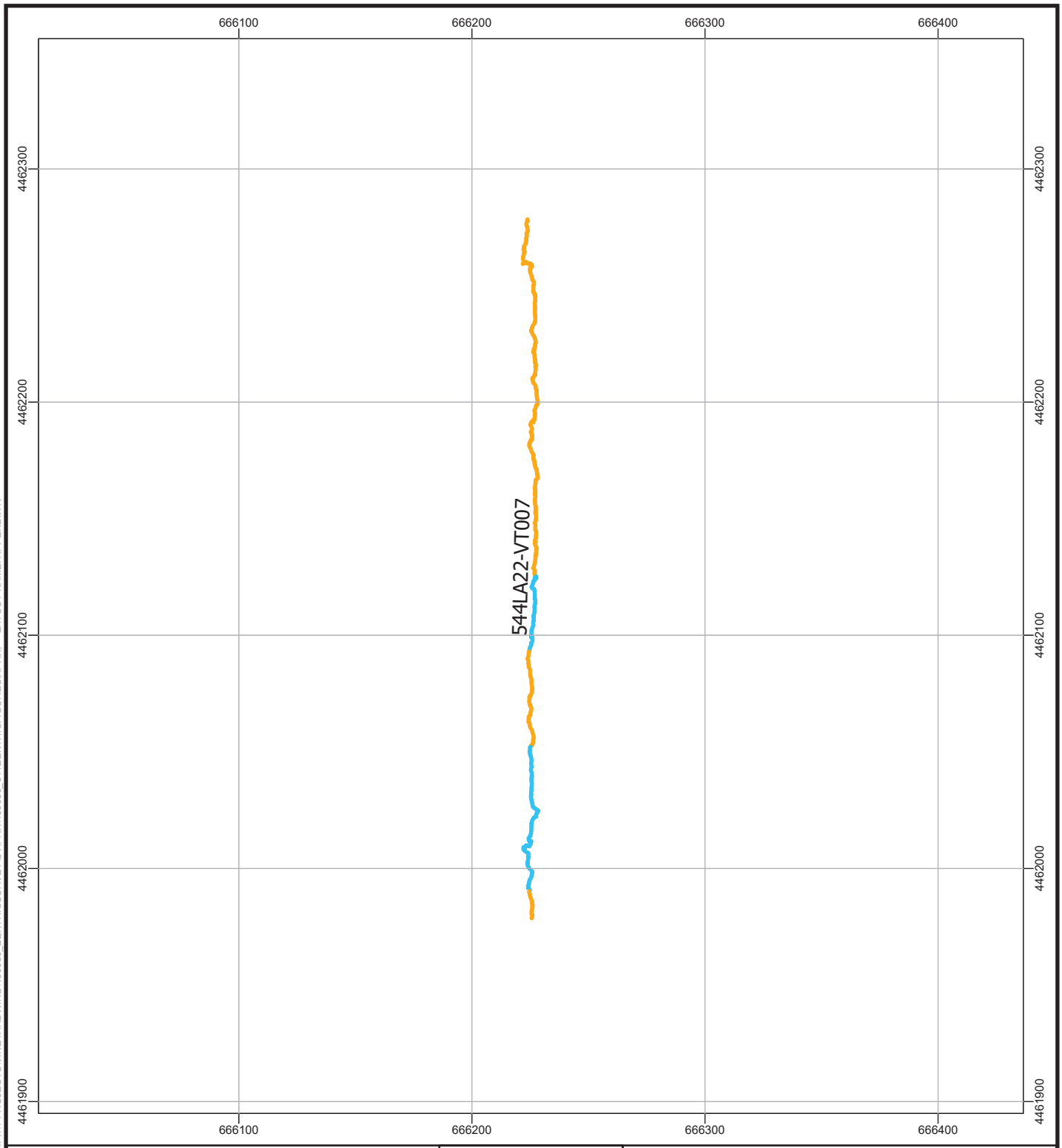
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT006

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravelly

Sand

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

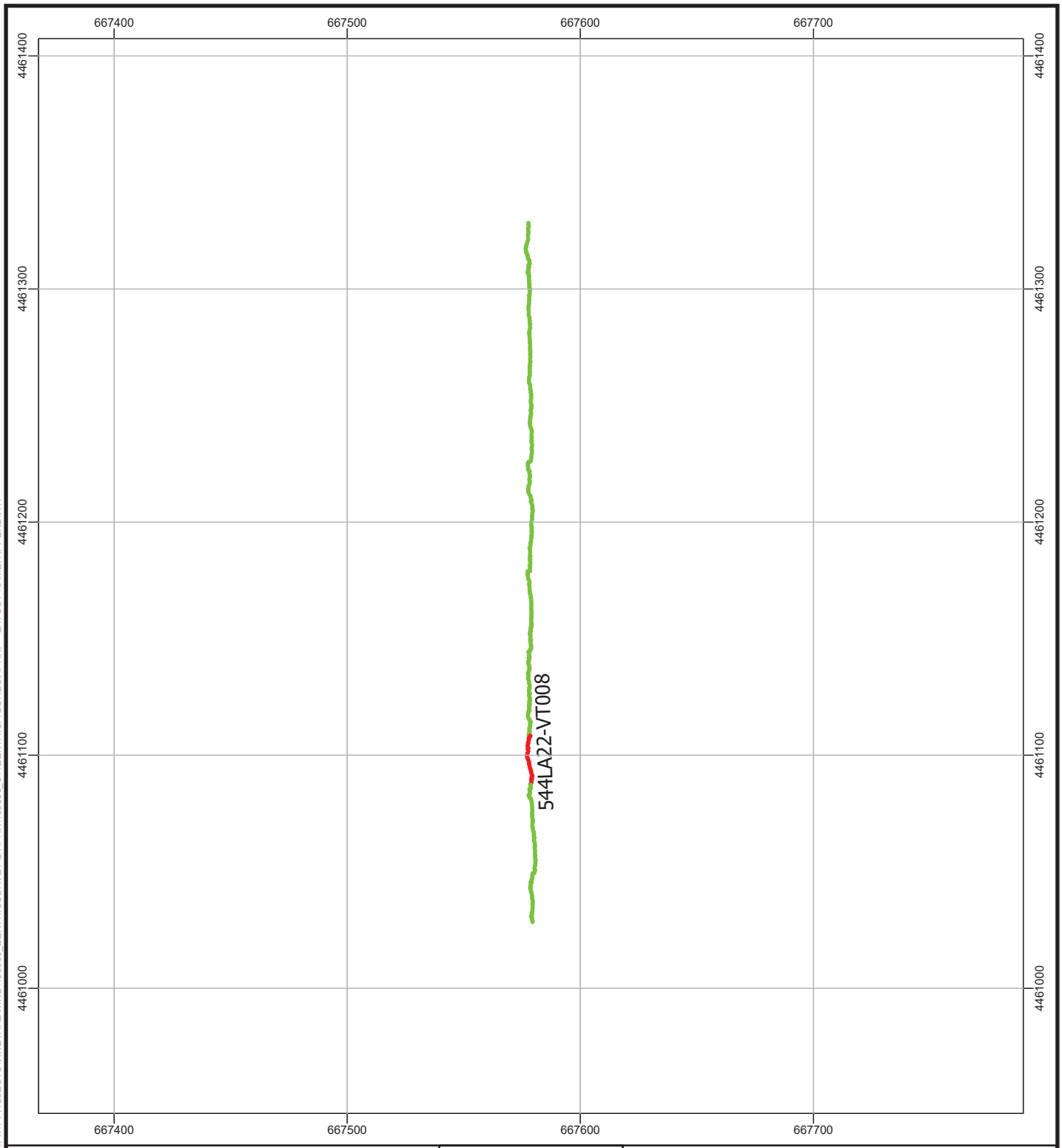
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT007

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravel Mixes

Muddy Sand

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

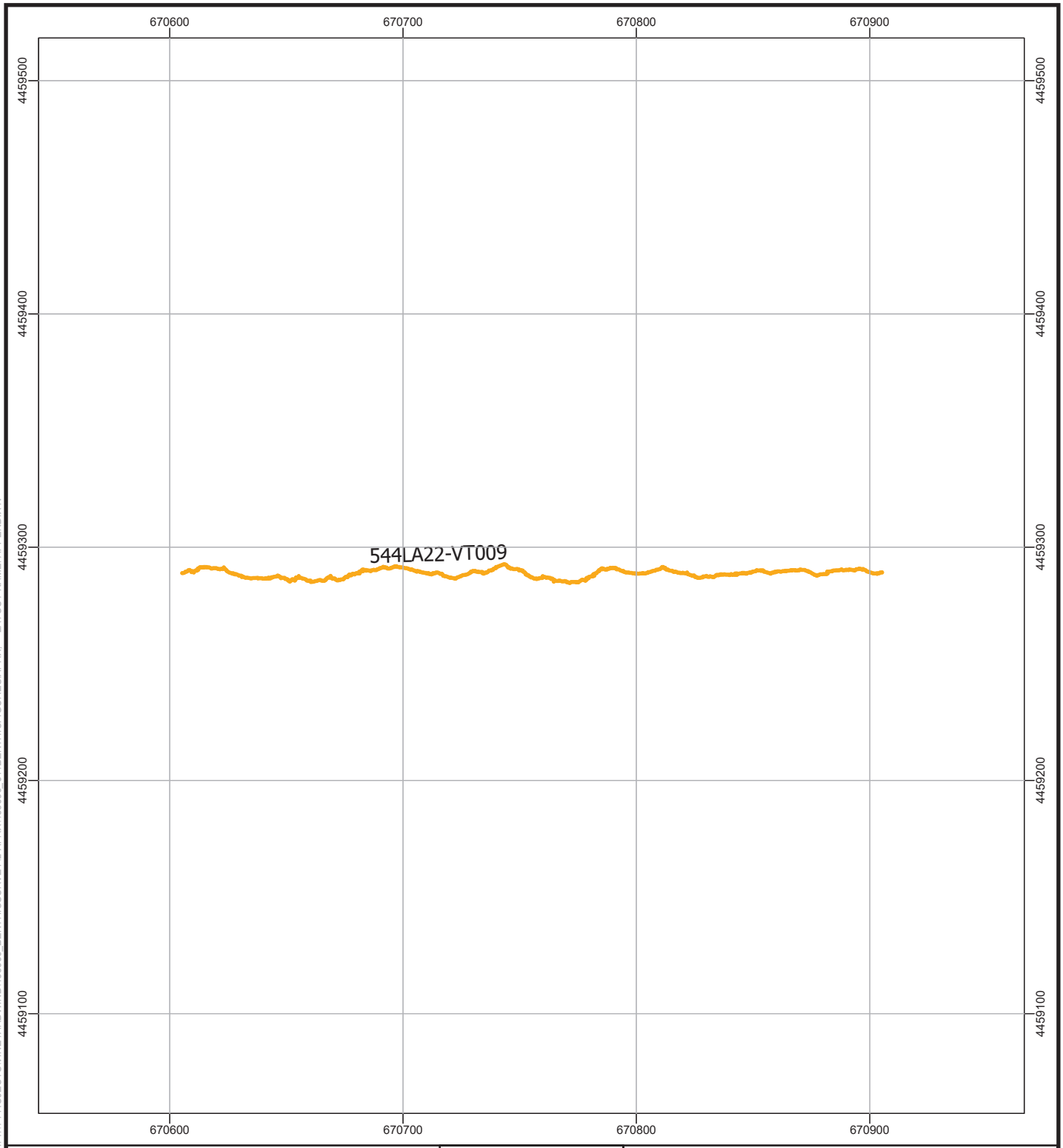
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT008

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

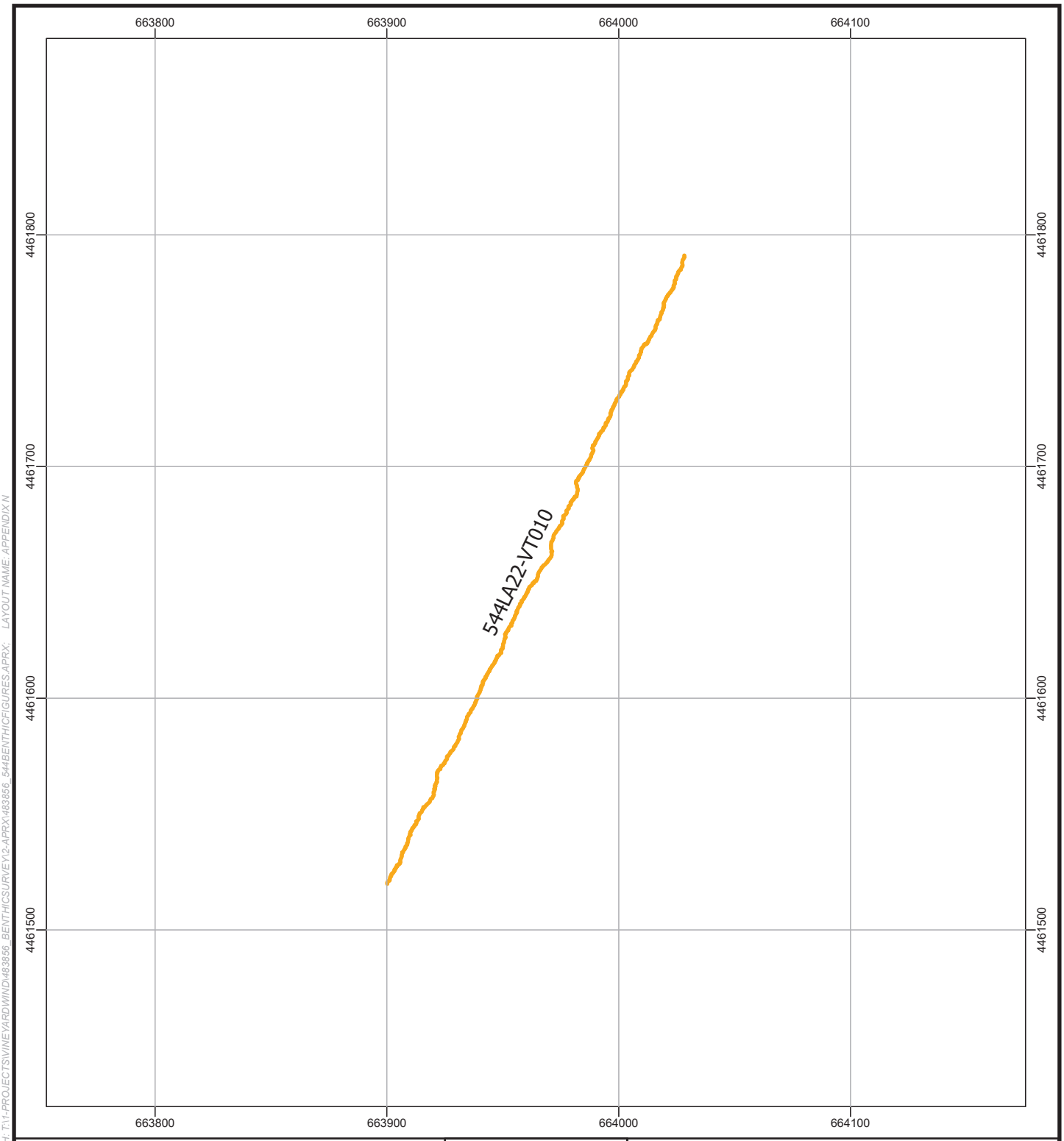
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT009

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

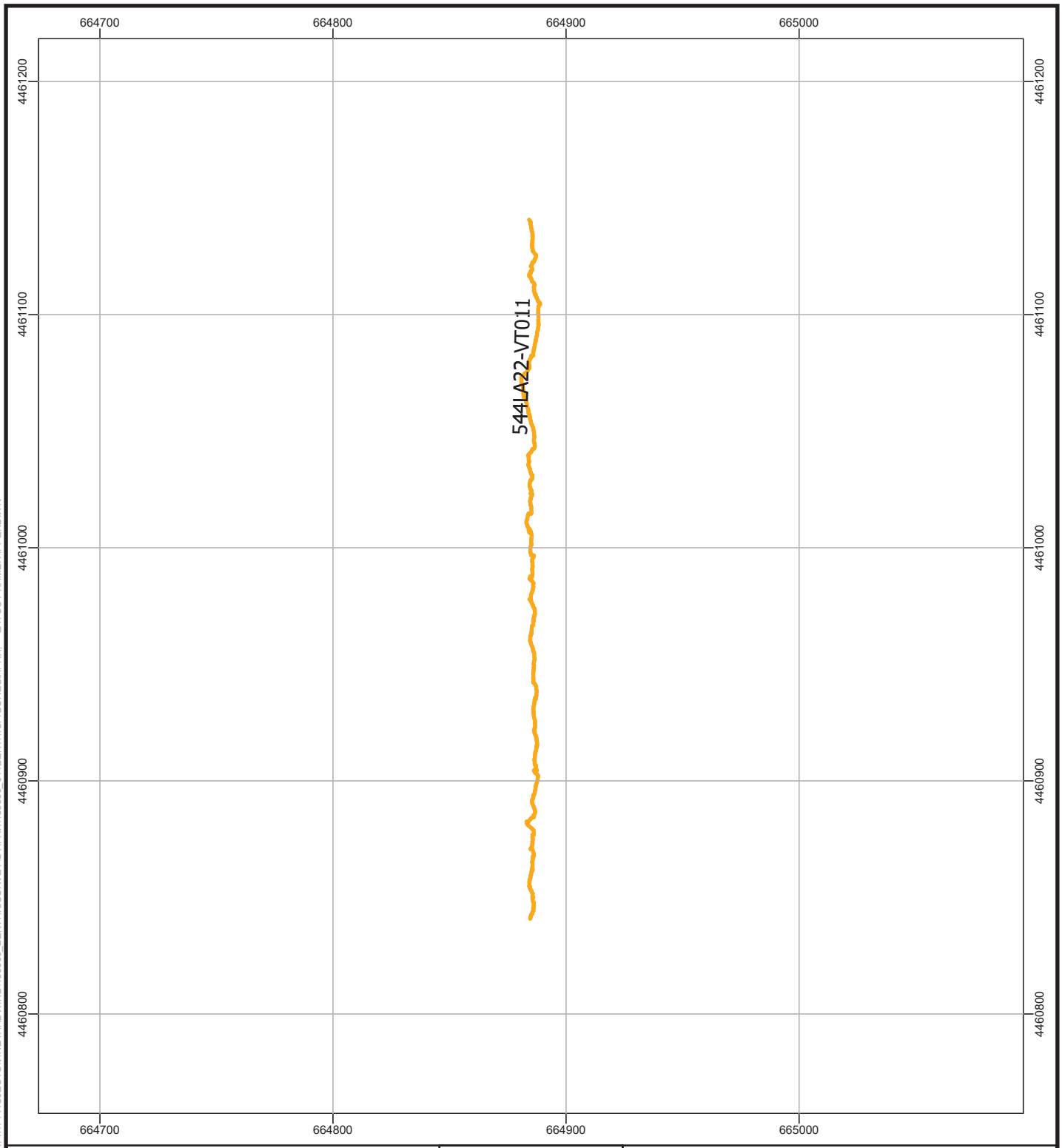
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT010

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

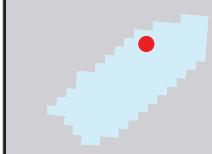
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

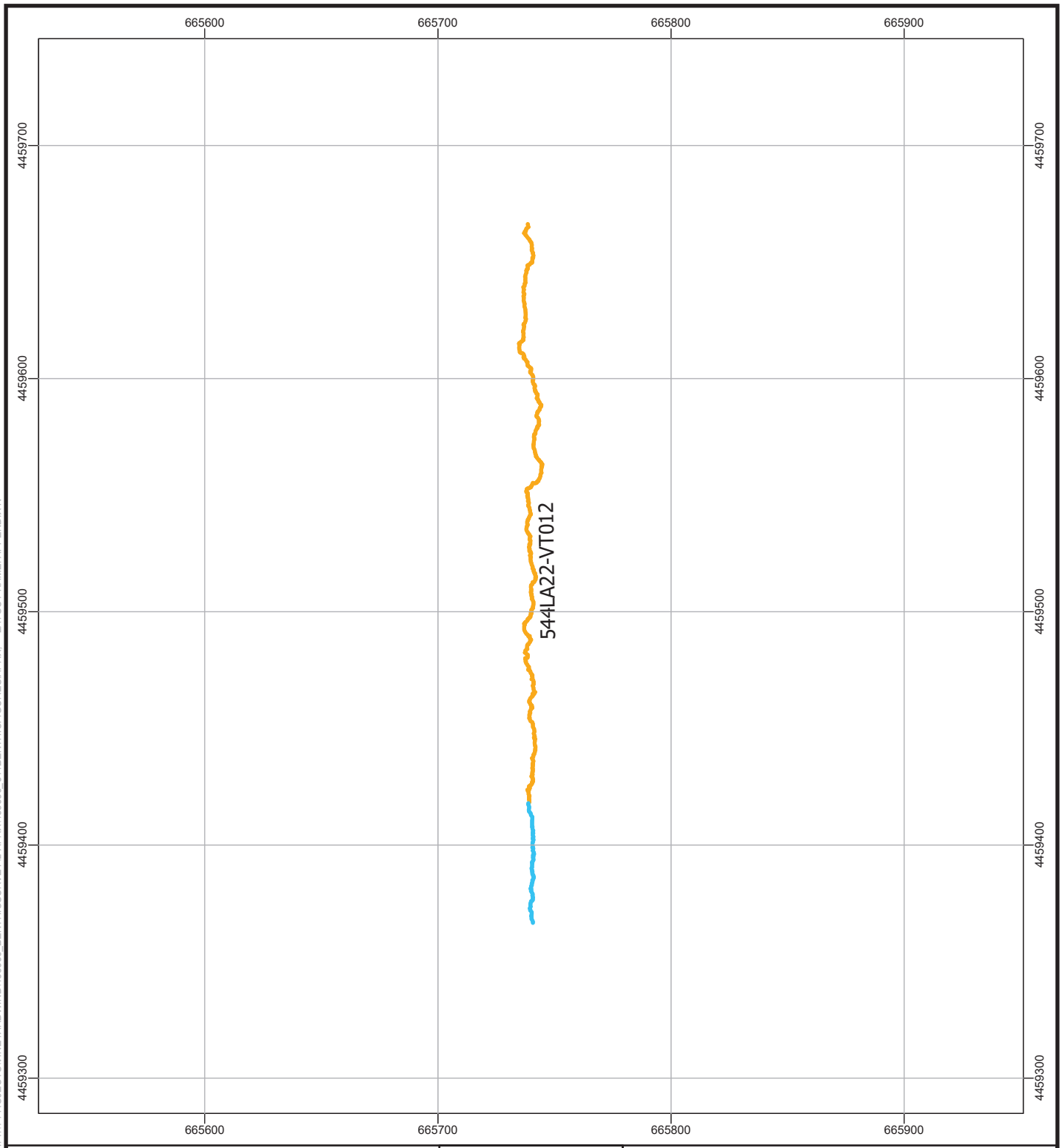
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT011

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravelly

Sand

N

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

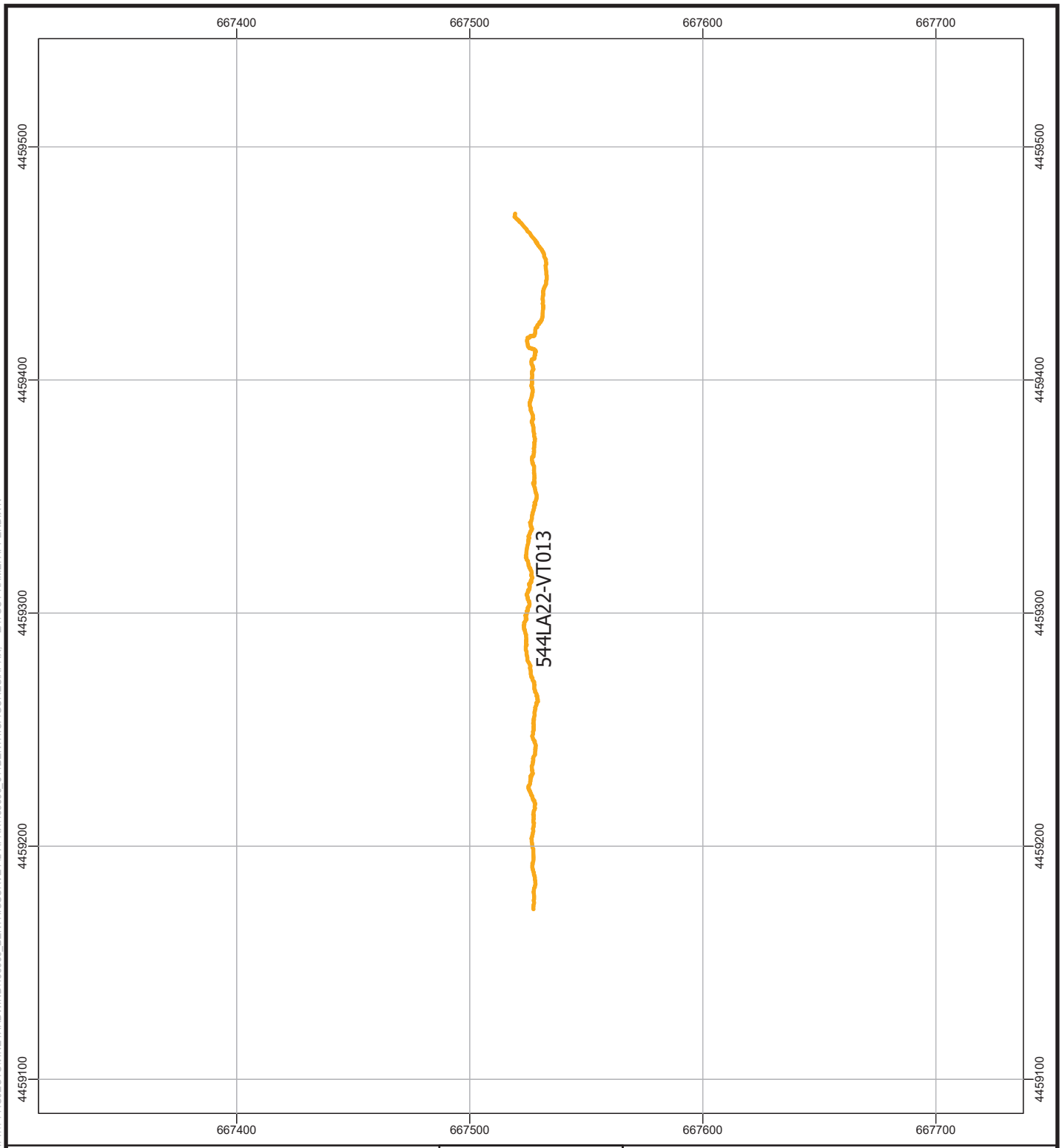
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT012

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

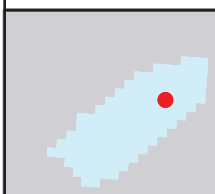
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

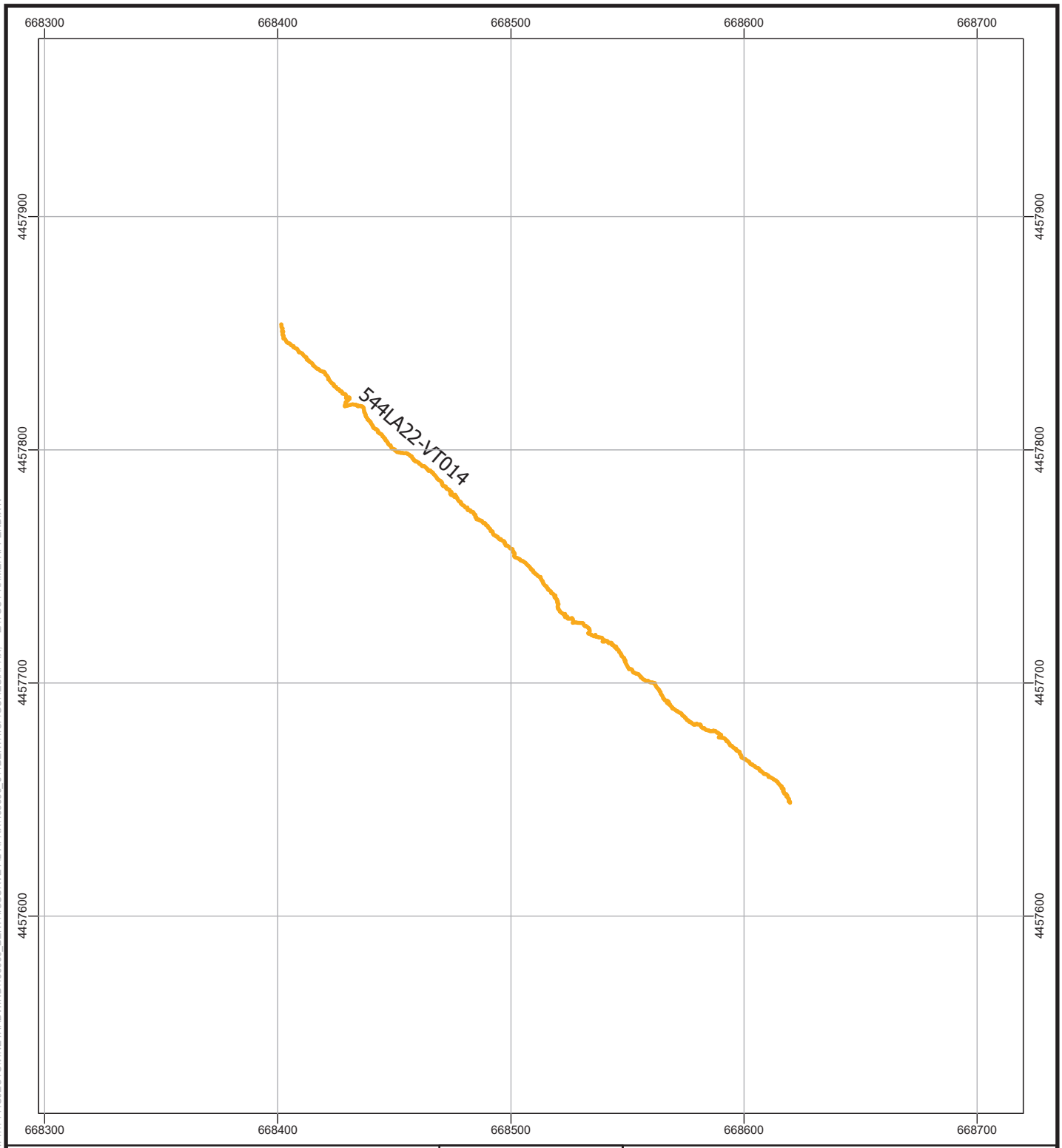
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT013

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

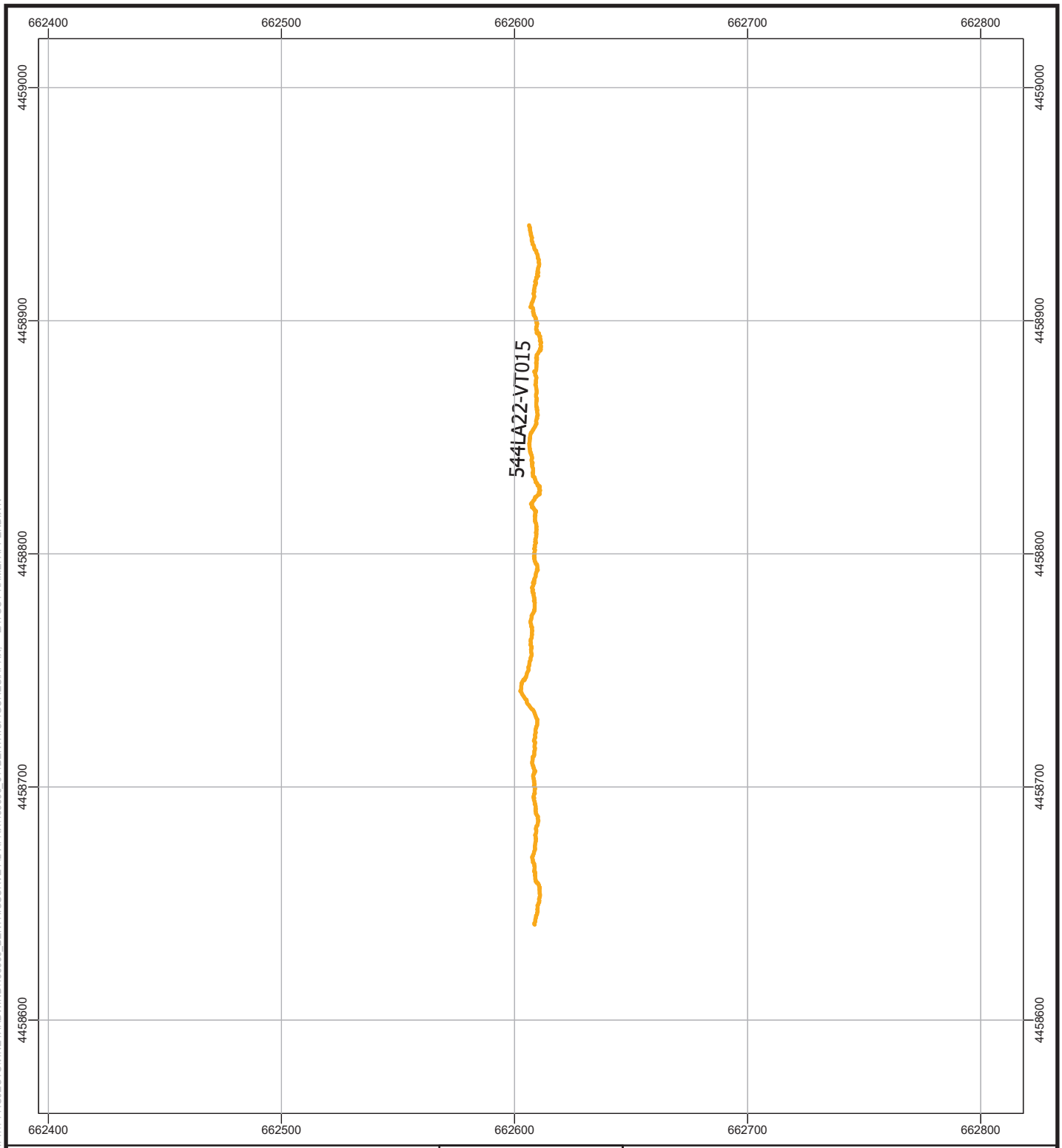
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT014

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

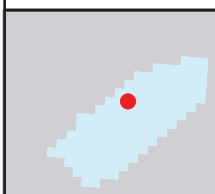
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:

VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:

CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

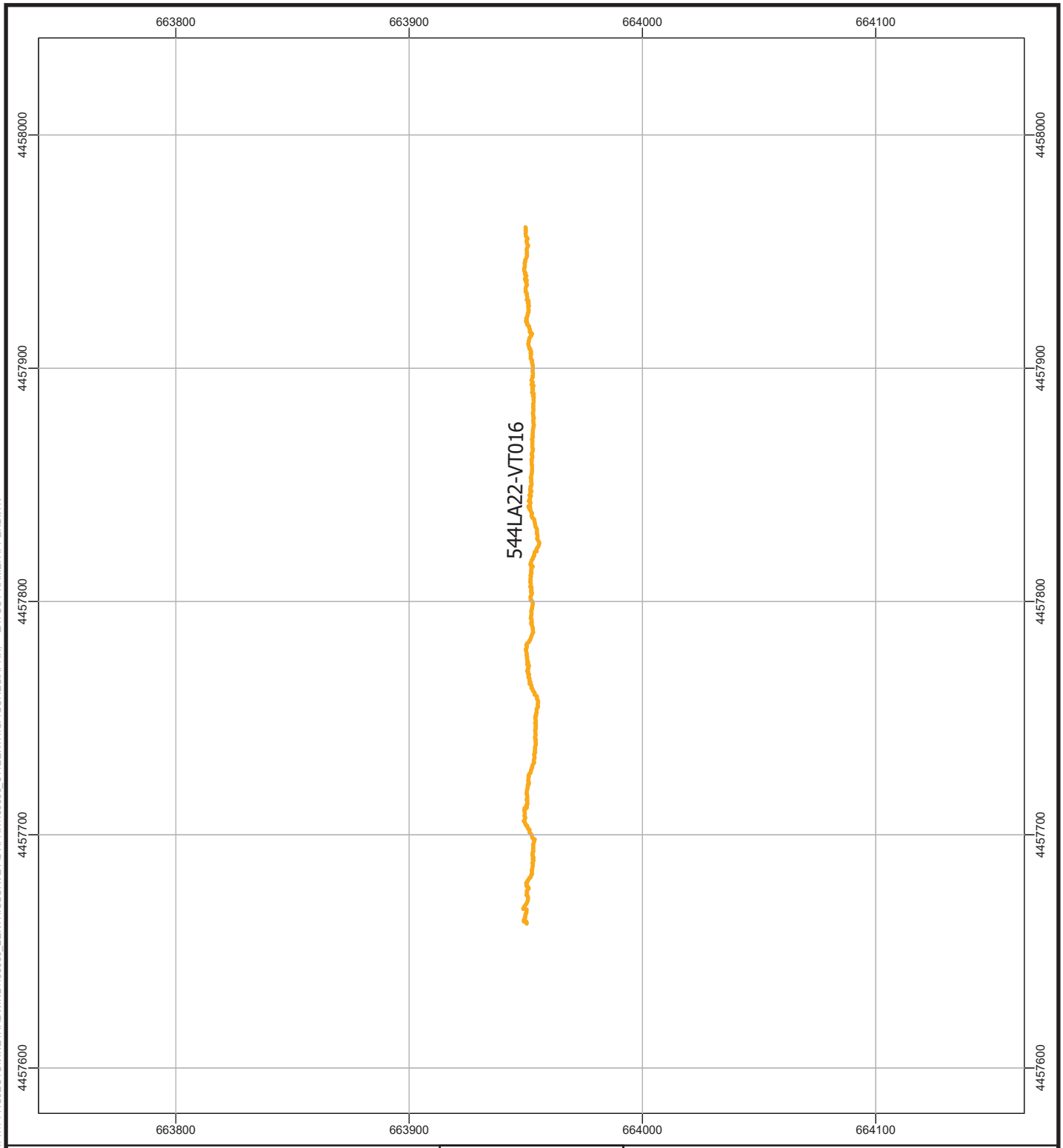
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT015

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

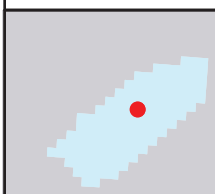
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

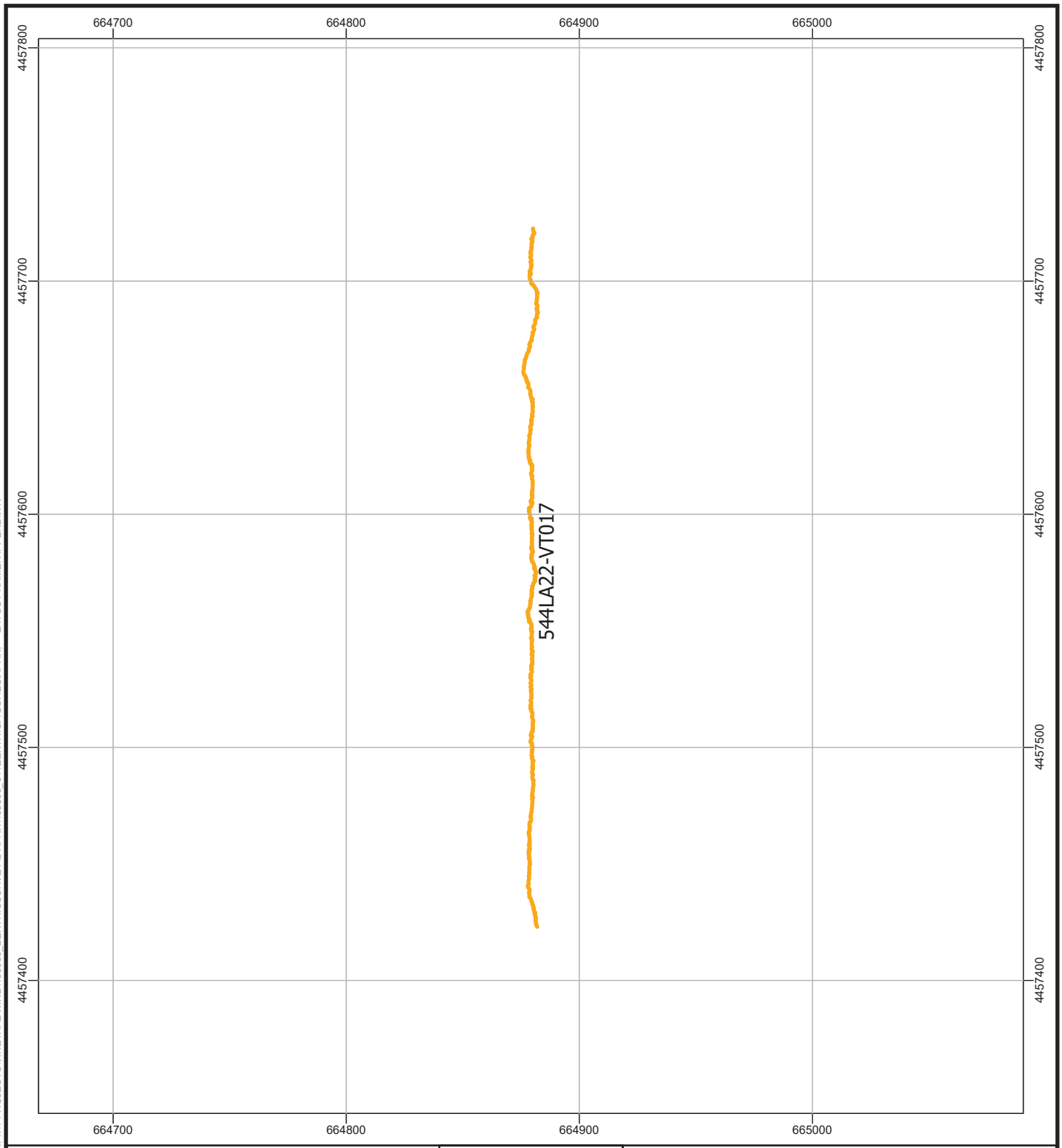
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT016

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

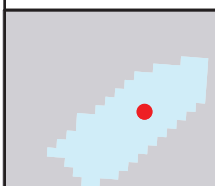
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

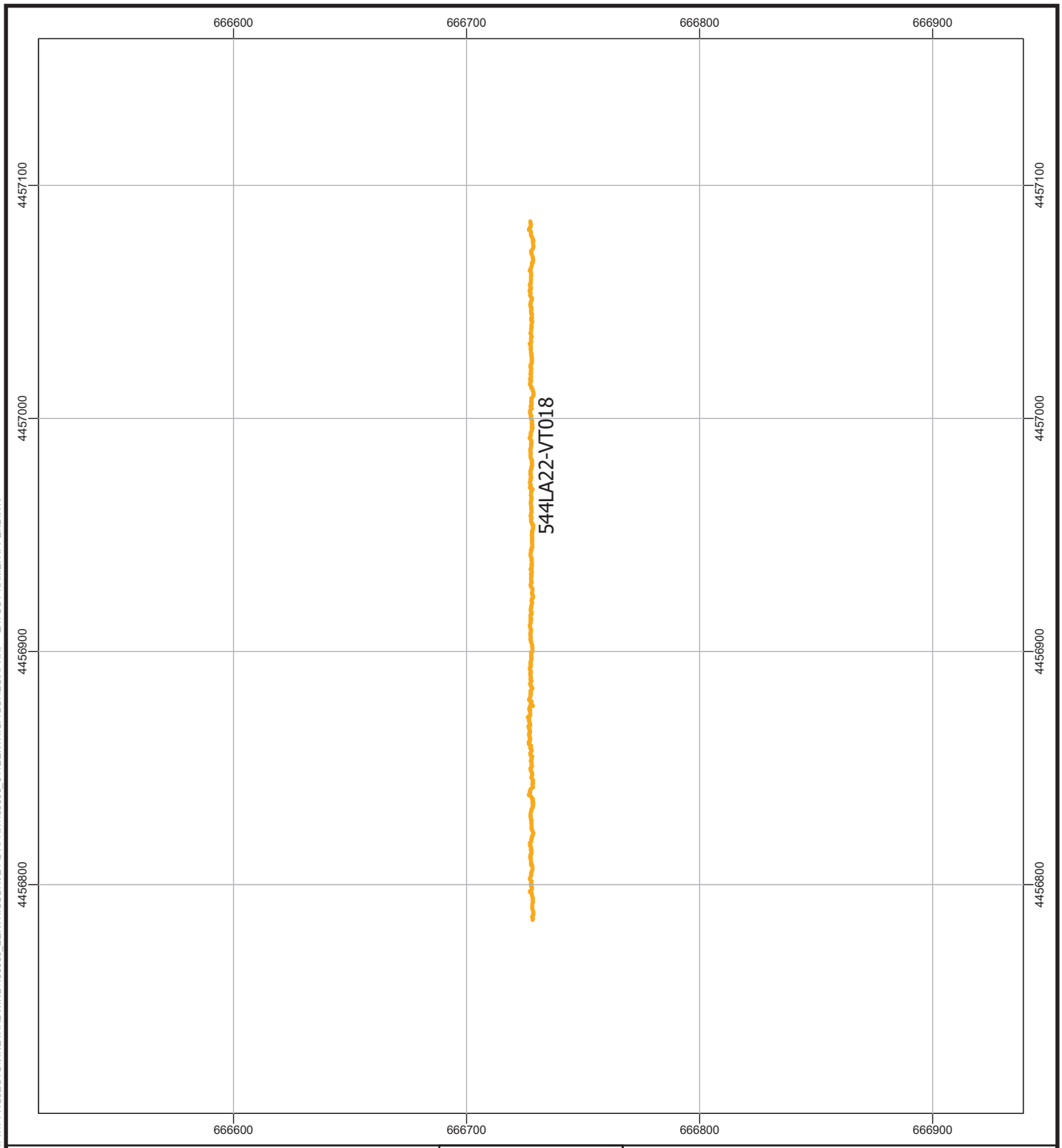
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT017

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

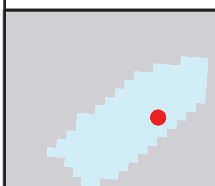
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

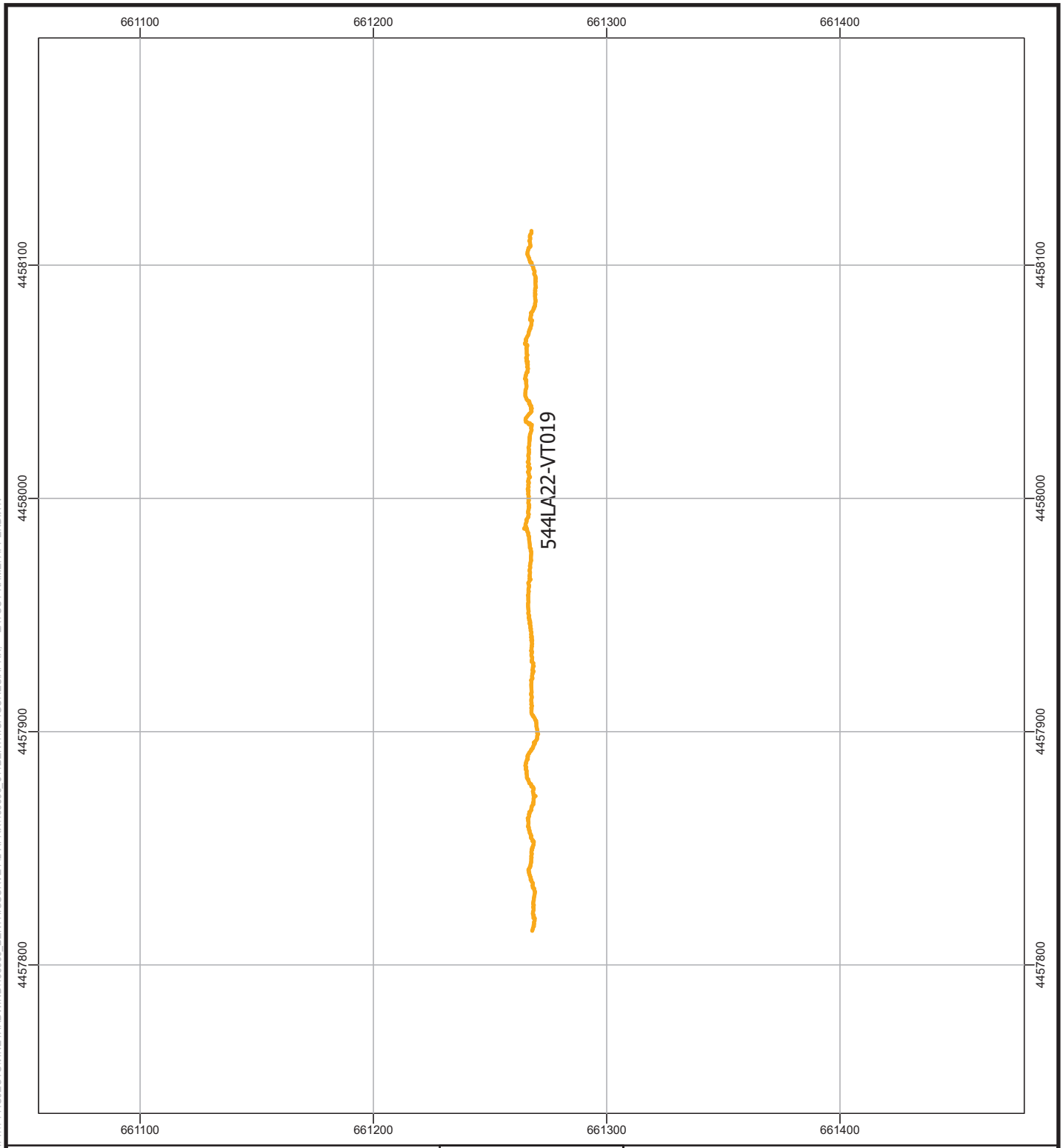
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT018

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

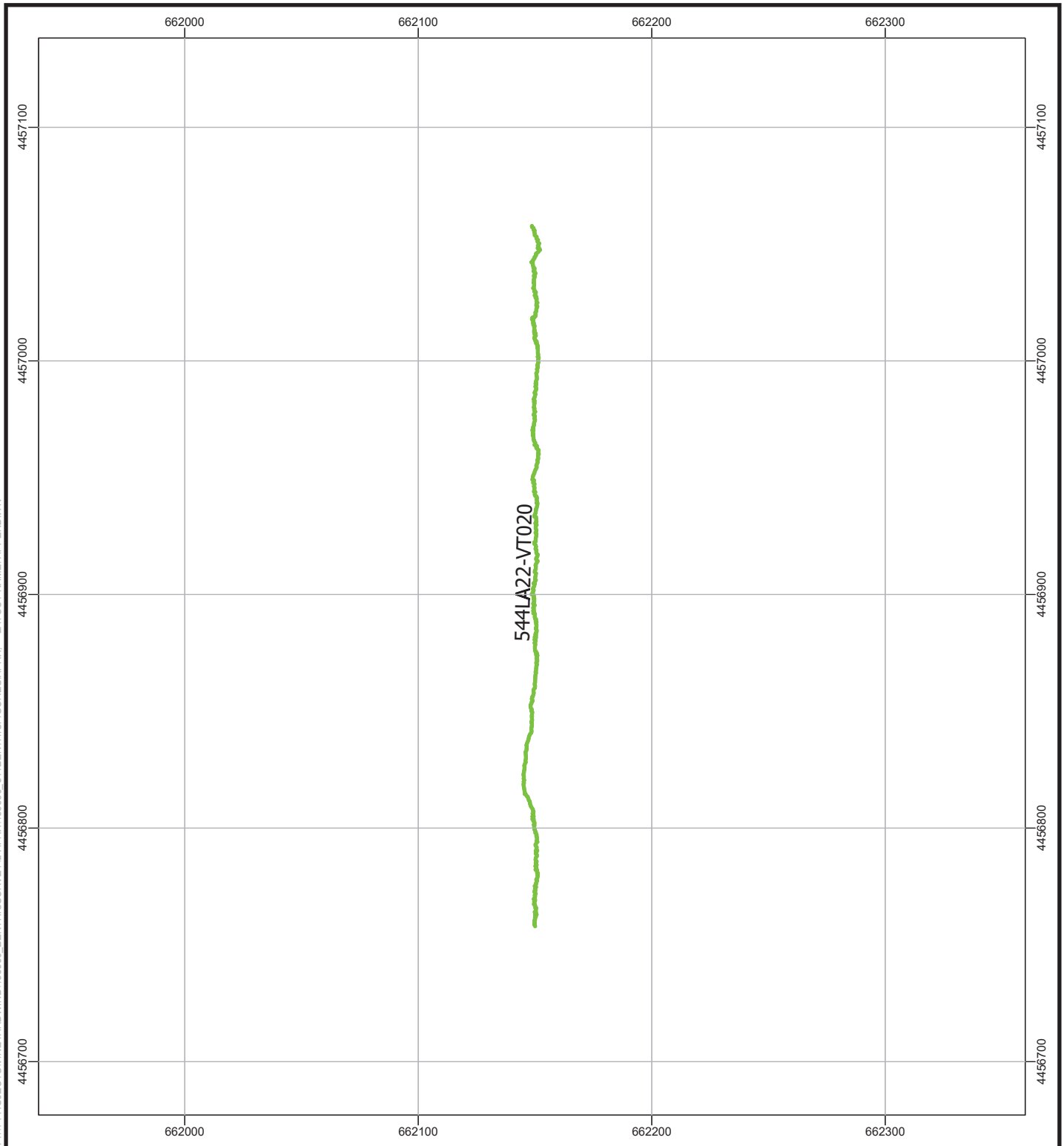
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT019

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Muddy Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

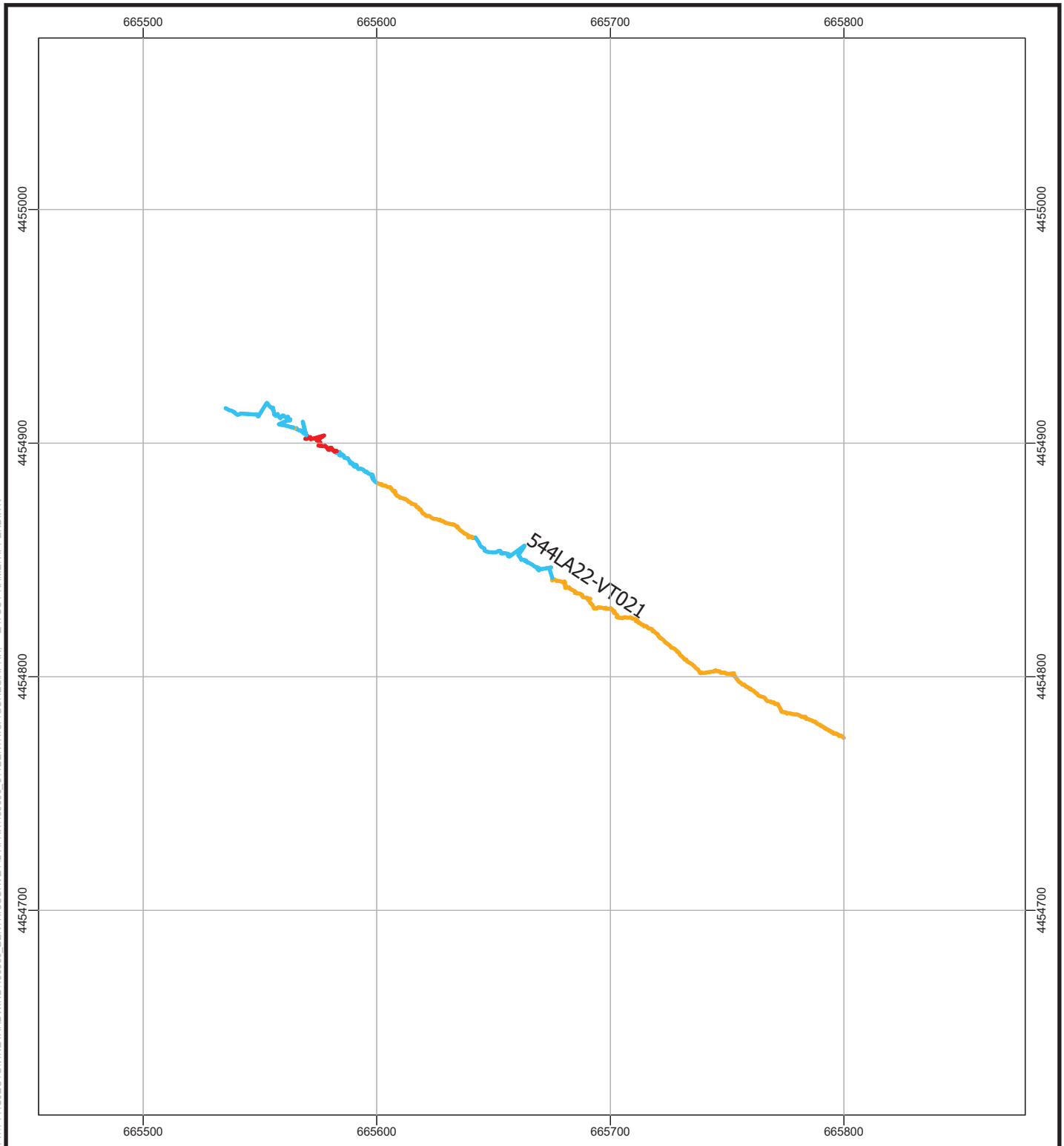
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT020

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravel Mixes
Gravelly
Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

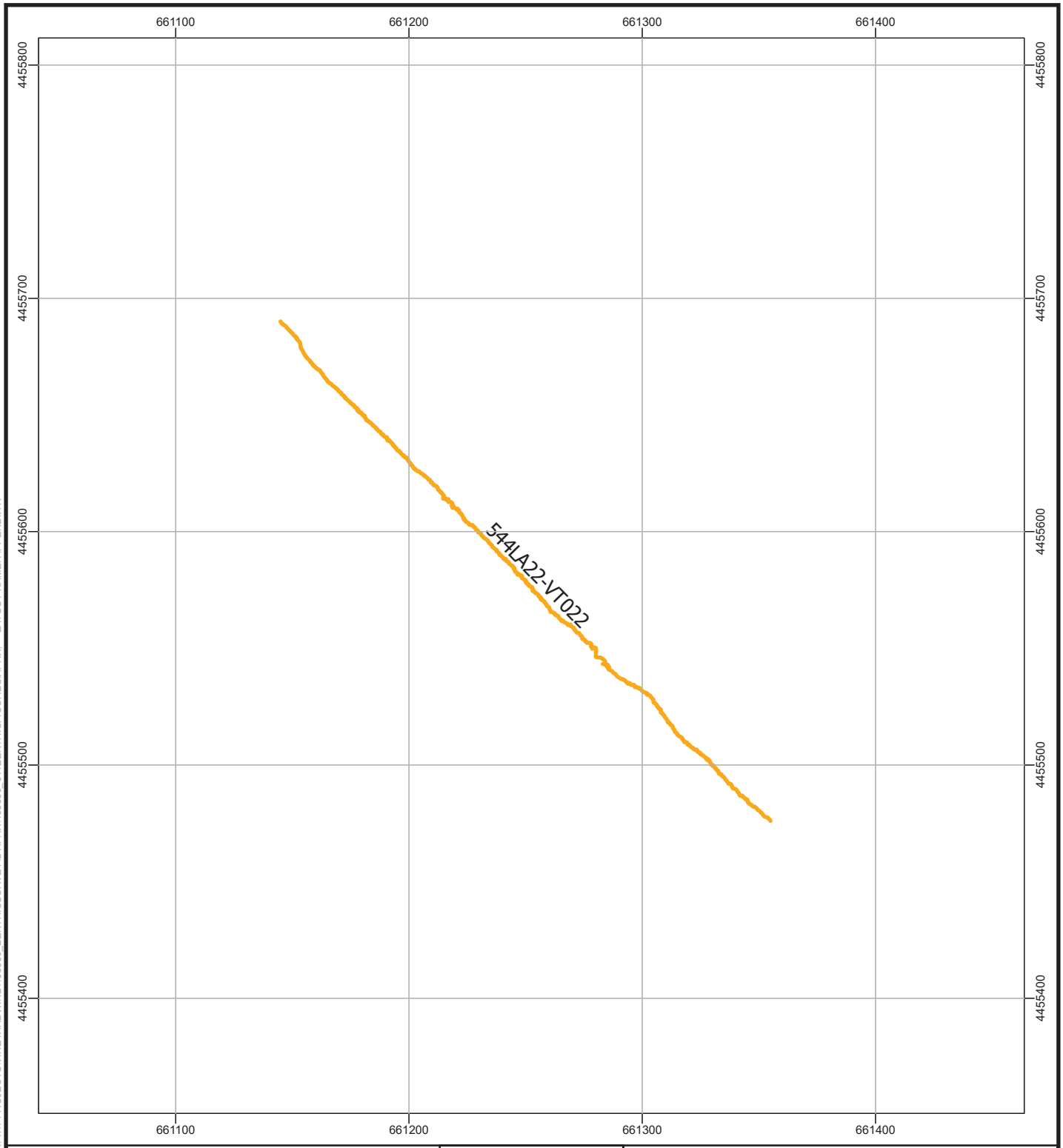
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT021

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

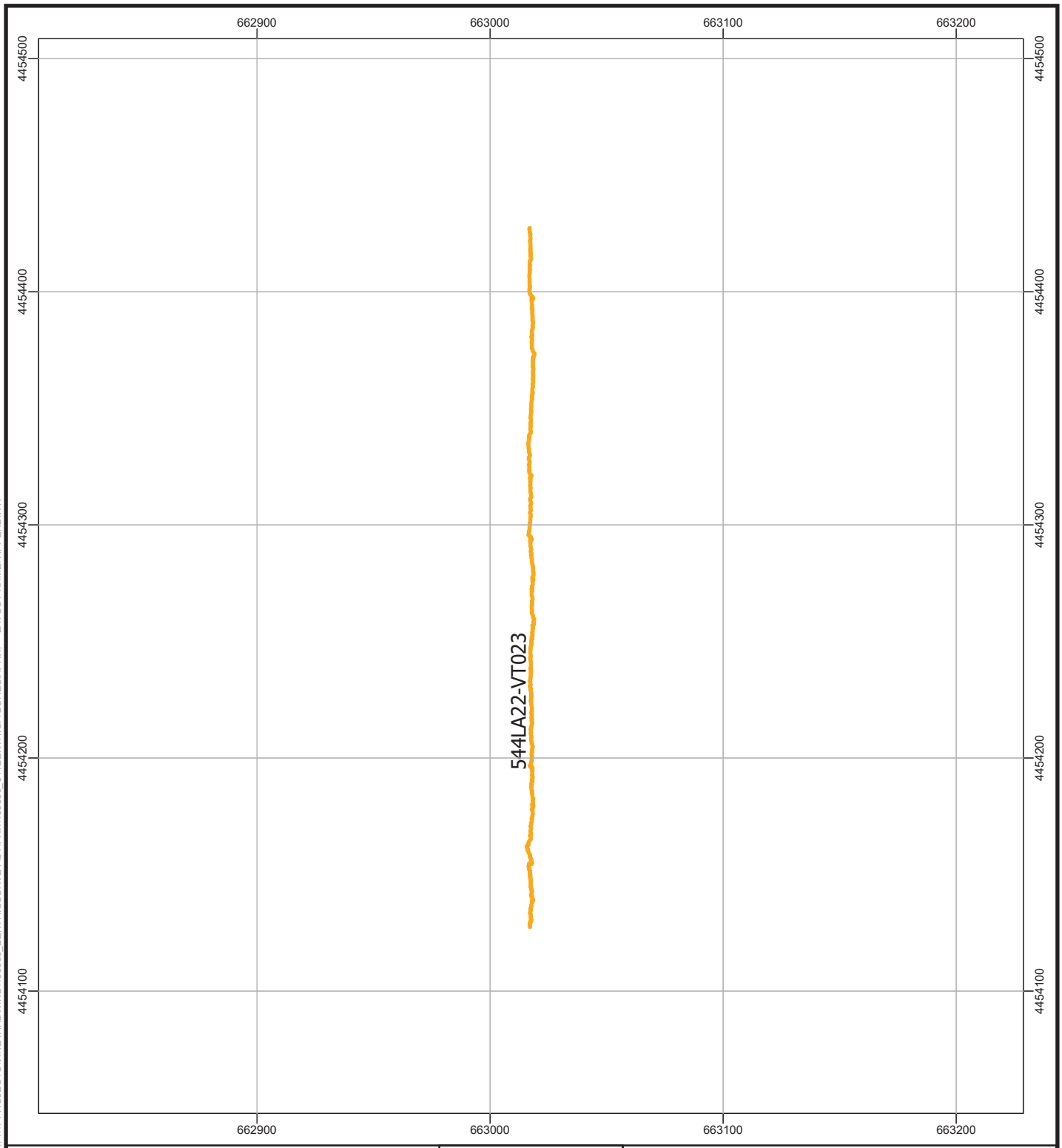
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT022

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

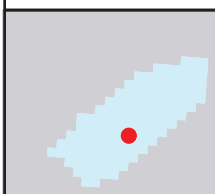
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

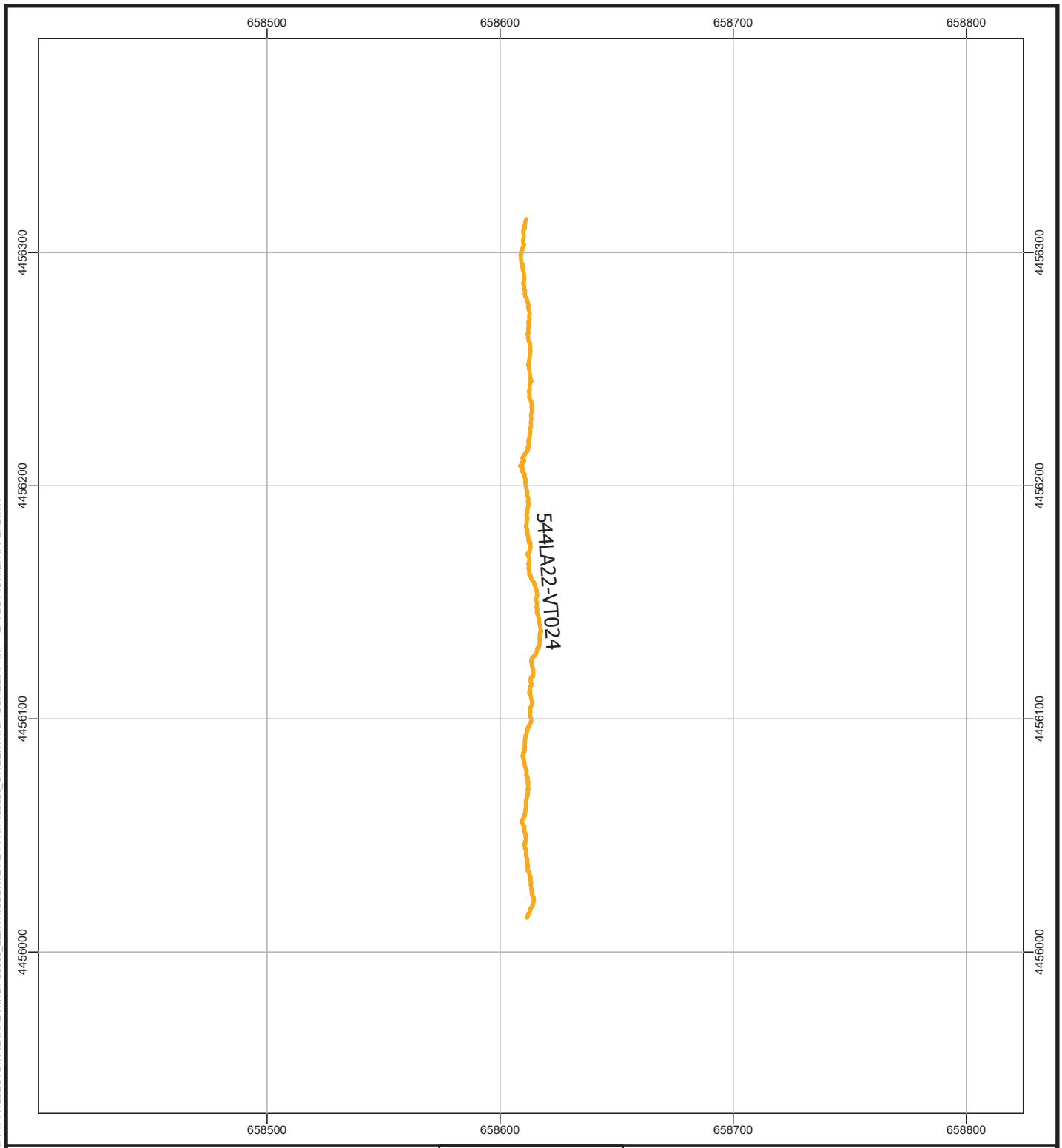
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT023

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

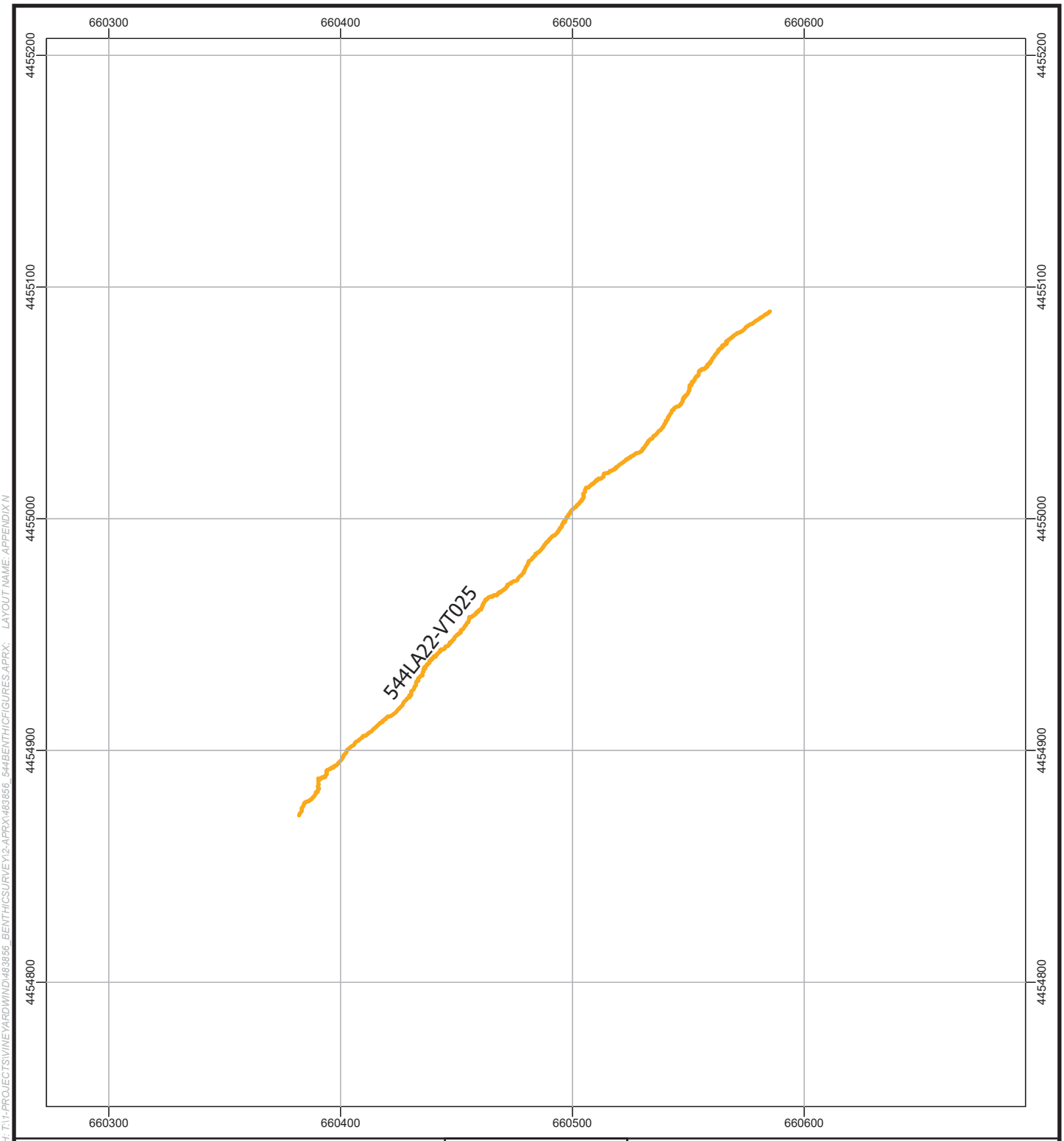
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT024

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

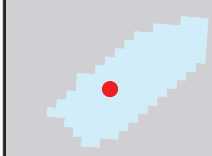
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

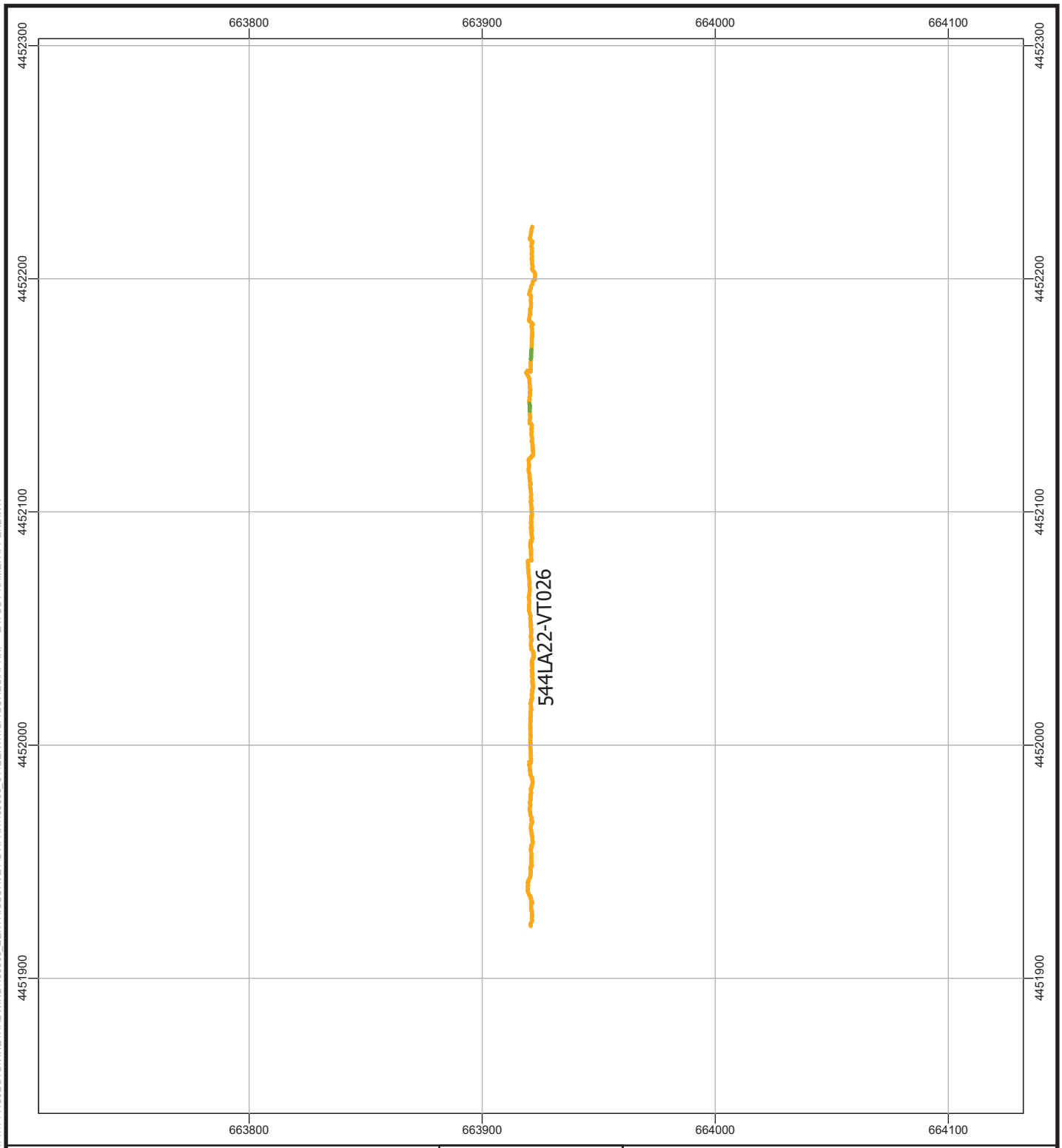
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT025

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Shell
Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

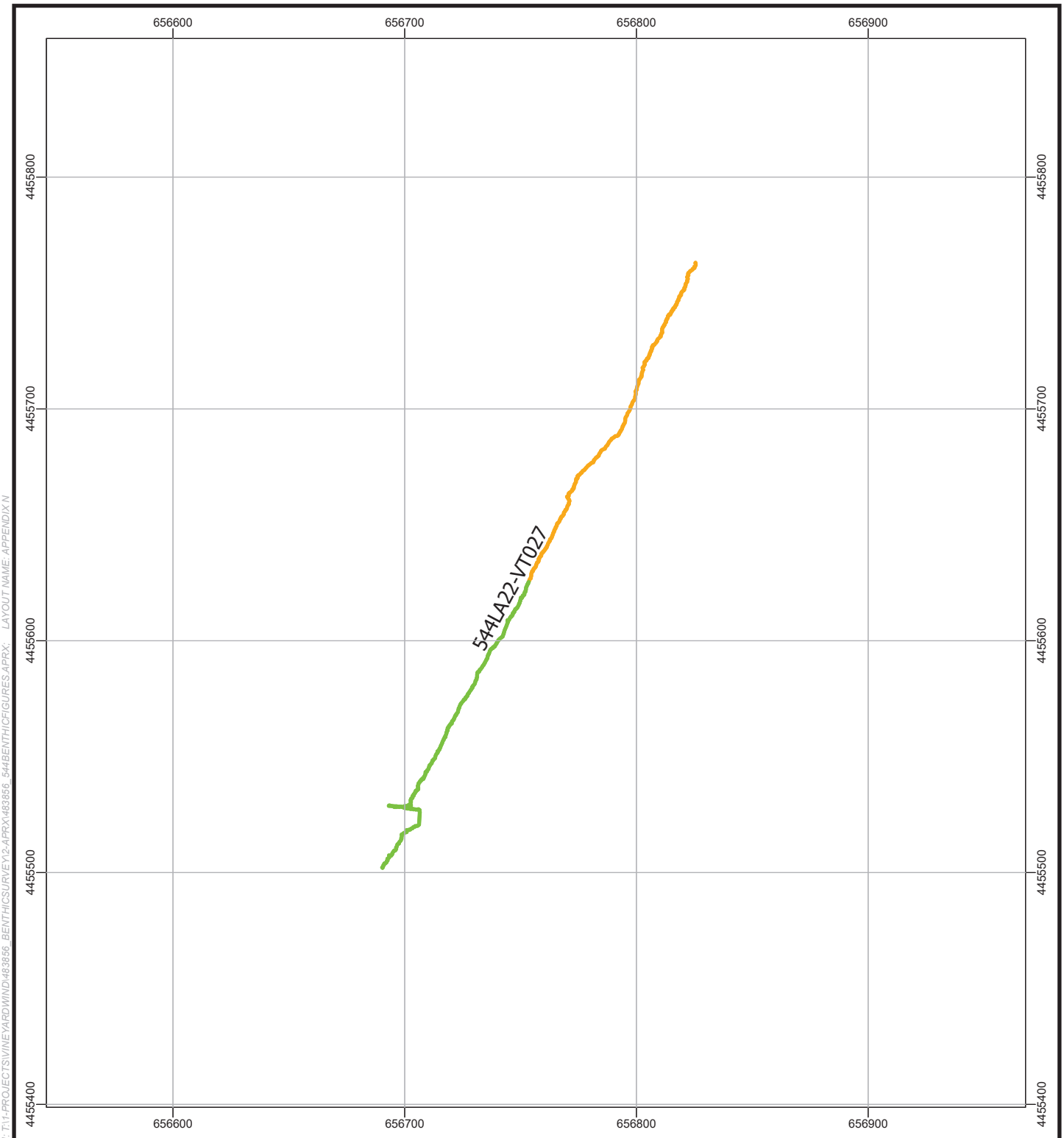
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT026

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Muddy Sand
Sand

N

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

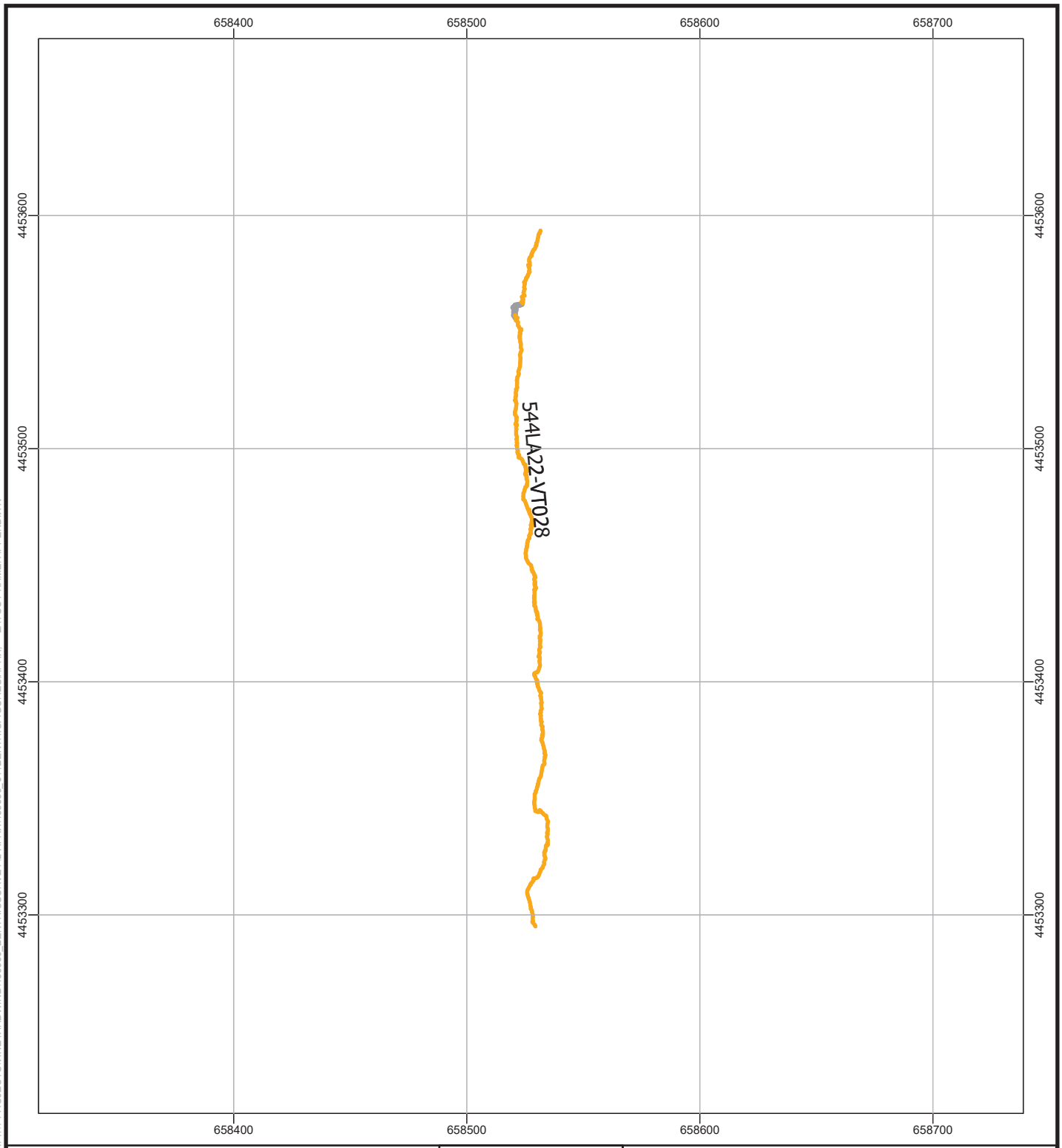
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT027

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

Limited Visibility

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

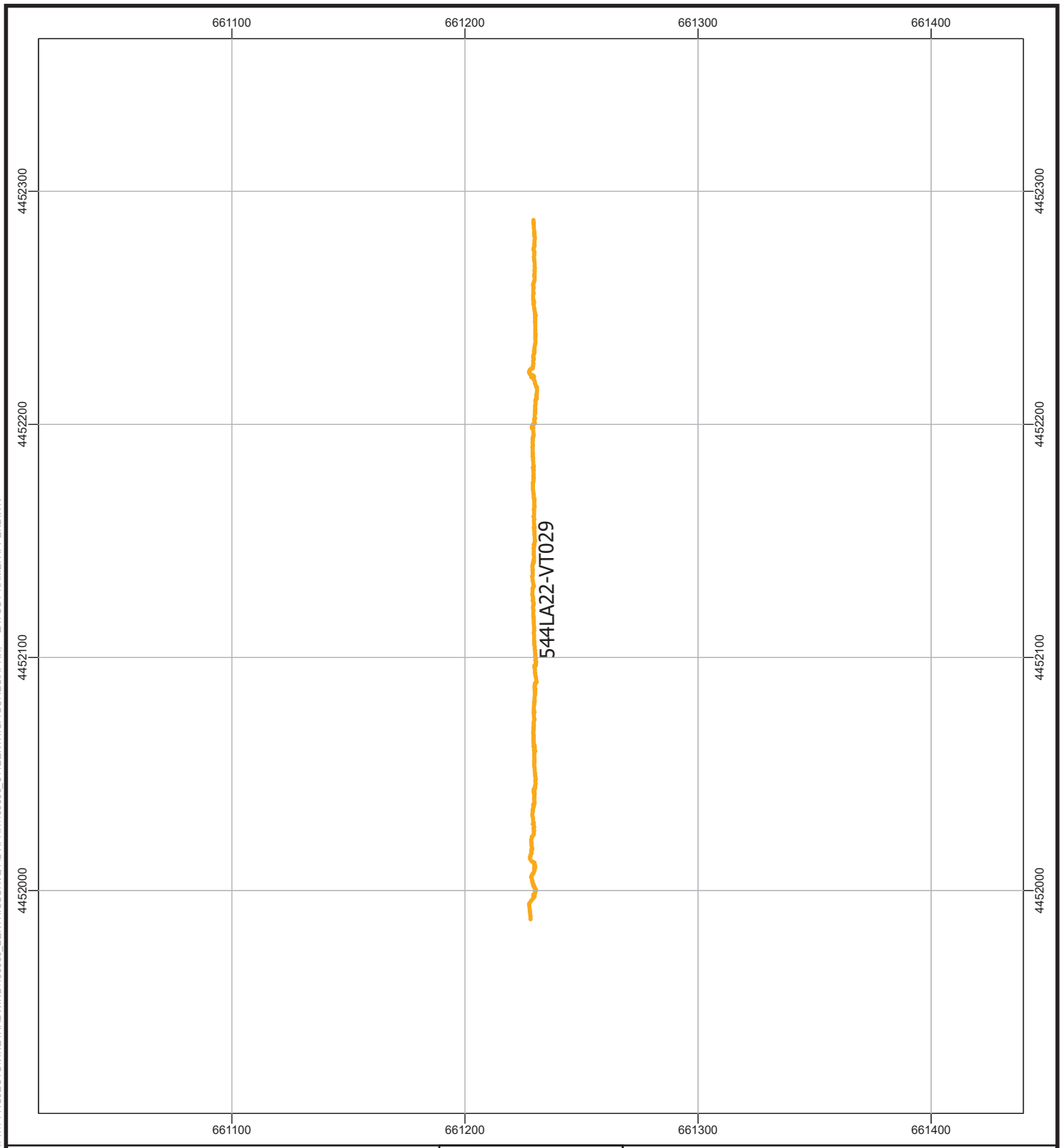
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT028

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC
OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

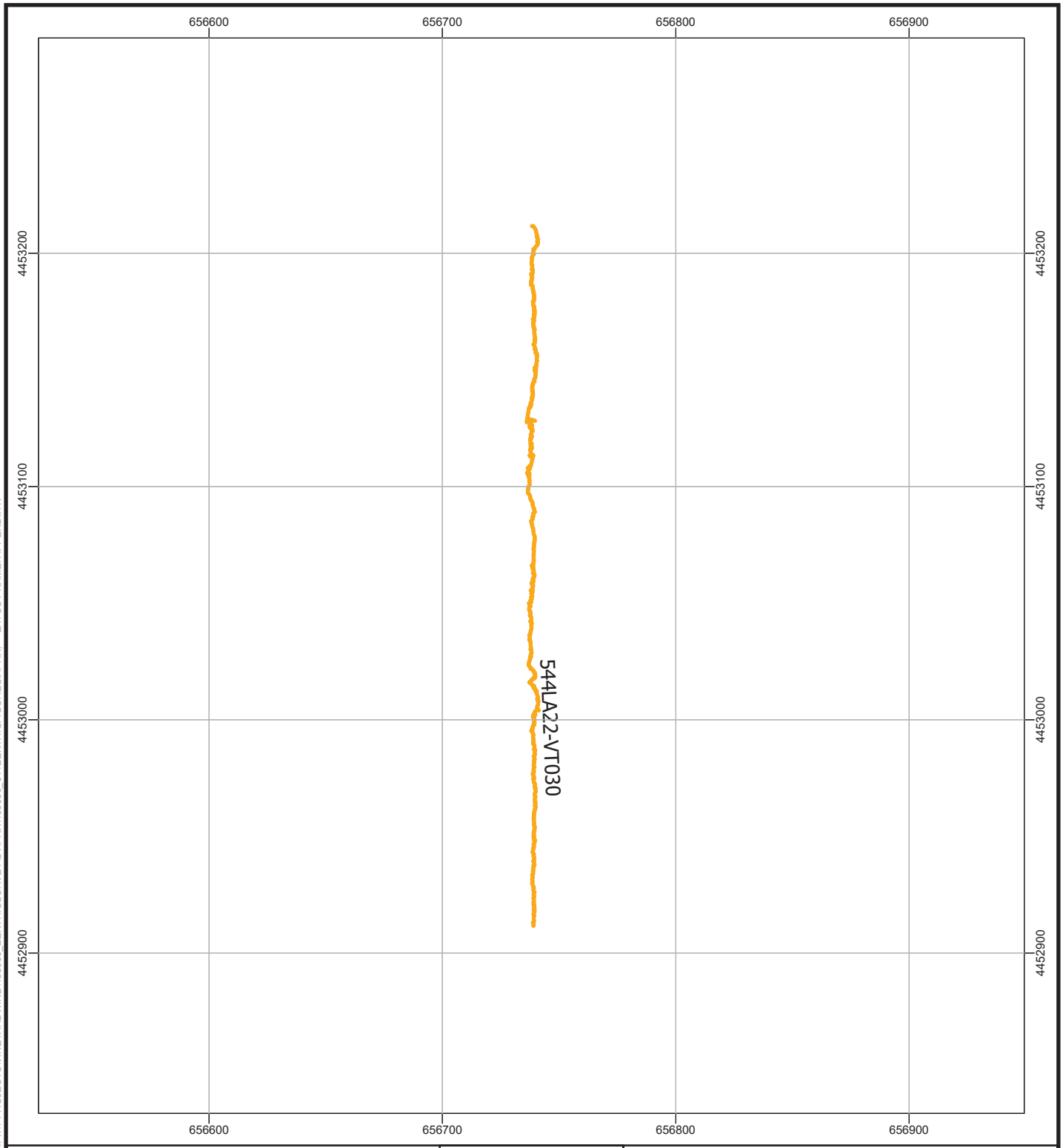
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT029

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

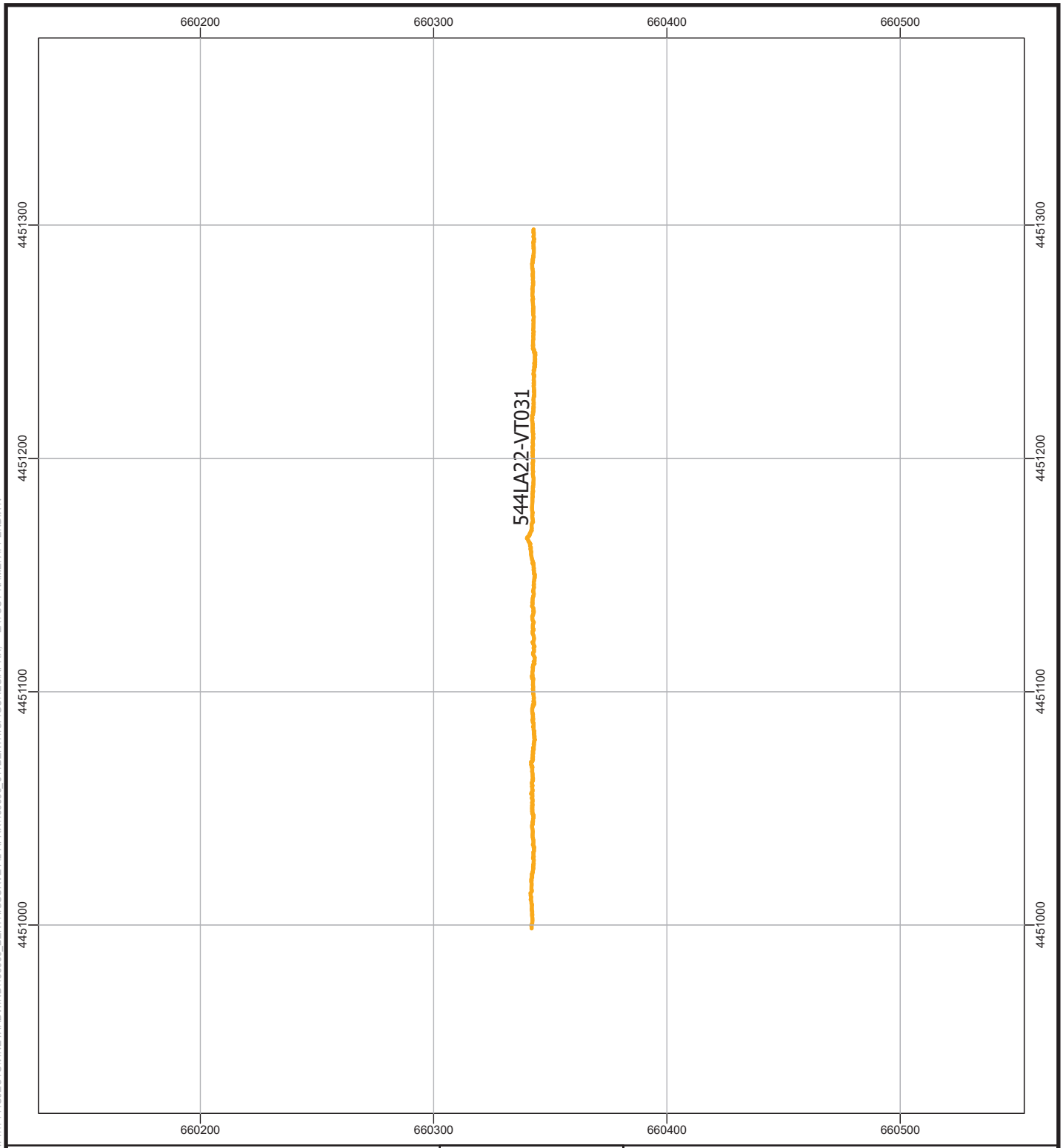
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT030

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

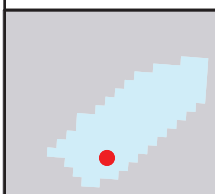
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:

VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:

CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

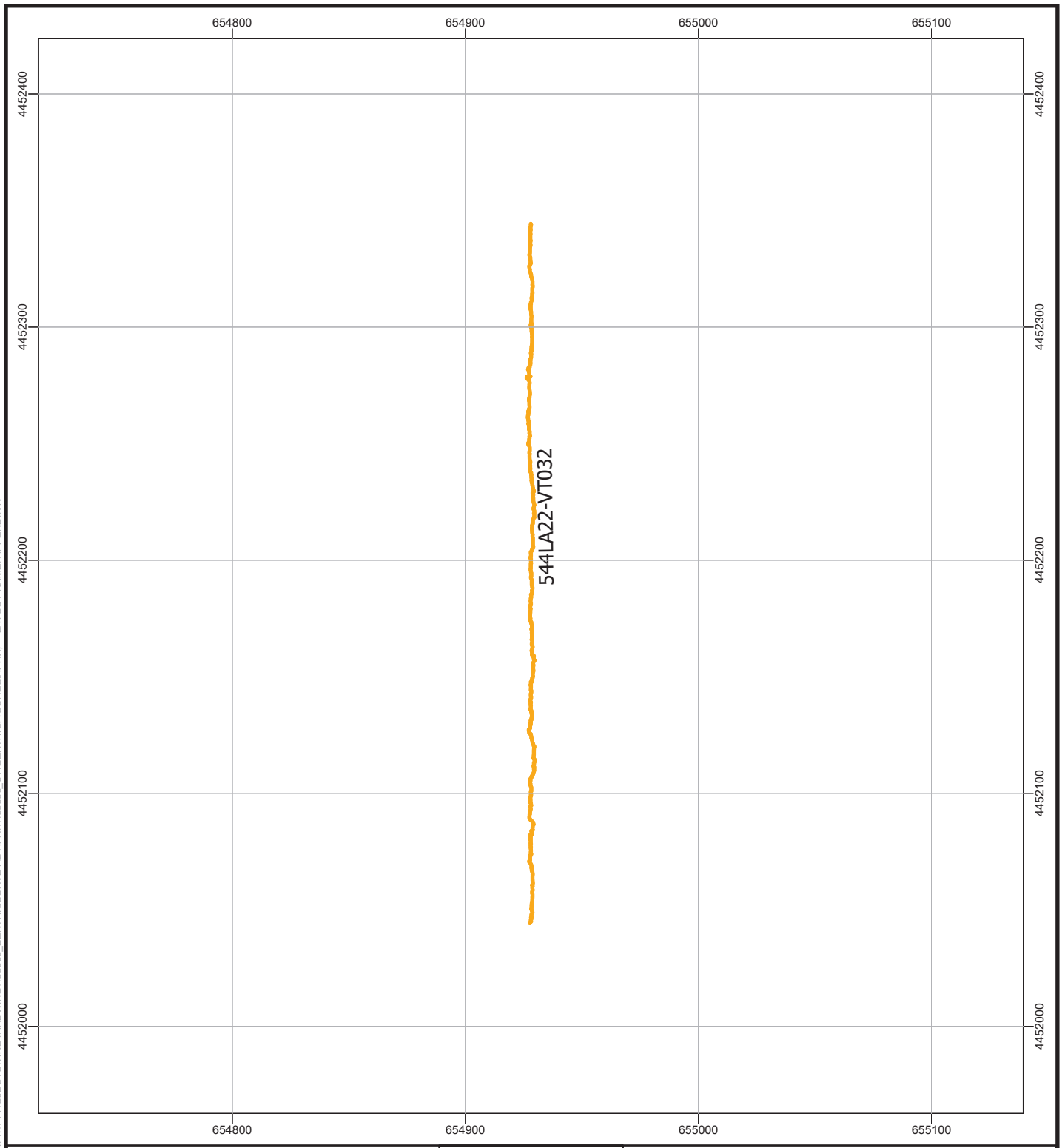
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT031

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

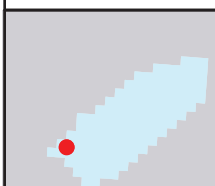
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

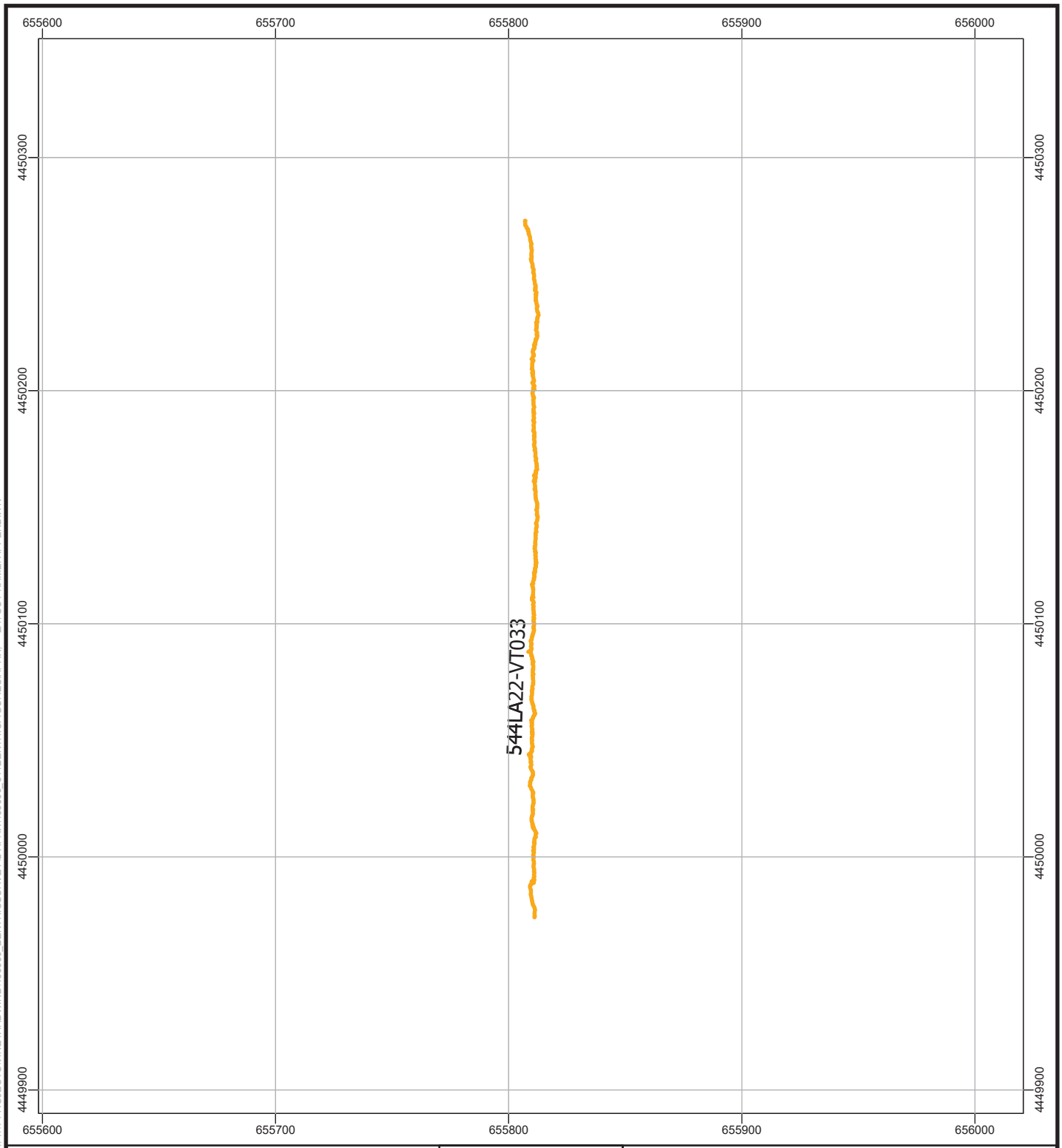
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT032

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

0 25 50
METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

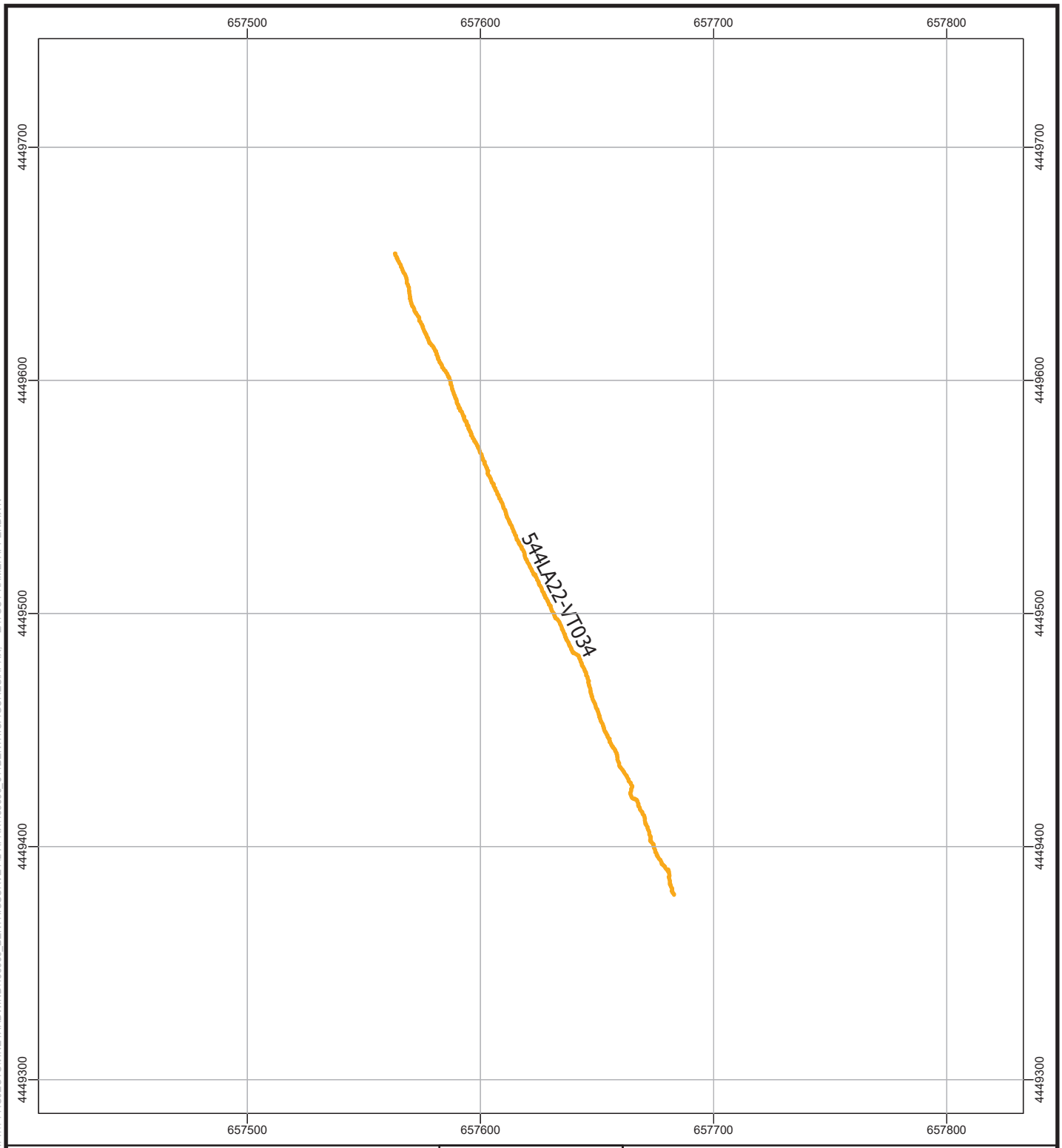
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT033

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MND\483856_BENTHICSURVEY\2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Sand

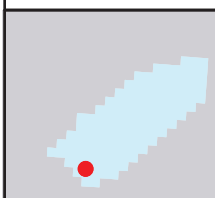
BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

N

0 25 50

METERS



PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

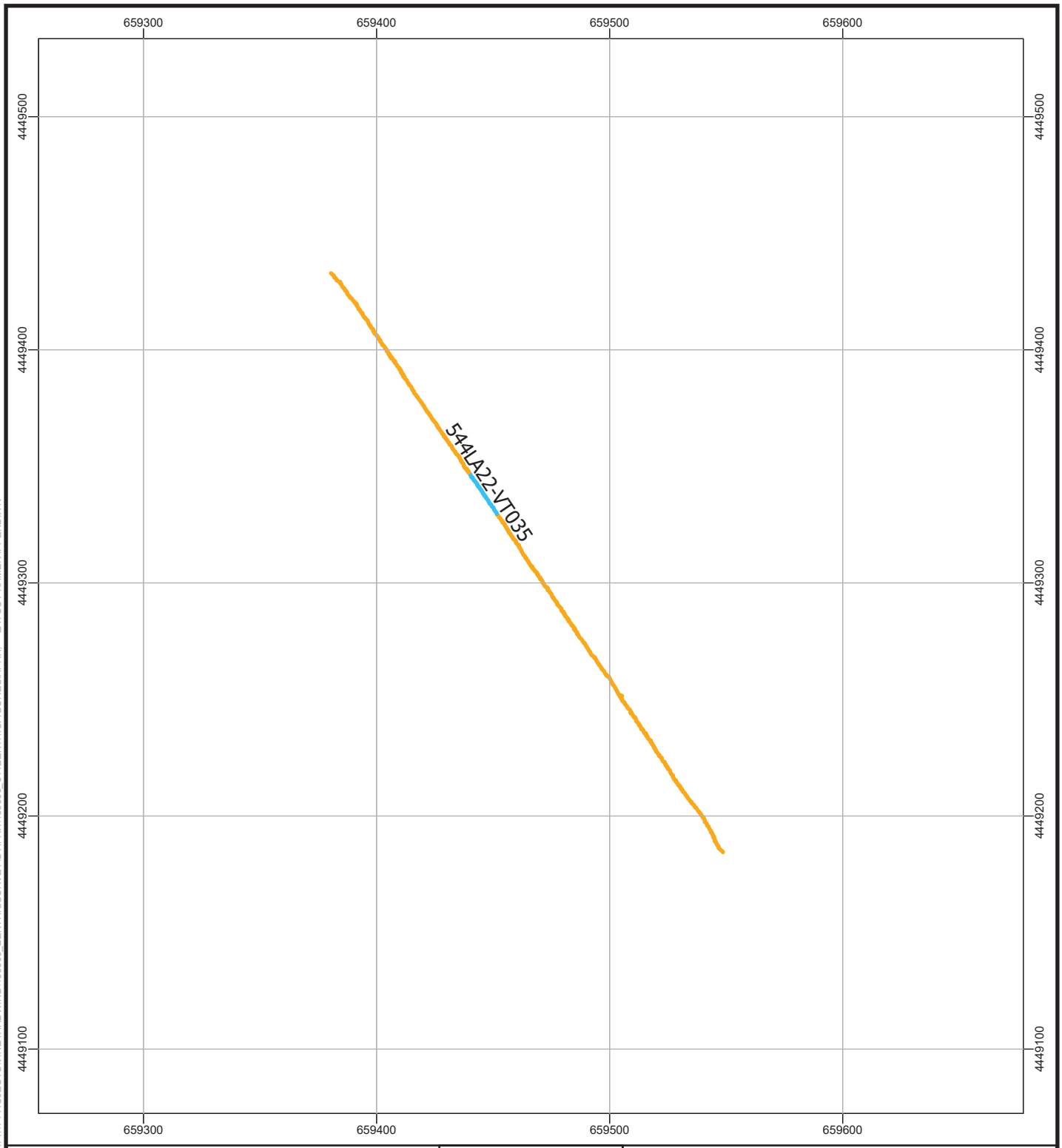
DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT034

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\WIND\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N



Gravelly

Sand

0 25 50

METERS

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC

MAP COORDINATE SYSTEM IS UTM ZONE 18N NAD83 METERS

PROJECT:
VINEYARD MID-ATLANTIC OCS-A 544 BENTHIC SURVEY

TITLE:
CMECS CLASSIFICATION MAPS FOR VIDEO SURVEYS

DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	483856
CHECKED BY:	H. EIBEN		
APPROVED BY:	M. LADEWIG		
DATE:	MAY 2023		

Appendix N
Transect: 544LA22-VT035

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: 483856_544BENTHICFIGURES

SAVED BY: SDEHAINAUT ON 5/18/2023, 10:36:15 AM; FILE PATH: T:\1-PROJECTS\VINEYARD\MID\483856_BENTHICSURVEY2-APRX\483856_544BENTHICFIGURES.APRX; LAYOUT NAME: APPENDIX N

Appendix O: List of Data Submitted

Layer Name	Coordinate System
30 Second DAT Points	UTM Zone 18N NAD83 meters
30 Second DAT Points with Substrate	UTM Zone 18N NAD83 meters
Benthic Feature Points	UTM Zone 18N NAD83 meters
DAT Points	UTM Zone 18N NAD83 meters
Fauna Points	UTM Zone 18N NAD83 meters
Flora Points	UTM Zone 18N NAD83 meters
ROV Track Lines	UTM Zone 18N NAD83 meters
Substrate Lines	UTM Zone 18N NAD83 meters
Substrate Overlay Lines	UTM Zone 18N NAD83 meters
Visibility Quality Lines	UTM Zone 18N NAD83 meters
As-Sampled Grab Locations	UTM Zone 18N NAD83 meters

Appendix II-B13(2)

Geo SubSea & TDI Brooks 2023 Benthic Factual Report Vineyard Mid-Atlantic Offshore Export Cable Corridor

Note: At the time of completion of the 2023 field campaign for Vineyard Mid-Atlantic, the Project Design Envelope (PDE) for the Offshore Export Cable Corridor (OECC) included five potential approaches: the Rockaway Beach Approach, the Atlantic Beach Approach, the Long Beach Approach, the Jones Beach A Approach, and the Jones Beach B Approach. The PDE now excludes the Long Beach Approach as well as the Jones Beach B Approach, and the Jones Beach A Approach has been renamed to the Jones Beach Approach. Any references to Jones Beach A Approach should be considered references to the Jones Beach Approach. The following report contains some information and analysis from the Long Beach Approach and Jones Beach B Approach. Data within this appendix that fall outside the boundaries of the OECC have been redacted to the fullest extent possible, and these redactions are apparent on figures, tables, and text. While effort has been made to redact data points that are outside of the OECC, summary results within this appendix have not been redacted and contain information from redacted samples that are outside of the PDE. Please refer to the main body of the Vineyard Mid-Atlantic Marine Site Investigation Report (MSIR), which has been updated to provide full details on the precise data and limits of the site characterization and supporting information for the refined PDE.



Benthic Factual Report
Vineyard Mid-Atlantic
Offshore Export Cable Corridor
For Lease Area OCS-A 0544

Prepared For:

VINEYARD MID-ATLANTIC

VINEYARD OFFSHORE

200 Clarendon Street, 18th Floor
Boston, MA 02116

Prepared By:

GEO SUBSEA LLC

437 Main Street, Second Floor
Middletown, CT 06457
www.geosubseaconsulting.com

In Association With:

TDI Brooks

MAXON CONSULTING

Issue Date: 10 October 2023

Vineyard Mid-Atlantic

Benthic Factual Report

Prepared By:

Geo SubSea, LLC

In Association With:

TDI Brooks International, Inc.

Maxon Consulting, Inc.

Prepared For:

Vineyard Mid-Atlantic

VINEYARD MID-ATLANTIC

VINEYARD OFFSHORE

October 2023

Revision	Date	Description
0	12 September 2023	Initial submission
1	26 September 2023	Revised submission
2	10 October 2023	Final submission

TABLE OF CONTENTS

TABLE OF CONTENTS **I**

1 INTRODUCTION **1-1**
1.1 Overview 1-1
1.2 Report Organization 1-5
1.3 Summary of Contractor Contributions 1-5

2 METHODS **2-1**
2.1 Field Methods 2-1
2.1.1 Grab Sample Collection and Processing 2-2
2.1.2 Video Transect Field Collection 2-5
2.1.2.1 Offshore Video Transects 2-5
2.1.2.2 Nearshore Video Transects 2-6
2.2 Laboratory Analytical Methods 2-8
2.2.1 Sediment Grain Size 2-8
2.2.2 Benthic Macrofauna 2-11
2.3 Data Management, Analysis, and Interpretation 2-12
2.3.1 Data Management 2-12
2.3.2 Video Evaluation 2-12
2.3.3 Statistical Techniques 2-13
2.3.3.1 Descriptive Statistics 2-13
2.3.3.2 Benthic Macrofaunal Indices 2-13
2.3.3.3 Community Comparisons and NMDS 2-15

3 BENTHIC GRAB SAMPLE RESULTS **3-1**
3.1 Grain Size Analysis 3-1
3.2 Benthic Infauna Community Analysis 3-4
3.2.1 Taxonomic Richness 3-4
3.2.2 Infauna Density 3-7
3.2.3 Evenness, Diversity, and Dominance 3-10
3.2.4 Comparative Analyses 3-11
3.2.4.1 Comparison Between Nearshore and Offshore Samples 3-11
3.2.4.2 Comparison Across CMECS Substrate Groups 3-13

4 VIDEO TRANSECT RESULTS **4-1**
4.1 CMECS Classifications and Bedforms 4-1
4.2 Fauna, Flora, and Anthropogenic Debris 4-2
4.2.1 Video Transect Fauna Observations 4-2
4.2.2 Video Transect Biological Communities 4-5

4.2.3 Video Transect Flora Observations 4-7
4.2.4 Video Transect Anthropogenic Debris 4-7

5 CONCLUSIONS AND SUMMARY 5-1

6 REFERENCES 6-1

7 APPENDICES 7-1

List of Appendices

Appendix A: Benthic Grab Sample Field Log

Appendix B: Video Transect Field Log

Appendix C: Infauna Results – Calculated and Raw

Appendix D: Statistical Results

Appendix E: Fauna and Flora Observed

Appendix F: Representative Still Images of Habitat Types

Appendix G: Images of Surface Sediment – Grab Sample and Video Stills

Appendix H: Grain Size Summary Table

Appendix I: Grain Size Results

Appendix J: Video Transect CMECS Classifications

Appendix K: List of Data Submitted

List of Figures

Figure 1-1 Lease Area OCS-A 0544 and Proposed Cable Corridor 1-2

Figure 1-2 2023 Grab Sample Stations in the OECC 1-3

Figure 1-3 2023 Video Transects in the OECC 1-4

Figure 2-1 The *R/V Proteus* 2-1

Figure 2-2 The *R/V Lophius* 2-2

Figure 2-3 TDI Brooks 0.25-m^2 Box Core 2-3

Figure 2-4 CRE 0.1-m^2 Van Veen Sampler 2-3

Figure 2-5 Representative Images of Surface Sediment Collected from each Grab Type 2-4

Figure 2-6 Video Transects Conducted by Each Vessel 2-7

Figure 2-7 NMFS-Modified CMECS Decision Tree (Geologic Substrate) 2-9

Figure 2-8 NMFS-Modified CMECS Decision Tree (Biogenic Substrate) 2-10

Figure 3-1 OECC Benthic Grab Sample Substrate Classifications 3-3

Figure 3-2 OECC Benthic Infauna Grab Sample Locations by Taxonomic Richness 3-6

Figure 3-3 OECC Benthic Infauna Grab Sample Locations by Total Organism Density 3-8

Figure 3-4 Percent Unique Macrofauna by Phylum 3-10

Figure 3-5 Comparison of Community Metrics between Nearshore and Offshore Samples 3-12

Figure 3-6 NMDS Ordination of Community Composition in Nearshore and Offshore Waters 3-13

Figure 3-7 Comparison of Community Metrics across CMECS Substrate Groups 3-14

Figure 3-8 NMDS Ordination of Community Composition Across CMECS Substrate Groups 3-15

Figure 4-1 Example Images of Egg Cases Identified in OECC Video Transects 4-4

Figure 4-2 Example Images of Biological Communities 4-6

List of Tables

Table 1-1 Summary of Contractor Contributions 1-5

Table 3-1 NMFS-Modified CMECS Sediment Particle Size Descriptions 3-1

Table 3-2 Summary of Grain Size Analysis of OECC Samples 3-1

Table 3-3 OECC Benthic Grab Sample Substrate Classifications 3-2

Table 3-4 Summary of Key Statistics from OECC Grab Samples 3-4

Table 3-5 Relative Abundance of Taxa Encountered in OECC Samples 3-7

Table 3-6 Most Widespread Taxa Encountered in OECC Samples 3-9

Table 3-7 Indices of Macrofaunal Diversity, Evenness, Richness, and Dominance 3-10

Table 4-1 Summary of NMFS-Modified CMECS Classifications of OECC Video Transects 4-2

Table 4-2 Ranked Abundance of Invertebrate Taxa in OECC Video Transects 4-3

Table 4-3 Ranked Abundance of Top 5 Vertebrate Species Observed in OECC Video Transects 4-5

Table 4-4 Summary of Biological Communities Found in OECC Video Transects 4-6

Table 4-5 Summary of Flora Observed in OECC Video Transects 4-7

Table 4-6 Description of Anthropogenic Items Observed in OECC Video Transects 4-7

List of Acronyms & Abbreviations

ANOSIM	Analysis of similarity
ANOVA	Analysis of variance
ASTM	American Society for Testing and Materials
BOEM	Bureau of Ocean Energy Management
CMECS	Coastal Marine Ecological Classification Standard
Cove	Cove Corporation
CRE	CR Environmental
D	Margalef richness
DGPS	Differential Global Positioning System
GB	Grab sample
H'	Shannon Diversity
HD	High definition
J'	Pielou's Evenness
Lease Area	Vineyard Mid-Atlantic Lease OCS-A 0544
LPIL	Lowest practical identifiable level
NMDS	Non-metric Multidimensional Scaling
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OCS	Outer continental shelf
OECC	Offshore export cable corridor
OTI	Outland Technologies
ROV	Remotely operated vehicle
R/V	Research vessel
SAV	Submerged aquatic vegetation
SD	Standard deviation
SDI	Swartz dominance index
SIMPER	Similarity percentages analysis
TDI Brooks	TDI Brooks International
USBL	Ultra-short baseline
UTM	Universal transverse mercator
VT	Video transect

List of Acronyms & Abbreviations (Continued)

Units

mL	milliliter(s)
L	liter(s)
µm	micron(s)
mm	millimeter(s)
cm	centimeter(s)
m	meter(s)
km	kilometer(s)
in	inch
ft	feet
mi	statute mile(s)
NM	nautical mile(s)
Hz	hertz
kHz	kilohertz
dB	decibel(s)
kn	knot(s)
m/s	meters per second
s	second
g	grams
MW	megawatt

Unit Conversions

1 km = 1,000 m = 3,280.8 ft
1 nm = 6,076 ft = 1,851.9 m = 1.852 km
1 mi = 5,280 ft = 1,609.3 m = 1.609 km
1 m = 3.28 ft = 100 cm
1 fathom = 6 feet = 1.8288 m
1 cm = 10 mm
1 inch = 2.54 cm
1 km^2 = 247.1 acres
1 nT = 1 g

1 INTRODUCTION

1.1 Overview

This Benthic Factual Report presents results for a marine survey conducted in May through July, 2023 in support of Vineyard Mid-Atlantic LLC's (VMA) proposal to develop, construct, and operate offshore renewable wind energy facilities in Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0544 (Figure 1-1). The report focuses on the proposed offshore export cable corridor (OECC) that originates in the northwest corner of the Lease Area to several locations on the New York coast.

Project management and geotechnical laboratory services were provided by TDI Brooks International (TDI Brooks). Field operations were conducted by TDI Brooks with assistance from CR Environmental (CRE) in sampling nearshore shallow-water stations. Benthic macrofauna taxonomic services were provided by Cove Corporation (Cove). Data presentation and reporting, including processing of geospatial data, were performed by Geo SubSea with support from TDI Brooks and Maxon Consulting.

Data collection and analysis focused on classifying the benthic habitats observed through remotely operated vehicle (ROV) video imagery and benthic grab sample grain size analysis, as well as the identification of epifauna (observed on video imagery) and infauna (collected in grab samples). Other observations, including the presence of bedforms (ripples), egg cases, and evidence of biological communities, were also noted. Data collected during this campaign document the conditions present at the time of acquisition.

Sediment samples were acquired from a total of 65 stations. Forty of these stations were collected as single grab samples, and 25 were collected in triplicate, for a total of 115 samples (Figure 1-2). Grain size was analyzed in all 115 samples, and infauna were analyzed from one sample at each of the 65 stations.

Video imagery was collected along 67 transects measuring approximately 300 m (984 ft) in length (Figure 1-3). [redacted].
The benthic habitat observed in videos was classified using the geologic component of the Coastal and Marine Ecological Classification Standard (CMECS) classification system, as modified by the National Marine Fisheries Service (NMFS) in their Recommendations for Mapping Fish Habitat (NMFS 2021). Sixteen video transects (approximately 24% of the total) had co-located grab samples added so that grain size data could be correlated with the visual observations made while interpreting video footage. Observed fauna, flora, and anthropogenic debris were also identified, enumerated, and recorded.

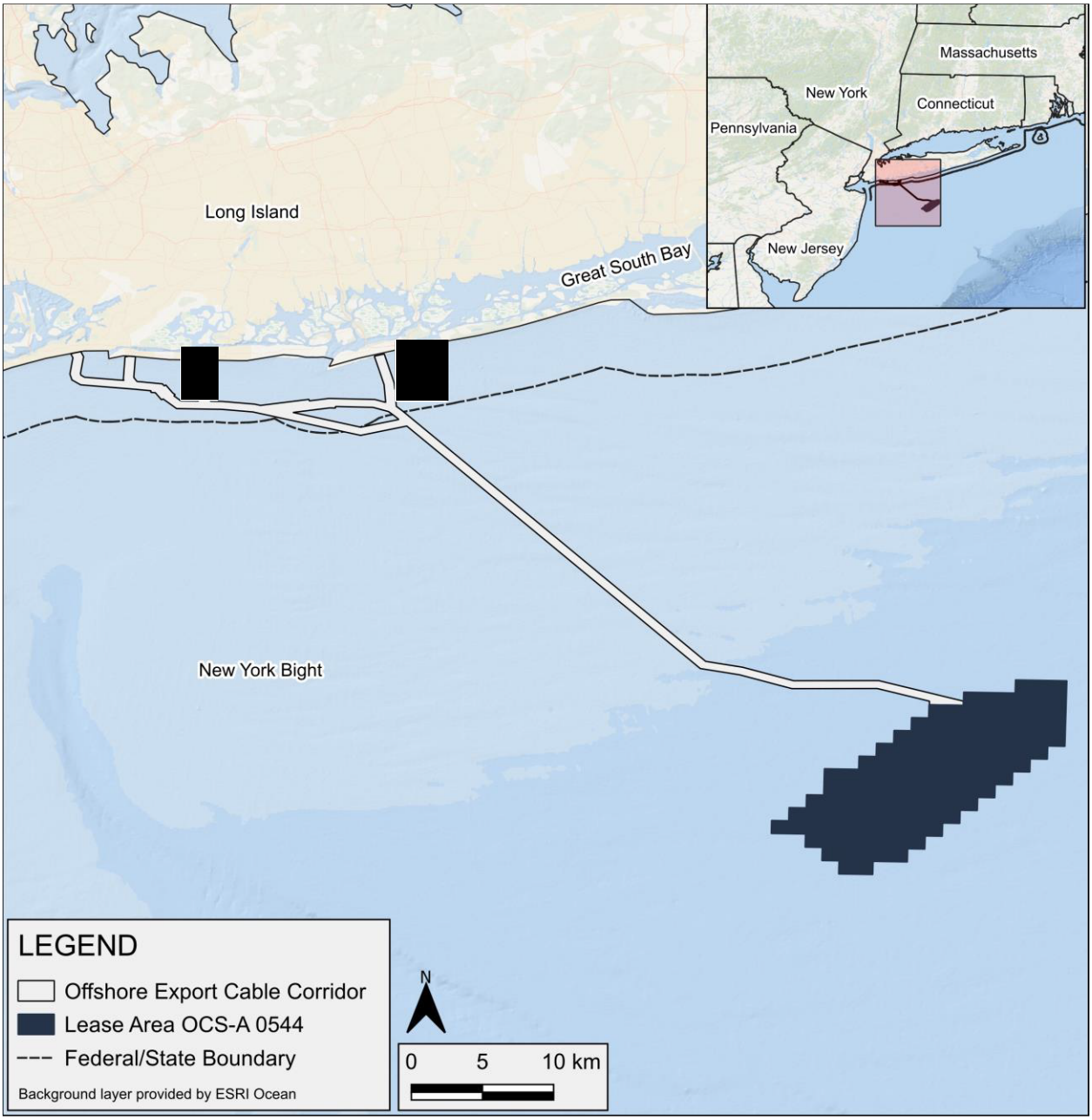


Figure 1-1 Lease Area OCS-A 0544 and Proposed Cable Corridor

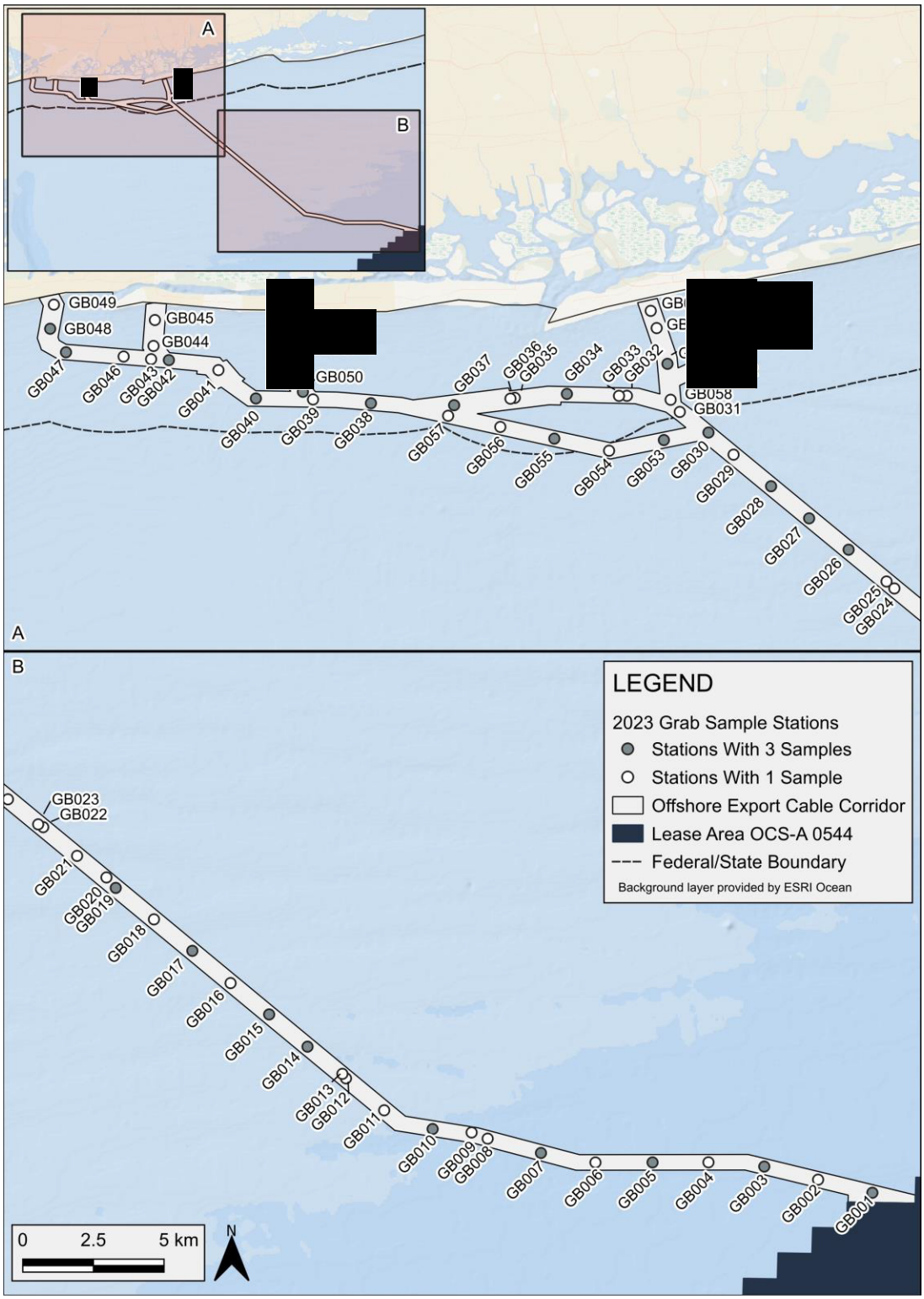


Figure 1-2 2023 Grab Sample Stations in the OECC

Shortened sample IDs have been used in this figure. (E.g., 544LI23-GB001 is written as GB001).

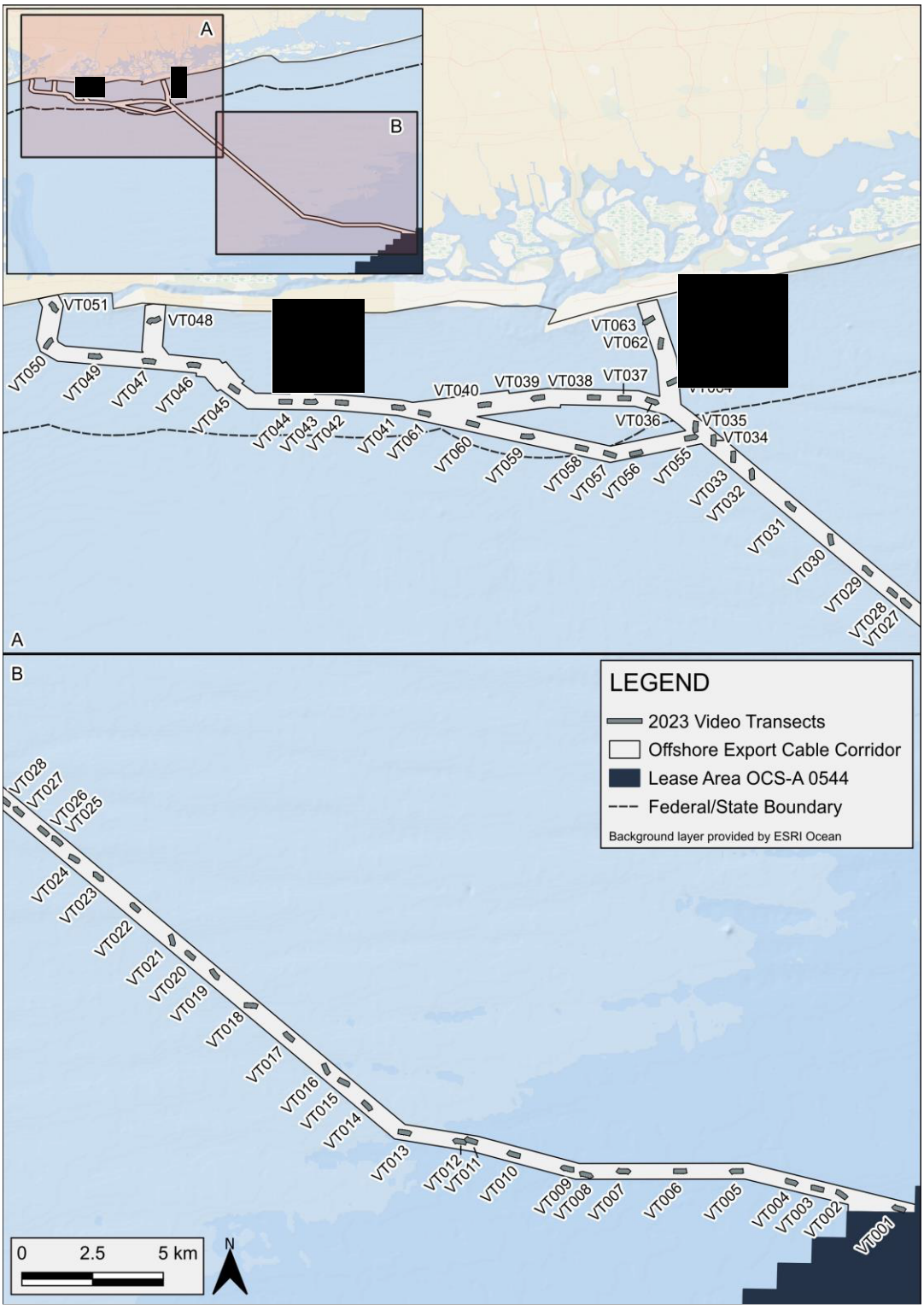


Figure 1-3 2023 Video Transects in the OECC

Shortened sample IDs have been used in this figure. (E.g., 544LI23-VT001 is written as VT001).

1.2 Report Organization

Section 1 – Introduction presents the background, project organization, and overall sampling design for benthic grab samples and video imagery.

Section 2 – Methods presents field, laboratory, and data analysis methods, including brief descriptions of statistics used to support interpretation of results.

Section 3 – Benthic Grab Sample Results presents grain size analysis results for all grab samples, as well as a summary of infauna communities present. Infauna community composition is compared across sample depth and CMECS classifications.

Section 4 – Video Transect Results summarizes the results from video observations, including CMECS sediment type, fauna and flora observed (including biological communities), bedforms (ripples), and anthropogenic debris.

Section 5 – Summary presents a brief overview of survey results with respect to project objectives.

Section 6 – References provides full citations for referenced works.

1.3 Summary of Contractor Contributions

The collection and analysis of environmental data from the OECC was a substantial effort that required collaboration between multiple contractors. The contribution of each contractor involved in this field program and the subsequent data analysis is summarized in Table 1-1 below.

Table 1-1 Summary of Contractor Contributions

Company	Position/Responsibility
Geo SubSea, LLC	Primary author of this benthic factual report. Completed the data analysis for video transects and provided quality control for initial datasets provided by TDI Brooks and Maxon Consulting. Responsible for field program oversight.
TDI Brooks	Collection of grab samples and video transects in water depths measuring more than 10 m. This included 64 grab stations and 62 video transects. Benthic grab sample geotechnical analysis.
CR Environmental	Collection of nearshore environmental data in water depths measuring less than 10 m. This included one grab station and five video transects.

Table 1-1 Summary of Contractor Contributions (Continued)

Company	Position/Responsibility
Maxon Consulting	Provided draft analysis for video transect data and initial text for the benthic factual report.
Cove Corporation	Identification and quantification of infauna collected in benthic grab samples.

2 METHODS

Methods used to acquire, analyze, and interpret benthic data from video and sediment grab samples are presented in this section. Brief overviews of field methods are provided, and more detailed information is available in the TDI Brooks Benthic Environmental Field Report (TDI Brooks 2023).

2.1 Field Methods

The field survey was conducted in two parts: a deeper water portion, which took place between May 29th and June 9th, 2023, and a nearshore portion which was conducted in shallow water (<10 m) and completed on July 11th, 2023. The first portion of the survey was conducted over 24-hour operations using the research vessel (R/V*) Proteus*, a 43.37-m Vanuatu-flagged research vessel owned and operated by TDI Brooks (Figure 2-1). Sixty-four grab sample stations and 62 video transects were collected using the *R/V Proteus*.



Figure 2-1 The *R/V Proteus*

CR Environmental (CRE) conducted the second portion of the field survey using a 7.9-m landing craft, the *R/V Lophius*, which was designed for shallow depth surveys (Figure 2-2). One grab sample station and five video transects were collected in shallow (<10 m) nearshore waters. These samples were collected during daytime hours only (i.e., not 24-hour operations).

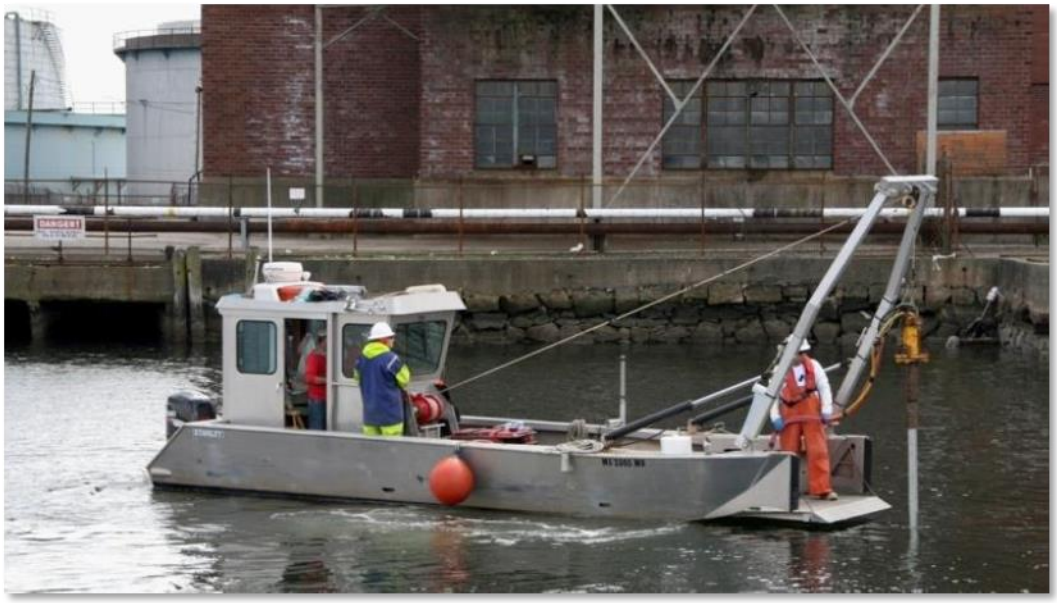


Figure 2-2 The *R/V Lophius*

Locations of sediment sampling stations and video transects were recorded in eastings and northings (Universal Transverse Mercator [UTM] 18N, m). Positions were recorded electronically with sample identification and the date and time of data acquisition in vessel software for subsequent transfer to navigation log files. ROV location was recorded at 1-sec time intervals. Selected data from field log files, including location, time of acquisition, and initial observations, are presented in Appendix A for grab samples and Appendix B for video surveys. Complete location data can be found in the GIS deliverables (Appendix K).

Specifications for the survey vessels, including navigation, positioning, and sampling equipment are detailed in the TDI Brooks Benthic Environmental Field Report (TDI Brooks 2023).

2.1.1 Grab Sample Collection and Processing

A 0.25-m^2, 50-cm deep GOMEX box core was used to collect sediment at all stations, except for 544LI23-GB049 (Figure 2-3). This grab station was located close to shore in <10 m water depth and was therefore collected using a 0.1-m^2 Van Veen grab aboard the *R/V Lophius* (Figure 2-4). Representative images of surface sediment collected from each grab type are shown in Figure 2-5. Photographs of surface sediment collected in each grab sample are presented in Appendix G.



Figure 2-3 TDI Brooks 0.25-m^2 Box Core



Figure 2-4 CRE 0.1-m^2 Van Veen Sampler



Figure 2-5 Representative Images of Surface Sediment Collected from each Grab Type

Representative 0.25-m^2 box core sediment sample with 0.025-m^2 sleeve for macrofauna primary and alternative samples (left) and sediment collected with a 0.1-m^2 Van Veen grab sampler at station 544LI23-GB049 (right).

The criterion for acceptance of grab samples was collection of undisturbed sediment to a nominal depth of 10 cm. Other factors such as washout or uneven penetration (slanted sample) could also cause a sample to be rejected. Photographs and descriptive observations (e.g., color, texture, presence/absence of biota) of sediment collected at each station were recorded prior to subsampling and are summarized in Appendix A, as well as individual station logs shown in the TDI Brooks Benthic Environmental Field Report (TDI Brooks 2023). Deck photographs of surface sediments are presented for all accepted grab samples in Appendix G. In addition, still images of the seafloor were captured from video acquired by a GoPro camera mounted to the box corer. For the nearshore sample collected by CRE (544LI23-GB049), the video sled was dropped in the water after the Van Veen grab to capture imagery of the seafloor in this location. These images are presented in Appendix G.

Prior to subsampling sediment collected by the box corer or Van Veen, water was syphoned off using a hand pump. For samples designated for macrofaunal analysis, the overlying water was syphoned through nested sieves (1.0 mm and 0.5 mm) and collected in a bucket below in an effort to capture any organisms for inclusion in the sample sieving process.

For box core samples, sediment for macrofauna analysis was collected from each of the two 0.025-m^2 sleeves designated as primary and alternative samples. All subsamples were collected at least 2 cm away from the grab sampler sides. Primary and alternative samples collected from the Van Veen grab were subsampled using a 3-inch (in) (7.62-cm) diameter core tube, resulting in a surface area of 0.0046 m^2 per sample. Each sample was processed independently, as follows:

The sample was transferred to a Wilson auto-sieve equipped with nested sieves of 1.0 mm and 0.5 mm. The 1.0 mm sieve was used to collect larger organisms and shell material and to help prevent the smaller 0.5 sieve from clogging. Sieving was performed with adjustable-flow seawater until there were no visible "clay-balls" or aggregated sediment remaining.

After sieving, fauna retained on both sieves were transferred to plastic containers and treated with a 2.25% solution of magnesium sulfate ($MgSO_4$) as a relaxant. After twenty minutes, each jar was filled with approximately 50% volume of 10% buffered formalin with Rose Bengal stain for a final concentration of 10% formalin. The entire sample was covered with preservative, exceeding the retained material volume by at least 10%. Each sample was inverted several times to ensure thorough mixing of the preservative. Preserved samples were stored in plastic coolers at ambient temperature, until direct transfer to Cove laboratory personnel.

Grain size samples were subsampled outside of the macrofauna sleeve/core tube using a clean plastic scoop designed to subsample the top ~2 to 4 cm of sediment and transferred directly into plastic bags and stored refrigerated until shipment via cold-packed coolers to TDI Brooks' geotechnical laboratory.

2.1.2 Video Transect Field Collection

Transects measured approximately 300 m in length, with a 20-m approach added to each line to ensure that the ROV was properly positioned at the correct starting point. Video recordings from each transect were downloaded upon retrieval of the unit on deck with the objective of obtaining visible images of the seafloor and opportunistic observations of epibenthic and demersal biota. A description of the systems and procedures used for the offshore (collected by the *R/V Proteus*) and nearshore (collected by the *R/V Lophius*) transects are outlined in Sections 2.1.2.1 and 2.1.2.2. Figure 2-6 shows which vessel was used to conduct each video transect.

2.1.2.1 Offshore Video Transects

Sixty-two video transects were conducted in offshore (>10 m depth) waters by TDI Brooks using the *R/V Proteus*. A Deep Trekker Revolution ROV was used to record continuous video along these transects using two independent camera systems – a 1080p high definition (HD) integrated camera and a GoPro Hero 9, producing *.wmv and *.mp4 files, respectively. Ancillary equipment included two 1,000 Lumen LED floodlights and scaling lasers calibrated to 10 cm.

The ROV was positioned approximately 0.5 to 2 m above the seafloor, with occasional bottom hits due to vessel or current movements. ROV speed was generally maintained between 0.4 and 0.7 knots. The ROV was tethered to a control box, operated by a technician on deck, who had an

oblique view of the seafloor. The vessel's ultra-short baseline (USBL) acoustic tracking system interfaced with a differential geographic positioning system (DGPS) was used to track ROV position in both UTM (18 N) and WGS84 coordinates. Real-time positions of the vessel and ROV were recorded in one second intervals.

2.1.2.2 Nearshore Video Transects

Video for the five shallow water transects was collected by CRE using the *R/V Lophius*. An aluminum sled equipped with an Outland Technologies (OTI) high-definition color video camera (recorded as *.mp4), and two wide-angle LED video lights. The sled was typically towed between 0.4 – 1 knot, though short portions of the video collected in some of the nearshore transects exceeded 1 knot due to strong currents. Similar to the offshore transects, transects were targeted for 300 m in addition to an approximately 20 m approach. Due to shallow water depths, it was not possible to use a USBL to record the video sled's position, rather manual layback was used to track the ROV's position. Offsets from the GPS antennae to the stern-mounted davit on the *R/V Lophius* measured approximately 2 ft. HYPACK software and laybacks (distance from the video sled to the davit) were adjusted regularly using water depth and line out. Timestamped location data were recorded at 1-second intervals. Because the sled did not possess thrusters like the ROV, it was subject to water currents.

[redacted].

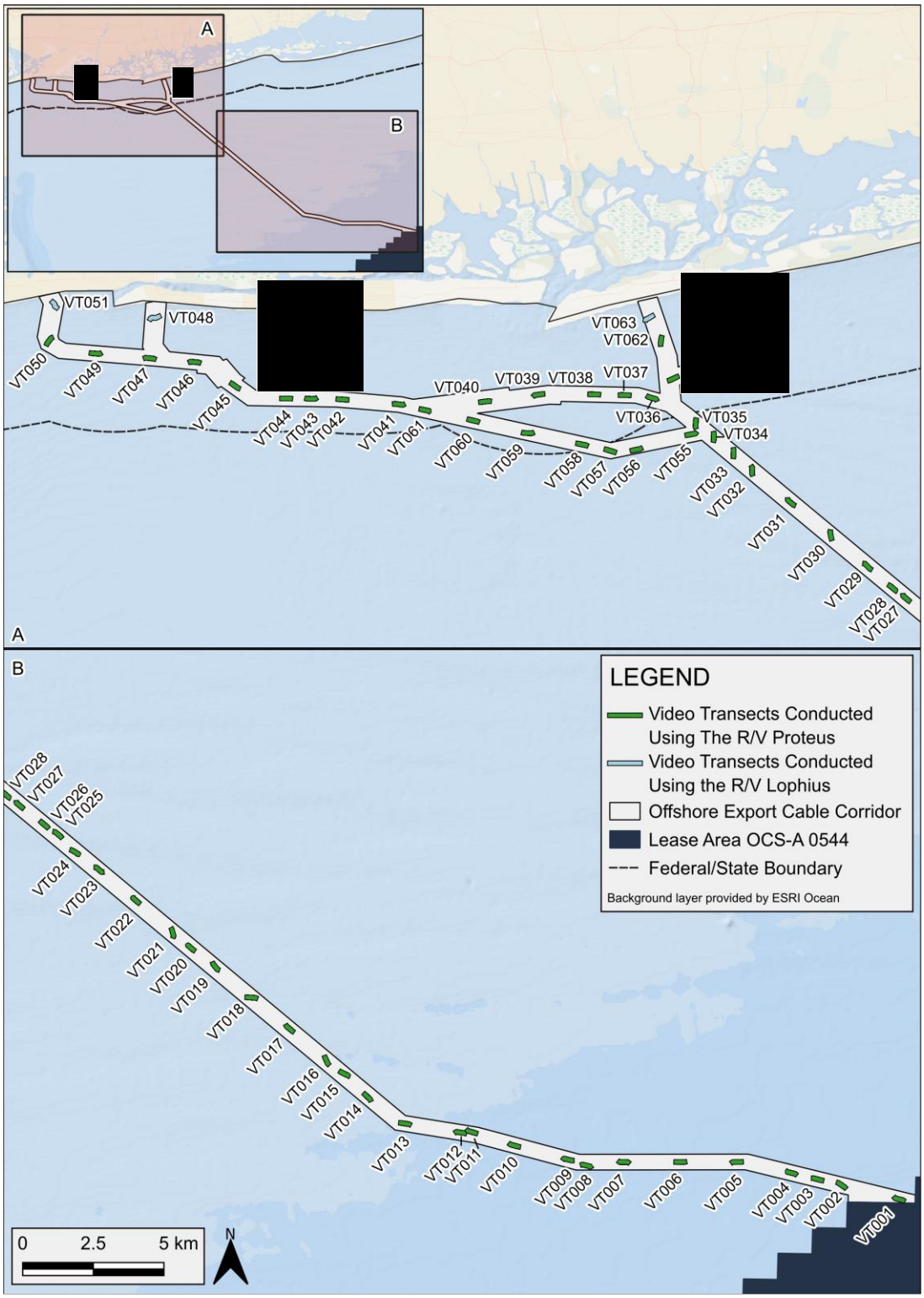


Figure 2-6 Video Transects Conducted by Each Vessel

Shortened sample IDs have been used in this figure. (E.g., 544LI23-VT001 is written as VT001).

2.2 Laboratory Analytical Methods

Methods for processing and analyzing sediment and biological samples in the laboratory are discussed in this section. The analytical program was designed to provide detailed and high-quality physical and biological data.

2.2.1 Sediment Grain Size

Grain size analysis was performed by TDI Brooks' geotechnical laboratory for three major size classes: gravel, sand, and mud (particles <0.0625 mm) using a sieve technique based on American Society for Testing and Materials (ASTM) soil classification system standard D2422. This standard was adjusted to report NMFS-modified CMECS geological classifications (NMFS 2021). For the purposes of this report, the use of the term CMECS refers to the NMFS-modified CMECS classification scheme.

Approximately 100 to 150 grams (g) of each thoroughly mixed sample was weighed into receiving containers. Ten milliliters (mL) of deflocculant solution (1% solution of sodium hexametaphosphate in deionized water) was added to the jar and shaken until the sample was fully disaggregated. The disaggregated sample was poured through a number 230 (63-µm) sieve into a 1000-mL graduated cylinder. The sieved sample was washed with deionized water. Sediment retained on the number 230 sieve was transferred into a pre-weighed beaker and oven dried to 115 ˚C for at least 24 hours. Dried sediment was transferred to a series of stacked sieves, shaken, and the contents of each weighed. Grain size analysis results are presented in Appendix I. The sediment present on the number ten sieve had shell and gravel separated manually to calculate the mass of shell and gravel larger than 2 mm. One sample (544LI23-GB030C) had shell hash too small and numerous to separate by hand, and therefore a visual estimate was used to quantify shell for this sample. Sediment passing through the smallest sieve was dried and weighed and reported as mud (e.g., combined silts and clays). The sum of retained sediment mass was compared against the initial specimen mass for QC purposes. A retest was conducted if mass change was over 5% of the initial specimen mass.

Percent gravel, sand, mud, and shell were calculated from initial weights and retained fractions. The percentages for gravel, sand, and mud were calculated in two different ways; once based on the fraction of the total sample weight, and once based on the fraction of the total geologic substrate weight (i.e., the total sample weight minus biogenic substrate [shell] mass). Results from both sets of calculations are provided in Appendix H. Grain size results were used to assign a NMFS-modified CMECS classification to each sample (NMFS 2021), illustrated in Figure 2-7 and Figure 2-8. The decision trees displayed below were created based on the guidelines presented in the NMFS Recommendations for Mapping Fish Habitat (NMFS 2021).

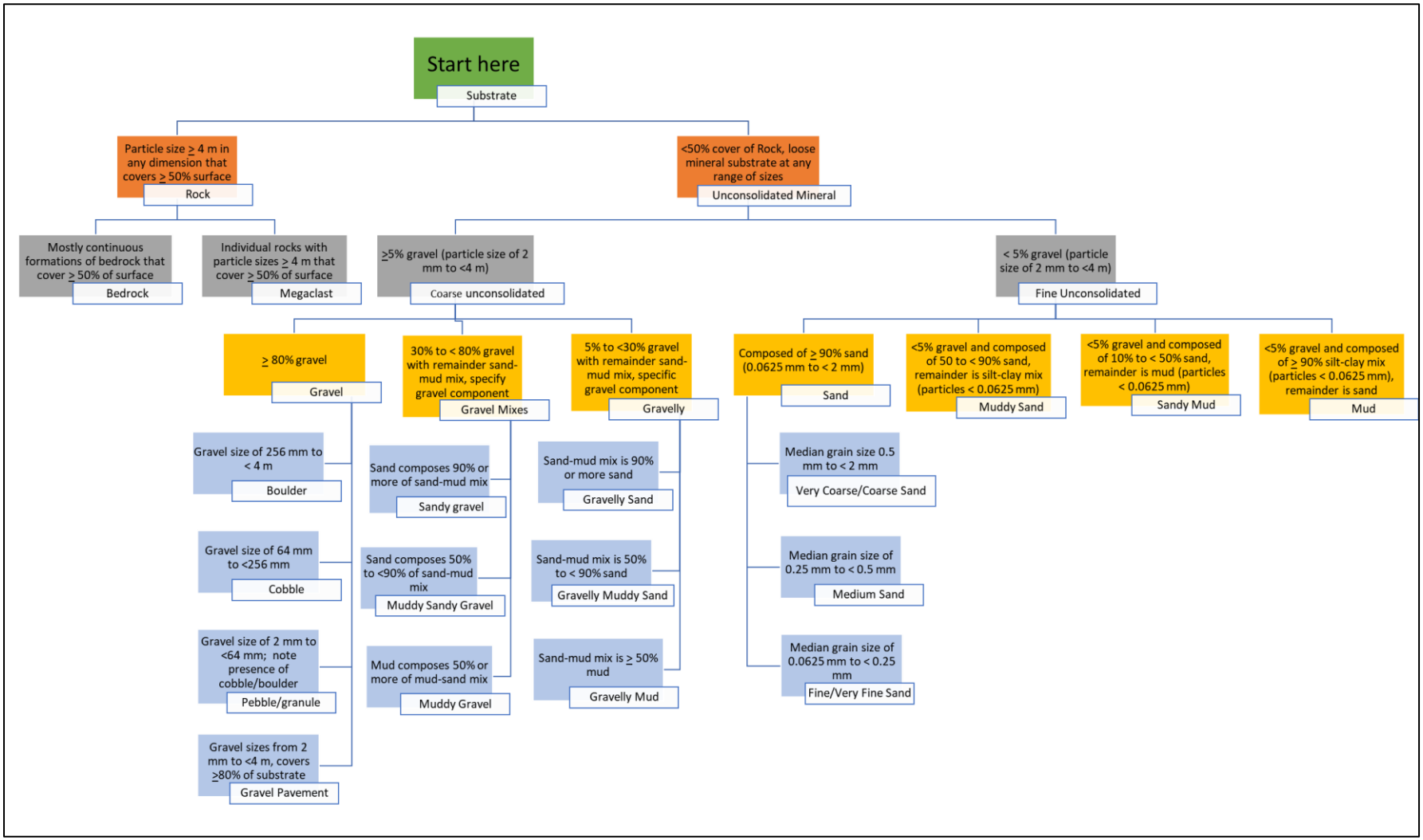


Figure 2-7 NMFS-Modified CMECS Decision Tree (Geologic Substrate)

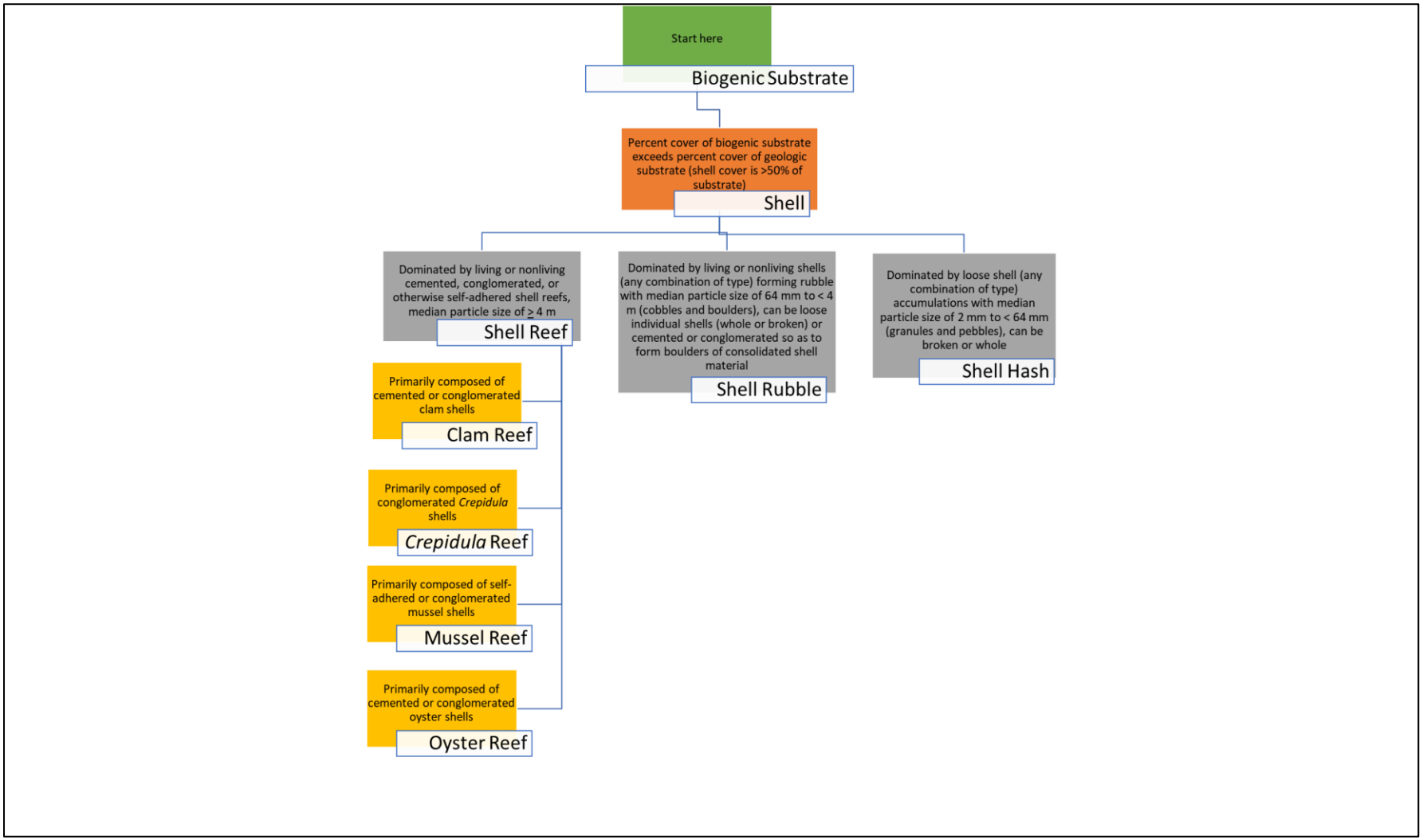


Figure 2-8 NMFS-Modified CMECS Decision Tree (Biogenic Substrate)

2.2.2 Benthic Macrofauna

Macrofauna sorting and identification was completed by Cove Corporation. Samples collected for identification and enumeration of benthic infauna were sieved again and separated into three size fractions that were examined separately under a dissecting microscope: 1) easily suspended material (e.g., light bodied/typically non-shell bearing specimens and detritus); 2) large heavy material (e.g., shell hash, large shell bearing mollusks and large worm tubes); and 3) coarse sediments (i.e., aggregated clay). Easily suspended material was washed under a fume hood into a 2-L beaker. Sample material was thoroughly suspended/agitated with freshwater dispensed from a 0.5-inch Tygon hose attached to a municipal water line. Suspended material was allowed to settle for a few seconds before decanting the supernatant onto an ASTM Standard 35 (0.5-mm) sieve. This process was repeated five to ten times, until the wash water was visibly clear. Material retained on the sieve was washed into a labeled 50-mL beaker. Large heavy material retained in the 2-L beaker was washed on an ASTM Standard 10 (2-mm) sieve fitted above an ASTM Standard 35 (500-µm) sieve. Material retained on the 2-mm screen was washed with fresh water to remove any residual fine materials. Retained coarse material was washed into a labeled 100-mL beaker. Coarse sediment was pre-sieved on the 2-mm sieve and retained on the underlying 0.5-mm sieve and washed with freshwater to remove any residual sand and silt. Material retained on the 0.5-mm screen was washed into a labeled 500-mL beaker. All material retained on sieves was examined under a fluorescent magnifier to ensure that all organisms had been removed since the Rose Bengal stained living material is much easier to spot under fluorescence.

The three sieved fractions were consolidated during the picking (sorting) process. Picked specimens were transferred to labeled glass vials containing 70% ethanol. Dissecting and compound microscopes with standard magnifications of 6 times (x) to 50x and 40x to 1000x were used to examine the specimens. Fiber optic lighting was used to illuminate specimens under the dissecting microscope.

The number of organisms reported accounted for all organisms in a sample that were alive at the time of collection. Empty mollusk shells or crustacean molts were not counted. Limitations that affect the level of identification are; lack of published literature for some species; condition of the specimens (fragmented, poorly preserved); and juvenile, reproductive, or other poorly documented life stage.

Taxonomic literature pertinent to the region was used to identify infauna to the lowest practical taxonomic level (e.g., Abbott 1974, Bousfield 1969, Bousfield 1973, Bynum and Fox 1977, Day 1973, Gosner 1971, Jirkov and Leontovich 2013, McCain 1968, Pettibone 1963, Plough 1978, Williams 1984, Zingmark 1978). Additional literature from other regions or literature of a general nature was used as necessary. When possible, specimens not attributable to a described genus were given a unique provisional name and notes on its unique taxonomic characteristics were made to facilitate subsequent identifications. Damaged or juvenile specimens were identified to the family level wherever possible. Quality control included two forms of oversight. First, all material processed by each of two pickers was reexamined by the taxonomist for each benthic

category. Second, instruction and guidance from the lead taxonomist was available and frequently provided to pickers throughout the analysis. To maintain consistent standards, resulting taxonomic lists were provided to an alternative taxonomist for verification. Any discrepancies in identification were corrected by the lead taxonomist and standardized in the taxonomic database.

2.3 Data Management, Analysis, and Interpretation

2.3.1 Data Management

Initial data management and analytical tasks were performed by TDI Brooks and Maxon Consulting using the SAS Software System (version 10.4) in batch programming mode. Laboratory data and video transect ASCII files were translated from respective Microsoft Excel and ASCII files to SAS data sets, and all data management was performed within the SAS system. The ASCII data log for the accepted transect was downloaded from the positioning software system on the vessel (Winfrog on the *R/V Proteus* and Hypack on the *R/V Lophius*) and read into SAS. Key data fields were retained (e.g., date/time, x-y coordinates, and latitude-longitude locations) and then clipped to retain only records corresponding to the start and stop locations of each transect, typically ~300 m for all but a few nearshore transects (see TDI Brooks Benthic Environmental Field Report). USBL data quality was very good for video transects throughout the OECC. However, some processing of raw USBL positioning was conducted to filter outliers and create final video transect lines.

Geo SubSea further interpreted the video transect data and created figures using QGIS version 3.30.2. Additional analyses and non-metric multidimensional scaling (NMDS) plots for infauna data were completed using PRIMER (version 7), and analysis of variance (ANOVA) tests were completed with the software R version 4.2.1 with the R Studio interface. The sections below describe the procedures which were followed by all analysts.

2.3.2 Video Evaluation

Data entry sheets keyed with timestamps, video ID, and transect ID were produced for the following types of observational data: CMECS habitat type, bedforms, biological communities, fauna, flora, and anthropogenic debris. Video from the internal ROV camera system (recorded as *.wmv files) and from the mounted GoPro system (recorded as *.mp4 files) each were evaluated in full for all observation types.

Video analysts assigned substrate types based on the NMFS-modified CMECS guidelines (NMFS 2021), which is illustrated in Figure 2-7 and Figure 2-8. Percentages of shell, gravel, sand, and mud were visually estimated and used to assign CMECS group and subgroup classifications continuously along the transect line. These percentages and classifications were assigned by one video analyst and then confirmed by a second analyst, both of whom watched the video files in full. Video imagery from the benthic grab sampler GoPro footage was used to correlate CMECS classifications assigned based on grain size analysis with the visual appearance of the seafloor. This provided a layer of ground-truthing to the CMECS classifications which were assigned visually

for the video transects. The presence of sand ripples was also recorded and exported as a separate continuous transect overlay to document the bedforms as benthic features.

Fauna observed on video footage were enumerated and classified to the lowest practical identifiable level (LPIL). In many cases this was to the species level, however there were some instances (e.g., fish swimming away very quickly) where this was not possible. The corresponding time stamp of where each individual was observed was also recorded so that identifications could be placed spatially along the video transect line in a shapefile. Evidence of reproduction, including skate egg cases, moon snail collars, and squid mops was also recorded as part of this dataset.

Sand dollars (*Echinarachnius parma*) and decorator worms (*Diopatra sp.*) were found to be extremely abundant, to the level that recording and quantifying all observations was not practical. These two taxa were quantified every thirty seconds in a separate biological community shapefile in order to demonstrate trends and areas of abundance without counting each individual. Observations were binned to groups consisting of 3-5, 6-10, 11-25, 26-50, and 50+ individuals. Amphipod (*Ampelisca vadorum*) tube mats were also observed in eight video transects and could not be individually quantified. These tube mats were also classified every 30 seconds within the biological community shapefile and were recorded in the categories of high (70-100% cover), medium (30-70% cover) or low density (<30% cover).

Flora were occasionally observed in nearshore transects and were recorded and classified as green, red, or brown algae. Genus or species identifications were assigned when possible. Anthropogenic debris observed in video footage was also described and recorded.

The results of the video analysis were integrated with GIS mapping to produce a transect line displaying layers of characterized habitats, fauna, flora, and seafloor features. Areas of low visibility were also noted in a shapefile overlay.

2.3.3 Statistical Techniques

2.3.3.1 Descriptive Statistics

Descriptive statistics, at a minimum, were performed for key variables of the physical and biological datasets. Summary statistics included computations for sample mean, standard deviation, range of values, and where appropriate, frequencies of selected attributes. These results were then used to generate statistical results (e.g., central tendencies) for the entire dataset.

2.3.3.2 Benthic Macrofaunal Indices

The sections below describe indices calculated for macrofaunal communities found in each grab sample. Calculations for all indices were made using PRIMER software (version 7). The results containing these indices for each grab sample are presented in Appendix C and are summarized later in this report in Section 3.2. Macrofaunal indices were compared statistically between CMECS groups and nearshore versus offshore samples using ANOVA tests in R version 4.2.1 using the R Studio interface. Comparisons of total macrofauna density were log-transformed to better meet

the assumptions of normality associated with ANOVA. Statistical results from these analyses can be found in Appendix D.

2.3.3.2.1 Macrofaunal Density

The majority of benthic grab samples were collected using a 0.25-m^2, 50-cm deep box core and used sleeves with a surface area of 0.025 m^2 to extract sediment subsamples to analyze for the presence of macrofauna. Sample 544LI23-GB049 was a nearshore sample collected by CRE using a 0.1-m^2 Van Veen grab and sleeves with a surface area of 0.0046 m^2 were used to extract macrofauna samples. To standardize results across all grab samples, raw abundances were converted to an overall density of individuals per square meter.

2.3.3.2.2 Taxonomic Richness

Taxonomic richness was defined as the total number of taxa present in a sample. This definition of taxonomic richness is used throughout the report for both macrofauna and video transect results. However, Margalef's richness (D) was also calculated for each grab sample and is presented in the table in Appendix C. Margalef's richness compensates for the effect of sampling effort (i.e., sample size) using the equation below, where S is equal to the number of taxa in the sample, and n is equal to the number of individuals.

$$D = \frac{(S-1)}{\ln(n)}$$

Because all samples except for 544LI23-GB049 had the same sample size, the number of taxa present in each sample was the primary form of richness discussed in this report.

2.3.3.2.3 Shannon Diversity

Shannon diversity (H') was calculated for each macrofaunal sample using the equation below. Lower diversity results in a lower H' value, with samples containing only one taxa receiving a value of 0. Higher diversity results in larger values for H' and increases with greater evenness and taxonomic richness.

$$H' = 1\sum_{i=1}^{n} pi \ln pi$$

For this equation, n is equal to the number of taxa, and *pi* is the proportion of total individuals represented by taxa *i*.

2.3.3.2.4 Pielou's Evenness

Pielou's evenness (J') can indicate whether samples are dominated by a small number of taxa, or if abundances are more evenly distributed across many taxa (i.e., how 'even' the abundances are). The calculation below is used to calculate Pielou's evenness, where H' is Shannon diversity and *lnS* is the maximum possible value for Shannon diversity (i.e., H'_{max}).

$$J' = \frac{H'}{lnS}$$

Evenness values range from 0 to 1, where larger values indicate a higher level of evenness within a sample. For example, a sample with an evenness of 0 would include a single species, whereas a sample with an evenness of 1 would have the same number of individuals for each taxon.

2.3.3.2.5 Swartz Dominance

Swartz dominance (SDI) is equal to the minimum number of taxa that make up 75% of the sample abundance. Similar to Pielou's evenness, SDI can provide information on whether a given sample is dominated by a few taxa, or if abundances are more evenly distributed. Samples with lower values for SDI are dominated by few taxa, whereas samples with higher SDI results exhibit more evenness between taxa.

2.3.3.3 Community Comparisons and NMDS

Community composition describes the identity and relative abundance of each taxon within a community. This can be dependent upon a variety of factors such as substrate type, water depth, exposure to predation, and disturbance level (Byers and Grabowski 2014). While univariate statistics can provide helpful information about these macrofaunal communities, using a multivariate approach allows for a greater understanding of the community structure.

Non-metric Multidimensional Scaling (NMDS) ordination was used to visually demonstrate the differences in macrofaunal community composition between benthic grab samples. NMDS creates a resulting plot which shows the relationships between communities spatially, i.e., the physical distance between points is indicative of the level of similarity between samples. NMDS is a non-parametric ordination approach which reduces the complexity of multivariate data and is well suited for use on sparse datasets (Kruskal 1964).

Densities were fourth root transformed to decrease the weight of highly abundant species. Sample 544LI23-GB049 was found to be an outlier and was therefore excluded from analyses. This was likely due to the smaller sample size of this grab, which was the only sample collected by CRE using the Van Veen sampler, and had a smaller infauna sample size than the other samples collected by the Box Core. All multivariate analyses were completed using PRIMER version 7. Bray-Curtis (Sorensen) similarities were used as distance measures (Bray and Curtis 1957). Macrofaunal communities were compared across CMECS substrate groups as well as distance from shore (federal versus state waters).

Differences in community composition were determined using another non-parametric approach, Analysis of Similarity (ANOSIM). ANOSIM generates R statistics which represent the level of dissimilarity between groups. R values close to 0 indicate very little or no separation between groups, whereas values close to 1 indicate complete separation. These statistics are generated through permutation-based hypothesis testing. For the analyses presented in this report, 999 permutations were used for each analysis, and ANOSIM was run using default settings in

PRIMER. In instances where R statistics indicated a separation between groups, a similarity percentages analysis (SIMPER) was performed to determine which taxa contributed the most to the differences in community composition. Statistical results from ANOSIM and SIMPER tests are presented in Appendix D.

3 BENTHIC GRAB SAMPLE RESULTS

Benthic grab samples were collected at 65 stations along the OECC, each spaced a maximum of 2 km apart. Forty stations were collected with single samples, while 25 stations had three replicates collected, for a total of 115 samples (Figure 1-2). Grab samples were staggered with video transects so that there was a maximum of 1 km between any ground truthing sample. Additionally, 16 grab stations (approximately 25% of grab stations) were co-located with video transects.

Each grab sample was analyzed for grain size and assigned a CMECS classification (NMFS 2021). Additionally, one sample from each station was analyzed for infauna. These results were used to characterize the types of substrates and habitats present within each portion of the OECC and quantify and compare the benthic communities present within the sediment. The results from these analyses are presented in the subsections below.

3.1 Grain Size Analysis

Grain size was reported for three major class sizes: Gravel, Sand, and Mud. Sand was further separated into three subclasses: Very Coarse/Coarse Sand, Medium Sand, and Fine/Very Fine Sand. Gravel was defined as sediments with grain size of 2 mm or larger, and Mud consisted of silts and clays with grain sizes less than 0.0625 mm. Class descriptions and corresponding ranges in particle diameter are summarized in Table 3-1.

Table 3-1 NMFS-Modified CMECS Sediment Particle Size Descriptions

Size Class	Diameter (mm)
Gravel	≥ 2.00
Sand	0.0625 to < 2.00
Very Coarse/Coarse Sand	0.5 to < 2.00
Medium Sand	0.25 to < 0.5
Fine/Very Fine Sand	0.0625 to < 0.25
Mud	< 0.0625

Grain size classes were adopted from the NMFS Recommendations for Mapping Essential Fish Habitat (NMFS 2021) and are based on the Wentworth sediment grain size classification system.

Shell fragments with diameters greater than 2.00 mm were quantified separately and reported as percent gravel-sized shell (i.e., shell). Summary results for each major sediment class are summarized below in Table 3-2.

Table 3-2 Summary of Grain Size Analysis of OECC Samples

	Sediment Percentage			
	Gravel	Sand	Mud	Gravel-Size Shell
Average	4.69	93.93	0.51	0.87
Minimum	0	44.84	0	0
Maximum	54.56	99.94	6.89	7.68

Grab samples were composed primarily of sand (mean = 93.93%), with minor fractions of gravel (mean = 4.69%) and shell (mean = 0.87%). Very little mud was present (mean = 0.51%).

Sand was the dominant sediment type in most samples, with a maximum of 99.94% in sample 544LI23-GB038B and minimum of 44.84% in sample 544LI23-GB043. The presence of gravel was patchy and typically found in low abundance in most samples, however there were occasional samples with higher gravel concentrations. For example, sample 544LI23-GB043 had the maximum gravel percentage of 54.56%. Nine samples had gravel concentrations exceeding 25%. Mud and shell hash were both very uncommon, with maximum concentrations of less than 8% found in samples 544LI23-GB013 and 544LI23-GB027C, respectively.

Grain size percentages were used to assign NMFS-modified CMECS classifications to each sample. Percentages for mud, sand, gravel, and shell were calculated as a fraction of total mass, as well as for geologic substrate only (i.e., total mass with biogenic substrate [shell] excluded). Results for both calculation methods are presented in Appendix H. It should be noted that CMECS classifications for each sample remained the same regardless of which calculation method was used. Decision trees showing the criteria for each CMECS group and subgroup are shown in Figure 2-7 and Figure 2-8. Sand was the most common CMECS group, which was found at 82% of samples (Table 3-3). Of these samples, the majority belonged to the Medium Sand subgroup (64%), with smaller numbers of Fine/Very Fine (33%) and Very Coarse/Coarse (3%) samples. Fifteen samples (13%) were classified as Gravelly Sand, indicating that they contained a gravel content between 5-30%. Sandy Gravel, which is defined as containing 30-80% gravel, was found in 5% of samples.

Table 3-3 OECC Benthic Grab Sample Substrate Classifications

CMECS Substrate Group	CMECS Substrate Subgroup(s)	Number of Locations	% of Locations
Muddy Sand	N/A	0	0%
Sand	Fine/Very Fine Sand to Very Coarse/Coarse Sand	94	82%
Gravelly	Gravelly Sand	15	13%
Gravel Mixes	Sandy Gravel	6	5%
Total		**115**	**100%**

Medium Sand and Fine/Very Fine Sand were the most common substrate types in offshore waters near the Lease Area. No gravel was detected south of station 544LI23-GB017. Samples belonging to the Gravelly and Gravel Mixes CMECS groups were found north of this point and were patchy and inconsistent in their distribution (Figure 3-1). Some stations, for example station 544LI23-GB055, contained both Sandy and Gravelly replicates within 16 m of one another, indicating that the presence of gravel is patchy on a smaller scale as well.

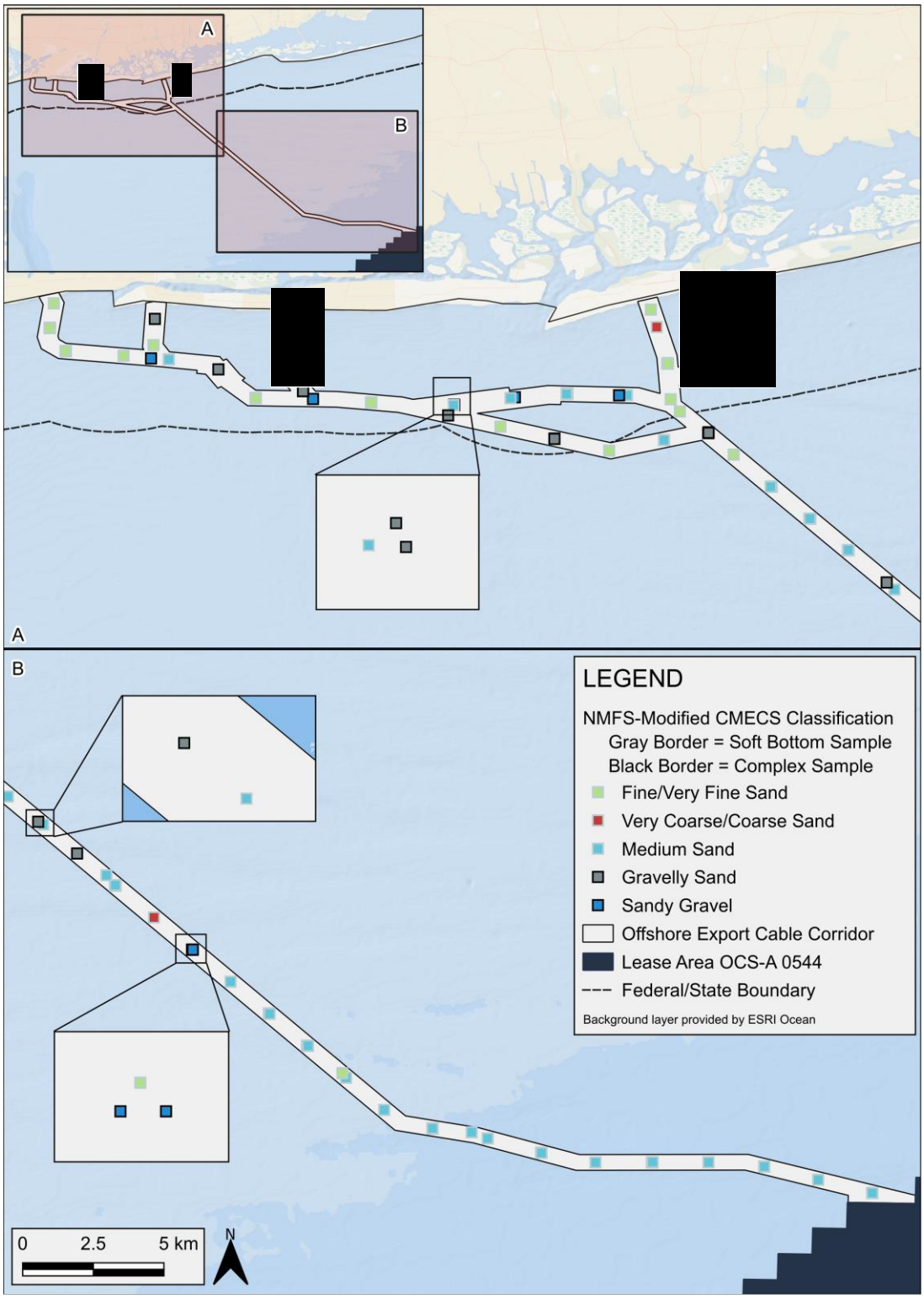


Figure 3-1 OECC Benthic Grab Sample Substrate Classifications

3.2 Benthic Infauna Community Analysis

Benthic infauna (also referred to as macrofauna) results are presented for 65 sediment stations, consisting of patterns of total abundance, abundance of major taxonomic groups, diversity, and evenness. A stainless-steel box core insert with a surface area of 0.025 m^2 was used to collect all samples with the exception of the nearshore sample 544LI23-GB049, which was collected from a Van Veen grab with an infauna sampling surface area of 0.0046 m^2. Abundance data were transformed and reported as density (individuals m^{-2}). Species richness (or LPIL) is reported as the number of unique taxa per grab sample (also referred to as richness). Corresponding calculated results, including community metrics such as diversity and evenness, for each sample are reported in Appendix C along with raw laboratory counts not transformed into individuals m^{-2}.

3.2.1 Taxonomic Richness

A total of 210 taxa were observed in the 65 infauna samples collected from the OECC. Taxonomic richness ranged from 5 in sample 544LI23-GB049 to 62 in sample 544LI23-GB017, with an average of 28 ± 11 (mean ± standard deviation [SD]). It should be noted that the low richness in GB049 could be skewed by the smaller sample size in the Van Veen grab. [redacted] Table 3-4 and Figure 3-2 summarize the findings for infauna taxonomic richness.

Table 3-4 Summary of Key Statistics from OECC Grab Samples

Statistic	Value
Number of Samples	65
Mean Density per m^2 (±1 SD)	19,184 ± 26,790
Mean Taxa Richness (±1 SD)	28 ± 11
Total Number of Taxa	210
Number of Taxa Observed by Phylum	
Annelida	106
Arthropoda	42
Chordata	2
Cnidaria	2
Echinodermata	1
Hemichordata	1
Mollusca	45
Nemertea	8
Phoronida	1
Platyhelminthes	1
Xenacoelomorpha	1
Percent of Total Abundance by Phylum	
Annelida	32.81%
Arthropoda	60.89%
Chordata	1.47%
Cnidaria	0.02%
Echinodermata	0.43%

Table 3-4 Summary of Key Statistics from OECC Grab Samples (Continued)

Statistic	Value
Percent of Total Abundance by Phylum	
Hemichordata	0.02%
Mollusca	3.54%
Nemertea	0.75%
Phoronida	0.01%
Platyhelminthes	0.003%
Xenacoelomorpha	0.05%

Percentages of total abundance may not add up to 100% due to rounding.

Just over half of the taxa were annelid worms, including both polychaetes and oligochaetes (106 of 210), with the variety of mollusks (45 of 210) and arthropods (42 of 210) much lower. Eight other phyla were represented by a few species (an aggregate of 17 out of 210). These other groups were uncommon to the study area, accounting for only 2.75% of the collected organisms. These phyla included Cnidaria (e.g., sea anemones), Chordata (e.g., tunicates), Echinodermata (e.g., sand dollars), Nemertea (ribbon worms), Phoronida (horseshoe worms), Platyhelminthes (flat worms), and Xenocoelomorpha.

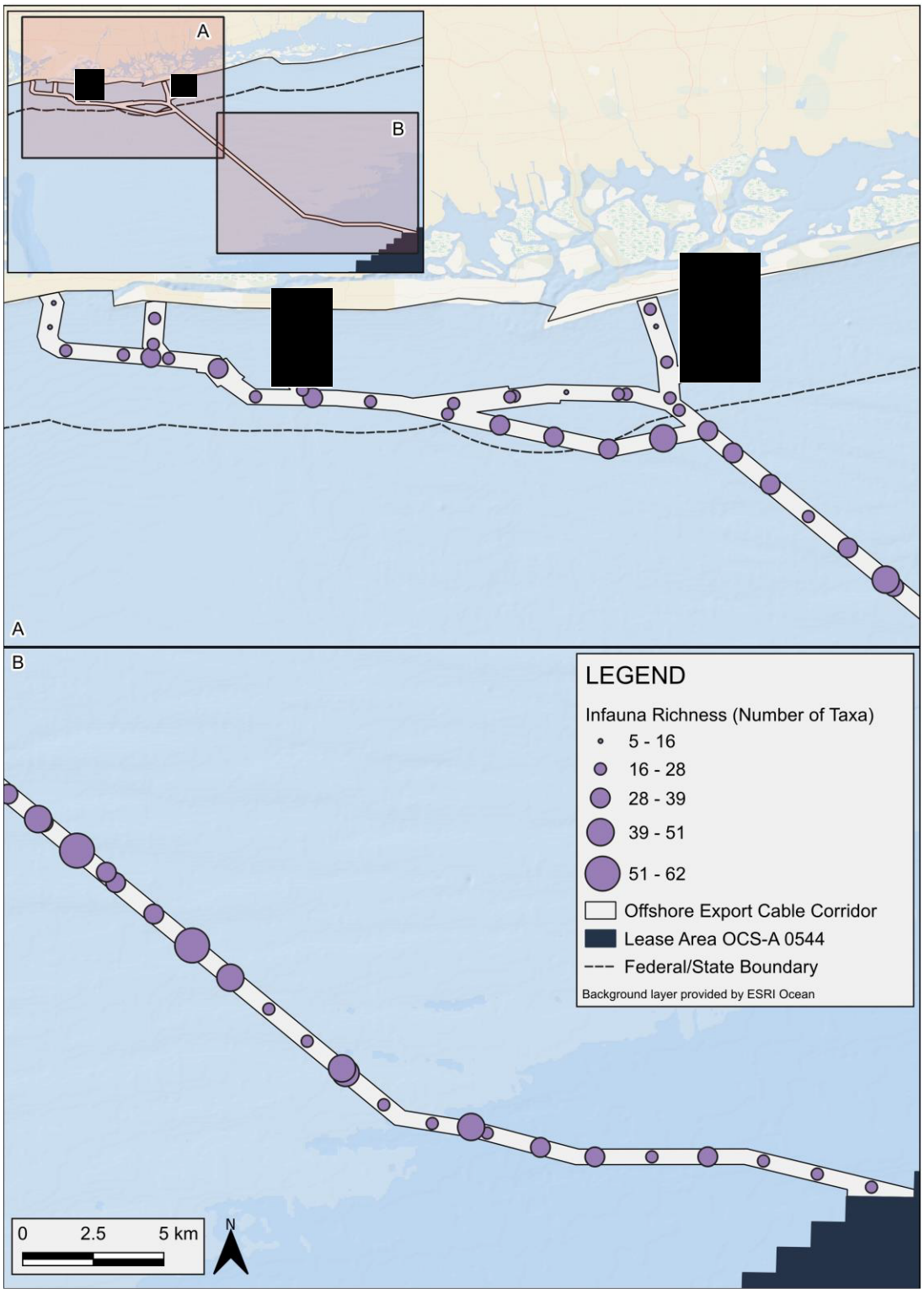


Figure 3-2 OECC Benthic Infauna Grab Sample Locations by Taxonomic Richness

3.2.2 Infauna Density

Total density of all organisms averaged 19,184 individuals m^{-2}, though this varied significantly with a range of 1,120 to 121,840 individuals m^{-2}. Nine taxa exceeded 80% abundance, as shown in Table 3-5. Three of the dominant taxa were malacostracans, which accounted for more than 57% of total abundance. However, it should be noted that this was primarily due to the high abundance of *Pseudunciola obliquua*, which was responsible for 54.29% of total macrofauna abundance. The two other common malacostracans, *Protohaustorius cf. deichmannae* and *Unicola irrorata*, were each responsible for less than 2% of total abundance. Four of the dominant taxa were polychaete worms, of which three were identified at the species level which exceeded 18% of total abundance. Oligochaetes were responsible for 3.58% of all organisms observed, and ascidians were also relatively common at 1.23% total abundance. Overall macrofauna density for each sample in the OECC is displayed in Figure 3-3.

Table 3-5 Relative Abundance of Taxa Encountered in OECC Samples

Scientific Name	Major Group	Relative Abundance (%)
Pseudunciola obliquua	Malacostraca	54.29%
Polygordius jouinae	Polychaeta	7.82%
Dipolydora socialis	Polychaeta	5.32%
Spio setosa	Polychaeta	4.91%
Oligochaeta spp.	Clitellata	3.58%
Protohaustorius cf. deichmannae	Malacostraca	1.68%
Ascidacea sp.	Ascidiacia	1.23%
Unicola irrorata	Malacostraca	1.15%
Tharyx spp.	Polychaeta	1.10%

Includes numerically dominant taxa collectively comprising > 80% of total abundance.

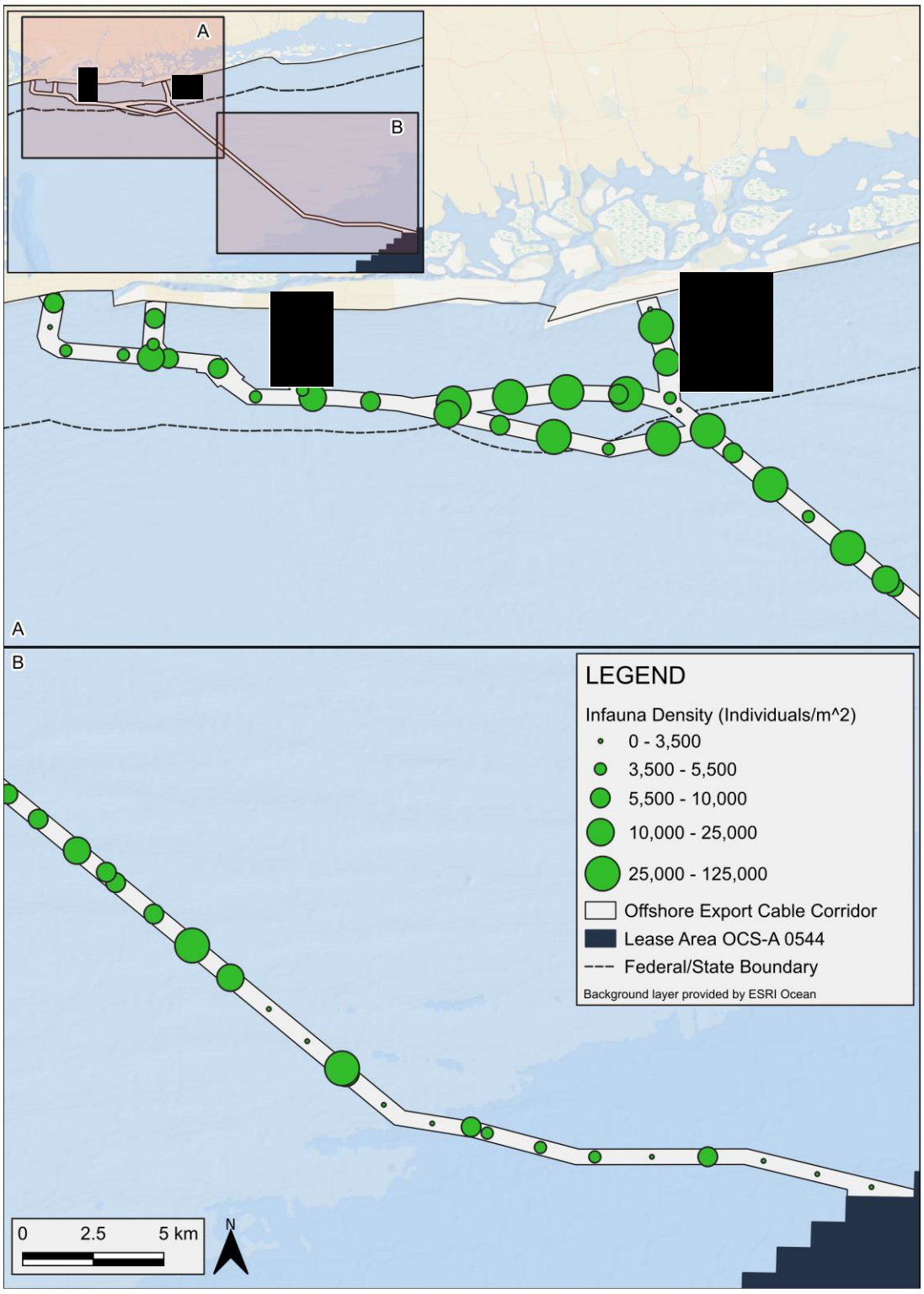


Figure 3-3 OECC Benthic Infauna Grab Sample Locations by Total Organism Density

There were ten taxa encountered in more than 50% of samples, as shown below in Table 3-6. These ten taxa, five polychaetes, one oligochaete, one clam, and three amphipod crustaceans, while not always present in number, were found in most parts of the study area. Oligochaetes, a taxon containing several species, were widely distributed, occurring in 81.5% of all samples. *Tharyx* spp. (also multiple separate species) were also very commonly encountered and were found in 80% of samples. Two other polychaetes, *Nephtys picta* and *Polygordius jouinae*, were found in roughly 75% of samples.

Table 3-6 Most Widespread Taxa Encountered in OECC Samples

Scientific Name	Major Group	Number of Samples Containing this Taxon
Oligochaeta spp.	Clitellata	53
Tharyx spp.	Polychaeta	52
Nephtys picta	Polychaeta	49
Polygordius jouinae	Polychaeta	48
Ameritella versicolor	Bivalvia	43
Unciola irrorate	Malacostraca	43
Pseudunciola obliquua	Malacostraca	41
Spiophanes bombyx (spp. complex)	Polychaeta	40
Caulleriella venefica	Polychaeta	36
Rhepoxynius hudsoni	Malacostraca	34

Includes taxa observed in ≥ 33 samples (50.8% of samples).

Fifty unique taxa were found in only a single sample within the OECC. The majority of these taxa belonged to the phylum Annelida (44%), Mollusca (32%), or Arthropoda (18%) (Figure 3-4). There was a single unique taxon from each of the phyla Cnidaria, Nemertea, and Platyhelminthes. Seventeen percent of all taxa collected in grab samples were found as only a single specimen, meaning they were unique to a single grab sample. Thirty-one grab samples contained at least one unique taxon, and sample 544LI23-GB017 contained the most unique taxa (6).

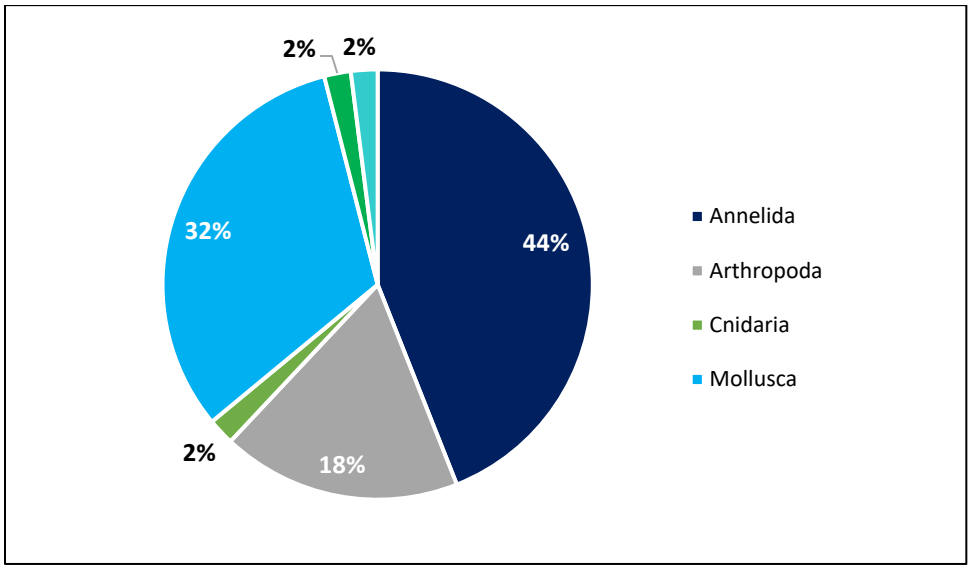


Figure 3-4 Percent Unique Macrofauna by Phylum

3.2.3 Evenness, Diversity, and Dominance

Community metrics such as evenness, diversity, and dominance were calculated for each sample and are summarized below in Table 3-7. Pielou's evenness had a mean of 0.64 across all samples, with some samples showing dominance by few taxa (e.g., 544LI23-GB034, J' = 0.04) and others showing near complete evenness (e.g., 544LI23-GB014, J' = 0.98). Shannon diversity averaged 2.08 ± 0.82 (mean ± SD) across all samples. The lowest diversity (H' = 0.11) was found in sample 544LI23-GB034, which was dominated by a large number (2,726) of the amphipod *Pseudunciola obliquua*. The highest level of diversity (H' = 3.28) was calculated for sample 544LI23-GB023, which contained relatively low numbers of many different taxa.

Swartz dominance indicated that there was an average of 6.5 ± 0.24 taxa (mean ± SD) responsible for 75% of all abundance. The minimum Swartz dominance (1) was found in 11 samples, where a single taxon was responsible for more than 75% of the overall abundance within that sample. The highest value for Swartz dominance was 17, which was calculated for sample 544LI23-GB022.

Table 3-7 Indices of Macrofaunal Diversity, Evenness, Richness, and Dominance

	Mean	Minimum	Maximum	Standard Deviation
Pielou's Evenness (J')	0.64	0.04	0.98	0.24
Shannon Diversity (H')	2.08	0.11	3.28	0.82
Margalef Richness (D)	5.33	1.46	9.20	1.72
Swartz Dominance (SDI)	6.50	1	17	4.09

Indices for each individual sample can be found in Appendix C.

3.2.4 Comparative Analyses

Community metrics including Shannon diversity, Pielou's evenness, taxonomic richness (number of taxa observed), and density (individuals m^{-2}) were compared across CMECS substrate groups as well as between nearshore and offshore samples using ANOVA tests. Additionally, the macrofauna community structures were also compared between CMECS groups and nearshore versus offshore samples. Raw abundances were fourth root transformed prior to multivariate analysis to reduce the weight of highly abundant taxa. Bray-Curtis similarities were used to compare the communities, which are visualized in the NMDS plots below. Sample 544LI23-GB049 was found to be an outlier and was therefore excluded from analysis. This was the single sample collected by CRE using the Van Veen grab, and it is likely that the smaller sample size caused the difference in results. Additional details on the methods used can be found in Section 2.3.3.3. Statistical results from ANOSIM and SIMPER tests are located in Appendix D.

3.2.4.1 Comparison Between Nearshore and Offshore Samples

Infauna data were compared between nearshore and offshore samples to determine if the composition of benthic communities varies based on distance from shore. Nearshore samples (n = 32) were defined as those within state waters, and those within federal waters were considered offshore samples (n = 32).

Average number of taxa observed was significantly higher in offshore samples than in nearshore samples, as was diversity and evenness (ANOVAs, all $p < 0.05$). There was no statistically significant difference in the density of organisms between nearshore and offshore samples, which varied substantially between individual samples (ANOVA, $p = 0.412$). Density values were log-transformed to better meet assumptions of normality associated with ANOVA. Comparisons of mean and standard deviation values for community metrics such as density, taxonomic richness, diversity, and evenness are shown graphically below in Figure 3-5.

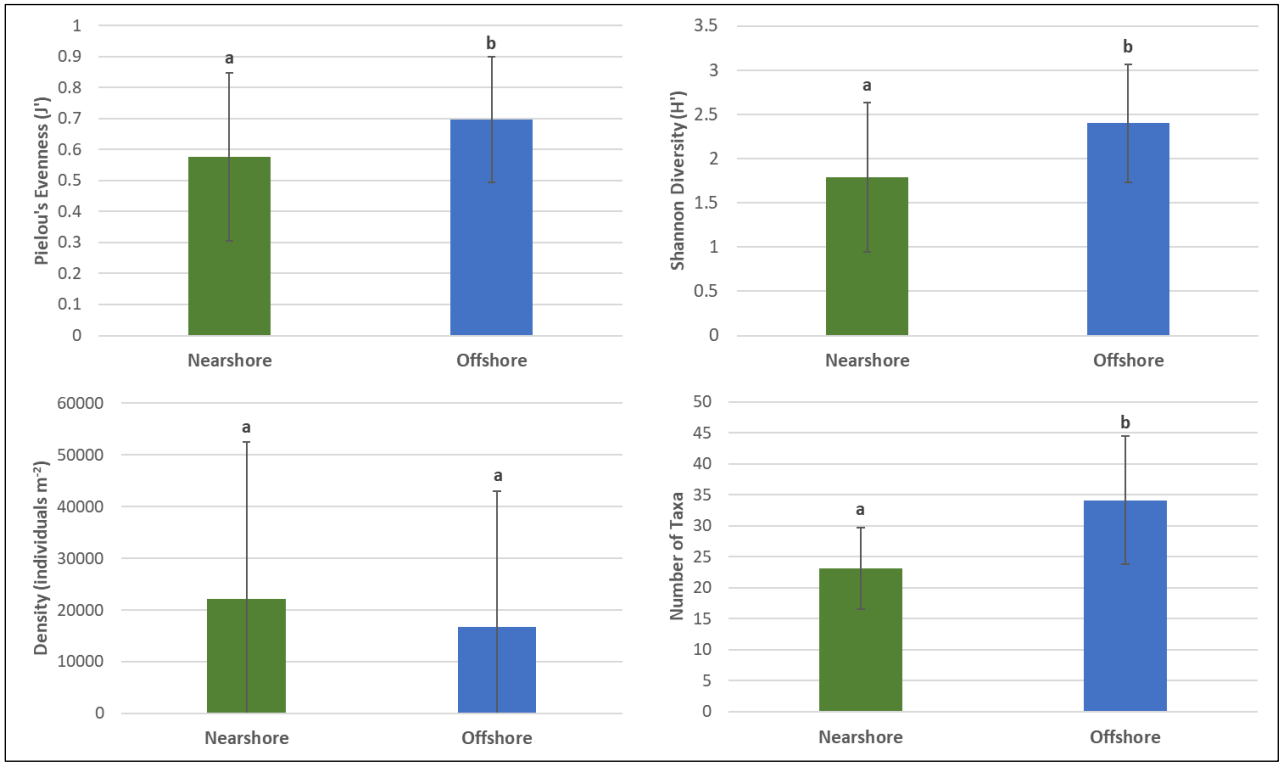


Figure 3-5 Comparison of Community Metrics between Nearshore and Offshore Samples

Mean ± SD macrofauna density, evenness, diversity, and number of taxa for nearshore (state waters) and offshore (federal waters) samples. Labels 'a' and 'b' note areas of statistical difference (ANOVAs). There was no statistical difference observed for average total organism density between nearshore and offshore waters (ANOVA, $p > 0.05$).

Multivariate statistics were also used to compare the compositions of macrofauna communities between nearshore and offshore grab samples. An ANOSIM test conducted on fourth-root abundances using Bray-Curtis similarities detected a statistically significant difference between nearshore and offshore macrofauna communities (ANOSIM, $p = 0.001$, Global $R = 0.369$). SIMPER analysis revealed an average dissimilarity of 73.78% between nearshore and offshore samples, with the amphipod *Pseudunciola obliquua*, which was more abundant in nearshore samples, and polychaete *Polygordius jouinae*, which was more common offshore, as the two species most responsible for the dissimilarity. Benthic community composition comparisons are shown graphically in Figure 3-6 in the form of a NMDS plot; the physical distance between points represents the similarity of infauna communities between those samples.

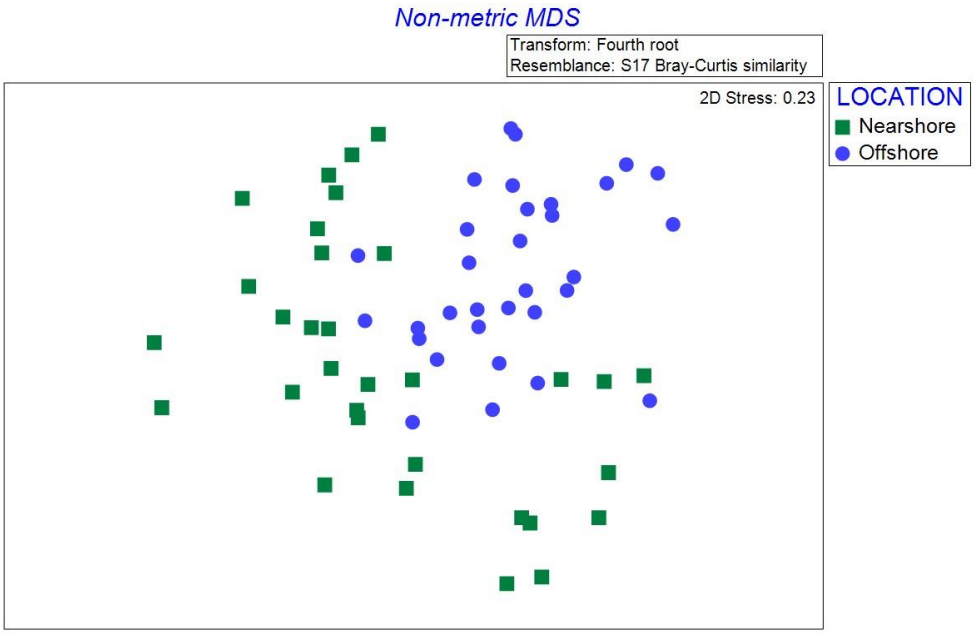


Figure 3-6 NMDS Ordination of Community Composition in Nearshore and Offshore Waters

3.2.4.2 Comparison Across CMECS Substrate Groups

Community metrics such as diversity, evenness, taxonomic richness, and total organism density were compared between samples classified in the CMECS substrate groups of Sand, Gravelly, and Gravel Mixes (Figure 3-7). ANOVA tests conducted on these data indicate that there were no statistically significant differences between sediment groups for any of the indices (ANOVA, all $p > 0.05$). Density data were log-transformed prior to testing to better meet assumptions of normality.

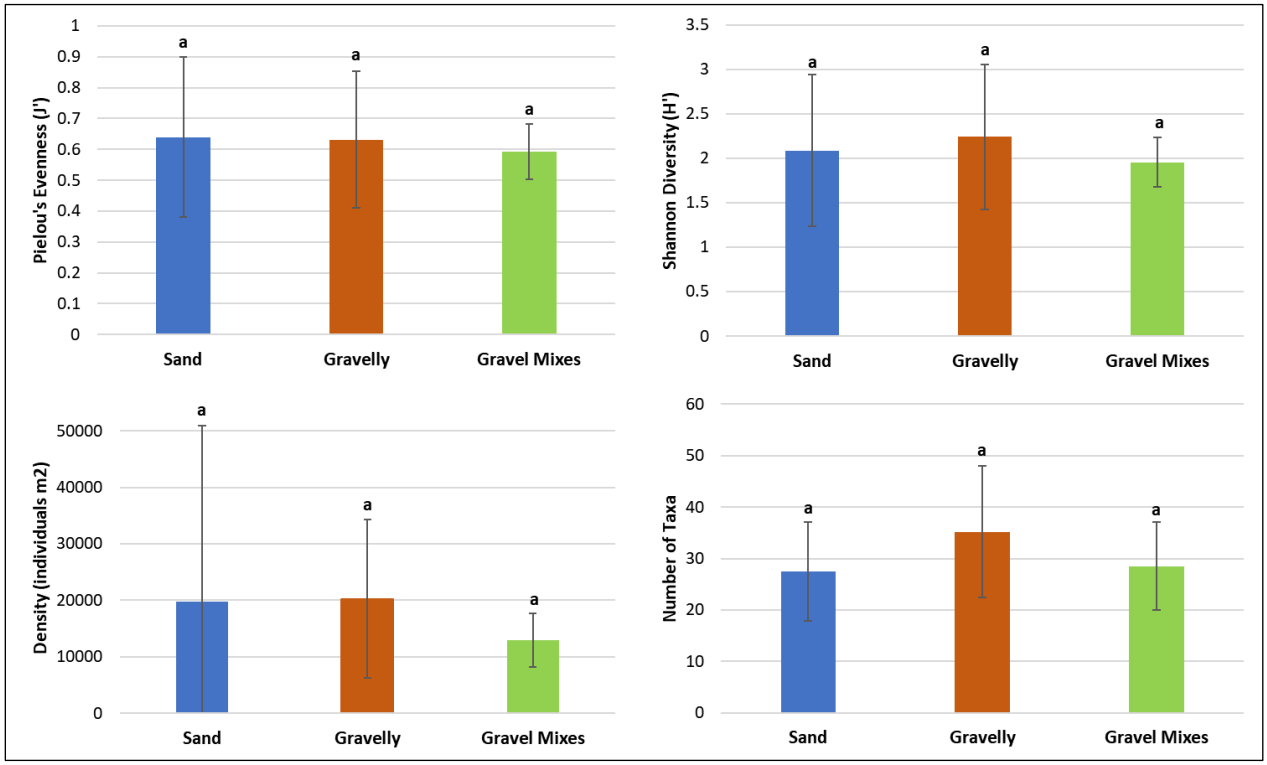


Figure 3-7 Comparison of Community Metrics across CMECS Substrate Groups

Mean ± SD macrofauna density, evenness, diversity, and number of taxa for each CMECS substrate group. There were no statistically significant differences observed between substrate groups for any community metric (ANOVAs, all $p > 0.05$).

The structure of macrofauna communities were also compared between CMECS substrate groups using multivariate statistics. Macrofauna found in samples classified as Sand (n = 52), Gravelly (n = 8), and Gravel Mixes (n = 4) were compared, with statistically significant differences found across groups (ANOSIM, p = 0.003, Global R = 0.283). A graphical comparison of community structure is included below in Figure 3-8 as an NMDS plot.

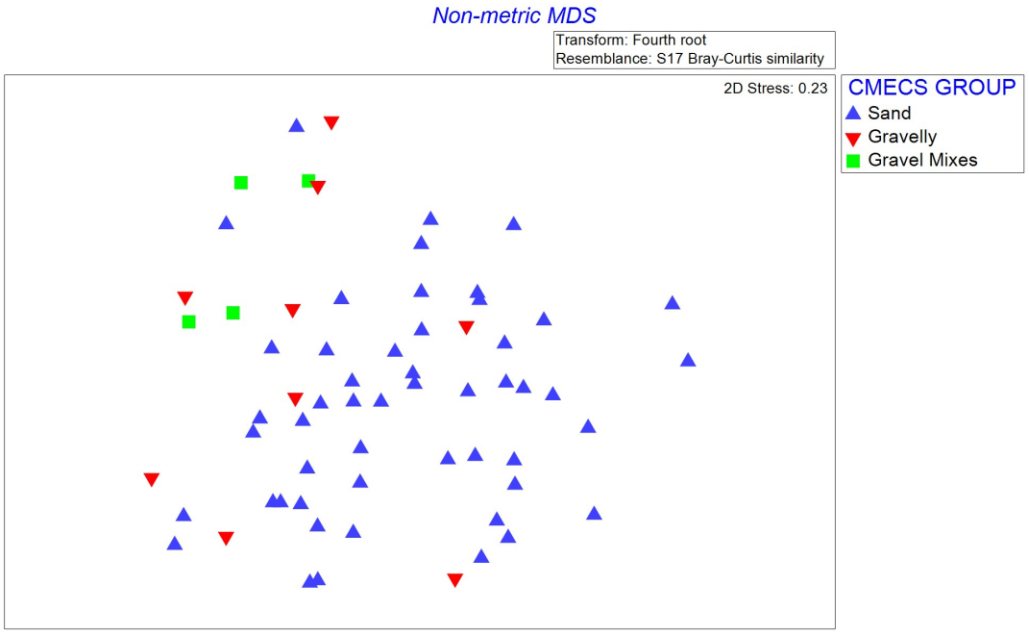


Figure 3-8 NMDS Ordination of Community Composition Across CMECS Substrate Groups

Samples classified as Sand contained significantly different macrofauna communities compared to Gravelly (ANOSIM, p = 0.008, Global R = 0.246) and Gravel Mix substrates (ANOSIM, p = 0.003, Global R = 0.44). Because samples classified as a Gravel Mix contained more gravel (30-80%) than Gravelly samples (5-30%), it is unsurprising that there was a larger effect (larger Global R value) observed between Sand and Gravel Mix samples than between Sand and Gravelly samples. Differences in community structure between Sand and Gravelly samples was driven by the amphipod species *Pseudunciola obliquua*, as well as the polychaetes *Spio setosa* and *Polygordius jouinae*. *Pseudunciola obliquua,* as well as the polychaete *Brania wellfleetensis* and Oligochaeta spp., were most responsible for differences between samples classified as Sand and Gravel Mixes. No significant differences were detected between Gravelly and Gravel Mix substrate groups (ANOSIM, p = 0.748, Global R = -0.107).

It should be noted that grain size and infauna were collected from different attempts for four samples: 544LI23-GB028, 544LI23-GB030, 544LI23-GB036, and 544LI23-GB046. This means that the sediment used for grain size analysis was collected near the infauna sample (typically less than 5 m away) but was not extracted from the exact same sample. Statistically significant differences across CMECS groups, specifically between Sand and Gravelly and Sand and Gravel Mix substrates, were still present when these samples were excluded from analysis.

4 VIDEO TRANSECT RESULTS

A total of 67 video transects were conducted within the OECC, spaced 2 km apart or less. Preliminary sonar imagery was used to strategically place these transects; if a difference in seafloor morphology was observed in the sonar data near a transect, the transect was purposefully oriented so that this transition was captured in the video imagery. Transect locations were staggered with grab sample stations such that there was never more than 1 km between ground truthing samples. Sixteen video transects were co-located with grab samples so that grain size data could be correlated with visual observations of habitat types in the video files.

Video imagery was used to classify habitat types present in the OECC, as well as identify and enumerate fauna that were observed using these habitats. Any instances of anthropogenic debris were also noted. The results from video transect analysis are presented below in Sections 4.1 and 4.2. Additional information about video transect CMECS classification results can be found in Appendix J. Further information regarding fauna and flora can be found in Appendix E.

4.1 CMECS Classifications and Bedforms

Benthic habitats were analyzed in all 67 video transects and were classified using the NMFS-modified Coastal and Marine Ecological Classification Standard (hereby referred to as CMECS), as defined in the "Updated Recommendations for Mapping Fish Habitat" (NMFS 2021). This classification system was created by NMFS by modifying the existing CMECS system (Federal Geographic Data Committee 2012) for use in classifying benthic habitats for offshore wind projects. Because grain size data cannot be gathered from video footage, the CMECS classifications and sediment percentages for video transects were assigned using visual observations. Representative images of each CMECS group are provided in Appendix F.

Sand was the most common substrate observed in video footage collected in the OECC and accounted for more than 14,296 m of the total transect length of 22,733 m (78%). Gravelly substrates, including Gravelly Sand and Gravelly Muddy Sand, were the next most common sediment type, and accounted for approximately 12% of the total transect length. The offshore portion of the OECC near the Lease Area was dominated by Sand and Muddy Sand. Sediment types became more varied starting at video transect 544LI23-VT016 and moving north, where substrates began to alternate between Sand, Gravelly, Gravel Mixes, and occasionally Shell Hash. Table 4-1 summarizes the video transect substrate results. NMFS-modified CMECS classifications of sediment are shown for each video transect in Appendix J.

Table 4-1 Summary of NMFS-Modified CMECS Classifications of OECC Video Transects

CMECS Substrate Group	% of Total OECC Transect Length	Number of Transects Observed
Sand	78.8%	67
Muddy Sand	4.8%	10
Gravelly	11.9%	29
Gravel Mixes	3.7%	15
Shell	0.2%	2

Note: Total transect length may not add up to 100% due to poor visibility in some segments. Bottom type in these segments remained uncharacterized.

Gravel observed in video transects was classified as Pebble/Granule, with a grain size of 2 mm to less than 64 mm (NMFS 2021).

The presence of bedforms such as ripples was also noted in each video transect. Bedforms were classified using the BOEM definitions of ripples, megaripples, and sand waves as outlined in the Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585 (BOEM 2020). Sand ripples with wavelengths of less than 5 m (16.4 ft) and wave heights of less than 0.5 m (1.6 ft) were identified in 56 of the 67 transects (84%) and accounted for 60% of total transect length in the OECC. Areas without sand ripples contained either flat sand or irregular seafloor, where the bottom morphology and undulations were minor and not oriented in an organized ripple pattern. No megaripples or sand waves were clearly observed in the video transect footage.

4.2 Fauna, Flora, and Anthropogenic Debris

4.2.1 Video Transect Fauna Observations

In addition to analyzing the substrate types observed in video transect footage, the presence and abundance of fauna and flora were also recorded, along with any evidence of possible anthropogenic debris. Fauna were classified and quantified continuously throughout the video transect. Identification was often done to the species level, though there were some cases where positive species identification was not possible (e.g., organisms which moved quickly or occasions of low visibility). In these instances, individuals were identified to the lowest practical identifiable level (LPIL). Egg cases, burrows, and other biogenic features observed in video footage were also recorded. Occasionally, individual fauna would follow the ROV and would therefore be observed more than once in the video. In these cases where it was clearly the same individual being observed twice, the first occurrence was recorded and quantified, while the second was not. Table 4-2 and Table 4-3 summarize the most abundant invertebrate and vertebrate taxa observed. A full list of observed organisms for each transect is included in Appendix E.

The most abundant organisms observed included sand dollars (*Echinarachnius parma*) and decorator worms (*Diopatra* sp.). Tubes created by amphipods (*Ampelisca vadorum*) were also very abundant in video transect footage. Due to the clustered and highly abundant nature of these three taxa, they were quantified separately as biological communities. Results for sand dollars,

decorator worms, and amphipod tubes are presented below in Section 4.2-2 and are not included in the percentage of invertebrate observations presented in Table 4-2.

Table 4-2 Ranked Abundance of Invertebrate Taxa in OECC Video Transects

Taxa Group	Rank	% of Invertebrate Observations in the OECC	Example Species Within the Taxa Group
Arthropoda	1	60.31%	Hermit crabs, Horseshoe crabs, Spider crabs, Rock crabs, etc.
Cnidaria	2	15.28%	Burrowing anemone, Hydrozoa, Sea pen
Gastropoda	3	7.38%	Northern moonsnail
Chordata	4	5.89%	Mud tunicates
Echinodermata[1]	5	2.83%	Common sea star, Sea cucumber
Cephalopoda	6	2.15%	Northern shortfin squid, Longfin squid
Bryozoa	7	2.06%	Bugula sp. colony
Porifera	8	1.73%	Boring sponge, Red beard sponge
Bivalvia	9	0.77%	Atlantic sea scallop, Blue mussel
Phoronida	10	0.39%	Phoronid tube builder
Ctenophora	11	0.19%	Comb jelly
Annelida[1]	12	0.17%	Spoon worms

1: Sand dollars (*Echinarachnius parma*) and decorator worms (*Diopatra* sp.) were also very abundant in video transect footage. Due to the clustered and highly abundant nature of these individuals, they were quantified separately as biological communities and are not included in the calculations of echinoderms and annelids presented in this table. Results for these taxa are presented below in Section 4.2-2.

2: Percentages may not add up to 100% due to rounding and exclusion of unidentified invertebrates.

Arthropods such as hermit crabs (*Pagurus* sp.), portly spider crabs (*Libinia emarginata*), and rock crabs (*Cancer* sp.) were some of the most abundant invertebrates observed in OECC transects. Burrowing anemones (Edwardsiidae) and moon snails (*Euspira heros*) were also very common, particularly in soft sediments.

Egg cases were also observed in video transects. Moon snail (*Eusperia heros*) sand collars were very abundant, with 533 identified across 51 transects. Squid mops belonging to longfin squid (*Doryteuthis pealeii*) were recorded 5 times across 4 transects. Sixteen skate egg cases were also observed on video footage on a total of seven transects. Example images of egg cases are displayed in Figure 4-1.

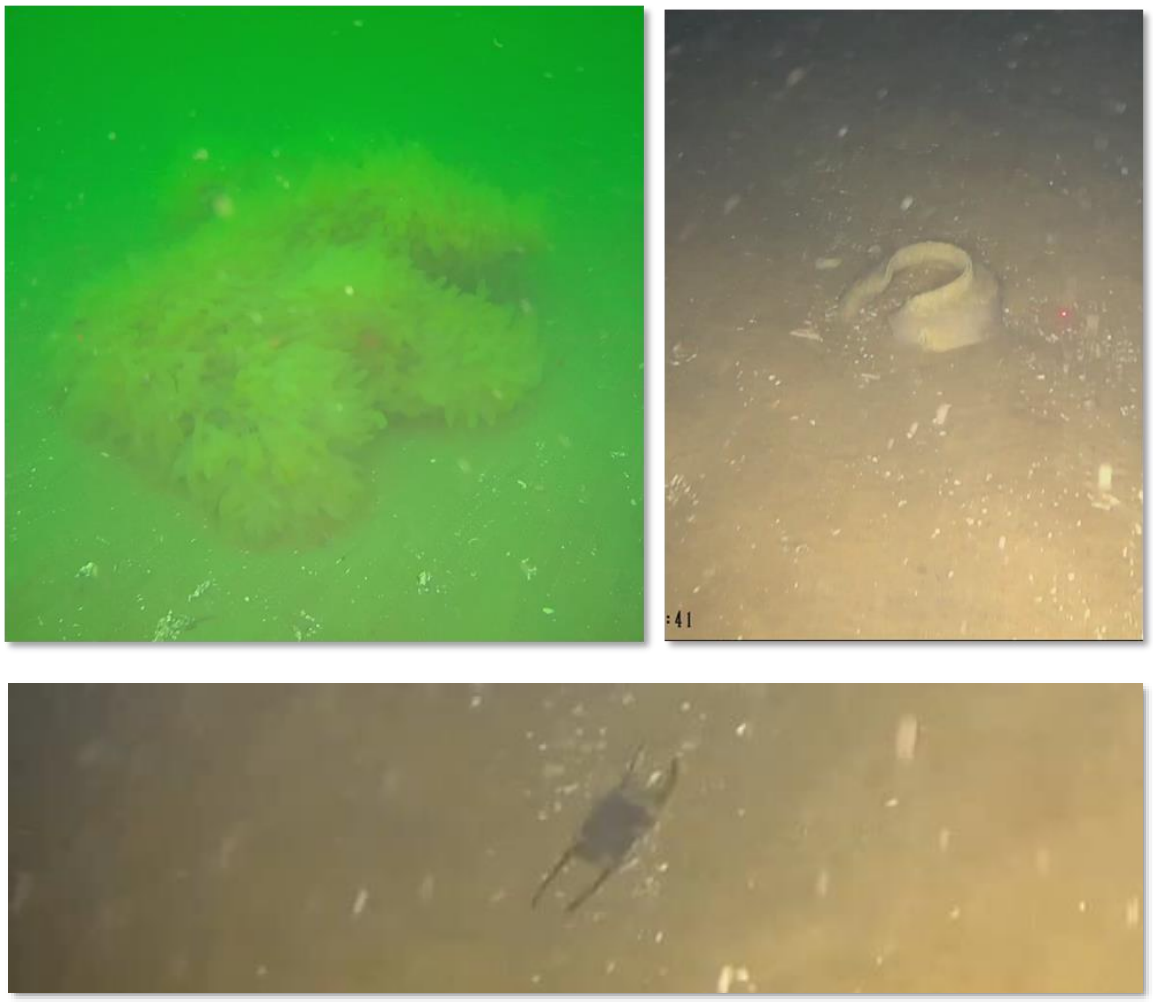


Figure 4-1 Example Images of Egg Cases Identified in OECC Video Transects

Example images of Longfin squid mops (left), moon snail egg collars (right), and skate egg cases (bottom).

Fish were frequently observed in video footage but were less abundant than invertebrates. Northern sea robins (*Prionotus carolinus*) were the most abundant fish, accounting for 36.7% of all vertebrate observations and recorded in 46 transects. Northern sea robins were typically solitary or found in small groups of 2-3. Scup (*Stenotomus chrysops*), little skate (*Leucoraja erinacea*), and flounder (*Pleuronectiformes* spp.) were also abundant, and found in 15, 22, and 20 video transects, respectively. Butterfish (*Peprilus triacanthus*) were found in fewer transects (8) and accounted for approximately 10% of all vertebrate observations. Table 4-3 summarizes the five most abundant vertebrate species observed.

Table 4-3 Ranked Abundance of Top 5 Vertebrate Species Observed in OECC Video Transects

Vertebrate Species	Rank	% of Vertebrate Observations in the OECC	Number of Transects Observed
Northern Sea Robin (*Prionotus carolinus*)	1	36.70%	46
Scup (*Stenotomus chrysops*)	2	16.55%	15
Little Skate (*Leucoraja erinacea*)	3	11.49%	22
Butterfish (*Peprilus triacanthus*)	4	10.32%	8
Unidentified Flounder (*Pleuronectiformes* spp.)	5	6.19%	20

Note: Total does not add up to 100% due to only representing top 5 most common vertebrate observations.

Less common fish included species such as bluefish (*Pomatomus saltatrix)*, clearnose skate (*Raja eglanteria*), northern kingfish (*Menticirrhus saxatilis*), spiny dogfish (*Squalus acanthias*), striped sea robin (*Prionotus evolans*), sandperch (*Diplectrum formosum*), and summer flounder (*Paralichthys dentatus*). A comprehensive table of all species observed on each video transect is available in Appendix E.

4.2.2 Video Transect Biological Communities

Some species were so abundant that they could not be individually quantified and were instead considered as biological communities. These species included sand dollars (*Echinarachnius parma*) and decorator worms (*Diopatra* sp.). Though not a living organism in of themselves, tubes created by amphipods (*Ampelisca vadorum*) were also classified as biological communities due to their high abundance in some transects and their creation of a unique seafloor structure. Example images of decorator worm and amphipod tube mat communities are displayed in Figure 4-2.

Biological communities were classified every thirty seconds to create a summary of areas where each of these communities were most abundant. Sand dollars and decorator worms were quantified and binned into groups consisting of 3-5, 6-10, 11-25, 26-50, and more than 50 individuals. Because individual amphipod tubes could not be quantified, the bins of high, medium, and low density were assigned based on percent cover with high density defined as 70-100% cover, medium as 30-70% cover, and low as <30% cover.

Though abundant in nearshore areas, decorator worms were also occasionally found as sparsely spaced individuals in offshore portions of the OECC closer to the Lease Area. Because the presence of these decorator worms would not be captured in these few transects using the 30-second method, the presence of these individuals was added to the recorded regardless of the time observed for those transects.

Table 4-4 Summary of Biological Communities Found in OECC Video Transects

Biological Community	Number of Transects Observed	% of Transects Observed
Decorator Worms (*Diopatra* sp.)	31	46.27%
Sand Dollars (*Echinarachnius parma*)	25	37.31%
Amphipod Tubes (*Ampelisca vadorum*)	8	11.94%



Figure 4-2 Example Images of Biological Communities

Example images of amphipod tube mats (left), decorator worm communities (right), and sand dollar beds (bottom).

In addition to the 8 video transects which contained amphipod tube mats, these tubes were also observed on GoPro footage collected at grab sample locations 544LI23-GB017 and 544LI23-GB021. Infauna analysis for these samples showed large numbers of the amphipod *Ampelisca vadorum*, which is a documented tube-builder (Steimle 1982). *Leptocherius pinguis,* another amphipod, was also abundant in these two samples. *Leptocherius* primarily burrows under the sediment, though it has been previously hypothesized that the bioturbated sediment they create may contribute to blooms of *Ampelisca* tube mats (Maciolek et al. 2009). Due to the evidence from infauna analysis, as well as findings of other studies in the region, it is believed that the tube

mats observed on video transects and grab samples are primarily constructed by *Ampelisca vadorum*, with perhaps some additional contribution from *Leptocheris pinguis*.

4.2.3 Video Transect Flora Observations

Flora (algae) visible in video footage were recorded and classified as either red, green, or brown algae. Lower genus- or species-level classifications were assigned when possible. Algae was observed on a total of five transects, each of which was close to shore in less than 15 m of water. Green algae (mostly *Ulva* sp.) and red algae (possibly *Ahnfeltia plicata*) were the most abundant types of flora observed. One instance of brown algae, possibly *Punctaria* sp., was observed on transect 544LI23-VT063. [redacted] It is important to note that all algae observed was free-floating in the water column, rather than attached to solid substrate. While these forms of algae were identified on video transects, it is unknown whether these individuals are inhabiting the seafloor within the OECC. Table 4-5 summarizes the flora observations made in the OECC in 2023.

Table 4-5 Summary of Flora Observed in OECC Video Transects

Flora	Number of Observations	Transects Observed
Brown algae	1	VT063
Green algae	14 (1 observation >50 individuals)	VT048, VT051, [redacted]
Red Algae	6 (1 observation >50 individuals)	VT048, [redacted] VT063

Video transect names have been abbreviated (e.g., VT063 = 544LI23-VT063-4).

No submerged aquatic vegetation (SAV), such as eelgrass, was observed on any of the video transects. A detailed table of flora observations can be found in Appendix E.

4.2.4 Video Transect Anthropogenic Debris

Evidence of human activity in the form of debris was identified and recorded. Fourteen observations of anthropogenic items were made across 13 video transects, as summarized in Table 4-6. Examples of these items include cans, floating plastic, and pieces of rope. There were two observations of pieces of wood (found in 544LI23-VT041 [redacted] which, although not man-made in origin, were included in the file because they were considered debris. Debris was found offshore and nearshore in both federal and state waters. Table 4.2-5 includes descriptions of all human-made or debris items observed during the 2023 OECC survey.

Table 4-6 Description of Anthropogenic Items Observed in OECC Video Transects

Video Transect ID	Time Stamp (hh:mm:ss)	Item Description
544LI23-VT007-5	03:14:05	Rope attached to blue plastic or cloth
544LI23-VT011-2	04:37:04	Concrete beam (could possibly be log, pipe, or similar)
544LI23-VT013-1	09:25:32	Short piece of wire or kelp stipe
544LI23-VT029-1	08:42:19	Encrusted cylinder (possibly a can)
544LI23-VT041-1	14:20:40	Piece of wood

Table 4-6 Description of Anthropogenic Items Observed in OECC Video Transects (Continued)

Video Transect ID	Time Stamp (hh:mm:ss)	Item Description
544LI23-VT042-1	11:59:42	Glove
544LI23-VT043-1	15:54:17	Short, thin pipe
544LI23-VT045-1	19:02:37	Beer can
544LI23-VT045-1	19:11:53	Floating plastic
544LI23-VT047-1	21:45:40	Thin piece of cable
[redacted]	[redacted]	[redacted]
544LI23-VT055-1	03:31:40	Possible piece of wire
544LI23-VT059-1	23:27:02	Possible piece of long, skinny debris
[redacted]	[redacted]	[redacted]

5 CONCLUSIONS AND SUMMARY

Environmental sampling took place within the OECC for Lease Area OCS-A 0544 in the spring and summer of 2023. A total of 115 grab samples were collected from 65 stations in addition to 67 video transects measuring approximately 300 m in length. The majority of these samples and transects were collected by TDI Brooks using the *R/V Proteus*, with the exception of 5 nearshore video transects and 1 nearshore grab station collected by CR Environmental using the *R/V Lophius*, which was better suited for shallow water.

Grain size was analyzed for each of the grab samples, and macrofauna were identified and quantified in one sample from each station. Video transects were used to classify the types of benthic habitat present in the OECC and identify the epifauna observed utilizing these habitats at the time of recording. The presence of any flora or anthropogenic debris was also noted.

Sand was the predominant sediment type identified in the OECC. Substrates belonging to the Gravelly and Gravel Mixes CMECS groups were also detected, along with rare occurrences of Shell Hash. All gravel detected during the environmental survey had a component of Pebble/Granule. Grab samples classified as Sand made up 82% of samples acquired in the OECC, with 13% classified as Gravelly, and 5% as Gravel Mixes. Similarly, approximately 84% of all transect length was classified as Sand or Muddy Sand, followed by approximately 12% classified as Gravelly, 4% as Gravel Mixes, and less than 0.5% as Shell Hash. The portion of the OECC closest to the Lease Area is comprised of exclusively soft sediment, with occasional patches of Gravelly sediment starting at 544LI23-VT016. Gravelly sediment in the offshore portion of the OECC had a patchy distribution and was typically located in ripple troughs when observed on video transects.

Both fish and invertebrates were common in video transect footage. Northern sea robins (*Prionotus carolinus*), scup (*Stenotomus chrysops*), little skate (*Leucoraja erinacea*), butterfish (*Peprilus triacanthus*), and flounder (Pleuronectiformes) were the most common vertebrate taxa observed. Sand dollars (*Echinarachnius parma*) were very abundant within the OECC, particularly offshore, and were enumerated as biological communities alongside decorator worms (*Diopatra* sp.) and amphipod tubes. Examples of other common invertebrates include hermit crabs (*Pagurus* sp.), burrowing anemones (Edwardsiidae), moon snails (*Euspira heros*), and portly spider crabs (*Libina emarginata*).

Infauna (also referred to as macrofauna) were identified and enumerated from one sample at each of the 65 grab stations. A total of 210 different taxa were observed, with arthropods, annelids, and mollusks as the most abundant phyla. Annelids, followed by arthropods, had the largest number of taxa. Differences in macrofauna community composition were detected between nearshore and offshore samples, as well as between Sand and Gravelly or Gravel Mix substrates.

6 REFERENCES

Abbott RT. 1974. American Seashells: The Marine Mollusca of the Atlantic and Pacific Coasts of North America, 2nd ed. Van Nostrand Reinhold Co., New York, NY. 663 p.

[BOEM] Bureau of Ocean Energy Management. 2020. Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585. https://www.boem.gov/about-boem-gg-guidelines

Bousfield, EL. 1969. New Records of *Gammarus* (Crustacea: Amphipoda) from the Middle Atlantic Region. Chesapeake Science. V10 (1): p. 1-17.

Bousfield, EL. 1973. Shallow-water Gammaridean Amphipoda of New England. Cornell University Press. Ithaca, NY. 312 p.

Bray, JR, JT Curtis. 1957. An Ordination of the Upland Forest Communities of Southern Wisconsin. Ecological Monographs. V27 p. 325-349.

Byers, JE, JH Grabowski. 2014. Soft-Sediment Communities. In: Marine Community Ecology. Eds.: MD Bertness, JF Bruno, BR Silliman, JJ Stachowicz. Sinauer, p. 227-249.

Bynum, KH, RS Fox. 1977. New and Noteworthy Amphipod Crustaceans from North Carolina, USA. Chesapeake Science. V18 p. 1-33.

Day, JH. 1973. New Polychaeta from Beaufort, with a key to all species recorded from North Carolina. NOAA Technical Report NMFS Circular. V375 p. 1-140.

Federal Geographic Data Committee. 2012. Coastal and Marine Ecological Classification Standard. FGDC-STD-018-2012. 353 p.

Gosner, KL. 1971. Guide to Identification of Marine and Estuarine Invertebrates. Cape Hatteras to the Bay of Fundy. John Wiley & Sons, Inc., New York, NY. 693 p.

Jirkov, IA, MK Leontovich. 2013. Identification Keys for Terebellomorpha (Polychaeta) of the Eastern Atlantic and the North Polar Basin. Invertebrate Zoology. V10 (2): p. 217-243.

Kruskal, JB. 1964. Multidimensional Scaling by Optimizing Goodness of Fit to a Nonmetric Hypothesis. Psychometrika. V29 p. 1-27.

Maciolek, NJ, DT Dahlen, RJ Diaz. 2010. 2009 Boston Harbor Benthic Monitoring Report. Boston: Massachusetts Water Resources Authority. Report 2010-18.

McCain, JC. 1968. The Caprellidae (Crustacea: Amphipoda) of the Western North Atlantic. Bulletin of the United States National Museum. V278 p. 1-147.

[NMFS] National Marine Fisheries Service. 2021. Recommendations for Mapping Fish Habitat. NMFS Greater Atlantic Fisheries Office Habitat Conservation and Ecosystem Services Division. March 2021. 22 p.

Pettibone, MH. 1963. Marine Polychaete Worms of the New England Region. 1. Families Aphroditidae through Trochochaetidae. United States National Museum Bulletin. V227 p. 1-356.

Plough, HH. 1978. Sea Squirts of the Atlantic Continental Shelf from Maine to Texas. Johns Hopkins University Press. Baltimore, MD. 118 p.

Steimle, F.W. 1982. The Benthic Macroinvertebrates of the Block Island Sound. Estuarine, Coastal, and Shelf Science. V15 (1): p. 1-16.

[TDI Brooks] TDI Brooks International, Inc. 2023. Vineyard Mid-Atlantic OCS-A 0544 – OECC Benthic Environmental Field Report.

Williams, AB. 1984. Shrimps, Lobsters, and Crabs of the Atlantic Coast of the Eastern United States, Maine to Florida. Smithsonian Institution Press. Washington, DC. 550 p.

Zingmark, RG. 1978. An Annotated Checklist of the Biota of the Coastal Zone of South Carolina. University of South Carolina Press. Columbia, SC. 364 p.

7 APPENDICES

Appendix A	Benthic Grab Sample Field Log
Appendix B	Video Transect Field Log
Appendix C	Infauna Results – Calculated and Raw
Appendix D	Statistical Results
Appendix E	Fauna and Flora Observed
Appendix F	Representative Still Images of Habitat Types
Appendix G	Images of Surface Sediment – Grab Samples and Video Stills
Appendix H	Grain Size Summary Tables
Appendix I	Grain Size Results
Appendix J	Video Transect CMECS Classifications
Appendix K	List of Data Submitted

Appendix A

Benthic Grab Sample Field Log

Includes field logs from the *R/V Proteus* (TDI Brooks) and the *R/V Lophius* (CR Environmental)

Sample ID	Northing (UTM 18N)	Easting (UTM 18N)	Depth (m)	Sample Type	Equip.	Collection Date	Tech-nician	Accepted (Y/N/A)	Photos (Y/N)	# of Bags	Munsell Code	Color Description	Soil Type	Structure	Cohesion	Water Content	Additional Description
544LI23-GB001A-1	4463247.3	664080.5	43.1	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB001A-1	4463247.3	664080.5	43.1	INFAUNA	BC	6/5/2023	RWW	YES	YES	2							
544LI23-GB001B-1	4463245.9	664068.9	42.6	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB001C-1	4463248.5	664075.0	42.6	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB002-1	4463809.0	662147.8	40.7	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/1	Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB002-1	4463809.0	662147.8	40.7	INFAUNA	BC	6/5/2023	RWW	YES	YES	2							
544LI23-GB003A-1	4464375.2	660231.0	38.6	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/2	Olive Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB003A-1	4464375.2	660231.0	38.6	INFAUNA	BC	6/5/2023	RWW	YES	YES	2							
544LI23-GB003B-1	4464378.0	660223.2	38.6	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/2	Olive Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB003C-1	4464374.7	660230.5	38.4	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/2	Olive Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB004-1	4464527.9	658253.1	38.1	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/4	Olive	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB004-1	4464527.9	658253.1	38.1	INFAUNA	BC	6/5/2023	RWW	YES	YES	2							
544LI23-GB005A-1	4464483.2	656275.5	37.4	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/3	Olive	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB005A-1	4464483.2	656275.5	37.4	INFAUNA	BC	6/5/2023	RWW	YES	YES	2							
544LI23-GB005B-1	4464467.9	656247.3	37.4	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/3	Olive	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB005C-1	4464497.2	656278.1	37.5	GSA	BC	6/5/2023	RWW	YES	YES	1	5Y 4/3	Olive	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB006-1	4464438.4	654256.7	37.0	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB006-1	4464438.4	654256.7	37.0	INFAUNA	BC	6/5/2023	LH	YES	YES	2							
544LI23-GB007A-1	4464837.3	652321.0	35.8	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand with Clay	Medium	Low	High	shell fragments & organic fines
544LI23-GB007A-1	4464837.3	652321.0	35.8	INFAUNA	BC	6/5/2023	LH	YES	YES	2							
544LI23-GB007B-1	4464852.1	652337.1	36.1	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand with Clay	Medium	Low	High	shell fragments & organic fines
544LI23-GB007C-1	4464836.8	652336.9	36.3	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB008-1	4465460.9	650422.6	28.6	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB008-1	4465460.9	650422.6	28.6	INFAUNA	BC	6/5/2023	LH	YES	YES	2							
544LI23-GB009-1	4465734.4	649849.8	34.6	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB009-1	4465734.4	649849.8	34.6	INFAUNA	BC	6/5/2023	LH	YES	YES	2							
544LI23-GB010A-1	4465866.1	648468.1	35.5	GSA	BC	6/3/2023	RWW	YES	YES	1	5Y 4/4	Olive	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB010A-1	4465866.1	648468.1	35.5	INFAUNA	BC	6/3/2023	RWW	YES	YES	2							
544LI23-GB010B-1	4465885.8	648456.1	35.5	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB010C-1	4465886.2	648460.2	35.5	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB011-1	4466696.2	646749.8	31.8	GSA	BC	6/5/2023	LH	NO	YES	1							
544LI23-GB011-1	4466696.2	646749.8	31.8	INFAUNA	BC	6/5/2023	LH	NO	YES	0							
544LI23-GB011-2	4466696.7	646738.5	32.2	GSA	BC	6/6/2023	LH	YES	YES	1	2.5Y 3/1	V. Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB011-2	4466696.7	646738.5	32.2	INFAUNA	BC	6/6/2023	LH	YES	YES	2							
544LI23-GB012-1	4468145.3	645359.0	33.8	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Medium	Low	Moderate	shell fragments & organic fines
544LI23-GB012-1	4468145.3	645359.0	33.8	INFAUNA	BC	6/2/2023	LH	YES	YES	2							
544LI23-GB013-1	4468352.7	645223.9	35.4	GSA	BC	6/2/2023	LH	NO	YES	1							
544LI23-GB013-1	4468352.7	645223.9	35.4	INFAUNA	BC	6/2/2023	LH	NO	YES	0							
544LI23-GB013-2	4468351.4	645228.0	32.9	GSA	BC	6/5/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB013-2	4468351.4	645228.0	32.9	INFAUNA	BC	6/5/2023	LH	YES	YES	2							
544LI23-GB014A-1	4469583.7	643971.6	33.2	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand with Clay	Medium	Low	High	shell fragments & organic fines
544LI23-GB014A-1	4469583.7	643971.6	33.2	INFAUNA	BC	6/2/2023	LH	YES	YES	2							
544LI23-GB014B-1	4469584.4	643951.1	33.3	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB014C-1	4469584.9	643990.5	33.2	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 4/2	Olive Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB015A-1	4471046.5	642587.0	32.5	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 4/2	Dk. Gy. Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB015A-1	4471046.5	642587.0	32.5	INFAUNA	BC	6/2/2023	LH	YES	YES	2							
544LI23-GB015B-1	4471022.6	642573.5	32.6	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 4/2	Dk. Gy. Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB015C-1	4471020.5	642603.4	32.2	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB016-1	4472472.7	641207.3	30.6	GSA	BC	6/2/2023	LH	NO	YES	1							
544LI23-GB016-1	4472472.7	641207.3	30.6	INFAUNA	BC	6/2/2023	LH	NO	YES	0							
544LI23-GB016-2	4472467.1	641197.1	28.7	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/1	V. Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB016-2	4472467.1	641197.1	28.7	INFAUNA	BC	6/1/2023	LH	YES	YES	2							

Sample ID	Northing (UTM 18N)	Easting (UTM 18N)	Depth (m)	Sample Type	Equip.	Collection Date	Tech-nician	Accepted (Y/N/A)	Photos (Y/N)	# of Bags	Munsell Code	Color Description	Soil Type	Structure	Cohesion	Water Content	Additional Description
544LI23-GB017A-1	4473931.4	639818.7	34.3	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB017A-1	4473931.4	639818.7	34.3	INFAUNA	BC	6/2/2023	LH	YES	YES	2							
544LI23-GB017B-1	4473908.3	639806.9	34.0	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 2.5/2	Black	Sand	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB017C-1	4473908.8	639835.0	33.6	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 2.5/1	Black	Sand with Clay	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB018-1	4475360.3	638436.5	28.7	GSA	BC	6/2/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB018-1	4475360.3	638436.5	28.7	INFAUNA	BC	6/2/2023	LH	YES	YES	2							
544LI23-GB019A-1	4476787.9	637061.0	28.3	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB019A-1	4476787.9	637061.0	28.3	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB019B-1	4476792.9	637039.4	28.7	GSA	BC	6/2/2023	LH	NO	YES	0							
544LI23-GB019B-2	4476791.5	637030.9	28.4	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB019C-1	4476817.8	637048.5	28.0	GSA	BC	6/2/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB020-1	4477265.7	636723.0	30.7	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand with Clay	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB020-1	4477265.7	636723.0	30.7	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB021-1	4478237.3	635674.4	26.5	GSA	BC	6/1/2023	LH	NO	YES	1							
544LI23-GB021-1	4478237.3	635674.4	26.5	INFAUNA	BC	6/1/2023	LH	NO	YES	0							
544LI23-GB021-2	4478242.1	635668.9	27.9	GSA	BC	6/4/2023	LH	YES	YES	1	2.5/1	Black	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB021-2	4478242.1	635668.9	27.9	INFAUNA	BC	6/4/2023	LH	YES	YES	2							
544LI23-GB022-1	4479547.2	634448.9	25.8	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB022-1	4479547.2	634448.9	25.8	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB023-1	4479673.1	634269.2	25.9	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Medium	Moderate	High	shell fragments & organic fines
544LI23-GB023-1	4479673.1	634269.2	25.9	INFAUNA	BC	6/1/2023	LH	YES	YES	2			Sand				
544LI23-GB024-1	4480811.3	633180.8	26.8	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB024-1	4480811.3	633180.8	26.8	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB025-1	4481128.0	632897.6	28.1	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 2.5/1	Black	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB025-1	4481128.0	632897.6	28.1	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB026A-1	4482576.9	631530.0	21.3	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB026A-1	4482576.9	631530.0	21.3	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB026B-1	4482584.8	631495.8	21.4	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB026C-1	4482597.9	631510.4	21.4	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB027A-1	4484005.0	630108.0	23.3	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB027A-1	4484005.0	630108.0	23.3	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB027B-1	4484009.1	630148.6	23.1	GSA	BC	6/1/2023	LH	YES	YES	1	5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB027C-1	4484014.5	630127.9	21.3	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB028A-1	4485482.6	628737.5		GSA	BC	6/1/2023	LH	YES									
544LI23-GB028A-2	4485468.5	628736.3	20.6	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB028A-2	4485482.6	628737.5	19.9	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB028B-1	4485449.4	628757.8	20.1	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB028C-1	4485455.1	628718.3	20.4	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand	Fine	Moderate	High	shell fragments & organic fines
544LI23-GB029-1	4486912.4	627390.3	20.4	GSA	BC	5/31/2023	LH	NO	YES	0							
544LI23-GB029-1	4486912.4	627390.3	20.4	INFAUNA	BC	5/31/2023	LH	NO	YES	0							
544LI23-GB029-2	4486908.2	627384.0	20.5	INFAUNA	BC	5/31/2023	LH	NO	YES	0							
544LI23-GB029-2	4486908.2	627384.0	20.5	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB029-3	4486902.2	627379.8	20.1	GSA	BC	6/4/2023	LH	NO	YES	1							
544LI23-GB029-3	4486902.2	627379.8	20.1	INFAUNA	BC	6/4/2023	LH	NO	YES	0							
544LI23-GB029-4	4486913.4	627379.5	17.8	GSA	BC	6/7/2023	LH	NO	YES	0							
544LI23-GB029-4	4486913.4	627379.5	17.8	INFAUNA	BC	6/7/2023	LH	NO	YES	0							
544LI23-GB029-5	4486908.3	627385.1	17.9	GSA	BC	6/7/2023	LH	YES	YES	1	2.5Y 3/1	V. Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB029-5	4486908.3	627385.1	17.9	INFAUNA	BC	6/7/2023	LH	YES	YES	2							
544LI23-GB030A-1	4487917.9	626480.8	20.0	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 2.5/1	Black	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB030A-2	4487913.1	626484.1	19.8	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB030B-1	4487879.7	626467.4	20.3	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines

Sample ID	Northing (UTM 18N)	Easting (UTM 18N)	Depth (m)	Sample Type	Equip.	Collection Date	Tech-nician	Accepted (Y/N/A)	Photos (Y/N)	# of Bags	Munsell Code	Color Description	Soil Type	Structure	Cohesion	Water Content	Additional Description
544LI23-GB030C-1	4487893.7	626478.9	19.5	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB031-1	4488863.8	625451.6	18.2	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB031-1	4488863.8	625451.6	18.2	INFAUNA	BC	5/31/2023	LH	NO	YES	0							
544LI23-GB031-2	4488855.5	625450.2	20.1	GSA	BC	6/4/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB031-2	4488855.5	625450.2	20.1	INFAUNA	BC	6/4/2023	LH	YES	YES	2							
544LI23-GB032-1	4489570.2	623568.5	16.9	INFAUNA	BC	5/31/2023	RWW	YES	YES	2							
544LI23-GB032-1	4489570.2	623568.5	16.9	GSA	BC	5/31/2023	RWW	YES	YES	1	2.5Y 4/4	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB033-1	4489575.3	623286.3	15.3	INFAUNA	BC	5/31/2023	RWW	NO	YES	0							
544LI23-GB033-1	4489575.3	623286.3	15.3	GSA	BC	5/31/2023	RWW	NO	YES	1							
544LI23-GB033-2	4489572.4	623275.3	16.2	GSA	BC	6/4/2023	LH	NO	YES	1							
544LI23-GB033-2	4489572.4	623275.3	16.2	INFAUNA	BC	6/4/2023	LH	NO	YES	0							
544LI23-GB033-3	4489563.2	623289.8	16.8	GSA	BC	6/7/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB033-3	4489563.2	623289.8	16.8	INFAUNA	BC	6/7/2023	LH	YES	YES	2							
544LI23-GB034A-1	4489623.4	621446.3	14.3	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB034A-1	4489623.4	621446.3	14.3	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB034B-1	4489595.1	621466.1	12.9	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB034C-1	4489592.1	621431.4	13.5	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 3/1	Very Dark Gray	Sand	Fine	Low	High	
544LI23-GB035-1	4489411.6	619608.2	15.1	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 4/1	Dark Gray	Sand	Fine	Low	Moderate	shell fragments & organic fines
544LI23-GB035-1	4489411.6	619608.2	15.1	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB036-1	4489371.3	619455.3	14.1	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 4/1	Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB036-1	4489371.3	619455.3	14.1	INFAUNA	BC	5/31/2023	LH	YES	YES	1							
544LI23-GB036-2	4489368.7	619455.2	14.0	INFAUNA	BC	5/31/2023	LH	YES	YES	1							
544LI23-GB037A-1	4489036.1	617468.9	15.6	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB037A-1	4489036.1	617468.9	15.6	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB037B-1	4489012.7	617479.1	15.1	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB037B-2	4489015.7	617475.9	15.3	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB037C-1	4489016.9	617451.1	15.8	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	Moderate	shell fragments & organic fines
544LI23-GB038A-1	4489081.1	614526.8	15.1	GSA	BC	5/30/2023	LH	YES	YES	1	2.5Y 4/1	Dark Gray	Sand with Clay	Fine	Low	Moderate	shell fragments & organic fines
544LI23-GB038A-1	4489081.1	614526.8	15.1	INFAUNA	BC	5/30/2023	LH	YES	YES	2							
544LI23-GB038B-1	4489078.6	614543.4	14.9	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB038B-2	4489099.1	614540.8	14.8	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	organic fines
544LI23-GB038C-1	4489095.9	614532.2	14.9	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB038C-2	4489100.1	614540.9	14.8	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	organic fines
544LI23-GB039-1	4489227.2	612472.9	16.7	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB039-1	4489227.2	612472.9	16.7	INFAUNA	BC	5/30/2023	LH	NO	YES	0							
544LI23-GB039-2	4489237.7	612488.6	16.8	INFAUNA	BC	5/30/2023	LH	NO	YES	0							
544LI23-GB039-3	4489226.0	612478.5	15.5	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 3/2	V .Dk.Gy.Brown	Sand with Gravel	Medium	Low	High	shell fragments & organic fines
544LI23-GB039-3	4489226.0	612478.5	15.5	INFAUNA	BC	6/4/2023	RWW	YES	YES	3							
544LI23-GB040A-1	4489234.1	610452.2	17.3	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB040A-1	4489234.1	610452.2	17.3	INFAUNA	BC	5/30/2023	LH	NO	YES	0							
544LI23-GB040A-2	4489241.3	610458.2	17.4	INFAUNA	BC	6/3/2023	RWW	YES	YES	2							
544LI23-GB040A-2	4489241.3	610458.2	17.4	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB040B-1	4489239.0	610453.3	17.4	GSA	BC	5/30/2023	LH	NO	YES	1			Sand	Fine			
544LI23-GB040B-2	4489239.6	610434.8	17.3	GSA	BC	5/30/2023	LH	NO	NO	0							
544LI23-GB040B-3	4489251.9	610448.8	17.4	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 3/1	V. Dark Gray	Sand	Fine	Low	Low	shell fragments & organic fines
544LI23-GB040C-1	4489228.1	610442.4	17.4	GSA	BC	5/30/2023	LH	YES	YES	1	2.5y 4/2	Dk. Gy. Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB041-1	4490530.7	609120.8	15.4	GSA	BC	5/30/2023	TA	NO	YES	1							
544LI23-GB041-1	4490530.7	609120.8	15.4	INFAUNA	BC	5/30/2023	TA	NO	YES	0							
544LI23-GB041-2	4490535.8	609115.4	14.9	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y	V.Dk.Gy.Brown	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB041-2	4490535.8	609115.4	14.9	INFAUNA	BC	6/4/2023	RWW	YES	YES	2							
544LI23-GB042A-1	4490957.3	607336.1	14.5	INFAUNA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB042A-1	4490957.3	607336.1	14.5	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB042A-2	4490972.1	607357.1	14.6	GSA	BC	5/30/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB042A-2	4490972.1	607357.1	14.6	INFAUNA	BC	5/30/2023	RWW	YES	YES	2							

Sample ID	Northing (UTM 18N)	Easting (UTM 18N)	Depth (m)	Sample Type	Equip.	Collection Date	Tech-nician	Accepted (Y/N/A)	Photos (Y/N)	# of Bags	Munsell Code	Color Description	Soil Type	Structure	Cohesion	Water Content	Additional Description
544LI23-GB042B-1	4490957.6	607360.8	14.7	GSA	BC	5/30/2023	TA	NO	YES	1							
544LI23-GB042B-2	4490965.6	607352.7	14.6	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB042C-1	4490965.5	607351.2	14.8	GSA	BC	5/30/2023	LH	NO	NO	1							
544LI23-GB042C-2	4490967.3	607356.8	15.0	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 4/3	Olive Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23GB043-1	4491004.5	606724.9	14.6	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB043-2	4491005.6	606728.5	15.2	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB043-2	4491005.6	606728.5	15.2	INFAUNA	BC	6/9/2023	LH	YES	YES	2							
544LI23-GB043-2	4491005.6	606728.5	15.2	INFAUNA	BC	5/30/2023	RWW	NO	YES	2							
544LI23-GB044-1	4491608.2	606786.7	13.5	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB044-1	4491608.2	606786.7	13.5	INFAUNA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB044-2	4491605.5	606793.8	13.7	GSA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB044-2	4491605.5	606793.8	13.6	INFAUNA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB044-3	4491615.6	606800.3	13.6	GSA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB044-3	4491615.6	606800.3	13.6	INFAUNA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB044-5	4491600.9	606784.2	13.5	GSA	BC	6/4/2023	RWW	NO	YES	1							
544LI23-GB044-5	4491600.9	606784.2	13.5	INFAUNA	BC	6/4/2023	RWW	NO	YES	0							
544LI23-GB044-6	4491620.5	606804.6	13.6	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 3/3	Dark Olive Brown	Sand with Clay	Fine	Moderate	Low	shell fragments & organic fines
544LI23-GB044-6	4491620.5	606804.6	13.6	INFAUNA	BC	6/4/2023	RWW	YES	YES	2							
544LI23-GB045-1	4492821.0	606836.6	9.5	GSA	BC	6/4/2023	RWW	YES	YES	1	2.5Y 5/3	Light Olive Brown	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB045-1	4492821.0	606836.6	9.5	INFAUNA	BC	6/4/2023	RWW	YES	YES	3							
544LI23-GB046-1	4491115.2	605755.7	13.9	GSA	BC	5/30/2023	RWW	YES	YES	1	2.5Y2.5/1	Black	Sand	Fine	Low	High	2 tones secnond tone 5Y4/2 olive
544LI23-GB046-1	4491111.6	605754.5	14.4	INFAUNA	BC	5/30/2023	RWW	NO	YES	2							
544LI23-GB046-2	4491105.1	605758.6	14.2	INFAUNA	BC	5/30/2023	RWW	YES	YES	2							
544LI23-GB047A-1	4491289.7	603705.5	11.9	INFAUNA	BC	5/30/2023	CRM	NO	YES	0							
544LI23-GB047A-1	4491289.7	603705.5	11.9	GSA	BC	5/30/2023	CRM	NO	YES	1							
544LI23-GB047A-2	4491284.6	603716.4	11.9	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB047A-2	4491284.6	603716.4	11.9	INFAUNA	BC	6/9/2023	LH	YES	YES	2							
544LI23-GB047B-1	4491292.4	603721.3	11.9	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB047B-2	4491287.6	603720.0	11.7	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB047B-3	4491301.9	603715.2	12.1	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB047C-1	4491296.0	603722.5	12.1	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB047C-2	4491305.6	603699.6	13.0	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB048A-1	4492376.4	603114.5	9.9	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB048A-1	4492376.4	603114.5	9.9	INFAUNA	BC	5/30/2023	RWW	NO	YES	0							
544LI23-GB048A-2	4492365.1	603142.7	10.3	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB048A-2	4492365.1	603142.7	10.3	INFAUNA	BC	6/9/2023	LH	YES	YES	2							
544LI23-GB048B-1	4492361.6	603138.7	10.0	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB048B-2	4492347.4	603125.8	10.1	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB048C-1	4492342.0	603120.1	10.0	GSA	BC	5/30/2023	RWW	NO	YES	1							
544LI23-GB048C-2	4492349.4	603127.8	10.2	GSA	BC	6/9/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB049-1	4493484.2	603258.5	5.5	GSA/INFAUNA	BC	7/12/2023	ZW	YES	YES	1							
544LI23-GB050A-1	4489588.5	612108.9	16.1	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB050A-1	4489588.5	612108.9	16.1	INFAUNA	BC	5/30/2023	LH	NO	YES	0			Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB050A-2	4489575.4	612115.1	16.4	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand with Clay	Fine	Moderate	High	organic fines
544LI23-GB050A-2	4489575.4	612115.1	16.4	INFAUNA	BC	6/3/2023	RWW	YES	YES	2							
544LI23-GB050B-1	4489564.8	612126.5	16.4	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB050B-2	4489579.7	612121.5	16.6	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines
544LI23-GB050C-1	4489598.9	612112.3	16.8	GSA	BC	5/30/2023	LH	NO	YES	1							
544LI23-GB050C-2	4489582.5	612120.7	16.7	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 3/1	V. Dark Gray	Sand	Medium	Low	High	shell fragments & organic fines

[redacted]

Sample ID	Northing (UTM 18N)	Easting (UTM 18N)	Depth (m)	Sample Type	Equip.	Collection Date	Tech-nician	Accepted (Y/N/A)	Photos (Y/N)	# of Bags	Munsell Code	Color Description	Soil Type	Structure	Cohesion	Water Content	Additional Description
544LI23-GB053A-1	4487542.2	624909.9	17.9	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 4/2	Dk. Gy. Brown	Sand	Medium	Moderate	High	shell fragments & organic fines
544LI23-GB053A-1	4487542.2	624909.9	17.9	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB053B-1	4487559.7	624906.8	17.8	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB053B-2	4487533.3	624913.3	18.0	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 5/3	Lt. Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB053C-1	4487522.5	624917.5	17.7	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB053C-2	4487532.7	624912.8	17.9	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 5/3	Lt. Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB054-1	4487016.8	622980.5	19.4	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB054-1	4487016.8	622980.5	19.4	GSA	BC	5/31/2023	LH	YES	YES	1	5Y 3/2	Dk. Olive Gray	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB055A-1	4487544.8	621036.3	20.3	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB055A-1	4487544.8	621036.3	20.3	INFAUNA	BC	5/31/2023	LH	NO	YES	0							
544LI23-GB055A-2	4487544.7	621036.3	19.8	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/2	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB055A-2	4487544.7	621036.3	19.8	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB055B-1	4487523.0	621022.1	19.9	GSA	BC	5/31/2023	LH	YES	YES	1	2.5y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB055C-1	4487513.1	621046.6	19.6	GSA	BC	5/31/2023	LH	NO	YES	1							
544LI23-GB055C-2	4487524.9	621037.9	19.4	GSA	BC	6/3/2023	RWW	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB056-1	4488056.3	619118.7	18.4	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Fine	Low	Moderate	shell fragments & organic fines
544LI23-GB056-1	4488056.3	619118.7	18.4	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB057-1	4488543.1	617265.2	15.9	GSA	BC	5/30/2023	LH	YES	YES	1	2.5y 4/4	Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB057-1	4488543.1	617265.2	15.9	INFAUNA	BC	5/30/2023	LH	YES	YES	2							
544LI23-GB058-1	4489412.3	625117.0	17.5	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/3	Dk. Olive Brown	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB058-1	4489412.3	625117.0	17.5	INFAUNA	BC	5/31/2023	LH	YES	YES	2							
544LI23-GB059A-1	4491075.2	624977.3	14.3	GSA	BC	5/31/2023	LH	YES	YES	1	2.5Y 3/1	Very Dark Gray	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB059A-1	4491075.2	624977.3	14.3	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB059B-1	4491048.0	624966.1	14.3	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/3	Dk. Olive Brown	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB059C-1	4491047.1	624993.6	14.3	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 3/3	Dk. Olive Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB060-1	4492724.0	624568.4	11.2	GSA	BC	6/1/2023	LH	YES	YES	1	2.5Y 5/2	Grayish Brown	Sand with Clay	Fine	Low	High	shell fragments & organic fines
544LI23-GB060-1	4492724.0	624568.4	11.2	INFAUNA	BC	6/1/2023	LH	YES	YES	2							
544LI23-GB0601-1	4493519.7	624345.7	10.2	GSA	BC	6/1/2023	LH	NO	YES	1							
544LI23-GB0601-1	4493519.7	624345.7	10.2	INFAUNA	BC	6/1/2023	LH	NO	YES	0							
544LI23-GB0601-2	4493527.6	624343.4	10.8	INFAUNA	BC	6/1/2023	LH	NO	YES	0							
544LI23-GB061-3	4493517.9	624345.6	10.2	GSA	BC	6/4/2023	LH	YES	YES	1	2.5Y 3/1	V.Dk.Gy.Brown	Sand	Fine	Low	High	shell fragments & organic fines
544LI23-GB061-3	4493517.9	624345.6	10.2	INFAUNA	BC	6/4/2023	LH	YES	YES	2							

Appendix B

Video Transect Field Log

Includes field logs from the *R/V Proteus* (TDI Brooks) and the *R/V Lophius* (CR Environmental)

Transect ID	Accepted (Y/N)	Available Offset (m)	Orientation	Date	Start Time (EST)	End Time (EST)	Attempts	Video File Name (.dat, except where noted)	Notes
544LI23-VT001-1	Yes	100	Any	6/5/2023	11:22	11:47	1	544LI23-VT001-1(156-105030)	Restarted due to beacon not being charged; was no recording, so no name change.
544LI23-VT002-1	Yes	15	Planned	6/5/2023	12:45	13:06	1	544LI23-VT002-1(156-121628)	
544LI23-VT003-1	No	5	Planned	6/5/2023	15:38	16:05	1	544LI23-VT003-1(156-153803)	GoPro died; quit recording early.
544LI23-VT003-2	Yes	5	Planned	6/5/2023	16:59	17:23	2	544LI23-VT003-2(156-165647)	
544LI23-VT004-1	No	100	Any	6/5/2023	17:57	18:35	1	544LI23-VT004-1(156-175616)	Rejected due to ROV off line
544LI23-VT004-2	No	100	Any	6/6/2023	13:35	13:37	2	544LI23-VT004-2(157-133319)	Too fast for ROV video
544LI23-VT004-3	No	100	Any	6/6/2023	14:12	14:22	3	544LI23-VT004-3(157-141053)	ROV beacon dropouts
544LI23-VT004-4	Yes	100	Any	6/6/2023	15:01	15:40	4	544LI23-VT004-4(157-145655)	
544LI23-VT005-1	No	100	Any	6/5/2023	20:03	20:06	1	544LI23-VT005-1(156-185111)	Restart line due to wind conditions.
544LI23-VT005-2	No	100	Any	6/5/2023	21:29	21:55	2	544LI23-VT005-2(156-211238)	Date and time wrong on ROV
544LI23-VT005-3	Yes	100	Any	6/6/2023	7:14	7:34	3	544LI23-VT005-3(157-071244)	
544LI23-VT006-1	No	100	Any	6/5/2023	22:41	22:56	1	544LI23-VT006-1(156-220819)	Date and time wrong on ROV
544LI23-VT006-2	No	100	Any	6/5/2023	23:35	23:36	2	544LI23-VT006-2(156-225846)	White board labeled wrong on time
544LI23-VT006-3	No	100	Any	6/5/2023	23:59	0:21	3	544LI23-VT006-3(156-234046)	USBL jumps
544LI23-VT006-4	Yes	100	Any	6/6/2023	8:00	8:21	4	544LI23-VT006-4(157-080010)	
544LI23-VT007-1	No	100	Any	6/3/2023	4:27	4:38	1	544LI23-VT007-1(154-035003)	Erratic height and speed
544LI23-VT007-2	No	100	Any	6/3/2023	5:04	5:11	2	544LI23-VT007-2(154-043954)	Plots not recording
544LI23-VT007-3	No	100	Any	6/3/2023	6:32	6:56	3	544LI23-VT007-3(154-062352)	Beacons jumpy due to weather and vessel movement
544LI23-VT007-4	No	100	Any	6/6/2023	1:13	1:26	4	544LI23-VT007-4(157-011334)	Baecon not grabbing correct posistion
544LI23-VT007-5	Yes	100	Any	6/6/2023	2:52	3:17	5	544LI23-VT007-5(157-020729)	
544LI23-VT008-1	Yes	20	Planned	6/3/2023	3:18	3:40	1	544LI23-VT008-1(154-023820)	
544LI23-VT009-1	Yes	100	Any	6/3/2023	1:45	2:09	1	544LI23-VT009-1(154-011514)	
544LI23-VT010-1	No	50	Planned	6/2/2023	21:28	21:32	1	544LI23-VT010-1(153-210153)	Problems keeping boat down line
544LI23-VT010-2	No	50	Planned	6/3/2023	0:35	1:01	2	544LI23-VT010-2(153-235602)	No gopro footage
544LI23-VT010-3	Yes	50	Planned	6/6/2023	9:16	9:38	3	544LI23-VT010-3(157-091230)	
544LI23-VT011-1	No	5	Planned	6/2/2023	20:02	20:29	1	544LI23-VT011-1(153-193516)	EOL call was called too early, 20:29
544LI23-VT011-2	Yes	5	Planned	6/6/2023	4:33	5:02	2	544LI23-VT011-2(157-040702)	
544LI23-VT012-1	Yes	100	Any	6/2/2023	18:56	19:16	1	544LI23-VT012-1(153-184344)	
544LI23-VT013-1	Yes	100	Planned	6/2/2023	9:23	9:40	1	544LI23-VT013-1(153-091411)	
544LI23-VT014-1	Yes	25	Planned	6/2/2023	10:14	10:35	1	544LI23-VT014-1(153-095844)	
544LI23-VT015-1	Yes	5	Planned	6/2/2023	11:23	11:49	1	544LI23-VT015-1(153-104344)	
544LI23-VT016-1	Yes	25	Planned	6/2/2023	12:51	13:15	1	544LI23-VT016-1(153-115324)	
544LI23-VT017-1	No	100	Any	6/2/2023	13:58	14:29	1	544LI23-VT017-1(153-135141)	trouble keeping boat down line; ROV stuck on hull.
544LI23-VT017-2	Yes	100	Any	6/2/2023	15:09	15:30	2	544LI23-VT017-2(153-150813)	
544LI23-VT018-1	No	50	Planned	6/2/2023	16:01	16:09	1	544LI23-VT018-1(153-155344)	ROV did not record one video.
544LI23-VT018-2	Yes	50	Planned	6/2/2023	17:16	17:36	2	544LI23-VT018-2(153-170435)	
544LI23-VT019-1	Yes	10	Planned	6/6/2023	11:18	11:40	1	544LI23-VT019-1(157-111244)	
544LI23-VT020-1	Yes	5	Planned	6/6/2023	18:18	18:42	1	544LI23-VT020-1(157-175802)	
544LI23-VT021-1	Yes	50	Planned	6/6/2023	19:35	19:59	1	544LI23-VT021-1(157-191917)	
544LI23-VT022-1	Yes	20	Planned	6/6/2023	20:42	21:20	1	544LI23-VT022-1(157-203407)	
544LI23-VT023-1	Yes	50	Planned	6/1/2023	15:30	15:57	1	544LI23-VT023-1(152-151628)	
544LI23-VT024-1	Yes	5	Planned	6/1/2023	16:39	17:03	1	544LI23-VT024-1(152-162257)	
544LI23-VT025-1	Yes	50	Any	6/1/2023	13:05	13:30	1	544LI23-VT025-1(152-130320)	
544LI23-VT026-1	No	5	Planned	6/1/2023	13:47	14:13	1	544LI23-VT026-1(152-133420)	Small gap in data
544LI23-VT026-2	Yes	5	Planned	6/9/2023	8:34	9:02	2	544LI23-VT026-2(160-082653)	
544LI23-VT027-1	Yes	100	Any	6/1/2023	9:54	10:22	1	544LI23-VT027-1(152-095343)	Small gap in data
544LI23-VT028-1	Yes	5	Planned	6/1/2023	10:47	11:14	1	544LI23-VT028-1(152-103453)	
544LI23-VT029-1	Yes	50	Planned	6/1/2023	8:25	9:06	1	544LI23-VT029-1(152-072738)	
544LI23-VT030-1	Yes	100	Planned	6/1/2023	7:00	7:22	1	544LI23-VT030-1(152-065554)	
544LI23-VT031-1	No	100	Any	6/6/2023	22:58	23:26	1	544LI23-VT031-1(157-223345)	GoPro stopped recording too early.
544LI23-VT031-2	No	100	Any	6/7/2023	0:47	1:15	2	544LI23-VT031-2(158-002828)	Beacon disoriented.
544LI23-VT031-3	Yes	100	Any	6/7/2023	2:12	2:37	3	544LI23-VT031-3(158-015249)	

Transect ID	Accepted (Y/N)	Available Offset (m)	Orientation	Date	Start Time (EST)	End Time (EST)	Attempts	Video File Name (.dat, except where noted)	Notes
544LI23-VT032-1	No	20	Planned	6/7/2023	3:27	3:52	1	544LI23-VT032-1(158-035305)	Beacon disoriented.
544LI23-VT032-2	Yes	20	Planned	6/7/2023	11:04	11:30	2	544LI23-VT032-2(158-105910)	
544LI23-VT033-1	Yes	5	Planned	6/7/2023	12:08	12:30	1	544LI23-VT033-1(158-120607)	
544LI23-VT034-1	Yes	50	Planned	6/7/2023	13:00	13:34	1	544LI23-VT034-1(158-124921)	
544LI23-VT035-1	Yes	10	Planned	6/8/2023	4:45	5:10	1	544LI23-VT035-1(159-042928)	
544LI23-VT036-1	No	5	Planned	6/8/2023	5:39	6:09	1	544LI23-VT036-1(159-053159)	ROV went too far off line.
544LI23-VT036-2	Yes	5	Planned	6/8/2023	8:04	8:44	2	544LI23-VT036-2(159-075605)	
544LI23-VT037-1	Yes	5	Planned	6/8/2023	7:03	7:28	1	544LI23-VT037-1(159-064807)	
544LI23-VT038-1	Yes	100	Any	6/8/2023	9:21	9:44	1	544LI23-VT038-1(159-092139)	
544LI23-VT039-1	Yes	50	Planned	6/8/2023	10:22	10:44	1	544LI23-VT039-1(159-100825)	
544LI23-VT040-1	No	100	Planned	6/4/2023	17:05	17:08	1	544LI23-VT040-1(155-164656)	Aborted line due to missing start of line and too close to the stern.
544LI23-VT040-2	No	100	Planned	6/4/2023	17:53	18:07	2	544LI23-VT040-2(155-175126)	Aborted line due to weather conditions
544LI23-VT040-3	Yes	100	Planned	6/8/2023	2:05	2:31	3	544LI23-VT040-3(159-015356)	
544LI23-VT041-1	Yes	100	Planned	6/4/2023	14:06	14:32	1	544LI23-VT041-1(155-135956)	
544LI23-VT042-1	Yes	100	Planned	6/8/2023	11:44	12:08	1	544LI23-VT042-1(159-114157)	
544LI23-VT043-1	Yes	5	Planned	6/8/2023	15:49	16:27	1	544LI23-VT043-1(159-153954)	
544LI23-VT044-1	Yes	100	Planned	6/8/2023	17:17	17:46	1	544LI23-VT044-1(159-171360)	
544LI23-VT045-1	Yes	50	Planned	6/8/2023	18:48	19:17	1	544LI23-VT045-1(159-184107)	
544LI23-VT046-1	No	50	Planned	6/8/2023	20:07	20:12	1	544LI23-VT046-1(159-200519)	Beacon disoriented.
544LI23-VT046-2	Yes	50	Planned	6/8/2023	20:32	20:59	2	544LI23-VT046-2(159-203051)	
544LI23-VT047-1	Yes	5	Planned	6/8/2023	21:39	22:05	1	544LI23-VT047-1(159-213510)	
544LI23-VT048-1	Yes	5	Planned	7/11/2023	10:32	10:49	1	544LI23-VT048-1.mp4	Too shallow for Proteus, performed from Lophius. Over grab location for GB045.
544LI23-VT049-1	Yes	100	Planned	6/8/2023	22:43	23:10	1	544LI23-VT049-1(159-223856)	
544LI23-VT050-1	No	50	Planned	6/9/2023	0:01	0:36	1	544LI23-VT050-1(159-234454)	
544LI23-VT050-2	No	50	Planned	6/9/2023	1:08	1:11	2	544LI23-VT050-1(160-003607)	
544LI23-VT050-3	Yes	50	Planned	6/9/2023	5:16	5:49	3	544LI23-VT050-3(160-043557)	
544LI23-VT051-1	Yes	5	Planned	7/11/2023	9:40	10:04	1	544LI23-VT051-1.mp4	Too shallow for Proteus, performed from Lophius. Over grab location for GB049.
[redacted]									
544LI23-VT055-1	Yes	100	Any	6/8/2023	3:23	3:48	1	544LI23-VT055-1(159-031002)	
544LI23-VT056-1	Yes	20	Planned	6/7/2023	19:56	20:25	1	544LI23-VT056-1(158-194708)	
544LI23-VT057-1	Yes	5	Planned	6/7/2023	21:00	21:26	1	544LI23-VT057-1(158-203708)	
544LI23-VT058-1	Yes	100	Any	6/7/2023	21:54	22:23	1	544LI23-VT058-1(158-215407)	
544LI23-VT059-1	Yes	10	Planned	6/7/2023	22:59	23:21	1	544LI23-VT059-1(158-225629)	
544LI23-VT060-1	Yes	50	Any	6/8/2023	0:52	1:20	1	544LI23-VT060-1(159-003909)	
544LI23-VT061-1	Yes	50	Planned	6/4/2023	15:11	15:31	1	544LI23-VT061-1(155-150711)	
544LI23-VT062-1	Yes	50	Planned	6/7/2023	16:38	17:01	1	544LI23-VT062-1(158-163438)	
544LI23-VT063-1	No	5	Planned	7/11/2023	12:16	12:44	1	544LI23-VT063-1.mp4	Too shallow for Proteus, performed from Lophius. Rejected due to turbidity.
544LI23-VT063-2	No	5	Planned	7/11/2023	12:44	12:46	2	544LI23-VT063-2.mp4	Aborted due to turbidity
544LI23-VT063-3	No	5	Planned	7/11/2023	12:46	13:09	3	544LI23-VT063-3.mp4	GoPro did not record full length. Moved farther from shore for better visibility.
544LI23-VT063-4	Yes	5	Planned	7/11/2023	13:59	14:15	4	544LI23-VT063-4.mp4	
544LI23-VT064-1	Yes	50	Planned	6/7/2023	17:33	18:00	1	544LI23-VT031-3(158-015249)	
[redacted]									
Calibration Site 2	N/A		Any	6/4/2023	12:34	12:38	1	Calibration Site 2(151-121013)	
Calibration Site 2-2	N/A		Any	6/4/2023	14:05	14:18	2	Calibration Line 2-2(151-134914)	
Calibration Site 3	N/A		Any	6/4/2023	16:11	16:28	1	Calibration Line 3(151-155815)	

Appendix C

Infauna Results – Calculated and Raw

Infauna identified and enumerated by Cove Corporation

Organism densities calculated by Maxon Consulting

Empty cells indicate that no individuals were observed

Infauna Results - Calculated

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Annelida												
Clitellata / /	Oligochaeta spp.	80			40		40	120	800	1,920	320	160
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris											
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca		40			40	120	40	40	160		
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)											
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta								40			
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes											
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum	80	40		40	40	40			40	80	40
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes											
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis											
Polychaeta /Eunicida /Oenonidae	Drilonereis longa											
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus											
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea											
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata											
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata			40								40
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)						40					
Polychaeta /incertae sedis /Oweniidae	Owenia artifex											
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae		520	520	1,800	40	160	1,240	1,280	80	1,040	40
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata											
Polychaeta /Phyllodocida /Glyceridae	Glycera americana											
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata				40			40				
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta											
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.		40							80	40	
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex				40				120			
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis	40		160	1,000				120			
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus											
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans											
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata	120	80	40				80		40	40	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera				40							
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta	160	80	80	240	160	280	400	160	280	240	120
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata											
Polychaeta /Phyllodocida /Nereididae	Nereis grayi											
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea											
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata								40			
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda											
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa						40			40	40	
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae											
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae											
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata				40							
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota											
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola				160	80						
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa											
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola		40					40	40		40	
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)											
Polychaeta /Phyllodocida /Syllidae	Brania sp.											
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis											
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus											
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata											
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes	40			160	200	200	80	120	1,000	240	40
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri											
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.											
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus						40		40			
Polychaeta /Phyllodocida /Syllidae	Syllis alternata											
Polychaeta /Sabellida /Sabellidae	Chone magna											
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus											
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)		40				40					

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A											
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta											
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.											
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus											
Polychaeta /Scolecida /Maldanidae	Clymenella torquata											
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	40			80	40		40				
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus											
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata											
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.											
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri											
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.											
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae	80	40	40			200	200		80	80	
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii											
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi	40	80			40	200	80		40		160
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A	80			40			40			40	
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis											
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana											
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica			40	40				40			
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum	240	80	40			40	80		160		
Polychaeta /Scolecida /Travisiidae	Travisia carnea										40	
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea											
Polychaeta /Spionida /Spionidae	Carazziella hobsonae											
Polychaeta /Spionida /Spionidae	Dipolydora socialis											
Polychaeta /Spionida /Spionidae	Dispio uncinata											
Polychaeta /Spionida /Spionidae	Polydora cornuta											
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Polychaeta /Spionida /Spionidae	Spio setosa							40				
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)		40			40	40			120		
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)	40	40	80	40	200	200	120	80	160	120	
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata									40	80	
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A	40	40		80	80	40	40		80		
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B											
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica	80	120	40			40		80	80	120	40
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis											
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae		40				240	40	320	80	40	40
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni											
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus											
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)	40	40		80	40			120	80		
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.	200	80	80	80	40	40	40	40		40	
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa											
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis											
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis											
Polychaeta /Terebellida /Terebellidae	Lysilla alba											
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius											
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus							40		200	40	
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis											
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus											
Sipuncula /Golfingiidae	Phascolopsis gouldii											
Sipuncula	Sipuncula sp.											
Arthropoda												
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum			40	40							
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli											
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata	40	120		840	640	1,480	280	360	1,480	160	
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis											
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum											
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum											
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis											
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae											
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi					40				40		40
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis											
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri				40							
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi											
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi											
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum											
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex											
Malacostraca /Amphipoda /Photidae	Photis pollex											
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli		40									
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus											
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni	40		40	160	80	40	80	80	40		40
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus					40						
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua				200	40						1,080
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata			120	160	320	200	160	80	560	80	
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus											
Malacostraca /Cumacea /Diastylidae	Diastylis polita											
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta				40							
Malacostraca /Decapoda /Callianassidae	Biffarius biformis											
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa											
Malacostraca /Decapoda /Paguridae	Pagurus annulipes											
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae											
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana											
Malacostraca /Isopoda /Ancinidae	Ancinus depressus											
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis											
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca											
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii											
Malacostraca /Isopoda /Cirolanidae	Politolana polita						80					
Malacostraca /Isopoda /Idoteidae	Edotia triloba	40										40
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus			120	120				80	40		280
Chordata												
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis			40		40	40			40		
Ascidiacea / /	Ascidiacea sp.											
Cnidaria												
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans											
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta											
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana											
Echinodermata												
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma			40								160
Hemichordata												
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii											
Mollusca												
Bivalvia /Adapedonta /Pharidae	Ensis leei									80		
Bivalvia /Adapedonta /Pharidae	Siliqua costata											
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa											
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.							40		160	80	
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana											
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi											
Bivalvia /Arcida /Arcidae	Anadara transversa											
Bivalvia /Arcida /Arcidae	Arcidae sp.											
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum									40		
Bivalvia /Cardiida /Tellinidae	Ameritella spp.											
Bivalvia /Cardiida /Tellinidae	Ameritella tenella											
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor			40	80	40		40	40	40		
Bivalvia /Carditida /Astartidae	Astarte castanea	40			40		40					
Bivalvia /Carditida /Astartidae	Astarte undata			40							40	
Bivalvia /Carditida /Carditidae	Cyclocardia borealis	80								40	80	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata											
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata											
Bivalvia /Myida /Corbulidae	Caryocorbula contracta											
Bivalvia /Mytilida /Mytilidae	Musculus sp.											
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.				40				40			
Bivalvia /Mytilida /Mytilidae	Mytilus edulis											
Bivalvia /Mytilida /Mytilidae	Solamen glandula											
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.											
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.											
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis									40		
Bivalvia /Nuculida /Nuculidae	Nucula proxima									40		40
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus											
Bivalvia /Venerida /Arcticidae	Arctica islandica			80	120	80	40	160		40		
Bivalvia /Venerida /Mactridae	Spisula solidissima					40				80		
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum	40						40		40		
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis											
Bivalvia	Bivalvia sp.											
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana							40				
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.											
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.											
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata											
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla									40		
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.											
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata							40				
Gastropoda /Nudibranchia	Nudibranchia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda											
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta											
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.											
Gastropoda	Gastropoda sp.											
Nemertea												
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus				40							
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni											
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis						40		240	80	40	40
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea			80		160		160		40	160	
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea											
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.						40	40	40	40		
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens		40	40		80					40	
Other Taxa												
Phoronida / /Phoronidae	Phoronis sp.											
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus											
Xenacoelomorpha	Xenacoelomorpha sp. B						40		80	40	40	40
Total Abundance (organisms m^{-2})		1,680	1,680	1,840	5,960	2,640	4,080	3,880	4,520	7,800	3,400	2,440
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		22	21	22	31	25	29	30	26	41	27	18
Shannon Diversity (H)		2.88	2.62	2.69	2.52	2.75	2.58	2.71	2.56	2.72	2.69	2.10
Evenness Index (J)		0.93	0.86	0.87	0.73	0.85	0.77	0.80	0.79	0.73	0.82	0.73
Species Richness (Margalef d)		5.89	5.62	5.75	6.20	5.97	6.27	6.56	5.50	7.78	6.08	4.38
Swartz Species Dominance (# species in 75% abundance)		12	11	11	8	10	9	10	8	9	10	5

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Annelida												
Clitellata / /	Oligochaeta spp.	280	40	120	1,480	1,560	200	400	1,560	960	520	240
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris											
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca	40	160				40				40	80
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)						160				40	
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta	40		40								
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes						120					
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum	40	960				160		40		40	80
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes						480			40		
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis											
Polychaeta /Eunicida /Oenonidae	Drilonereis longa										40	
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus										40	
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea											
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata									80		
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata					40						
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)							40	40			
Polychaeta /incertae sedis /Oweniidae	Owenia artifex											
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae	1,240	2,920	80	200	3,120	6,600	5,920	2,760	1,360	920	560
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata						120					
Polychaeta /Phyllodocida /Glyceridae	Glycera americana											
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata											
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta											
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.						80			40	80	
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex											
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis	80	80	40								40
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus											
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans											
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata		160				120			120	40	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera											
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta	240	40	40		320	40		80	320	160	80
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata											
Polychaeta /Phyllodocida /Nereididae	Nereis grayi		40									
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea		160				40					
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata							200				
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda									40		
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa	40			40		40		80			
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae	40										
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae											
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata		240			40	240				40	
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota											
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola	120			80	80		120	80			
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa											
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola	80	120							40		
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)	160							40			
Polychaeta /Phyllodocida /Syllidae	Brania sp.					80						
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis											
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus							40				
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata											
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes	40		40	40			280	200			
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri					160		80				
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.			40		40						
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus				80							
Polychaeta /Phyllodocida /Syllidae	Syllis alternata						40					
Polychaeta /Sabellida /Sabellidae	Chone magna											
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus									80		
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)		200								40	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A				40							
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta						80				40	
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.											
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus					40		40		80		
Polychaeta /Scolecida /Maldanidae	Clymenella torquata											
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	80	40	40			80			40	40	
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus						40					
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata		400									
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus											40
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.									40		
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri											
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.											
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae		40		40	40	120		40	80	400	40
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii											
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi	40			80	120			80	120		40
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A						120				40	
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis						40				80	
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana											
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica							40				
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum		2,040				80					
Polychaeta /Scolecida /Travisiidae	Travisia carnea											
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea									40	40	
Polychaeta /Spionida /Spionidae	Carazziella hobsonae											40
Polychaeta /Spionida /Spionidae	Dipolydora socialis		66,120									
Polychaeta /Spionida /Spionidae	Dispio uncinata											
Polychaeta /Spionida /Spionidae	Polydora cornuta											
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Polychaeta /Spionida /Spionidae	Spio setosa	80	400			40	25,800		160	120	3,360	40
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)	80			40	120	280				160	
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)	560	40			80	40	40	40		120	40
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata		40				800				600	
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A		120	40		80		40		40		
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B											
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica	80			120	200			80	320		
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis											
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae	520		40	40		240		40	120		
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni						160				80	
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus		40				80			40	480	
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)	120	120		40		40	80		40	680	
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.	160	280	40	120	480	680	200	640		800	40
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa										80	
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis						40					
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis		400				80					
Polychaeta /Terebellida /Terebellidae	Lysilla alba											
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius											
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus	120	1,600				160				40	40
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis		40									
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus											
Sipuncula /Golfingiidae	Phascolopsis gouldii											
Sipuncula	Sipuncula sp.											40
Arthropoda												
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum		40			40	3,680			240	5,240	
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli											
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata	40					40				40	
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis								40			
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis						2,680				1,520	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum						40					
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum											
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus						440				40	
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis											
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae										40	
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi	80			40	80		80	40			40
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis											
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri					40						
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi											40
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi											
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum											40
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex							40				
Malacostraca /Amphipoda /Photidae	Photis pollex						40					
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli		160				280					
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus											
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni	200		40	40	320		80	320	80		160
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus					40			80			
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua	2,640		80	400	3,080		80	280			80
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata	680	520		40	320	3,280	320	680	120	3,960	
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus				40	40				40		40
Malacostraca /Cumacea /Diastylidae	Diastylis polita											
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta		80									40
Malacostraca /Decapoda /Callianassidae	Biffarius biformis											
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa											
Malacostraca /Decapoda /Paguridae	Pagurus annulipes						80				160	
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae											
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana											80
Malacostraca /Isopoda /Ancinidae	Ancinus depressus											
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis						120				40	
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca											
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii											
Malacostraca /Isopoda /Cirolanidae	Politolana polita											
Malacostraca /Isopoda /Idoteidae	Edotia triloba						120					
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus	920	40	80	40	880	40	600	240			160
Chordata												
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis	40				40	40		120			
Ascidiacea / /	Ascidiacea sp.											40
Cnidaria												
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans											
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta										40	
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana											
Echinodermata												
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma		40		40	200	40	320	40	40	40	80
Hemichordata												
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii										40	
Mollusca												
Bivalvia /Adapedonta /Pharidae	Ensis leei	80				80		80				200
Bivalvia /Adapedonta /Pharidae	Siliqua costata											
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa											
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.	200	120			160	160	40	360	40	40	40
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana	40							80			
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi		40									
Bivalvia /Arcida /Arcidae	Anadara transversa											
Bivalvia /Arcida /Arcidae	Arcidae sp.											
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum		200					320			200	
Bivalvia /Cardiida /Tellinidae	Ameritella spp.	80					160	40	200	80	80	
Bivalvia /Cardiida /Tellinidae	Ameritella tenella							40				
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor		400	80	40	120						120
Bivalvia /Carditida /Astartidae	Astarte castanea	80				320			40			
Bivalvia /Carditida /Astartidae	Astarte undata											
Bivalvia /Carditida /Carditidae	Cyclocardia borealis											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata											
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata											40
Bivalvia /Myida /Corbulidae	Caryocorbula contracta											40
Bivalvia /Mytilida /Mytilidae	Musculus sp.						160					
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.						40					
Bivalvia /Mytilida /Mytilidae	Mytilus edulis										40	
Bivalvia /Mytilida /Mytilidae	Solamen glandula											
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.									120	40	
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.											
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis											
Bivalvia /Nuculida /Nuculidae	Nucula proxima		3,720				880		160	200	120	40
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus						160				80	
Bivalvia /Venerida /Arcticidae	Arctica islandica	120	40			40						
Bivalvia /Venerida /Mactridae	Spisula solidissima	160	40	40	40	80		160	640		40	280
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum		400				280			120	520	
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis		200				40				40	
Bivalvia	Bivalvia sp.	80				40	200			40	120	
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.											
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.							40				
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata											
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla											
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.											
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata			40		40	160				40	
Gastropoda /Nudibranchia	Nudibranchia sp.			40								
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda											
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.										80	
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta	80					160				40	40
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.						40					
Gastropoda	Gastropoda sp.											
Nemertea												
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus						80					

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB012-1	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus		120									
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni	80			40	40		40				
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis	200		80		200		120	40			40
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea	80	2,160	40	80	200			240		40	
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea		40									
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.	80					280				40	
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens			40	40	40			40	240	40	80
Other Taxa												
Phoronida / /Phoronidae	Phoronis sp.										40	
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus											
Xenacoelomorpha	Xenacoelomorpha sp. B	40				160					40	
Total Abundance (organisms m^{-2})		10,280	85,200	1,120	3,320	13,240	51,160	9,920	9,600	5,520	21,880	3,160
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		44	45	21	26	42	62	30	34	34	58	36
Shannon Diversity (H)		2.93	1.16	2.97	2.29	2.63	2.08	1.87	2.63	2.82	2.67	3.19
Evenness Index (J)		0.78	0.30	0.98	0.70	0.70	0.50	0.55	0.75	0.80	0.66	0.89
Species Richness (Margalef d)		7.93	5.87	6.30	5.88	7.24	8.67	5.44	6.20	6.90	9.20	8.24
Swartz Species Dominance (# species in 75% abundance)		12	1	15	8	8	4	5	8	12	7	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Annelida												
Clitellata / /	Oligochaeta spp.	640	1,240	480	120	440	120	160	5,320			4,000
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris								40			
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca		80						200		80	
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)	80		40								
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta	40										
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes			80								
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum	160						40				
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes	40		880								
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis								600			
Polychaeta /Eunicida /Oenonidae	Drilonereis longa			40						80		
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus			40								
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea											
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata		120				80	80		80	80	
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata				120		40	80		40		
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)				40			80				
Polychaeta /incertae sedis /Oweniidae	Owenia artifex											
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae	760	3,960	2,800	1,040	120	680		2,560	40	160	80
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata											
Polychaeta /Phyllodocida /Glyceridae	Glycera americana											
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata											
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta	40										
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.	40		40								40
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex											
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis	480							280			
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus											
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans											
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata							40				

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera							40				
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta	240	320	40	120	120	240	200		120		
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata								40			
Polychaeta /Phyllodocida /Nereididae	Nereis grayi											
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea								120			
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata											
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda											
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa											
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae			40					40			
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae					80		80	40			120
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata		80						160			
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota								200			
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola				160	80						
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa											
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola		80							40		
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)											
Polychaeta /Phyllodocida /Syllidae	Brania sp.											
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis											840
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus											
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata								320			400
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes	120	40								40	
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri											
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.											
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus											
Polychaeta /Phyllodocida /Syllidae	Syllis alternata											
Polychaeta /Sabellida /Sabellidae	Chone magna			40								
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus						40			360		
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)										40	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A		40									
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta			160								
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.						40					
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus			40				40				
Polychaeta /Scolecida /Maldanidae	Clymenella torquata							40				
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	40	120	560	40		40		240			40
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus	40										
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata			40								
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.											40
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri									40		
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.											
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae	80		120	80		40		80			80
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii											
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi		120		80	40	200	120		40		
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A											
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis											
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana	160							120			120
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica											
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum											
Polychaeta /Scolecida /Travisiidae	Travisia carnea						40	200			120	
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea									480		
Polychaeta /Spionida /Spionidae	Carazziella hobsonae			80								
Polychaeta /Spionida /Spionidae	Dipolydora socialis											
Polychaeta /Spionida /Spionidae	Dispio uncinata											
Polychaeta /Spionida /Spionidae	Polydora cornuta											
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Polychaeta /Spionida /Spionidae	Spio setosa	160		760			40		14,240			160
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)	80	40	600	80	120	320	360		160	240	
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)	40	280	80		40	40					
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata	40	80									
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A	160		160	40	40		40				
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B	80							240			200
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica	120	200		120			40		120	80	
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis											160
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae	80		2,280								
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni		40	880								
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus			680					40			
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)				40	80	320	40	40	40	80	
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.	40		2,320	280	280	240	120	160	160	40	
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa											
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis			40								
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis			40								
Polychaeta /Terebellida /Terebellidae	Lysilla alba											
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius	120				40		40	1,920			1,760
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus			40					40			
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis											
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus			40								
Sipuncula /Golfingiidae	Phascolopsis gouldii											
Sipuncula	Sipuncula sp.											
Arthropoda												
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum		40	40								
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli									320		
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata	80										
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis				40							
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis		40	160								

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum											
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum						40					
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis				360		240					
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae							1,680		280	200	
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi	120			560	120	160					
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis											
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri											
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi											
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi											
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum					40						
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex											
Malacostraca /Amphipoda /Photidae	Photis pollex											
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli		40	40					40			
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus											
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni	200	600		560	120	120	320		160	200	
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus											
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua	520	40	40	26,720	2,600	40,640	2,320			86,600	80
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata	40	80	320			80	40	120	40		40
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus		80		40		40					
Malacostraca /Cumacea /Diastylidae	Diastylis polita				40		80					40
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta			80								
Malacostraca /Decapoda /Callianassidae	Biffarius biformis											
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa											
Malacostraca /Decapoda /Paguridae	Pagurus annulipes		80									
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus									40		

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae				40						40	
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana											
Malacostraca /Isopoda /Ancinidae	Ancinus depressus											
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis					40	80				40	
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca											
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii							80				
Malacostraca /Isopoda /Cirolanidae	Politolana polita											
Malacostraca /Isopoda /Idoteidae	Edotia triloba				80			40				40
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus	400	240		600		640	40				
Chordata												
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis				80	120	80		40			
Ascidiacea / /	Ascidiacea sp.					80		40	1,200		800	760
Cnidaria												
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans											
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta											
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana											
Echinodermata												
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma		80		360	160	360			80	80	
Hemichordata												
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii	80				40						40
Mollusca												
Bivalvia /Adapedonta /Pharidae	Ensis leei	40	280		80	40	120	120	40		80	
Bivalvia /Adapedonta /Pharidae	Siliqua costata											
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa	120		40					40			
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.	40	40		120	40						
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana	40										
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi											
Bivalvia /Arcida /Arcidae	Anadara transversa											
Bivalvia /Arcida /Arcidae	Arcidae sp.											
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum			40								
Bivalvia /Cardiida /Tellinidae	Ameritella spp.			40								
Bivalvia /Cardiida /Tellinidae	Ameritella tenella											
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor		400		80	120	80	40	240	80	80	
Bivalvia /Carditida /Astartidae	Astarte castanea											
Bivalvia /Carditida /Astartidae	Astarte undata											
Bivalvia /Carditida /Carditidae	Cyclocardia borealis											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata											
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata							40	80			
Bivalvia /Myida /Corbulidae	Caryocorbula contracta											
Bivalvia /Mytilida /Mytilidae	Musculus sp.											
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.											
Bivalvia /Mytilida /Mytilidae	Mytilus edulis			80					40			40
Bivalvia /Mytilida /Mytilidae	Solamen glandula				40							
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.			120					40			
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.											
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis											
Bivalvia /Nuculida /Nuculidae	Nucula proxima	40	120	480							40	
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus	40										
Bivalvia /Venerida /Arcticidae	Arctica islandica											
Bivalvia /Venerida /Mactridae	Spisula solidissima	440	480		320	80		120	40	40		40
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum		120	1,840			40					
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis											
Bivalvia	Bivalvia sp.	80	80	120								
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata								80			
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.								40			120
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.											
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata							40				
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla											
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.		40									
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata										40	
Gastropoda /Nudibranchia	Nudibranchia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda											200
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.			240								
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta		80	80								
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.											
Gastropoda	Gastropoda sp.											
Nemertea												
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB023-1	544LI23-GB024-1	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus											
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni											
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis	120				40			120		40	40
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea	200				40	40			40		
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea											
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.			40	40							
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens		200					120				
Other Taxa												
Phoronida / /Phoronidae	Phoronis sp.			40						40		
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus											
Xenacoelomorpha	Xenacoelomorpha sp. B								40			
Total Abundance (organisms m^{-2})		6,480	10,000	17,280	32,520	5,160	45,360	6,880	29,240	2,920	89,200	9,480
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		42	36	47	32	27	32	33	38	24	22	25
Shannon Diversity (H)		3.28	2.50	2.88	0.99	2.17	0.65	2.39	1.88	2.80	0.21	2.05
Evenness Index (J)		0.88	0.70	0.75	0.29	0.66	0.19	0.68	0.52	0.88	0.07	0.64
Species Richness (Margalef d)		8.26	6.52	7.75	4.78	5.56	4.55	6.41	5.76	5.59	2.85	4.57
Swartz Species Dominance (# species in 75% abundance)		16	8	9	1	8	1	7	3	10	1	

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Annelida												
Clitellata / /	Oligochaeta spp.	440	3,240	280	160	120	6,040	80		80	760	360
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris											
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca				40							
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)			40								
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta											
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes											
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum											
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes											
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis				40		320				280	
Polychaeta /Eunicida /Oenonidae	Drilonereis longa											120
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus											
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea											
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata					40		40				160
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata				80			160				
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)				40							
Polychaeta /incertae sedis /Oweniidae	Owenia artifex											
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae	200	440	40			6,080		200	80	9,520	
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata											
Polychaeta /Phyllodocida /Glyceridae	Glycera americana						40		40			
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata		40				40		40		40	40
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta											
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.										40	
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex		40									
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis						40				40	
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus										40	
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans											40
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera											40
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta			40	200	240		80	240	80		240
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata											
Polychaeta /Phyllodocida /Nereididae	Nereis grayi											
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea						40				80	
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata											
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda											
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa											40
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae											
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae				40		200				120	40
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata		40				240		160		40	
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota											
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola			40				40				
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa								40			
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola					40						
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)											
Polychaeta /Phyllodocida /Syllidae	Brania sp.											
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis		2,640	1,160	80		560					
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus											
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata	40	320				520					
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes	280		400								
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri			40								
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.											
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus											
Polychaeta /Phyllodocida /Syllidae	Syllis alternata											
Polychaeta /Sabellida /Sabellidae	Chone magna											
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus					40						1,560
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)						40					

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A											
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta											
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.											
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus								40	40	40	
Polychaeta /Scolecida /Maldanidae	Clymenella torquata								40			
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.						160		40		80	
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus											
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata											
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata											
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus					80		40				40
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.						240					
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri								40			
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.											
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae						120			40		240
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii			160								
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi				80					80		
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A											
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis											
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana											
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica			40								
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum											
Polychaeta /Scolecida /Travisiidae	Travisia carnea			40	200	160		200				
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea								40			40
Polychaeta /Spionida /Spionidae	Carazziella hobsonae											
Polychaeta /Spionida /Spionidae	Dipolydora socialis						200					
Polychaeta /Spionida /Spionidae	Dispio uncinata											
Polychaeta /Spionida /Spionidae	Polydora cornuta						120		200		600	40
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Polychaeta /Spionida /Spionidae	Spio setosa	40			40		840		1,960		760	40
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)				120	40	80	40	960		40	440
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)					40	120					
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata								40		40	360
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A											
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B		40	40	40		320				80	
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica	40		160	40				40	160		80
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis									40		
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae											
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni											
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus											
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)			40							200	
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.	40	120		200	120	40	80	120	400	520	40
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa											
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis											
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis											
Polychaeta /Terebellida /Terebellidae	Lysilla alba						80					40
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius		520		40		200					
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus											
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis											
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus											
Sipuncula /Golfingiidae	Phascolopsis gouldii						120					
Sipuncula	Sipuncula sp.											
Arthropoda												
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum											
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli										40	
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata											
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis											
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum								400		40	
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum											
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi											
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis	280		200	240			80		40		
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae				560	2,560		840				
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi			160		40				960		
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis											
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri											
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi										40	
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi											40
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum					40		40		120		40
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex											
Malacostraca /Amphipoda /Photidae	Photis pollex											
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli											
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus											
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni	40		80	40					320		
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus											
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua	109,040	400	71,760	48,080	1,480		1,800		3,560		
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata		80		40	40	360			40	160	160
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus											
Malacostraca /Cumacea /Diastylidae	Diastylis polita											
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta								40			
Malacostraca /Decapoda /Callianassidae	Biffarius biformis											
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa								40			
Malacostraca /Decapoda /Paguridae	Pagurus annulipes											
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus											40

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae					40						
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana		40									
Malacostraca /Isopoda /Ancinidae	Ancinus depressus											
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis				40			80				
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca											
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii											
Malacostraca /Isopoda /Cirolanidae	Politolana polita					40						
Malacostraca /Isopoda /Idoteidae	Edotia triloba					160						
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus			40								
Chordata												
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis				40	40				120	120	
Ascidiacea / /	Ascidiacea sp.		320	440	240		240	160	200	240	160	
Cnidaria												
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans						40					
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta											
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana											
Echinodermata												
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma	40		40	320	840		520				
Hemichordata												
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii						40					
Mollusca												
Bivalvia /Adapedonta /Pharidae	Ensis leei		40				200	40	800	40	200	200
Bivalvia /Adapedonta /Pharidae	Siliqua costata							80				
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa							40				
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.											
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana											
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi											
Bivalvia /Arcida /Arcidae	Anadara transversa											
Bivalvia /Arcida /Arcidae	Arcidae sp.											
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum						80					
Bivalvia /Cardiida /Tellinidae	Ameritella spp.						40		120			
Bivalvia /Cardiida /Tellinidae	Ameritella tenella			40								
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor	80		80	40	80	520	160	120	120	80	40
Bivalvia /Carditida /Astartidae	Astarte castanea											
Bivalvia /Carditida /Astartidae	Astarte undata											
Bivalvia /Carditida /Carditidae	Cyclocardia borealis											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata											
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata		360				80					80
Bivalvia /Myida /Corbulidae	Caryocorbula contracta											
Bivalvia /Mytilida /Mytilidae	Musculus sp.											
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.											
Bivalvia /Mytilida /Mytilidae	Mytilus edulis		160				120		2,360			
Bivalvia /Mytilida /Mytilidae	Solamen glandula											
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.											
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.											
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis											
Bivalvia /Nuculida /Nuculidae	Nucula proxima	40				40	320	40	240		80	
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus											
Bivalvia /Venerida /Arcticidae	Arctica islandica											
Bivalvia /Venerida /Mactridae	Spisula solidissima				40		40		80			
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum											
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis								600			
Bivalvia	Bivalvia sp.								80			
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana											
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.										40	
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.											
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata											
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla											
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.											
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata										40	
Gastropoda /Nudibranchia	Nudibranchia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda		40									
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta											
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.											
Gastropoda	Gastropoda sp.											
Nemertea												
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus											

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus											
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni											
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis	120	40							40		
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea						40					40
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea						40					
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.											
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens				120	40		40				
Other Taxa												
Phoronida / /Phoronidae	Phoronis sp.											
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus											
Xenacoelomorpha	Xenacoelomorpha sp. B										40	
Total Abundance (organisms m^{-2})		110,720	8,920	75,360	51,240	6,360	18,960	4,680	9,320	6,600	14,360	4,640
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		14	19	23	28	23	39	22	29	20	31	28
Shannon Diversity (H)		0.11	1.92	0.31	0.41	1.96	2.26	2.19	2.47	1.79	1.59	2.55
Evenness Index (J)		0.04	0.65	0.10	0.12	0.62	0.62	0.71	0.73	0.60	0.46	0.77
Species Richness (Margalef d)		1.77	3.51	3.05	3.91	4.54	6.33	4.62	5.32	3.92	5.27	5.89
Swartz Species Dominance (# species in 75% abundance)		1	4	1	1	3	6	5	6	4	3	8

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Annelida											
Clitellata / /	Oligochaeta spp.	760	40	80			240		760	80	1,160
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris										40
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca								480		
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)						40				
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta										
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes										
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum										
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes										
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis										
Polychaeta /Eunicida /Oenonidae	Drilonereis longa						40				360
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus										
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea						40				
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata		40							160	
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata			40						80	
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)										40
Polychaeta /incertae sedis /Oweniidae	Owenia artifex									40	
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae	1,600			80				240		6,680
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata										
Polychaeta /Phyllodocida /Glyceridae	Glycera americana										
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata									40	80
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta										
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.										40
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex	80									
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis									40	
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus										
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans										
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera		80		80					40	
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta		200	160			40		80	240	
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata										
Polychaeta /Phyllodocida /Nereididae	Nereis grayi										
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea										
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata										
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda										
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa										
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae										120
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae								40		
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata										
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota										
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola								80		
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa										
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola						40			40	
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)	40							40		
Polychaeta /Phyllodocida /Syllidae	Brania sp.										
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis								4,040		
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus										
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata										
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes								360		
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri								80		
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.										
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus										
Polychaeta /Phyllodocida /Syllidae	Syllis alternata										
Polychaeta /Sabellida /Sabellidae	Chone magna										
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus		520	40	200					200	40
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A										
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta										
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.										
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus		40							40	160
Polychaeta /Scolecida /Maldanidae	Clymenella torquata										
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.								40	40	40
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus										
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata										
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata	40									
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus		40								
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.			40			40				120
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri									40	
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.								40		
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae		160	80	240						
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii	240							920		
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi			40						160	
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A										
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis										
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana										
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica								40		
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum										
Polychaeta /Scolecida /Travisiidae	Travisia carnea	1,280							80		
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea		200	120			40			160	
Polychaeta /Spionida /Spionidae	Carazziella hobsonae										
Polychaeta /Spionida /Spionidae	Dipolydora socialis									40	
Polychaeta /Spionida /Spionidae	Dispio uncinata										
Polychaeta /Spionida /Spionidae	Polydora cornuta			80							
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana			40							

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Polychaeta /Spionida /Spionidae	Spio setosa								840	40	10,400
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)		560	840	80		240		40	880	80
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)								80		
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata		40	600	560		80			280	40
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A						200		280	40	480
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B	280							40		
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica		80	280			40		120		80
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis										
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae										
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni										
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus									40	280
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)								600	120	280
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.		120	40	40		40		560	200	2,640
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa										
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis										
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis										
Polychaeta /Terebellida /Terebellidae	Lysilla alba										
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius								40		40
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus										
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis										
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus										
Sipuncula /Golfingiidae	Phascolopsis gouldii										
Sipuncula	Sipuncula sp.										
Arthropoda											
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum										
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli		960	160			80			320	120
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata										
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis										
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum			120					40		
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum										
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus										
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius										
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi					880					
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis										
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae				200	4,400				80	
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi										
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis										
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri										
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi										
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi										
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum					220	40				
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex										
Malacostraca /Amphipoda /Photidae	Photis pollex										
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli										40
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus					1,100					
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni									80	
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus										
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua	1,320	120						103,000	200	360
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata		40	240	40		40		200	320	40
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus										
Malacostraca /Cumacea /Diastylidae	Diastylis polita										
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta						40				40
Malacostraca /Decapoda /Callianassidae	Biffarius biformis										
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa										
Malacostraca /Decapoda /Paguridae	Pagurus annulipes									40	40
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae										
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana										
Malacostraca /Isopoda /Ancinidae	Ancinus depressus										
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis									40	
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca	40									
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii									40	
Malacostraca /Isopoda /Cirolanidae	Politolana polita										
Malacostraca /Isopoda /Idoteidae	Edotia triloba		40	120	320				40	40	40
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus	200									
Chordata											
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis	240							1,400		
Ascidiacea / /	Ascidiacea sp.	1,320					40		4,120	40	360
Cnidaria											
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans										
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta								40		
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana										
Echinodermata											
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma								880	80	
Hemichordata											
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii										
Mollusca											
Bivalvia /Adapedonta /Pharidae	Ensis leei		200	720			320		800		240
Bivalvia /Adapedonta /Pharidae	Siliqua costata										
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa								200		
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.										
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana										
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi										
Bivalvia /Arcida /Arcidae	Anadara transversa						40				
Bivalvia /Arcida /Arcidae	Arcidae sp.										
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum										
Bivalvia /Cardiida /Tellinidae	Ameritella spp.										
Bivalvia /Cardiida /Tellinidae	Ameritella tenella	40									
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor		240	200	280		1,400		160	160	280
Bivalvia /Carditida /Astartidae	Astarte castanea								240		
Bivalvia /Carditida /Astartidae	Astarte undata										
Bivalvia /Carditida /Carditidae	Cyclocardia borealis										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata				40					40	
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata										
Bivalvia /Myida /Corbulidae	Caryocorbula contracta										
Bivalvia /Mytilida /Mytilidae	Musculus sp.										
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.										
Bivalvia /Mytilida /Mytilidae	Mytilus edulis	40			240		40				40
Bivalvia /Mytilida /Mytilidae	Solamen glandula										
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.										
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.						40				
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis										
Bivalvia /Nuculida /Nuculidae	Nucula proxima		40	40					160	200	360
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus										
Bivalvia /Venerida /Arcticidae	Arctica islandica										
Bivalvia /Venerida /Mactridae	Spisula solidissima				40				40		
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum						120		80		
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis										
Bivalvia	Bivalvia sp.					220					40
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.										
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata										
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana										
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.			40							
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.										
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata								40		
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla										
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.										
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata						200				80
Gastropoda /Nudibranchia	Nudibranchia sp.										
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda										
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.										
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta						40				
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.										
Gastropoda	Gastropoda sp.	40									
Nemertea											
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus										

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2	544LI23-GB049-1*	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus										
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni								40		
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis	80	40						400		
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea						40				
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea										
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.										
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens			80						40	
Other Taxa											
Phoronida / /Phoronidae	Phoronis sp.		40								
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus										40
Xenacoelomorpha	Xenacoelomorpha sp. B								40		
Total Abundance (organisms m^{-2})		7,640	3,840	4,200	2,440	6,820	3,600		121,840	4,760	25,320
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		17	22	23	14	5			43	38	36
Shannon Diversity (H)		2.16	2.52	2.60	2.33	1.06	2.45		0.85	3.18	1.94
Evenness Index (J)		0.76	0.82	0.83	0.88	0.66	0.74		0.23	0.87	0.54
Species Richness (Margalef d)		3.24	4.82	4.94	3.41	0.97	6.00		5.36	7.95	5.58
Swartz Species Dominance (# species in 75% abundance)		5	8	8	6	2			1	14	3

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Annelida							
Clitellata / /	Oligochaeta spp.		3,160	80	360	1,080	
Polychaeta /Canalipalpata /Sabellariidae	Sabellaria vulgaris						
Polychaeta /Eunicida /Dorvilleidae	Parougia caeca		40				
Polychaeta /Eunicida /Dorvilleidae	Pettiboneia sp. A (n. sp.)					80	
Polychaeta /Eunicida /Lumbrineridae	Lumbrinerides acuta						
Polychaeta /Eunicida /Lumbrineridae	Ninoe nigripes						
Polychaeta /Eunicida /Lumbrineridae	Scoletoma acicularum			40			
Polychaeta /Eunicida /Lumbrineridae	Scoletoma hebes						
Polychaeta /Eunicida /Lumbrineridae	Scoletoma tenuis		40				
Polychaeta /Eunicida /Oenonidae	Drilonereis longa						
Polychaeta /Eunicida /Oenonidae	Notocirrus spiniferus	40					
Polychaeta /Eunicida /Onuphidae	Diopatra cuprea		40				
Polychaeta /Eunicida /Onuphidae	Onuphis eremita oculata	200		40	80		160
Polychaeta /incertae sedis /Magelonidae	Magelona brachypalpata	80					40
Polychaeta /incertae sedis /Magelonidae	Magelona sp. C (n. sp.)	120		40			40
Polychaeta /incertae sedis /Oweniidae	Owenia artifex						
Polychaeta /incertae sedis /Polygordiidae	Polygordius jouinae	40	1,880			23,920	40
Polychaeta /Phyllodocida /Aphroditidae	Aphrodita hastata						
Polychaeta /Phyllodocida /Glyceridae	Glycera americana						
Polychaeta /Phyllodocida /Glyceridae	Glycera dibranchiata						
Polychaeta /Phyllodocida /Glyceridae	Glycera pseudorobusta						
Polychaeta /Phyllodocida /Glyceridae	Glycera spp.						
Polychaeta /Phyllodocida /Glyceridae	Hemipodia simplex					400	
Polychaeta /Phyllodocida /Goniadidae	Goniadella gracilis					200	
Polychaeta /Phyllodocida /Hesionidae	Oxydromus obscurus						
Polychaeta /Phyllodocida /Microphthalmidae	Microphthalmus aberrans						
Polychaeta /Phyllodocida /Nephtyidae	Aglaophamus circinata	40					

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Polychaeta /Phyllodocida /Nephtyidae	Nephtys bucera						
Polychaeta /Phyllodocida /Nephtyidae	Nephtys picta	200	40	40	360		120
Polychaeta /Phyllodocida /Nereididae	Neanthes arenaceodentata						
Polychaeta /Phyllodocida /Nereididae	Nereis grayi						
Polychaeta /Phyllodocida /Phyllodocidae	Eumida sanguinea						
Polychaeta /Phyllodocida /Phyllodocidae	Hesionura elongata						
Polychaeta /Phyllodocida /Phyllodocidae	Hypereteone heteropoda						
Polychaeta /Phyllodocida /Phyllodocidae	Paranaitis speciosa						
Polychaeta /Phyllodocida /Phyllodocidae	Phyllodoce arenae						80
Polychaeta /Phyllodocida /Pilargidae	Ancistrosyllis hartmanae						
Polychaeta /Phyllodocida /Polynoidae	Harmothoe extenuata						
Polychaeta /Phyllodocida /Sigalionidae	Pisione remota						
Polychaeta /Phyllodocida /Sigalionidae	Sigalion arenicola				40		
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais boa						
Polychaeta /Phyllodocida /Sigalionidae	Sthenelais limicola	40					40
Polychaeta /Phyllodocida /Sphaerodoridae	Sphaerodoropsis sp. A (n.sp.)		40				
Polychaeta /Phyllodocida /Syllidae	Brania sp.						
Polychaeta /Phyllodocida /Syllidae	Brania wellfleetensis		2,440	40			
Polychaeta /Phyllodocida /Syllidae	Erinaceusyllis erinaceus						
Polychaeta /Phyllodocida /Syllidae	Parapionosyllis longicirrata		400			40	
Polychaeta /Phyllodocida /Syllidae	Parexogone hebes						
Polychaeta /Phyllodocida /Syllidae	Streptosyllis websteri						
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.						
Polychaeta /Phyllodocida /Syllidae	Syllides convolutus						
Polychaeta /Phyllodocida /Syllidae	Syllis alternata						
Polychaeta /Sabellida /Sabellidae	Chone magna						
Polychaeta /Scolecida /Capitellidae	Amastigos caperatus	360					160
Polychaeta /Scolecida /Capitellidae	Capitella capitata (spp. complex)						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A						
Polychaeta /Scolecida /Capitellidae	Mediomastus ambiseta						
Polychaeta /Scolecida /Capitellidae	Mediomastus sp.						
Polychaeta /Scolecida /Capitellidae	Notomastus hemipodus			40	40		
Polychaeta /Scolecida /Maldanidae	Clymenella torquata	40					
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	160					
Polychaeta /Scolecida /Maldanidae	Sabaco elongatus						
Polychaeta /Scolecida /Opheliidae	Ophelina acuminata						
Polychaeta /Scolecida /Opheliidae	Ophelina cylindricaudata						
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos robustus						40
Polychaeta /Scolecida /Orbiniidae	Leitoscoloplos sp.						
Polychaeta /Scolecida /Orbiniidae	Orbinia riseri			40	80		
Polychaeta /Scolecida /Orbiniidae	Orbinia sp.						
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) catherinae	40					
Polychaeta /Scolecida /Paraonidae	Aricidea (Acmira) cerrutii		40			560	
Polychaeta /Scolecida /Paraonidae	Aricidea (Aricidea) wassi	120		40	40		
Polychaeta /Scolecida /Paraonidae	Cirrophorus sp. A						
Polychaeta /Scolecida /Paraonidae	Levinsenia gracilis						
Polychaeta /Scolecida /Paraonidae	Paradoneis ilvana		120				
Polychaeta /Scolecida /Paraonidae	Paraonis pygoenigmatica						
Polychaeta /Scolecida /Scalibregmatidae	Scalibregma inflatum						
Polychaeta /Scolecida /Travisiidae	Travisia carnea		40		120	160	
Polychaeta /Spionida /Spionidae	Apoprionospio pygmaea	720					
Polychaeta /Spionida /Spionidae	Carazziella hobsonae						
Polychaeta /Spionida /Spionidae	Dipolydora socialis						
Polychaeta /Spionida /Spionidae	Dispio uncinata			40	40		
Polychaeta /Spionida /Spionidae	Polydora cornuta						
Polychaeta /Spionida /Spionidae	Scolelepis (Parascolelepis) texana						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Polychaeta /Spionida /Spionidae	Spio setosa	40	760				
Polychaeta /Spionida /Spionidae	Spiophanes bombyx (spp. complex)	1,920	40	200	40		120
Polychaeta /Terebellida /Ampharetidae	Ampharete lindstroemi (spp. complex)	40					
Polychaeta /Terebellida /Ampharetidae	Ampharete oculata				80		200
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. A						
Polychaeta /Terebellida /Cirratulidae	Aphelochaeta sp. B		640			360	
Polychaeta /Terebellida /Cirratulidae	Caulleriella venefica	160		80	40		
Polychaeta /Terebellida /Cirratulidae	Cirriformia grandis						
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia baptisteae						
Polychaeta /Terebellida /Cirratulidae	Kirkegaardia hampsoni						
Polychaeta /Terebellida /Cirratulidae	Tharyx acutus						
Polychaeta /Terebellida /Cirratulidae	Tharyx sp. A (n. sp.)	400			40		40
Polychaeta /Terebellida /Cirratulidae	Tharyx spp.	240		80	160		40
Polychaeta /Terebellida /Flabelligeridae	Bradabyssa villosa						
Polychaeta /Terebellida /Flabelligeridae	Flabelligera affinis						
Polychaeta /Terebellida /Flabelligeridae	Pherusa affinis						
Polychaeta /Terebellida /Terebellidae	Lysilla alba						
Polychaeta /Terebellida /Terebellidae	Polycirrus eximius		2,080			40	
Polychaeta /Terebellida /Terebellidae	Polycirrus phosphoreus						
Polychaeta /Terebellida /Trichobranchidae	Terebellides atlantis						
Polychaeta /unassigned /Chaetopteridae	Spiochaetopterus oculatus						40
Sipuncula /Golfingiidae	Phascolopsis gouldii						
Sipuncula	Sipuncula sp.						
Arthropoda							
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca vadorum						
Malacostraca /Amphipoda /Ampeliscidae	Ampelisca verrilli						
Malacostraca /Amphipoda /Ampeliscidae	Byblis serrata						
Malacostraca /Amphipoda /Bathyporeiidae	Bathyporeia quoddyensis						
Malacostraca /Amphipoda /Corophiidae	Leptocheirus pinguis						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Malacostraca /Amphipoda /Corophiidae	Monocorophium acherusicum			40			
Malacostraca /Amphipoda /Corophiidae	Monocorophium tuberculatum						
Malacostraca /Amphipoda /Dulichiidae	Dyopedos monacanthus						
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius intermedius						
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius millsi						
Malacostraca /Amphipoda /Haustoriidae	Acanthohaustorius similis				920		
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius cf. deichmannae	40		1,240	4,280		680
Malacostraca /Amphipoda /Haustoriidae	Protohaustorius wigleyi						
Malacostraca /Amphipoda /Haustoriidae	Pseudohaustorius caroliniensis						40
Malacostraca /Amphipoda /Ischyroceridae	Cerapus slayeri						
Malacostraca /Amphipoda /Liljeborgiidae	Idunella smithi						
Malacostraca /Amphipoda /Microprotopidae	Microprotopus raneyi						
Malacostraca /Amphipoda /Oedicerotidae	Americhelidium americanum	120		120			
Malacostraca /Amphipoda /Oedicerotidae	Ameroculodes spp. complex						
Malacostraca /Amphipoda /Photidae	Photis pollex						
Malacostraca /Amphipoda /Phoxocephalidae	Phoxocephalus holbolli						
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius epistomus			40	320		
Malacostraca /Amphipoda /Phoxocephalidae	Rhepoxynius hudsoni	40					
Malacostraca /Amphipoda /Tryphosidae	Hippomedon serratus						
Malacostraca /Amphipoda /Tryphosidae	Pseudunciola obliquua	240	360	800	14,360	2,040	40
Malacostraca /Amphipoda /Unciolidae	Unciola irrorata	40		40	80		
Malacostraca /Cumacea /Bodotriidae	Pseudoleptocuma minus			40			
Malacostraca /Cumacea /Diastylidae	Diastylis polita						
Malacostraca /Cumacea /Diastylidae	Diastylis sculpta						
Malacostraca /Decapoda /Callianassidae	Biffarius biformis						80
Malacostraca /Decapoda /Crangonidae	Crangon septemspinosa						
Malacostraca /Decapoda /Paguridae	Pagurus annulipes						
Malacostraca /Decapoda /Paguridae	Pagurus longicarpus						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Malacostraca /Decapoda /Pinnotheridae	Dissodactylus mellitae						
Malacostraca /Decapoda /Pinnotheridae	Tubicolixa chaetopterana						40
Malacostraca /Isopoda /Ancinidae	Ancinus depressus						
Malacostraca /Isopoda /Anthuridae	Ptilanthura tenuis			40	40		
Malacostraca /Isopoda /Chaetiliidae	Chiridotea coeca					160	
Malacostraca /Isopoda /Chaetiliidae	Chiridotea tuftsii						
Malacostraca /Isopoda /Cirolanidae	Politolana polita						
Malacostraca /Isopoda /Idoteidae	Edotia triloba	40			40		
Malacostraca /Tanaidacea /Tanaissuidae	Tanaissus psammophilus				200		
Chordata							
Ascidiacea /Stolidobranchia /Styelidae	Cnemidocarpa mollis		160			40	40
Ascidiacea / /	Ascidiacea sp.		1,480	120	160	520	
Cnidaria							
Anthozoa /Actiniaria /Edwardsiidae	Edwardsia elegans						
Anthozoa /Actiniaria /Haloclavidae	Haloclava producta						
Anthozoa /Spirularia /Cerianthidae	Ceriantheopsis americana						
Echinodermata							
Echinoidea /Echinolampadacea /Echinarachniidae	Echinarachnius parma	160		160	80		40
Hemichordata							
Enteropneusta /unassigned /unassigned	Saccoglossus kowalevskii						
Mollusca							
Bivalvia /Adapedonta /Pharidae	Ensis leei	160		40			
Bivalvia /Adapedonta /Pharidae	Siliqua costata						
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia arenosa	40					
Bivalvia /Anomalodesmata /Lyonsiidae	Lyonsia sp.						
Bivalvia /Anomalodesmata /Pandoridae	Pandora gouldiana						
Bivalvia /Anomalodesmata /Thraciidae	Thracia conradi						
Bivalvia /Arcida /Arcidae	Anadara transversa						
Bivalvia /Arcida /Arcidae	Arcidae sp.						
Bivalvia /Cardiida /Cardiidae	Parvicardium pinnulatum						
Bivalvia /Cardiida /Tellinidae	Ameritella spp.						
Bivalvia /Cardiida /Tellinidae	Ameritella tenella						
Bivalvia /Cardiida /Tellinidae	Ameritella versicolor	160	40	80			120
Bivalvia /Carditida /Astartidae	Astarte castanea						
Bivalvia /Carditida /Astartidae	Astarte undata						
Bivalvia /Carditida /Carditidae	Cyclocardia borealis						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Bivalvia /Galeommatida /Lasaeidae	Kelliopsis elevata						
Bivalvia /Galeommatida /Lasaeidae	Kurtiella planulata						
Bivalvia /Myida /Corbulidae	Caryocorbula contracta						
Bivalvia /Mytilida /Mytilidae	Musculus sp.						
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.						
Bivalvia /Mytilida /Mytilidae	Mytilus edulis		80				40
Bivalvia /Mytilida /Mytilidae	Solamen glandula						
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.						
Bivalvia /Nuculanida /Nuculanidae	Yoldia sp.						
Bivalvia /Nuculida /Nuculidae	Ennucula tenuis						
Bivalvia /Nuculida /Nuculidae	Nucula proxima	80					
Bivalvia /Pectinida /Pectinidae	Placopecten magellanicus						
Bivalvia /Venerida /Arcticidae	Arctica islandica						
Bivalvia /Venerida /Mactridae	Spisula solidissima	40		40	40		
Bivalvia /Venerida /Veneridae	Agriopoma morrhuanum						
Bivalvia /Venerida /Veneridae	Petricolaria pholadiformis						
Bivalvia	Bivalvia sp.				40		
Gastropoda /Caenogastropoda /Epitoniidae	Epitonium sp.						
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula fornicata						
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula plana						
Gastropoda /Littorinimorpha /Calyptraeidae	Crepidula spp.						
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.						
Gastropoda /Littorinimorpha /Naticidae	Neverita duplicata						
Gastropoda /Littorinimorpha /Naticidae	Tectonatica pusilla						
Gastropoda /Neogastropoda /Columbellidae	Anachis sp.						
Gastropoda /Neogastropoda /Nassariidae	Ilyanassa trivittata	40					
Gastropoda /Nudibranchia	Nudibranchia sp.						
Gastropoda /Pylopulmonata /Pyramidellidae	Boonea seminuda						
Gastropoda /Pylopulmonata /Pyramidellidae	Odostomia sp.						
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla interrupta	40					
Gastropoda /Pylopulmonata /Pyramidellidae	Turbonilla sp.						
Gastropoda	Gastropoda sp.						
Nemertea							
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus bioculatus						

Phylum Class/Order/Family	Lowest Practical Taxonomic Level	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1	544LI23-GB061-3
Hoplonemertea /Monostilifera /Amphiporidae	Amphiporus ochraceus						
Hoplonemertea /Monostilifera /Tetrastemmatidae	Tetrastemma wilsoni						
Palaeonemertea /Archinemertea /Cephalotrichidae	Cephalothrix spiralis		120			80	
Palaeonemertea /Tubulaniformes /Carinomellidae	Carinomella lactea						
Pilidiophora /Heteronemertea /Lineidae	Cerebratulus lactea						
Pilidiophora /Heteronemertea /Lineidae	Micrura sp.						
Pilidiophora /Heteronemertea /Lineidae	Zygeupolia rubens	80		80			40
Other Taxa							
Phoronida / /Phoronidae	Phoronis sp.						
Platyhelminthes /Polycladida /Stylochidae	Stylochus ellipticus						
Xenacoelomorpha	Xenacoelomorpha sp. B						
Total Abundance (organisms m^{-2})		6,320	14,040	3,680	22,080	29,680	2,320
Total Species (taxa 0.025 m^{-2}, *= taxa 0.0046 m^{-2})		35	22	27	26	15	24
Shannon Diversity (H)		2.78	2.24	2.42	1.30	0.88	2.68
Evenness Index (J)		0.78	0.72	0.73	0.40	0.33	0.84
Species Richness (Margalef d)		6.91	3.75	5.97	4.12	2.27	5.91
Swartz Species Dominance (# species in 75% abundance)		11	5	8	2	1	

Infauna Results - Raw

Class/Order/Family	Scientific Name	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2	544LI23-GB012-1
Annelida													
Clitellata / /	Oligochaeta spp.	2			1		1	3	20	48	8	4	
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*												
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*		1			1	3	1	1	4			
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)												
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*								1				
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*												
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*	2	1		1	1	1			1	2	1	
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*												
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*												
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*												
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*												
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*												
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*												
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*			1								1	
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)						1						
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*												
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*		13	13	45	1	4	31	32	2	26	1	31
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*				1			1					
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.		1							2	1		
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*				1				3				
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*	1		4	25				3				
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*												
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*												
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*	3	2	1				2		1	1		
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*				1								
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*	4	2	2	6	4	7	10	4	7	6	3	
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*												
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*												
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*												
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*								1				
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*												
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*						1			1			
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*												1
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*												
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*				1								
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*												
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*				4	2							3
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*												
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*		1					1	1		1		
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)												4
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.												
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*												

Class/Order/Family	Scientific Name	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2	544LI23-GB012-1
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*												
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*												
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*	1			4	5	5	2	3	25	6	1	
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*												
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.												
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*						1		1				
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*												
Polychaeta /Sabellida /Sabellidae	*Chone magna*												
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*												
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)		1				1						
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A												
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*												
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.												
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*												
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*												
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	1			2	1		1					2
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*												
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*												
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*												
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*												
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.												
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*												
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*	2	1	1			5	5		2	2		
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*	1	2			1	5	2		1		4	
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A	2			1			1					
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*												
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*												
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*			1	1				1				
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*	6	2	1			1	2		4			
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*										1		
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*												
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*												
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*												
Polychaeta /Spionida /Spionidae	*Dispio uncinata*												
Polychaeta /Spionida /Spionidae	*Polydora cornuta*												
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texana*												
Polychaeta /Spionida /Spionidae	*Spio setosa*							1					
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex)		1			1	1			3			
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com	1	1	2	1	5	5	3	2	4	3		1
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*									1	2		
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A	1	1		2	2	1	1		2			
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B												
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*	2	3	1			1		2	2	3	1	
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*												

Class/Order/Family	Scientific Name	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2	544LI23-GB012-1
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*		1				6	1	8	2	1	1	1
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*												
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*												
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)	1	1		2	1			3	2			3
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.	5	2	2	2	1	1	1	1		1		
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*												
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*												
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*												
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*												
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*												
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*							1		5	1		
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*												
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*												
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*												
/Sipuncula /	Sipuncula sp.												
Arthropoda													
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*			1	1								
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*												
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*	1	3		21	16	37	7	9	37	4		
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*												
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*												
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*												
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*												
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*												
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*												
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*					1							
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*												
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*				1								
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*												
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*												
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*												
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex												
Malacostraca /Amphipoda /Photidae	*Photis pollex*												
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*		1										
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*												
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*	1		1	4	2	1	2	2	1		1	
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*					1							
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*				5	1						27	6
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*			3	4	8	5	4	2	14	2		1
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*												
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*												
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*				1								
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*												

Class/Order/Family	Scientific Name	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2	544LI23-GB012-1
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*												
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*												
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*												
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*												
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*												
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*												
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*												
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*												
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*												
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*						2						
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*	1										1	
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*			3	3				2	1		7	23
Chordata													
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*			1		1	1			1			
Ascidiacea / /	Ascidiacea sp.												
Cnidaria													
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*												
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*												
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*												
Echinodermata													
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*			1								4	
Hemichordata													
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*												
Mollusca													
Bivalvia /Adapedonta /Pharidae	*Ensis leei*									2			
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*												
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*												
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.							1		4	2		
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*												1
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*												
Bivalvia /Arcida /Arcidae	*Anadara transversa*												
Bivalvia /Arcida /Arcidae	Arcidae sp.												
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*									1			
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.												2
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*												
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*			1	2	1		1	1	1			
Bivalvia /Carditida /Astartidae	*Astarte castanea*	1			1		1						
Bivalvia /Carditida /Astartidae	*Astarte undata*			1							1		
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*	2								1	2		
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*												
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*												
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*												
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.												
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.				1				1				
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*												
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*												

Class/Order/Family	Scientific Name	544LI23-GB001A-1	544LI23-GB002-1	544LI23-GB003A-1	544LI23-GB004-1	544LI23-GB005A-1	544LI23-GB006-1	544LI23-GB007A-1	544LI23-GB008-1	544LI23-GB009-1	544LI23-GB010A-1	544LI23-GB011-2	544LI23-GB012-1
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.												
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.												
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*									1			
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*									1			
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*												
Bivalvia /Venerida /Arcticidae	*Arctica islandica*			2	3	2	1	4		1			
Bivalvia /Venerida /Mactridae	*Spisula solidissima*					1							
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*	1											
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*												
Bivalvia / /	Bivalvia sp.												2
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*							1					
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.												
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.												
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*												
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*									1			
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.												
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*							1					
Gastropoda /Nudibranchia /	Nudibranchia sp.												
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*												
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.												
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*												2
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.												
Gastropoda / /	Gastropoda sp.												
Nemertea													
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*												
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*				1								
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*												2
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*						1		6	2	1	1	
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*			2		4		4		1	4		
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*												
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.						1	1	1	1			
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*		1	1		2					1		
Other Taxa													
Phoronida / /Phoronidae	*Phoronis* sp.												
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*												
Xenacoelomorpha	Xenacoelomorpha sp. B						1		2	1	1	1	
Total Abundance		42	42	46	149	66	102	97	113	195	85	61	257
Total Species (per sample)		22	21	22	31	25	29	30	26	41	27	18	44

Class/Order/Family	Scientific Name	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1	544LI23-GB023-1	544LI23-GB024-1
Annelida													
Clitellata / /	Oligochaeta spp.	1	3	37	39	5	10	39	24	13	6	16	31
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*												
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*	4				1				1			
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)					4				1			
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*		1									1	
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*					3							
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*	24				4		1		1	2	4	
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*					12			1				
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*												
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*									1			
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*									1			
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*												
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*								2				
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*				1								
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)						1	1					
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*												
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*	73	2	5	78	165	148	69	34	23	14	19	99
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*					3							
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*											1	
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.					2			1	2			
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*												
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*	2	1								1	12	
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*												
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*												
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*	4				3			3	1			
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*												
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*	1	1		8	1		2	8	4	2	6	8
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*												
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*	1											
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*	4				1							
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*						5						
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*								1				
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*			1		1		2					
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*												
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*												
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*	6			1	6				1			
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*												
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*			2	2		3	2					
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*												
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*	3							1				
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)							1					
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.				2								
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*												

Class/Order/Family	Scientific Name	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1	544LI23-GB023-1	544LI23-GB024-1
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*						1						
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*												
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*		1	1			7	5				3	
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*				4		2						
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.		1		1								
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*			2									
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*					1							
Polychaeta /Sabellida /Sabellidae	*Chone magna*												
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*								2				
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)	5								1			
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A			1									1
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*					2				1			
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.												
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*				1		1		2				
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*												
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	1	1			2			1	1			
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*					1							
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*	10											
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*												
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*										1		
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.								1				
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*												
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*	1		1	1	3		1	2	10	1	2	
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*			2	3			2	3		1		
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A					3							
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*					1							
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*											4	
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*						1						
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*	51				2							
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*												
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*								1	1			
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*										1		
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*	1,653											
Polychaeta /Spionida /Spionidae	*Dispio uncinata*												
Polychaeta /Spionida /Spionidae	*Polydora cornuta*												
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texan*												
Polychaeta /Spionida /Spionidae	*Spio setosa*	10			1	645		4	3	84	1	4	
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex			1	3	7				4		2	
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com	1			2	1	1	1		3	1	1	
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*	1				20							
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A	3	1		2		1		1				
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B											2	
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*			3	5			2	8			3	
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*												

Class/Order/Family	Scientific Name	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1	544LI23-GB023-1	544LI23-GB024-1
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*		1	1		6		1	3				
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*					4							
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*	1				2			1				
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)	3		1		1	2		1	17			
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.	7	1	3	12	17	5	16		20	1	1	
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*									2			
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*					1							
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*	10				2							
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*												
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*											3	
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*	40				4							
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*	1											
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*												
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*												
/Sipuncula /	Sipuncula sp.										1		
Arthropoda													
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*	1			1	92			6	131			
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*												
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*					1							
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*							1					
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*					67				38			1
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*					1							
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*												
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*					11				1			
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*												
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*									1			
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*			1	2		2	1			1	3	
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*												
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*				1								
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*										1		
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*												
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*										1		
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex						1						
Malacostraca /Amphipoda /Photidae	*Photis pollex*					1							
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*	4				7							1
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*												
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*		1	1	8		2	8	2		4	5	
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*				1			2					
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*		2	10	77		2	7			2	13	
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*	13		1	8	82	8	17	3	99		1	
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*			1	1				1		1		
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*												
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*	2									1		
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*												

Class/Order/Family	Scientific Name	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1	544LI23-GB023-1	544LI23-GB024-1
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*												
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*					2							
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*												
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*												
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*										2		
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*												
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*					3							
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*												
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*												
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*												
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*					3							
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*	1	2	1	22	1	15	6			4	10	
Chordata													
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*				1	1		3					
Ascidiacea / /	Ascidiacea sp.										1		
Cnidaria													
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*												
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*									1			
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*												
Echinodermata													
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*	1		1	5	1	8	1	1	1	2		
Hemichordata													
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*									1			
Mollusca													
Bivalvia /Adapedonta /Pharidae	*Ensis leei*				2		2				5	1	
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*												
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*											3	
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.	3			4	4	1	9	1	1	1	1	
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*							2					
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*	1											
Bivalvia /Arcida /Arcidae	*Anadara transversa*												
Bivalvia /Arcida /Arcidae	Arcidae sp.												
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*	5					8						
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.					4	1	5	2	2			
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*						1						
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*	10	2	1	3						3		
Bivalvia /Carditida /Astartidae	*Astarte castanea*				8			1					
Bivalvia /Carditida /Astartidae	*Astarte undata*												
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*												
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*												
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*										1		
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*										1		
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.					4							
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.					1							
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*									1			
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*												

Class/Order/Family	Scientific Name	544LI23-GB013-2	544LI23-GB014A-1	544LI23-GB015A-1	544LI23-GB016-2	544LI23-GB017A-1	544LI23-GB018-1	544LI23-GB019A-1	544LI23-GB020-1	544LI23-GB021-2	544LI23-GB022-1	544LI23-GB023-1	544LI23-GB024-1
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.								3	1			
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.												
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*												
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*	93				22		4	5	3	1	1	3
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*					4				2			
Bivalvia /Venerida /Arcticidae	*Arctica islandica*	1			1								
Bivalvia /Venerida /Mactridae	*Spisula solidissima*	1	1	1	2		4	16		1	7	11	12
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*	10				7			3	13			3
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*	5				1				1			
Bivalvia / /	Bivalvia sp.				1	5			1	3		2	2
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.												
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.						1						
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*												
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*												
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.												1
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*		1		1	4				1			
Gastropoda /Nudibranchia /	Nudibranchia sp.		1										
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*												
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.									2			
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*					4				1			
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.					1							
Gastropoda / /	Gastropoda sp.												
Nemertea													
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*					2							
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*	3											
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*			1	1		1						
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*		2		5		3	1			1	3	
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*	54	1	2	5			6		1		5	
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*	1											
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.					7				1			
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*		1	1	1			1	6	1	2		5
Other Taxa													
Phoronida / /Phoronidae	*Phoronis* sp.									1			
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*												
Xenacoelomorpha	Xenacoelomorpha sp. B				4								
Total Abundance		2,130	28	83	331	1,279	248	240	138	547	79	162	250
Total Species (per sample)		45	21	26	42	62	30	34	34	58	36	42	36

Class/Order/Family	Scientific Name	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2
Annelida													
Clitellata / /	Oligochaeta spp.	12	3	11	3	4	133			100	11	81	7
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*						1						
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*						5		2				
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)	1											1
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*												
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*	2											
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*					1							
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*	22											
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*						15						
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*	1											
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*	1											
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*												
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*				2	2		2	2				
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*		3		1	2		1					
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)		1			2							
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*												
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*	70	26	3	17		64	1	4	2	5	11	
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*											1	
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.	1								1			
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*											1	
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*						7						
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*												
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*												
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*					1							
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*					1							
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*	1	3	3	6	5		3					
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*						1						
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*												
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*						3						
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*												
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*												
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*												
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*	1					1						
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*			2		2	1			3			
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*						4						
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*						5						
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*		4	2									1
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*												
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*							1					
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)												
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.												
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*									21		66	29

Class/Order/Family	Scientific Name	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*												
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*						8			10	1	8	
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*								1		7		
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*												1
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.												
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*												
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*												
Polychaeta /Sabellida /Sabellidae	*Chone magna*	1											
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*				1			9					
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)								1				
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A												
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*	4											
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.				1								
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*	1				1							
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*					1							
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.	14	1		1		6			1			
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*												
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*	1											
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*												
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*												
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.									1			
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*							1					
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*	3	2		1		2			2			
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*												4
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*		2	1	5	3		1					
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A												
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*												
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*						3			3			
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*												1
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*												
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*				1	5			3				
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*							12					
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*	2											
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*												
Polychaeta /Spionida /Spionidae	*Dispio uncinata*												
Polychaeta /Spionida /Spionidae	*Polydora cornuta*												
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texan*												
Polychaeta /Spionida /Spionidae	*Spio setosa*	19			1		356			4	1		
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex	15	2	3	8	9		4	6				
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com	2		1	1								
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*												
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A	4	1	1		1							
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B						6			5			
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*		3			1		3	2		1		
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*									4			

Class/Order/Family	Scientific Name	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*	57											
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*	22											
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*	17					1						
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)		1	2	8	1	1	1	2				
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.	58	7	7	6	3	4	4	1		1	3	
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*												
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*	1											
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*	1											
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*												
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*			1		1	48			44		13	
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*	1					1						
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*												
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*	1											
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*												
/Sipuncula /	Sipuncula sp.												
Arthropoda													
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*	1											
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*							8					
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*												
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*		1										
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*	4											
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*												
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*				1								
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*		9		6						7		
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*					42		7	5				
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*		14	3	4								4
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*												
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*												
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*												
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*												
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*			1									
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex												
Malacostraca /Amphipoda /Photidae	*Photis pollex*												
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*	1					1						
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*												
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*		14	3	3	8		4	5		1		
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*												
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*	1	668	65	1,016	58			2,165	2	2,726	10	1,794
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*	8			2	1	3	1		1		2	
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*		1		1								
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*		1		2					1			
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*	2											
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*												

Class/Order/Family	Scientific Name	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*												
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*												
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*							1					
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*		1										
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*											1	
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*												
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*			1	2				1				
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*												
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*					2							
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*												
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*		2			1				1			
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*		15		16	1							1
Chordata													
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*		2	3	2		1						
Ascidiacea / /	Ascidiacea sp.			2		1	30		20	19		8	11
Cnidaria													
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*												
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*												
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*												
Echinodermata													
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*		9	4	9			2	2		1		
Hemichordata													
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*			1									
Mollusca													
Bivalvia /Adapedonta /Pharidae	*Ensis leei*		2	1	3	3	1		2			1	
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*												
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*	1					1						
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.		3	1									
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*												
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*												
Bivalvia /Arcida /Arcidae	*Anadara transversa*												
Bivalvia /Arcida /Arcidae	Arcidae sp.												
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*	1											
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.	1											
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*												1
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*		2	3	2	1	6	2	2		2		
Bivalvia /Carditida /Astartidae	*Astarte castanea*												
Bivalvia /Carditida /Astartidae	*Astarte undata*												
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*												
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*												
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*					1	2					9	
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*												
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.												
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.												
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*	2					1						
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*		1										

Class/Order/Family	Scientific Name	544LI23-GB025-1	544LI23-GB026A-1	544LI23-GB027A-1	544LI23-GB028A-2	544LI23-GB029-5	544LI23-GB030A-2	544LI23-GB031-2	544LI23-GB032-1	544LI23-GB033-3	544LI23-GB034A-1	544LI23-GB035-1	544LI23-GB036-2
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.	3					1						
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.												
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*												
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*	12							1		1		
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*												
Bivalvia /Venerida /Arcticidae	*Arctica islandica*												
Bivalvia /Venerida /Mactridae	*Spisula solidissima*		8	2		3	1	1		1			
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*	46			1								
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*												
Bivalvia / /	Bivalvia sp.	3											
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*						2						
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.						1			3			
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.												
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*					1							
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*												
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.												
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*								1				
Gastropoda /Nudibranchia /	Nudibranchia sp.												
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*									5			
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.	6											
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*	2											
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.												
Gastropoda / /	Gastropoda sp.												
Nemertea													
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*												
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*												
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*												
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*			1			3		1	1	3	1	
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*			1	1			1					
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*												
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.	1	1										
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*					3							
Other Taxa													
Phoronida / /Phoronidae	*Phoronis* sp.	1											
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*												
Xenacoelomorpha	Xenacoelomorpha sp. B						1						
Total Abundance		432	813	129	1,134	172	731	73	2,230	237	2,768	223	1,884
Total Species (per sample)		47	32	27	32	33	38	24	22	25	14	19	23

Class/Order/Family	Scientific Name	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2
Annelida													
Clitellata / /	Oligochaeta spp.	4	3	151	2		2	19	9	19	1	2	
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*												
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*	1											
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)												
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*												
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*												
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*												
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*												
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*	1		8				7					
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*								3				
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*												
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*												
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*		1		1				4		1		
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*	2			4							1	
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)	1											
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*												
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*			152		5	2	238		40			2
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*			1		1							
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*			1		1		1	1				
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*												
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.							1					
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*									2			
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*			1				1					
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*							1					
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*								1				
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*												
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*								1		2		
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*	5	6		2	6	2		6		5	4	
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*												
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*												
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*			1				2					
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*												
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*												
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*								1				
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*												
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*	1		5				3	1				
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*			6		4		1					
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*												
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*				1								
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*					1							
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*		1										
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)									1			
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.												
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*	2		14									

Class/Order/Family	Scientific Name	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*												
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*			13									
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*												
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*												
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.												
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*												
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*												
Polychaeta /Sabellida /Sabellidae	*Chone magna*												
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*		1						39		13	1	5
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)			1									
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A												
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*												
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.												
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*					1	1	1			1		
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*					1							
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.			4		1		2					
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*												
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*												
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*									1			
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*		2		1				1		1		
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.			6								1	
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*					1							
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.												
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*			3			1		6		4	2	6
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*									6			
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*	2					2						
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A												
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*												
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*												
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*												
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*												
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*	5	4		5					32			
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*					1			1		5		
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*												
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*			5									
Polychaeta /Spionida /Spionidae	*Dispio uncinata*												
Polychaeta /Spionida /Spionidae	*Polydora cornuta*			3		5		15	1			2	
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texan*											1	
Polychaeta /Spionida /Spionidae	*Spio setosa*	1		21		49		19	1				
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex	3	1	2	1	24		1	11		14	21	2
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com		1	3									
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*					1		1	9		1	15	
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A												
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B	1		8				2		7			
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*	1				1	4		2		2	7	
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*						1						

Class/Order/Family	Scientific Name	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*												
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*												
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*												
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)							5					
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.	5	3	1	2	3	10	13	1		3	1	
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*												
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*												
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*												
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*			2									
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*	1		5									
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*												
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*												
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*												
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*			3									
/Sipuncula /	Sipuncula sp.												
Arthropoda													
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*												
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*							1					
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*												
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*												
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*												
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*					10		1				3	
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*												
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*												
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*	6			2		1						
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*	14	64		21								5
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*		1				24						
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*												
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*												
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*							1					
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*								1				
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*		1		1		3		1				
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex												
Malacostraca /Amphipoda /Photidae	*Photis pollex*												
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*												
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*												
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*	1					8						
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*												
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*	1,202	37		45		89			33	3		
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*	1	1	9			1	4	4		1	6	
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*												
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*												
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*					1							
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*												

Class/Order/Family	Scientific Name	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*					1							
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*												
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*								1				
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*		1										
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*												
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*												
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*	1			2								
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*									1			
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*												
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*		1										
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*		4								1	3	
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*									5			
Chordata													
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*	1	1				3	3		6			
Ascidiacea / /	Ascidiacea sp.	6		6	4	5	6	4		33			
Cnidaria													
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*			1									
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*												
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*												
Echinodermata													
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*	8	21		13								
Hemichordata													
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*			1									
Mollusca													
Bivalvia /Adapedonta /Pharidae	*Ensis leei*			5	1	20	1	5	5		5	18	
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*				2								
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*				1								
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.												
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*												
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*												
Bivalvia /Arcida /Arcidae	*Anadara transversa*												
Bivalvia /Arcida /Arcidae	Arcidae sp.												
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*			2									
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.			1		3							
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*									1			
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*	1	2	13	4	3	3	2	1		6	5	
Bivalvia /Carditida /Astartidae	*Astarte castanea*												
Bivalvia /Carditida /Astartidae	*Astarte undata*												
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*												
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*												1
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*			2									
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*												
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.												
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.												
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*			3		59				1			
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*												

Class/Order/Family	Scientific Name	544LI23-GB037A-1	544LI23-GB038A-1	544LI23-GB039-3	544LI23-GB040A-2	544LI23-GB041-2	544LI23-GB042A-2	544LI23-GB043-2	544LI23-GB044-6	544LI23-GB045-1	544LI23-GB046-2	544LI23-GB047A-2	544LI23-GB048A-2
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.												
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.												
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*												
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*		1	8	1	6		2			1	1	
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*												
Bivalvia /Venerida /Arcticidae	*Arctica islandica*												
Bivalvia /Venerida /Mactridae	*Spisula solidissima*	1		1		2							1
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*												
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*					15							
Bivalvia / /	Bivalvia sp.					2							
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*												
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.							1					
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.												
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*												
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*												
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.												
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*							1					
Gastropoda /Nudibranchia /	Nudibranchia sp.												
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*												
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.												
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*												
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.												
Gastropoda / /	Gastropoda sp.									1			
Nemertea													
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*												
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*												
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*												
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*						1			2			
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*			1									
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*			1									
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.												
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*	3	1		1							2	
Other Taxa													
Phoronida / /Phoronidae	*Phoronis* sp.										1		
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*												
Xenacoelomorpha	Xenacoelomorpha sp. B							1					
Total Abundance		1,281	159	474	117	233	165	359	116	191	96	105	61
Total Species (per sample)		28	23	39	22	29	20	31	28	17	22	23	14

Class/Order/Family	Scientific Name	544LI23-GB049-1	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1
Annelida												
Clitellata / /	Oligochaeta spp.				19	2	29		79	2	9	2
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*						1					
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*				12				1			
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)		1									2
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*											
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*											
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*									1		
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*											
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*								1			
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*						9					
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*							1				
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*		1						1			
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*					4		5		1		
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*					2		2				
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)						1	3				
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*					1						
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*				6		167	1	47			598
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*											
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*											
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*					1	2					
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*											
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.						1					
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*											10
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*					1						
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*											
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*											
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*							1				
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*					1						
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*				2	6		5	1	1	9	
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*											
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*											
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*											
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*											
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*											
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*											
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*						3					
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*				1							
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*											
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*											
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*				2							
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*											
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*					1		1				
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)				1							
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.											
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*				101				61	1		

Class/Order/Family	Scientific Name	544LI23-GB049-1	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*											
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*											
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*				9							
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*				2							
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.											
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*											
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*											
Polychaeta /Sabellida /Sabellidae	*Chone magna*											
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*					5	1	9				
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)											
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A											
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*											
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.											
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*					1	4			1	1	
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*							1				
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.				1	1	1	4				
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*											
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*											
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*											
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*											
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.						3					
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*					1						
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.				1							
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*							1				
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*				23				1			14
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*					4		3		1		
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A											
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*											
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*								3			
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*				1							
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*											
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*				2							
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*					4		18				
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*											
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*					1						
Polychaeta /Spionida /Spionidae	*Dispio uncinata*									1	1	
Polychaeta /Spionida /Spionidae	*Polydora cornuta*											
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texan*											
Polychaeta /Spionida /Spionidae	*Spio setosa*				21	1	260	1	19			
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex				1	22	2	48	1	5	1	
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com				2			1				
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*					7	1					
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A				7	1	12					
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B				1				16			
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*				3		2	4		2		
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*											

Class/Order/Family	Scientific Name	544LI23-GB049-1	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*											
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*											
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*					1	7					
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)				15	3	7	10			1	
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.				14	5	66	6		2	4	
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*											
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*											
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*											
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*											
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*				1		1		52			
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*											
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*											
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*											
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*											
/Sipuncula /	Sipuncula sp.											
Arthropoda												
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*											
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*					8	3					
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*											
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*											
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*											
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*				1							
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*											
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*											
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*											
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*	4										
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*										23	
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*	20				2		1		31	107	
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*											
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*											
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*											
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*											
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*											
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*	1						3		3		
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex											
Malacostraca /Amphipoda /Photidae	*Photis pollex*											
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*						1					
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*											
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*					2		1				
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*											
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*				2,575	5	9	6	9	20	359	5
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*				5	8	1	1		1	2	
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*									1		
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*											
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*						1					
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*											

Class/Order/Family	Scientific Name	544LI23-GB049-1	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*											
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*					1	1					
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*											
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*											
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*											
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*											
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*					1						
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*											4
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*					1						
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*											
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*				1	1	1	1			1	
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*										5	
Chordata												
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*				35				4			1
Ascidiacea / /	Ascidiacea sp.				103	1	9		37	3	4	13
Cnidaria												
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*											
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*				1							
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*											
Echinodermata												
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*				22	2		4		4	2	
Hemichordata												
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*											
Mollusca												
Bivalvia /Adapedonta /Pharidae	*Ensis leei*				20		6	4		1		
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*											
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*				5			1				
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.											
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*											
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*											
Bivalvia /Arcida /Arcidae	*Anadara transversa*		1									
Bivalvia /Arcida /Arcidae	Arcidae sp.											
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*											
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.											
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*											
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*				4	4	7	4	1	2		
Bivalvia /Carditida /Astartidae	*Astarte castanea*				6							
Bivalvia /Carditida /Astartidae	*Astarte undata*											
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*											
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*					1						
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*											
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*											
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.											
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.											
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*						1		2			
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*											

Class/Order/Family	Scientific Name	544LI23-GB049-1	544LI23-GB050A-2	[redacted]	544LI23-GB053A-1	544LI23-GB054-1	544LI23-GB055A-2	544LI23-GB056-1	544LI23-GB057-1	544LI23-GB058-1	544LI23-GB059A-1	544LI23-GB060-1
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.											
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.		1									
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*											
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*				4	5	9	2				
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*											
Bivalvia /Venerida /Arcticidae	*Arctica islandica*											
Bivalvia /Venerida /Mactridae	*Spisula solidissima*				1			1		1	1	
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*				2							
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*											
Bivalvia / /	Bivalvia sp.											
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.											
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*											
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*											
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.											
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.											
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*				1							
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*											
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.											
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*						2					
Gastropoda /Nudibranchia /	Nudibranchia sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*											
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.											
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*											
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.											
Gastropoda / /	Gastropoda sp.											
Nemertea												
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*											
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*											
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*				1							
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*				10				3			
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*		1									
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*											
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.											
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*					1		2		2		
Other Taxa												
Phoronida / /Phoronidae	*Phoronis* sp.											
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*						1					
Xenacoelomorpha	Xenacoelomorpha sp. B				1							
Total Abundance		31	90		3,046	119	633	158	351	92	552	742
Total Species (per sample)		5			43	38	36	35	22	27	26	

Class/Order/Family	Scientific Name	544LI23-GB061-3	[redacted]	Total
Annelida				
Clitellata / /	Oligochaeta spp.			1,115
Polychaeta /Canalipalpata /Sabellariidae	*Sabellaria vulgaris*			2
Polychaeta /Eunicida /Dorvilleidae	*Parougia caeca*			43
Polychaeta /Eunicida /Dorvilleidae	*Pettiboneia* sp. A (n. sp.)			12
Polychaeta /Eunicida /Lumbrineridae	*Lumbrinerides acuta*			4
Polychaeta /Eunicida /Lumbrineridae	*Ninoe nigripes*			5
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma acicularum*			49
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma hebes*			36
Polychaeta /Eunicida /Lumbrineridae	*Scoletoma tenuis*			32
Polychaeta /Eunicida /Oenonidae	*Drilonereis longa*			17
Polychaeta /Eunicida /Oenonidae	*Notocirrus spiniferus*			3
Polychaeta /Eunicida /Onuphidae	*Diopatra cuprea*			2
Polychaeta /Eunicida /Onuphidae	*Onuphis eremita oculata*			39
Polychaeta /incertae sedis /Magelonidae	*Magelona brachypalpata*			
Polychaeta /incertae sedis /Magelonidae	*Magelona* sp. C (n. sp.)			
Polychaeta /incertae sedis /Oweniidae	*Owenia artifex*			1
Polychaeta /incertae sedis /Polygordiidae	*Polygordius jouinae*	1		2,438
Polychaeta /Phyllodocida /Aphroditidae	*Aphrodita hastata*			3
Polychaeta /Phyllodocida /Glyceridae	*Glycera americana*			2
Polychaeta /Phyllodocida /Glyceridae	*Glycera dibranchiata*			10
Polychaeta /Phyllodocida /Glyceridae	*Glycera pseudorobusta*			1
Polychaeta /Phyllodocida /Glyceridae	*Glycera* spp.			15
Polychaeta /Phyllodocida /Glyceridae	*Hemipodia simplex*			23
Polychaeta /Phyllodocida /Goniadidae	*Goniadella gracilis*			67
Polychaeta /Phyllodocida /Hesionidae	*Oxydromus obscurus*			1
Polychaeta /Phyllodocida /Microphthalmidae	*Microphthalmus aberrans*			1
Polychaeta /Phyllodocida /Nephtyidae	*Aglaophamus circinata*			23
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys bucera*			9
Polychaeta /Phyllodocida /Nephtyidae	*Nephtys picta*			198
Polychaeta /Phyllodocida /Nereididae	*Neanthes arenaceodentata*			1
Polychaeta /Phyllodocida /Nereididae	*Nereis grayi*			1
Polychaeta /Phyllodocida /Phyllodocidae	*Eumida sanguinea*			11
Polychaeta /Phyllodocida /Phyllodocidae	*Hesionura elongata*			6
Polychaeta /Phyllodocida /Phyllodocidae	*Hypereteone heteropoda*			1
Polychaeta /Phyllodocida /Phyllodocidae	*Paranaitis speciosa*			9
Polychaeta /Phyllodocida /Phyllodocidae	*Phyllodoce arenae*			
Polychaeta /Phyllodocida /Pilargidae	*Ancistrosyllis hartmanae*			19
Polychaeta /Phyllodocida /Polynoidae	*Harmothoe extenuata*			33
Polychaeta /Phyllodocida /Sigalionidae	*Pisione remota*			5
Polychaeta /Phyllodocida /Sigalionidae	*Sigalion arenicola*			29
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais boa*			1
Polychaeta /Phyllodocida /Sigalionidae	*Sthenelais limicola*			
Polychaeta /Phyllodocida /Sphaerodoridae	*Sphaerodoropsis* sp. A (n.sp.)			8
Polychaeta /Phyllodocida /Syllidae	*Brania* sp.			2
Polychaeta /Phyllodocida /Syllidae	*Brania wellfleetensis*			297

Class/Order/Family	Scientific Name	544LI23-GB061-3	[redacted]	Total
Polychaeta /Phyllodocida /Syllidae	*Erinaceusyllis erinaceus*			1
Polychaeta /Phyllodocida /Syllidae	*Parapionosyllis longicirrata*			57
Polychaeta /Phyllodocida /Syllidae	*Parexogone hebes*			104
Polychaeta /Phyllodocida /Syllidae	*Streptosyllis websteri*			9
Polychaeta /Phyllodocida /Syllidae	Syllidae sp.			2
Polychaeta /Phyllodocida /Syllidae	*Syllides convolutus*			4
Polychaeta /Phyllodocida /Syllidae	*Syllis alternata*			1
Polychaeta /Sabellida /Sabellidae	*Chone magna*			1
Polychaeta /Scolecida /Capitellidae	*Amastigos caperatus*			
Polychaeta /Scolecida /Capitellidae	*Capitella capitata* (spp. complex)			10
Polychaeta /Scolecida /Capitellidae	Capitellidae sp. A			2
Polychaeta /Scolecida /Capitellidae	*Mediomastus ambiseta*			7
Polychaeta /Scolecida /Capitellidae	*Mediomastus* sp.			1
Polychaeta /Scolecida /Capitellidae	*Notomastus hemipodus*			17
Polychaeta /Scolecida /Maldanidae	*Clymenella torquata*			3
Polychaeta /Scolecida /Maldanidae	Maldanidae sp.			
Polychaeta /Scolecida /Maldanidae	*Sabaco elongatus*			2
Polychaeta /Scolecida /Opheliidae	*Ophelina acuminata*			11
Polychaeta /Scolecida /Opheliidae	*Ophelina cylindricaudata*			1
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos robustus*			
Polychaeta /Scolecida /Orbiniidae	*Leitoscoloplos* sp.			13
Polychaeta /Scolecida /Orbiniidae	*Orbinia riseri*			6
Polychaeta /Scolecida /Orbiniidae	*Orbinia* sp.			1
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Acmira*) *catherinae*			73
Polychaeta /Scolecida /Paraonidae	*Aricidea (Acmira) cerrutii*			48
Polychaeta /Scolecida /Paraonidae	*Aricidea* (*Aricidea*) *wassi*			57
Polychaeta /Scolecida /Paraonidae	*Cirrophorus* sp. A			9
Polychaeta /Scolecida /Paraonidae	*Levinsenia gracilis*			3
Polychaeta /Scolecida /Paraonidae	*Paradoneis ilvana*			13
Polychaeta /Scolecida /Paraonidae	*Paraonis pygoenigmatica*			6
Polychaeta /Scolecida /Scalibregmatidae	*Scalibregma inflatum*			70
Polychaeta /Scolecida /Travisiidae	*Travisia carnea*			67
Polychaeta /Spionida /Spionidae	*Apoprionospio pygmaea*			47
Polychaeta /Spionida /Spionidae	*Carazziella hobsonae*			3
Polychaeta /Spionida /Spionidae	*Dipolydora socialis*			1,659
Polychaeta /Spionida /Spionidae	*Dispio uncinata*			2
Polychaeta /Spionida /Spionidae	*Polydora cornuta*			27
Polychaeta /Spionida /Spionidae	*Scolelepis* (*Parascolelepis*) *texan*			1
Polychaeta /Spionida /Spionidae	*Spio setosa*			1,530
Polychaeta /Spionida /Spionidae	*Spiophanes bombyx* (spp. complex			25
Polychaeta /Terebellida /Ampharetidae	*Ampharete lindstroemi* (spp. com			70
Polychaeta /Terebellida /Ampharetidae	*Ampharete oculata*			10
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. A			
Polychaeta /Terebellida /Cirratulidae	*Aphelochaeta* sp. B			60
Polychaeta /Terebellida /Cirratulidae	*Caulleriella venefica*			9
Polychaeta /Terebellida /Cirratulidae	*Cirriformia grandis*			5

Class/Order/Family	Scientific Name	544LI23-GB061-3	[redacted]	Total
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia baptisteae*			104
Polychaeta /Terebellida /Cirratulidae	*Kirkegaardia hampsoni*			29
Polychaeta /Terebellida /Cirratulidae	*Tharyx acutus*			42
Polychaeta /Terebellida /Cirratulidae	*Tharyx* sp. A (n. sp.)			98
Polychaeta /Terebellida /Cirratulidae	*Tharyx* spp.			342
Polychaeta /Terebellida /Flabelligeridae	*Bradabyssa villosa*			2
Polychaeta /Terebellida /Flabelligeridae	*Flabelligera affinis*			2
Polychaeta /Terebellida /Flabelligeridae	*Pherusa affinis*			13
Polychaeta /Terebellida /Terebellidae	*Lysilla alba*			3
Polychaeta /Terebellida /Terebellidae	*Polycirrus eximius*			171
Polychaeta /Terebellida /Terebellidae	*Polycirrus phosphoreus*			58
Polychaeta /Terebellida /Trichobranchidae	*Terebellides atlantis*			1
Polychaeta /unassigned /Chaetopteridae	*Spiochaetopterus oculatus*			
/Sipuncula /Golfingiidae	*Phascolopsis gouldii*			3
/Sipuncula /	Sipuncula sp.			1
Arthropoda				
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca vadorum*			235
Malacostraca /Amphipoda /Ampeliscidae	*Ampelisca verrilli*			
Malacostraca /Amphipoda /Ampeliscidae	*Byblis serrata*			140
Malacostraca /Amphipoda /Bathyporeiidae	*Bathyporeia quoddyensis*			2
Malacostraca /Amphipoda /Corophiidae	*Leptocheirus pinguis*			110
Malacostraca /Amphipoda /Corophiidae	*Monocorophium acherusicum*			17
Malacostraca /Amphipoda /Corophiidae	*Monocorophium tuberculatum*			1
Malacostraca /Amphipoda /Dulichiidae	*Dyopedos monacanthus*			12
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius intermedius*			
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius millsi*			4
Malacostraca /Amphipoda /Haustoriidae	*Acanthohaustorius similis*			80
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius* cf. *deichmannae*	17		433
Malacostraca /Amphipoda /Haustoriidae	*Protohaustorius wigleyi*			65
Malacostraca /Amphipoda /Haustoriidae	*Pseudohaustorius caroliniensis*			
Malacostraca /Amphipoda /Ischyroceridae	*Cerapus slayeri*			2
Malacostraca /Amphipoda /Liljeborgiidae	*Idunella smithi*			2
Malacostraca /Amphipoda /Microprotopidae	*Microprotopus raneyi*			1
Malacostraca /Amphipoda /Oedicerotidae	*Americhelidium americanum*			16
Malacostraca /Amphipoda /Oedicerotidae	*Ameroculodes* spp. complex			1
Malacostraca /Amphipoda /Photidae	*Photis pollex*			1
Malacostraca /Amphipoda /Phoxocephalidae	*Phoxocephalus holbolli*			16
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius epistomus*			20
Malacostraca /Amphipoda /Phoxocephalidae	*Rhepoxynius hudsoni*			129
Malacostraca /Amphipoda /Tryphosidae	*Hippomedon serratus*			4
Malacostraca /Amphipoda /Tryphosidae	*Pseudunciola obliquua*	1		16,925
Malacostraca /Amphipoda /Unciolidae	*Unciola irrorata*			359
Malacostraca /Cumacea /Bodotriidae	*Pseudoleptocuma minus*			10
Malacostraca /Cumacea /Diastylidae	*Diastylis polita*			4
Malacostraca /Cumacea /Diastylidae	*Diastylis sculpta*			9
Malacostraca /Decapoda /Callianassidae	*Biffarius biformis*			

Class/Order/Family	Scientific Name	544LI23-GB061-3	[redacted]	Total
Malacostraca /Decapoda /Crangonidae	*Crangon septemspinosa*			1
Malacostraca /Decapoda /Paguridae	*Pagurus annulipes*			10
Malacostraca /Decapoda /Paguridae	*Pagurus longicarpus*			2
Malacostraca /Decapoda /Pinnotheridae	*Dissodactylus mellitae*			3
Malacostraca /Decapoda /Pinnotheridae	*Tubicolixa chaetopterana*			
Malacostraca /Isopoda /Ancinidae	*Ancinus depressus*			2
Malacostraca /Isopoda /Anthuridae	*Ptilanthura tenuis*			
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea coeca*			6
Malacostraca /Isopoda /Chaetiliidae	*Chiridotea tuftsii*			3
Malacostraca /Isopoda /Cirolanidae	*Politolana polita*			3
Malacostraca /Isopoda /Idoteidae	*Edotia triloba*			35
Malacostraca /Tanaidacea /Tanaissuidae	*Tanaissus psammophilus*			150
Chordata				
Ascidiacea /Stolidobranchia /Styelidae	*Cnemidocarpa mollis*			74
Ascidiacea / /	Ascidiacea sp.			382
Cnidaria				
Anthozoa /Actiniaria /Edwardsiidae	*Edwardsia elegans*			1
Anthozoa /Actiniaria /Haloclavidae	*Haloclava producta*			
Anthozoa /Spirularia /Cerianthidae	*Ceriantheopsis americana*			0
Echinodermata				
Echinoidea /Echinolampadacea /Echinarachniidae	*Echinarachnius parma*	1		134
Hemichordata				
Enteropneusta /unassigned /unassigned	*Saccoglossus kowalevskii*			6
Mollusca				
Bivalvia /Adapedonta /Pharidae	*Ensis leei*			156
Bivalvia /Adapedonta /Pharidae	*Siliqua costata*			2
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia arenosa*			12
Bivalvia /Anomalodesmata /Lyonsiidae	*Lyonsia* sp.			42
Bivalvia /Anomalodesmata /Pandoridae	*Pandora gouldiana*			4
Bivalvia /Anomalodesmata /Thraciidae	*Thracia conradi*			1
Bivalvia /Arcida /Arcidae	*Anadara transversa*			1
Bivalvia /Arcida /Arcidae	Arcidae sp.			0
Bivalvia /Cardiida /Cardiidae	*Parvicardium pinnulatum*			22
Bivalvia /Cardiida /Tellinidae	*Ameritella* spp.			24
Bivalvia /Cardiida /Tellinidae	*Ameritella tenella*			3
Bivalvia /Cardiida /Tellinidae	*Ameritella versicolor*			170
Bivalvia /Carditida /Astartidae	*Astarte castanea*			20
Bivalvia /Carditida /Astartidae	*Astarte undata*			2
Bivalvia /Carditida /Carditidae	*Cyclocardia borealis*			5
Bivalvia /Galeommatida /Lasaeidae	*Kelliopsis elevata*			3
Bivalvia /Galeommatida /Lasaeidae	*Kurtiella planulata*			17
Bivalvia /Myida /Corbulidae	*Caryocorbula contracta*			1
Bivalvia /Mytilida /Mytilidae	*Musculus* sp.			4
Bivalvia /Mytilida /Mytilidae	Mytilidae sp.			3
Bivalvia /Mytilida /Mytilidae	*Mytilus edulis*			
Bivalvia /Mytilida /Mytilidae	*Solamen glandula*			1

Class/Order/Family	Scientific Name	544LI23-GB061-3	[redacted]	Total
Bivalvia /Nuculanida /Nuculanidae	Nuculanidae sp.			8
Bivalvia /Nuculanida /Nuculanidae	*Yoldia* sp.			1
Bivalvia /Nuculida /Nuculidae	*Ennucula tenuis*			1
Bivalvia /Nuculida /Nuculidae	*Nucula proxima*			190
Bivalvia /Pectinida /Pectinidae	*Placopecten magellanicus*			7
Bivalvia /Venerida /Arcticidae	*Arctica islandica*			18
Bivalvia /Venerida /Mactridae	*Spisula solidissima*			96
Bivalvia /Venerida /Veneridae	*Agriopoma morrhuanum*			91
Bivalvia /Venerida /Veneridae	*Petricolaria pholadiformis*			22
Bivalvia / /	Bivalvia sp.			24
Gastropoda /Caenogastropoda /Epitoniidae	*Epitonium* sp.			0
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula fornicata*			2
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula plana*			1
Gastropoda /Littorinimorpha /Calyptraeidae	*Crepidula* spp.			6
Gastropoda /Littorinimorpha /Naticidae	Naticidae sp.			1
Gastropoda /Littorinimorpha /Naticidae	*Neverita duplicata*			2
Gastropoda /Littorinimorpha /Naticidae	*Tectonatica pusilla*			1
Gastropoda /Neogastropoda /Columbellidae	*Anachis* sp.			1
Gastropoda /Neogastropoda /Nassariidae	*Ilyanassa trivittata*			18
Gastropoda /Nudibranchia /	Nudibranchia sp.			1
Gastropoda /Pylopulmonata /Pyramidellidae	*Boonea seminuda*			6
Gastropoda /Pylopulmonata /Pyramidellidae	*Odostomia* sp.			8
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla interrupta*			14
Gastropoda /Pylopulmonata /Pyramidellidae	*Turbonilla* sp.			1
Gastropoda / /	Gastropoda sp.			1
Nemertea				
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus bioculatus*			2
Hoplonemertea /Monostilifera /Amphiporidae	*Amphiporus ochraceus*			4
Hoplonemertea /Monostilifera /Tetrastemmatidae	*Tetrastemma wilsoni*			6
Palaeonemertea /Archinemertea /Cephalotrichidae	*Cephalothrix spiralis*			
Palaeonemertea /Tubulaniformes /Carinomellidae	*Carinomella lactea*			
Pilidiophora /Heteronemertea /Lineidae	*Cerebratulus lactea*			2
Pilidiophora /Heteronemertea /Lineidae	*Micrura* sp.			16
Pilidiophora /Heteronemertea /Lineidae	*Zygeupolia rubens*			
Other Taxa				
Phoronida / /Phoronidae	*Phoronis* sp.			4
Platyhelminthes /Polycladida /Stylochidae	*Stylochus ellipticus*			1
Xenacoelomorpha	Xenacoelomorpha sp. B			15
Total Abundance		58		31,034
Total Species (per sample)		24		213

Appendix D

Statistical Results

Statistical analyses performed by Geo SubSea

ANOVA Results - Comparisons Between Nearshore and Offshore Samples

ANOVA Results: Richness ~ Location

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
LOCATION	1	1947	1947	25.99	3.47e-06 ***
Residuals	62	4644	74.9		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

ANOVA Results: Diversity ~ Location

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
LOCATION	1	5.98	5.978	10.25	0.00216**
Residuals	62	36.16	0.583		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

ANOVA Results: Evenness ~ Location

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
LOCATION	1	0.23	0.2304	4.025	0.0492*
Residuals	62	3.549	0.05724		

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

ANOVA Results: Log.Density ~ Location

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
LOCATION	1	1.01	1.007	0.683	0.412
Residuals	62	91.39	1.474		

ANOSIM
Analysis of Similarities

One-Way - A

Resemblance worksheet
Name: Resem5
Data type: Similarity
Selection: All

Factors

Place	Name	Type	Levels	
A	LOCATION	Unordered		2

LOCATION levels
Offshore
Nearshore

Tests for differences between unordered LOCATION groups
Global Test
Sample statistic (R): 0.369
Significance level of sample statistic: 0.1%
Number of permutations: 999 (Random sample from a large number)
Number of permuted statistics greater than or equal to R: 0

Outputs
Plot: Graph5

SIMPER
Similarity Percentages - species contributions

One-Way Analysis

Data worksheet
Name: Fourth Root Transformed Abundances_GB049 Excluded
Data type: Abundance
Sample selection: All
Variable selection: All

Parameters
Resemblance: S17 Bray-Curtis similarity
Cut off for low contributions: 70.00%

Factor Groups

Sample	LOCATION
544LI23-GB001A-1	Offshore
544LI23-GB002-1	Offshore
544LI23-GB003A-1	Offshore
544LI23-GB004-1	Offshore
544LI23-GB005A-1	Offshore
544LI23-GB006-1	Offshore
544LI23-GB007A-1	Offshore
544LI23-GB008-1	Offshore
544LI23-GB009-1	Offshore
544LI23-GB010A-1	Offshore
544LI23-GB011-2	Offshore
544LI23-GB012-1	Offshore
544LI23-GB013-2	Offshore
544LI23-GB014A-1	Offshore
544LI23-GB015A-1	Offshore
544LI23-GB016-2	Offshore
544LI23-GB017A-1	Offshore
544LI23-GB018-1	Offshore
544LI23-GB019A-1	Offshore
544LI23-GB020-1	Offshore
544LI23-GB021-2	Offshore
544LI23-GB022-1	Offshore
544LI23-GB023-1	Offshore
544LI23-GB024-1	Offshore
544LI23-GB025-1	Offshore
544LI23-GB026A-1	Offshore
544LI23-GB027A-1	Offshore
544LI23-GB028A-2	Offshore
544LI23-GB029-5	Offshore
544LI23-GB030A-2	Offshore

544LI23-GB053A-1	Offshore
544LI23-GB054-1	Offshore
544LI23-GB031-2	Nearshore
544LI23-GB032-1	Nearshore
544LI23-GB033-3	Nearshore
544LI23-GB034A-1	Nearshore
544LI23-GB035-1	Nearshore
544LI23-GB036-2	Nearshore
544LI23-GB037A-1	Nearshore
544LI23-GB038A-1	Nearshore
544LI23-GB039-3	Nearshore
544LI23-GB040A-2	Nearshore
544LI23-GB041-2	Nearshore
544LI23-GB042A-2	Nearshore
544LI23-GB043-2	Nearshore
544LI23-GB044-6	Nearshore
544LI23-GB045-1	Nearshore
544LI23-GB046-2	Nearshore
544LI23-GB047A-2	Nearshore
544LI23-GB048A-2	Nearshore
544LI23-GB050A-2	Nearshore
[redacted]	[redacted]
544LI23-GB055A-2	Nearshore
544LI23-GB056-1	Nearshore
544LI23-GB057-1	Nearshore
544LI23-GB058-1	Nearshore
544LI23-GB059A-1	Nearshore
544LI23-GB060-1	Nearshore
544LI23-GB061-3	Nearshore
[redacted]	[redacted]

Group Offshore
Average similarity: 37.08

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Polygordius jouinae	1.99	3.25	1.73	8.77	8.77
Oligochaeta spp.	1.61	2.64	1.71	7.11	15.88
Nephtys picta	1.27	2.46	1.71	6.62	22.5
Tharyx spp.	1.27	2.11	1.6	5.69	28.2
Unciola irrorata	1.25	1.67	1.16	4.52	32.71
Rhepoxynius hudsoni	0.99	1.64	1.09	4.41	37.12
Ampharete lindstroemi (spp. complex)	0.9	1.35	1.03	3.64	40.76
Pseudunciola obliquua	1.45	1.24	0.63	3.34	44.11

Tanaissus psammophilus	0.88	1	0.67	2.69	46.8
Aricidea (Aricidea) wassi	0.72	0.99	0.7	2.67	49.47
Aricidea (Acmira) catherinae	0.74	0.92	0.75	2.47	51.94
Tharyx sp. A (n. sp.)	0.77	0.91	0.75	2.46	54.4
Ameritella versicolor	0.74	0.9	0.7	2.44	56.84
Caulleriella venefica	0.7	0.89	0.64	2.41	59.25
Aphelochaeta sp. A	0.67	0.85	0.7	2.3	61.55
Parexogone hebes	0.72	0.83	0.59	2.24	63.79
Spisula solidissima	0.74	0.74	0.64	2	65.79
Spiophanes bombyx (spp. complex)	0.75	0.73	0.64	1.96	67.75
Echinarachnius parma	0.69	0.67	0.57	1.79	69.54
Maldanidae sp.	0.64	0.65	0.64	1.75	71.29

Group Nearshore
Average similarity: 30.03

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Pseudunciola obliquua	2.31	3.33	0.72	11.09	11.09
Oligochaeta spp.	1.4	2.49	1.02	8.28	19.37
Ameritella versicolor	1	2.01	1.07	6.7	26.07
Tharyx spp.	0.97	1.87	1.08	6.22	32.28
Spiophanes bombyx (spp. complex)	1	1.73	0.87	5.75	38.03
Ascidiacea sp.	1.07	1.67	0.75	5.57	43.6
Polygordius jouinae	1.22	1.52	0.65	5.07	48.67
Nephtys picta	0.82	1.42	0.76	4.74	53.41
Protohaustorius cf. deichmannae	0.89	1.13	0.48	3.78	57.18
Caulleriella venefica	0.68	1.06	0.65	3.52	60.7
Ensis leei	0.77	1	0.59	3.33	64.02
Unciola irrorata	0.64	0.94	0.65	3.14	67.16
Ampharete oculata	0.6	0.79	0.49	2.64	69.8
Cephalothrix spiralis	0.43	0.49	0.39	1.64	71.44

Groups Offshore & Nearshore
Average dissimilarity = 73.78

	Group Offs	Group Nea				
Species	Av.Abu	Av.Abu	Av.Diss	Diss/SD	Contrib%	Cum.%
Pseudunciola obliquua	1.45	2.31	3.07	1.05	4.16	4.16
Polygordius jouinae	1.99	1.22	2.02	1.51	2.73	6.9
Ascidiacea sp.	0.3	1.07	1.43	1.17	1.94	8.84
Oligochaeta spp.	1.61	1.4	1.41	1.23	1.92	10.76
Protohaustorius cf. deichmannae	0.15	0.89	1.32	0.85	1.78	12.54
Spio setosa	0.9	0.61	1.27	0.95	1.72	14.26
Unciola irrorata	1.25	0.64	1.2	1.33	1.63	15.89
Tanaissus psammophilus	0.88	0.12	1.19	1.09	1.61	17.5
Rhepoxynius hudsoni	0.99	0.4	1.18	1.37	1.6	19.1
Ampharete lindstroemi (spp. complex)	0.9	0.1	1.16	1.4	1.57	20.67

Spiophanes bombyx (spp. complex)	0.75	1	1.15	1.18	1.57	22.24
Ensis leei	0.53	0.77	1.05	1.09	1.43	23.67
Parexogone hebes	0.72	0.22	1.04	1.04	1.41	25.08
Echinarachnius parma	0.69	0.5	1.01	1.06	1.37	26.45
Ameritella versicolor	0.74	1	0.99	1.14	1.34	27.79
Nephtys picta	1.27	0.82	0.98	1.11	1.33	29.12
Tharyx sp. A (n. sp.)	0.77	0.35	0.98	1.19	1.32	30.45
Aricidea (Aricidea) wassi	0.72	0.24	0.98	1.1	1.32	31.77
Tharyx spp.	1.27	0.97	0.97	1.18	1.32	33.09
Aricidea (Acmira) catherinae	0.74	0.32	0.96	1.15	1.31	34.39
Spisula solidissima	0.74	0.34	0.96	1.06	1.3	35.69
Aphelochaeta sp. A	0.67	0.14	0.93	1.18	1.27	36.96
Ampharete oculata	0.35	0.6	0.93	0.93	1.26	38.22
Caulleriella venefica	0.7	0.68	0.92	1.1	1.25	39.47
Nucula proxima	0.61	0.48	0.91	1.04	1.23	40.71
Byblis serrata	0.64	0	0.91	0.72	1.23	41.94
Cephalothrix spiralis	0.58	0.43	0.86	1.03	1.17	43.1
Carinomella lactea	0.63	0.16	0.86	0.93	1.17	44.27
Kirkegaardia baptisteae	0.63	0	0.86	0.88	1.17	45.44
Maldanidae sp.	0.64	0.25	0.81	1.07	1.1	46.54
Scoletoma acicularum	0.58	0.03	0.78	0.94	1.06	47.6
Zygeupolia rubens	0.49	0.25	0.76	0.92	1.03	48.63
Cnemidocarpa mollis	0.48	0.33	0.76	0.91	1.03	49.66
Protohaustorius wigleyi	0.49	0.14	0.75	0.82	1.02	50.68
Lyonsia sp.	0.6	0	0.74	0.95	1.01	51.69
Brania wellfleetensis	0.1	0.51	0.73	0.58	0.99	52.67
Goniadella gracilis	0.46	0.14	0.71	0.74	0.96	53.64
Amastigos caperatus	0.12	0.46	0.7	0.68	0.95	54.58
Parougia caeca	0.53	0.1	0.69	0.87	0.94	55.52
Onuphis eremita oculata	0.2	0.44	0.69	0.83	0.93	56.45
Acanthohaustorius similis	0.1	0.43	0.67	0.64	0.91	57.36
Edotia triloba	0.23	0.4	0.66	0.79	0.89	58.25
Mytilus edulis	0.1	0.46	0.65	0.68	0.88	59.13
Travisia carnea	0.15	0.4	0.64	0.66	0.87	60
Polycirrus eximius	0.22	0.36	0.64	0.6	0.86	60.86
Aphelochaeta sp. B	0.12	0.43	0.62	0.68	0.85	61.71
Agriopoma morrhuanum	0.49	0.04	0.59	0.71	0.79	62.5
Sigalion arenicola	0.39	0.09	0.58	0.72	0.79	63.29
Aglaophamus circinata	0.4	0.03	0.56	0.69	0.76	64.05
Magelona brachypalpata	0.24	0.25	0.55	0.7	0.74	64.79
Sthenelais limicola	0.3	0.19	0.53	0.74	0.71	65.5
Scalibregma inflatum	0.35	0.03	0.51	0.57	0.68	66.19
Parapionosyllis longicirrata	0.05	0.33	0.49	0.53	0.66	66.85
Ampelisca vadorum	0.44	0	0.48	0.56	0.65	67.5
Apoprionospio pygmaea	0.11	0.3	0.48	0.57	0.65	68.14
Magelona sp. C (n. sp.)	0.16	0.26	0.48	0.67	0.65	68.79
Ampelisca verrilli	0.05	0.32	0.48	0.52	0.65	69.44
Polycirrus phosphoreus	0.4	0	0.45	0.63	0.61	70.05

ANOVA Results - Comparisons Between CMECS Substrate Groups

ANOVA Results: Richness ~ CMECS Group

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
CMECS Group	2	462	231	2.299	0.109
Residuals	61	6129	100.5		

ANOVA Results: Diversity ~ CMECS Group

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
CMECS Group	2	0.21	0.1058	0.154	0.858
Residuals	61	41.93	0.6874		

ANOVA Results: Evenness ~ CMECS Group

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
CMECS Group	2	0.009	0.00426	0.069	0.934
Residuals	61	3.771	0.06182		

ANOVA Results: Log.Density ~ CMECS Group

	Df	Sum Sq	Mean Sq	F Value	Pr (>F)
CMECS Group	2	5.01	2.505	1.748	0.183
Residuals	61	87.39	1.433		

ANOSIM
Analysis of Similarities

One-Way - A

Resemblance worksheet
Name: Resem7
Data type: Similarity
Selection: All

Factors

Place	Name	Type	Levels
A	CMECS GROUP	Unordered	3

CMECS GROUP levels
Sand
Gravelly
Gravel Mixes

Tests for differences between unordered CMECS GROUP groups
Global Test
Sample statistic (R): 0.283
Significance level of sample statistic: 0.3%
Number of permutations: 999 (Random sample from a large number)
Number of permuted statistics greater than or equal to R: 2

Pairwise Tests

Groups	R Statistic	Significance Level %	Possible Permutations	Actual Permutations	Number >= Observed	
Sand, Gravelly	0.246	0.8	Very large	999	7	
Sand, Gravel Mixes	0.44	0.3	341055	999	2	
Gravelly, Gravel Mixes	-0.107	74.8	715	715	535	

Outputs
Plot: Graph7

SIMPER
Similarity Percentages - species contributions

One-Way Analysis

Data worksheet
Name: Fourth Root Transformed Abundances_GB049 Excluded
Data type: Abundance
Sample selection: All
Variable selection: All

Parameters
Resemblance: S17 Bray-Curtis similarity
Cut off for low contributions: 70.00%

Factor Groups

Sample	CMECS GROUP
544LI23-GB001A-1	Sand
544LI23-GB002-1	Sand
544LI23-GB003A-1	Sand
544LI23-GB004-1	Sand
544LI23-GB005A-1	Sand
544LI23-GB006-1	Sand
544LI23-GB007A-1	Sand
544LI23-GB008-1	Sand
544LI23-GB009-1	Sand
544LI23-GB010A-1	Sand
544LI23-GB011-2	Sand
544LI23-GB012-1	Sand
544LI23-GB013-2	Sand
544LI23-GB014A-1	Sand
544LI23-GB015A-1	Sand
544LI23-GB016-2	Sand
544LI23-GB017A-1	Sand
544LI23-GB018-1	Sand
544LI23-GB019A-1	Sand
544LI23-GB020-1	Sand
544LI23-GB022-1	Sand
544LI23-GB024-1	Sand
544LI23-GB026A-1	Sand
544LI23-GB027A-1	Sand
544LI23-GB028A-2	Sand
544LI23-GB029-5	Sand
544LI23-GB031-2	Sand
544LI23-GB032-1	Sand
544LI23-GB034A-1	Sand
544LI23-GB036-2	Sand

544LI23-GB038A-1	Sand
544LI23-GB040A-2	Sand
544LI23-GB042A-2	Sand
544LI23-GB044-6	Sand
544LI23-GB046-2	Sand
544LI23-GB047A-2	Sand
544LI23-GB048A-2	Sand
544LI23-GB050A-2	Sand
[redacted]	[redacted]
544LI23-GB053A-1	Sand
544LI23-GB054-1	Sand
544LI23-GB056-1	Sand
544LI23-GB058-1	Sand
544LI23-GB059A-1	Sand
544LI23-GB060-1	Sand
544LI23-GB061-3	Sand
[redacted]	[redacted]
544LI23-GB021-2	Gravelly
544LI23-GB023-1	Gravelly
544LI23-GB025-1	Gravelly
544LI23-GB030A-2	Gravelly
544LI23-GB037A-1	Gravelly
544LI23-GB041-2	Gravelly
544LI23-GB045-1	Gravelly
544LI23-GB055A-2	Gravelly
544LI23-GB057-1	Gravelly
544LI23-GB033-3	Gravel Mixes
544LI23-GB035-1	Gravel Mixes
544LI23-GB039-3	Gravel Mixes
544LI23-GB043-2	Gravel Mixes

Group Sand
Average similarity: 31.65

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Nephtys picta	1.15	2.42	1.39	7.64	7.64
Pseudunciola obliquua	2.01	2.37	0.65	7.48	15.12
Oligochaeta spp.	1.3	2.36	1.19	7.44	22.56
Tharyx spp.	1.07	2.13	1.34	6.73	29.28
Polygordius jouinae	1.41	2	0.88	6.33	35.62
Ameritella versicolor	0.9	1.62	0.94	5.13	40.74
Caulleriella venefica	0.78	1.28	0.77	4.04	44.78
Rhepoxynius hudsoni	0.82	1.25	0.77	3.93	48.72

Unciola irrorata	0.9	1.23	0.81	3.88	52.6
Spiophanes bombyx (spp. complex)	0.86	1.2	0.71	3.79	56.39
Echinarachnius parma	0.7	0.8	0.58	2.52	58.91
Aricidea (Aricidea) wassi	0.58	0.68	0.54	2.16	61.07
Ensis leei	0.63	0.63	0.48	1.98	63.05
Tharyx sp. A (n. sp.)	0.58	0.61	0.54	1.94	64.99
Parexogone hebes	0.56	0.55	0.43	1.73	66.71
Aricidea (Acmira) catherinae	0.51	0.52	0.45	1.64	68.35
Cephalothrix spiralis	0.49	0.51	0.43	1.61	69.96
Ampharete lindstroemi (spp. complex)	0.54	0.51	0.48	1.61	71.57

Group Gravelly
Average similarity: 31.19

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Polygordius jouinae	2.25	3.4	1.56	10.89	10.89
Oligochaeta spp.	2	2.98	1.57	9.56	20.45
Spio setosa	2.29	2.76	1.43	8.85	29.29
Ascidiacea sp.	1.33	1.78	0.78	5.71	35
Pseudunciola obliquua	1.63	1.53	0.73	4.89	39.89
Tharyx spp.	1.44	1.5	1.08	4.81	44.7
Spiophanes bombyx (spp. complex)	1.14	1.38	1.12	4.42	49.12
Mytilus edulis	1.02	1.24	1.09	3.96	53.08
Nephtys picta	0.89	0.98	0.78	3.15	56.23
Aphelochaeta sp. B	0.82	0.84	0.58	2.7	58.92
Unciola irrorata	1.02	0.79	0.82	2.53	61.45
Maldanidae sp.	0.83	0.75	0.81	2.42	63.87
Polycirrus eximius	0.96	0.73	0.55	2.33	66.2
Ameritella versicolor	0.72	0.69	0.61	2.22	68.42
Nucula proxima	0.83	0.62	0.59	1.99	70.41

Group Gravel Mixes
Average similarity: 45.52

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Oligochaeta spp.	2.94	6.48	3.64	14.25	14.25
Polygordius jouinae	2.61	4.32	2.65	9.5	23.74
Ascidiacea sp.	1.69	3.82	4.63	8.39	32.13
Aphelochaeta sp. B	1.34	2.84	7.27	6.25	38.38
Unciola irrorata	1.33	2.82	6.65	6.2	44.58
Brania wellfleetensis	1.73	2.58	0.87	5.67	50.24
Parapionosyllis longicirrata	1.34	2.18	0.89	4.8	55.04
Polycirrus eximius	1.49	2.12	0.84	4.66	59.7
Spio setosa	1.41	1.83	0.9	4.01	63.71
Ancistrosyllis hartmanae	1.03	1.49	0.9	3.27	66.98
Mytilus edulis	0.93	1.4	0.89	3.08	70.06

Groups Sand & Gravelly
Average dissimilarity = 73.08

Species	Group San Av.Abund	Group Gra Av.Abu	Av.Diss	Diss/SD	Contrib%	Cum.%
Pseudunciola obliquua	2.01	1.63	2.58	1.04	3.54	3.54
Spio setosa	0.43	2.29	2.4	1.55	3.29	6.83
Polygordius jouinae	1.41	2.25	1.79	1.35	2.45	9.28
Ascidiacea sp.	0.5	1.33	1.6	1.21	2.19	11.47
Oligochaeta spp.	1.3	2	1.41	1.2	1.93	13.4
Mytilus edulis	0.1	1.02	1.22	1.17	1.67	15.07
Polycirrus eximius	0.08	0.96	1.19	0.89	1.63	16.7
Tharyx spp.	1.07	1.44	1.14	1.29	1.56	18.26
Aphelochaeta sp. B	0.09	0.82	1.1	0.99	1.51	19.77
Unciola irrorata	0.9	1.02	1.06	1.23	1.45	21.22
Spiophanes bombyx (spp. complex)	0.86	1.14	1.05	1.19	1.44	22.65
Nucula proxima	0.48	0.83	0.96	1.16	1.31	23.97
Ensis leei	0.63	0.63	0.96	1.02	1.31	25.28
Protohaustorius cf. deichmannae	0.6	0.33	0.94	0.74	1.29	26.57
Rhepoxynius hudsoni	0.82	0.28	0.94	1.19	1.28	27.85
Travisia carnea	0.25	0.54	0.9	0.71	1.24	29.09
Ameritella versicolor	0.9	0.72	0.88	1.18	1.21	30.3
Echinarachnius parma	0.7	0.3	0.87	0.99	1.19	31.49
Nephtys picta	1.15	0.89	0.85	1.07	1.17	32.66
Maldanidae sp.	0.34	0.83	0.85	1.18	1.16	33.82
Tanaissus psammophilus	0.57	0.36	0.84	0.87	1.15	34.97
Spisula solidissima	0.52	0.67	0.84	1.08	1.15	36.12
Tharyx sp. A (n. sp.)	0.58	0.52	0.83	1.09	1.13	37.26
Cnemidocarpa mollis	0.39	0.55	0.82	0.92	1.13	38.39
Caulleriella venefica	0.78	0.5	0.82	1.12	1.13	39.51
Cephalothrix spiralis	0.49	0.57	0.81	1.02	1.1	40.61
Ampharete oculata	0.48	0.55	0.8	0.99	1.1	41.71
Aricidea (Acmira) catherinae	0.51	0.61	0.79	1.04	1.08	42.79
Aphelochaeta sp. A	0.42	0.52	0.76	0.97	1.05	43.84
Tharyx acutus	0.08	0.72	0.75	0.89	1.03	44.87
Brania wellfleetensis	0.17	0.44	0.74	0.55	1.01	45.88
Bivalvia sp.	0.13	0.67	0.73	1.08	1	46.88
Parexogone hebes	0.56	0.15	0.72	0.84	0.98	47.86
Aricidea (Aricidea) wassi	0.58	0.13	0.7	0.95	0.96	48.82
Ampharete lindstroemi (spp. complex)	0.54	0.39	0.69	0.98	0.94	49.77
Kirkegaardia baptisteae	0.32	0.44	0.68	0.74	0.94	50.7
Parougia caeca	0.31	0.5	0.67	0.95	0.92	51.62
Agriopoma morrhuanum	0.25	0.5	0.64	0.7	0.87	52.49
Goniadella gracilis	0.27	0.39	0.63	0.72	0.87	53.36
Carinomella lactea	0.42	0.28	0.62	0.81	0.84	54.2
Zygeupolia rubens	0.42	0.26	0.61	0.85	0.83	55.04
Ampelisca vadorum	0.19	0.49	0.57	0.58	0.78	55.82

Byblis serrata	0.36	0.24	0.57	0.66	0.78	56.59
Scoletoma tenuis	0	0.44	0.55	0.67	0.76	57.35
Paradoneis ilvana	0	0.45	0.55	0.69	0.75	58.1
Parapionosyllis longicirrata	0.07	0.38	0.54	0.57	0.74	58.85
Acanthohaustorius similis	0.3	0.17	0.54	0.58	0.73	59.58
Harmothoe extenuata	0.12	0.43	0.53	0.72	0.73	60.31
Scoletoma acicularum	0.34	0.27	0.52	0.78	0.72	61.03
Aricidea (Acmira) cerrutii	0.11	0.29	0.52	0.56	0.72	61.74
Glycera spp.	0.13	0.47	0.52	0.9	0.71	62.45
Protohaustorius wigleyi	0.37	0.15	0.52	0.68	0.71	63.16
Notomastus hemipodus	0.18	0.38	0.52	0.78	0.71	63.87
Ameritella spp.	0.17	0.39	0.51	0.75	0.7	64.57
Amastigos caperatus	0.34	0.11	0.49	0.6	0.68	65.24
Edotia triloba	0.36	0.11	0.49	0.69	0.66	65.91
Onuphis eremita oculata	0.4	0	0.49	0.68	0.66	66.57
Drilonereis longa	0.07	0.41	0.47	0.67	0.65	67.22
Lyonsia sp.	0.34	0.22	0.47	0.77	0.64	67.86
Magelona brachypalpata	0.28	0.13	0.45	0.65	0.61	68.47
Leptocheirus pinguis	0.08	0.43	0.44	0.55	0.61	69.08
Diastylis sculpta	0.08	0.35	0.44	0.74	0.6	69.68
Magelona sp. C (n. sp.)	0.23	0.22	0.44	0.7	0.6	70.28

Groups Sand & Gravel Mixes
Average dissimilarity = 76.70

	Group San	Group Gra				
Species	Av.Abund	Av.Ab	Av.Diss	Diss/SD	Contrib%	Cum.%
Pseudunciola obliquua	2.01	0.74	2.47	0.98	3.22	3.22
Brania wellfleetensis	0.17	1.73	2.38	1.38	3.1	6.32
Oligochaeta spp.	1.3	2.94	2.32	1.59	3.03	9.35
Polygordius jouinae	1.41	2.61	2.24	1.45	2.91	12.27
Polycirrus eximius	0.08	1.49	2.06	1.39	2.68	14.95
Ascidiacea sp.	0.5	1.69	1.82	1.84	2.37	17.32
Parapionosyllis longicirrata	0.07	1.34	1.78	1.58	2.33	19.64
Aphelochaeta sp. B	0.09	1.34	1.69	3.25	2.21	21.85
Spio setosa	0.43	1.41	1.67	1.53	2.17	24.02
Nephtys picta	1.15	0	1.52	1.95	1.99	26.01
Ancistrosyllis hartmanae	0.09	1.03	1.27	1.56	1.66	27.67
Mytilus edulis	0.1	0.93	1.23	1.45	1.61	29.28
Harmothoe extenuata	0.12	0.89	1.12	1.52	1.47	30.75
Ameritella versicolor	0.9	0.77	1.12	1.25	1.46	32.21
Ensis leei	0.63	1	1.1	1.28	1.43	33.64
Rhepoxynius hudsoni	0.82	0	1.08	1.21	1.41	35.05
Caulleriella venefica	0.78	0	1.05	1.21	1.37	36.42
Spiophanes bombyx (spp. complex)	0.86	0.55	1.03	1.1	1.34	37.77
Kurtiella planulata	0.06	0.73	1.02	0.88	1.34	39.1
Polydora cornuta	0.06	0.82	1.02	0.94	1.33	40.43

Scoletoma tenuis	0	0.83	0.99	0.97	1.3	41.73
Maldanidae sp.	0.34	0.9	0.99	1.32	1.29	43.01
Unciola irrorata	0.9	1.33	0.98	1.24	1.28	44.3
Nucula proxima	0.48	0.72	0.97	1.14	1.26	45.56
Glycera dibranchiata	0.08	0.75	0.96	1.43	1.25	46.8
Tharyx spp.	1.07	1.05	0.96	1.17	1.25	48.05
Boonea seminuda	0	0.62	0.95	0.95	1.23	49.28
Echinarachnius parma	0.7	0	0.89	0.95	1.16	50.45
Tharyx sp. A (n. sp.)	0.58	0.37	0.87	1.04	1.14	51.59
Protohaustorius cf. deichmannae	0.6	0	0.87	0.61	1.14	52.72
Aricidea (Acmira) catherinae	0.51	0.63	0.87	1.05	1.14	53.86
Spisula solidissima	0.52	0.5	0.81	1.04	1.05	54.91
Crepidula spp.	0.02	0.58	0.81	0.94	1.05	55.96
Cephalothrix spiralis	0.49	0.5	0.8	1.09	1.05	57.01
Leitoscoloplos sp.	0.06	0.64	0.8	0.99	1.04	58.04
Ampharete lindstroemi (spp. complex)	0.54	0.33	0.77	0.96	1	59.04
Aricidea (Aricidea) wassi	0.58	0	0.75	0.93	0.98	60.03
Parexogone hebes	0.56	0	0.75	0.79	0.97	61
Ampharete oculata	0.48	0.25	0.75	0.82	0.97	61.97
Goniadella gracilis	0.27	0.5	0.71	0.96	0.93	62.9
Tanaissus psammophilus	0.57	0	0.7	0.74	0.91	63.81
Glycera spp.	0.13	0.5	0.7	0.98	0.91	64.72
Cnemidocarpa mollis	0.39	0.33	0.69	0.85	0.9	65.62
Eumida sanguinea	0.05	0.55	0.67	0.96	0.88	66.49
Saccoglossus kowalevskii	0.02	0.5	0.64	0.96	0.83	67.33
Carinomella lactea	0.42	0.25	0.64	0.82	0.83	68.16
Edotia triloba	0.36	0.25	0.62	0.8	0.81	68.97
Zygeupolia rubens	0.42	0	0.56	0.75	0.73	69.7
Onuphis eremita oculata	0.4	0	0.54	0.69	0.7	70.4

Groups Gravelly & Gravel Mixes
Average dissimilarity = 64.76

	Group Gra	Group Gra				
Species	Av.Abu	Av.Ab	Av.Diss	Diss/SD	Contrib%	Cum.%
Brania wellfleetensis	0.44	1.73	1.86	1.36	2.87	2.87
Pseudunciola obliquua	1.63	0.74	1.72	0.89	2.66	5.53
Spio setosa	2.29	1.41	1.65	1.21	2.54	8.07
Polygordius jouinae	2.25	2.61	1.5	1.49	2.31	10.38
Polycirrus eximius	0.96	1.49	1.45	1.31	2.23	12.62
Parapionosyllis longicirrata	0.38	1.34	1.32	1.28	2.04	14.66
Oligochaeta spp.	2	2.94	1.28	1.18	1.98	16.64
Tharyx spp.	1.44	1.05	1.14	1.26	1.75	18.39
Ancistrosyllis hartmanae	0.22	1.03	1.01	1.49	1.57	19.96
Nephtys picta	0.89	0	1	1.26	1.55	21.51
Spiophanes bombyx (spp. complex)	1.14	0.55	0.99	1.16	1.53	23.04
Ensis leei	0.63	1	0.98	1.29	1.51	24.55

Unciola irrorata	1.02	1.33	0.95	1.27	1.47	26.02
Scoletoma tenuis	0.44	0.83	0.94	1.15	1.46	27.48
Ascidiacea sp.	1.33	1.69	0.94	1.44	1.45	28.92
Ameritella versicolor	0.72	0.77	0.93	1.23	1.43	30.35
Nucula proxima	0.83	0.72	0.92	1.13	1.42	31.77
Polydora cornuta	0.17	0.82	0.9	0.94	1.38	33.16
Harmothoe extenuata	0.43	0.89	0.88	1.34	1.36	34.52
Aphelochaeta sp. B	0.82	1.34	0.87	1.53	1.34	35.86
Kurtiella planulata	0.13	0.73	0.86	0.89	1.33	37.19
Mytilus edulis	1.02	0.93	0.82	1.02	1.27	38.46
Boonea seminuda	0	0.62	0.79	0.93	1.21	39.67
Maldanidae sp.	0.83	0.9	0.78	1.15	1.2	40.87
Cnemidocarpa mollis	0.55	0.33	0.78	0.91	1.2	42.07
Travisia carnea	0.54	0	0.77	0.61	1.18	43.25
Aricidea (Acmira) catherinae	0.61	0.63	0.76	1.05	1.17	44.43
Glycera dibranchiata	0.24	0.75	0.75	1.29	1.16	45.59
Cephalothrix spiralis	0.57	0.5	0.73	1.2	1.13	46.71
Goniadella gracilis	0.39	0.5	0.71	1.05	1.1	47.81
Tharyx sp. A (n. sp.)	0.52	0.37	0.71	0.85	1.09	48.91
Leitoscoloplos sp.	0.15	0.64	0.71	0.99	1.09	50
Spisula solidissima	0.67	0.5	0.7	1.03	1.08	51.08
Tharyx acutus	0.72	0	0.7	0.84	1.08	52.16
Bivalvia sp.	0.67	0	0.69	1.07	1.06	53.22
Crepidula spp.	0.11	0.58	0.68	0.95	1.05	54.27
Paradoneis ilvana	0.45	0.33	0.65	0.82	1	55.27
Ampharete oculata	0.55	0.25	0.61	0.94	0.95	56.22
Eumida sanguinea	0.15	0.55	0.61	0.97	0.94	57.16
Glycera spp.	0.47	0.5	0.6	0.98	0.92	58.08
Caulleriella venefica	0.5	0	0.58	0.87	0.9	58.97
Saccoglossus kowalevskii	0.24	0.5	0.58	0.98	0.89	59.86
Parougia caeca	0.5	0	0.56	0.84	0.86	60.73
Aphelochaeta sp. A	0.52	0	0.54	0.68	0.83	61.56
Ampharete lindstroemi (spp. complex)	0.39	0.33	0.52	0.85	0.81	62.37
Notomastus hemipodus	0.38	0.25	0.52	0.83	0.8	63.16
Ameritella spp.	0.39	0.25	0.5	0.82	0.76	63.93
Tanaissus psammophilus	0.36	0	0.47	0.52	0.72	64.65
Monocorophium acherusicum	0.2	0.25	0.46	0.63	0.71	65.36
Agriopoma morrhuanum	0.5	0	0.45	0.51	0.7	66.05
Parvicardium pinnulatum	0.28	0.3	0.44	0.76	0.67	66.73
Hemipodia simplex	0.13	0.25	0.43	0.65	0.67	67.39
Cirriformia grandis	0	0.35	0.43	0.56	0.66	68.06
Kirkegaardia baptisteae	0.44	0	0.43	0.49	0.66	68.72
Ampelisca vadorum	0.49	0	0.42	0.45	0.66	69.37
Carinomella lactea	0.28	0.25	0.42	0.72	0.65	70.02

Appendix E

Fauna and Flora Observed

Fauna and flora identified by Maxon Consulting and Geo SubSea

Table created by Geo SubSea

Empty cells indicate that no individuals were observed

Taxa Group	Common Name	Lowest Taxonomic Grouping	544LI23-VT001	544LI23-VT002	544LI23-VT003	544LI23-VT004	544LI23-VT005	544LI23-VT006	544LI23-VT007	544LI23-VT008	544LI23-VT009	544LI23-VT010	544LI23-VT011	544LI23-VT012	544LI23-VT013	544LI23-VT014	544LI23-VT015	544LI23-VT016	544LI23-VT017	544LI23-VT018	544LI23-VT019
Invertebrates																					
Arthropoda	Hermit Crabs	*Pagurus* sp.	18	13	15	15	7	2	18	14	13	21	11	10	7	11	10	7	6	1	1
	Horseshoe Crab	*Limulus polyphemus*																			
	Lady Crab	*Ovalipes ocellatus*																			
	Mud Crab	Panopeidae																10			
	Portly Spider Crab	*Libinia emarginata*																			
	Rock Crab	*Cancer* sp.	4	1	7	10	8	1	4	7	13	5	2	3			1	4	1	3	2
	Unidentified Shrimp	Mysida							>100	>50	1										
Annelida	Echiurid Spoon Worm	Echiuridae										1									
	Spoon Worm	Echiuroidea																			1
Bivalvia	Atlantic Sea Scallop	*Placopecten magellanicus*	2			4	1		1	2								2			
	Blue Mussel	*Mytilus edulis*																			
Bryozoa	Attached Bryozoa Colony	*Bugula* sp.				1															
Cephalopoda	Northern Shortfin Squid	*Illex illecebrosus*																			
	Longfin Squid	*Doryteuthis pealeii*	1																		
	Unidentified Squid	Coleoidea																			
Chordata	Mud Tunicates	*Molgula* sp.																			
	Unidentified Tunicate	Tunicata		1																	
Ctenophora	Comb Jelly	Ctenophora								6	1										
Echinodermata	Common Sea Star	*Asterias rubens*	1	1	5			17	1	4		1	1			7	17	35			
	Sea Cucumber	*Caudina* sp.																			
	Transleucent Sea Cucumber	Leptosynapta/Chiridota		2											1						
Gastropoda	Northern Moonsnail	*Euspira heros*	1	3	1	1	1		2	1	1	9		4	4	1	2	1	2	3	
	Unidentified Whelk	Nassariidae		2																	
Hydrozoa	Unidentified Hydrozoa Colony	Hydrozoa																			
Non-Scleractinian Anthozoa	Burrowing Anemone	Edwardsiidae	1					1									1				
	Sea Pen	Pennatulidae																			
Phoronida	Tube Builder	Phoronida																			
Porifera	Boring Sponge	*Cliona celata*	9	6	4	3	2	2	2	12		5	2	1	2	2	1				
	Red Beard Sponge	*Microciona prolifera*																			
	Unidentified Sponge	Porifera																			
Unidentified	Unidentified Tube Worm																	1			
	Unidentified Invertebrate															1		11			
Vertebrates																					
Acanthuriformes	Northern Kingfish	*Menticirrhus saxatilis*																			
Gadiformes	Red Hake	*Urophycis chuss*		1																	
	Spotted Hake	*Urophycis regia*																			
	White Hake	*Urophycis tenuis*							1	1											
	Unidentified Hake	Phycidae								1									1		
Perciformes	Bluefish	*Pomatomus saltatrix*																			
	Black Sea Bass	*Centropristis striata*																			
	Sandperch	*Diplectrum formosum*		1					1											1	
	Scup	*Stenotomus chrysops*								1				1							
Pleuronectiformes	Summer Flounder	*Paralichthys dentatus*				1								1		1				1	
	Winter Flounder	*Pseudopleuronectes americanus*															1	1			
	Unidentified Flounder	Pleuronectiformes					1										1	1		1	
Rajiformes	Clearnose Skate	*Raja eglanteria*							1												
	Little Skate	*Leucoraja erinacea*						3	2	2	1	2	1				1			1	4
	Unidentified Skate	Rajidae																			
Scombriformes	American Butterfish	*Peprilus triacanthus*							1	2	24		3								
Scorpaeniformes	Northern Sea Robin	*Prionotus carolinus*			1		1	2	3	3	1	1	4		6	9	7	7	5	4	3
	Striped Sea Robin	*Prionotus evolans*																			
Squaliformes	Spiny Dogfish	*Squalus acanthias*																			
Unidentified	Unidentified Fish							1						1				1			
Eggs																					
Cephalopoda	Squid Egg Mop															1					
Gastropoda	Moon Snail Egg Collar		2				3	4		1	2	10	4			1	5	1	1	2	2
Rajiformes	Skate Egg Case		1			3		6			1						1				
Flora																					
Chlorophyta	Sea Lettuce	*Ulva* sp.																			
	Unidentified Green Algae																				
Rhodophyta	Unidentified Red Algae	Possibly *Ahnfeltia plicata*																			
Phaeophyta	Unidentified Brown Algae	Possibly *Punctaria* sp.																			

Taxa Group	Common Name	Lowest Taxonomic Grouping	544LI23-VT020	544LI23-VT021	544LI23-VT022	544LI23-VT023	544LI23-VT024	544LI23-VT025	544LI23-VT026	544LI23-VT027	544LI23-VT028	544LI23-VT029	544LI23-VT030	544LI23-VT031	544LI23-VT032	544LI23-VT033	544LI23-VT034	544LI23-VT035	544LI23-VT036	544LI23-VT037	544LI23-VT038
Invertebrates																					
Arthropoda	Hermit Crabs	*Pagurus* sp.			1	1			3		2	1	6	1	22	10	18	3	32	>50	>50
	Horseshoe Crab	*Limulus polyphemus*																1			
	Lady Crab	*Ovalipes ocellatus*																			
	Mud Crab	Panopeidae	3	7			1		3						2	3	2				
	Portly Spider Crab	*Libinia emarginata*										1		129			2	7	2		1
	Rock Crab	*Cancer* sp.	4			2	1		4		3						1		1		
	Unidentified Shrimp	Mysida																			
Annelida	Echiurid Spoon Worm	Echiuridae									2						1				
	Spoon Worm	Echiuroidea																			
Bivalvia	Atlantic Sea Scallop	*Placopecten magellanicus*									2										
	Blue Mussel	*Mytilus edulis*							14												
Bryozoa	Attached Bryozoa Colony	*Bugula* sp.							3							1	1				
Cephalopoda	Northern Shortfin Squid	*Illex illecebrosus*												1			2			1	
	Longfin Squid	*Doryteuthis pealeii*			4																
	Unidentified Squid	Coleoidea			1	1								6				11			
Chordata	Mud Tunicates	*Molgula* sp.																			
	Unidentified Tunicate	Tunicata																			
Ctenophora	Comb Jelly	Ctenophora																			
Echinodermata	Common Sea Star	*Asterias rubens*	5																		
	Sea Cucumber	*Caudina* sp.																			
	Transleucent Sea Cucumber	Leptosynapta/Chiridota																			
Gastropoda	Northern Moonsnail	*Euspira heros*	3	1	12	5	8	1	3	14	5	4	3		1			4		1	
	Unidentified Whelk	Nassariidae																			
Hydrozoa	Unidentified Hydrozoa Colony	Hydrozoa																			
Non-Scleractinian Anthozoa	Burrowing Anemone	Edwardsiidae							1					1	6	2	1	1	2		2
	Sea Pen	Pennatulidae																			
Phoronida	Tube Builder	Phoronida																			
Porifera	Boring Sponge	*Cliona celata*																			
	Red Beard Sponge	*Microciona prolifera*																			
	Unidentified Sponge	Porifera																			
Unidentified	Unidentified Tube Worm		1				2												1		
	Unidentified Invertebrate						1									2	1			1	
Vertebrates																					
Acanthuriformes	Northern Kingfish	*Menticirrhus saxatilis*																2			
Gadiformes	Red Hake	*Urophycis chuss*																			
	Spotted Hake	*Urophycis regia*					1														
	White Hake	*Urophycis tenuis*																			
	Unidentified Hake	Phycidae																			
Perciformes	Bluefish	*Pomatomus saltatrix*																			
	Black Sea Bass	*Centropristis striata*																			
	Sandperch	*Diplectrum formosum*																			
	Scup	*Stenotomus chrysops*												1		1		6			
Pleuronectiformes	Summer Flounder	*Paralichthys dentatus*	1	1		2															
	Winter Flounder	*Pseudopleuronectes americanus*																			
	Unidentified Flounder	Pleuronectiformes	2	6	1	1		1										1	1	1	
Rajiformes	Clearnose Skate	*Raja eglanteria*																			1
	Little Skate	*Leucoraja erinacea*	5	4		1	2							2		1		1	1		
	Unidentified Skate	Rajidae																	1		
Scombriformes	American Butterfish	*Peprilus triacanthus*			10																
Scorpaeniformes	Northern Sea Robin	*Prionotus carolinus*	10	4	4		15	1	3	4		2		1		2	1	2	1	1	1
	Striped Sea Robin	*Prionotus evolans*																			
Squaliformes	Spiny Dogfish	*Squalus acanthias*												1	2			2			
Unidentified	Unidentified Fish				1																
Eggs																					
Cephalopoda	Squid Egg Mop																				
Gastropoda	Moon Snail Egg Collar		2	1		5	1		7		3			1	1	3	2		7	1	
Rajiformes	Skate Egg Case														2						
Flora																					
Chlorophyta	Sea Lettuce	*Ulva* sp.																			
	Unidentified Green Algae																				
Rhodophyta	Unidentified Red Algae	Possibly *Ahnfeltia plicata*																			
Phaeophyta	Unidentified Brown Algae	Possibly *Punctaria* sp.																			

Taxa Group	Common Name	Lowest Taxonomic Grouping	544LI23-VT039	544LI23-VT040	544LI23-VT041	544LI23-VT042	544LI23-VT043	544LI23-VT044	544LI23-VT045	544LI23-VT046	544LI23-VT047	544LI23-VT048	544LI23-VT049	544LI23-VT050	544LI23-VT051	[redacted]	544LI23-VT055	544LI23-VT056	544LI23-VT057
Invertebrates																			
Arthropoda	Hermit Crabs	*Pagurus* sp.	>50	3	>50	>50	>50	>50	>50	47	74	>50	>52	>50	>50		>50	6	9
	Horseshoe Crab	*Limulus polyphemus*		1															
	Lady Crab	*Ovalipes ocellatus*																	
	Mud Crab	Panopeidae																	
	Portly Spider Crab	*Libinia emarginata*		4		2				2	9		3				3	4	4
	Rock Crab	*Cancer* sp.	1		2	2	1	1				1	1					1	
	Unidentified Shrimp	Mysida																	
Annelida	Echiurid Spoon Worm	Echiuridae																	
	Spoon Worm	Echiuroidea																	
Bivalvia	Atlantic Sea Scallop	*Placopecten magellanicus*																	
	Blue Mussel	*Mytilus edulis*																	
Bryozoa	Attached Bryozoa Colony	*Bugula* sp.				1	3		4	4			3	1			3		4
Cephalopoda	Northern Shortfin Squid	*Illex illecebrosus*		1													3		
	Longfin Squid	*Doryteuthis pealeii*					1												
	Unidentified Squid	Coleoidea				1				1	3						9	1	3
Chordata	Mud Tunicates	*Molgula* sp.					>50		>50										
	Unidentified Tunicate	Tunicata																	
Ctenophora	Comb Jelly	Ctenophora																	
Echinodermata	Common Sea Star	*Asterias rubens*																	
	Sea Cucumber	*Caudina* sp.			1														
	Transleucent Sea Cucumber	Leptosynapta/Chiridota																	
Gastropoda	Northern Moonsnail	*Euspira heros*			4	7	1		13	6	31	4	18	6			6	10	9
	Unidentified Whelk	Nassariidae																	
Hydrozoa	Unidentified Hydrozoa Colony	Hydrozoa																	
Non-Scleractinian Anthozoa	Burrowing Anemone	Edwardsiidae	6		20	51	77	10	42	12	17		20				1	18	8
	Sea Pen	Pennatulidae																	
Phoronida	Tube Builder	Phoronida			1								1						2
Porifera	Boring Sponge	*Cliona celata*																	
	Red Beard Sponge	*Microciona prolifera*					1										1		
	Unidentified Sponge	Porifera				1	1	1											
Unidentified	Unidentified Tube Worm																		2
	Unidentified Invertebrate												2						
Vertebrates																			
Acanthuriformes	Northern Kingfish	*Menticirrhus saxatilis*		1															
Gadiformes	Red Hake	*Urophycis chuss*																	
	Spotted Hake	*Urophycis regia*								1									
	White Hake	*Urophycis tenuis*																	
	Unidentified Hake	Phycidae												1					
Perciformes	Bluefish	*Pomatomus saltatrix*		3															
	Black Sea Bass	*Centropristis striata*																	1
	Sandperch	*Diplectrum formosum*																	3
	Scup	*Stenotomus chrysops*								1	25		3	14			7		5
Pleuronectiformes	Summer Flounder	*Paralichthys dentatus*		1														1	
	Winter Flounder	*Pseudopleuronectes americanus*																	
	Unidentified Flounder	Pleuronectiformes				1					1								
Rajiformes	Clearnose Skate	*Raja eglanteria*				1		3		1	2		2				1		
	Little Skate	*Leucoraja erinacea*		2															6
	Unidentified Skate	Rajidae																	
Scombriformes	American Butterfish	*Peprilus triacanthus*								2	2		1						
Scorpaeniformes	Northern Sea Robin	*Prionotus carolinus*		1	6	2	5	1		2	2		7	2			9		
	Striped Sea Robin	*Prionotus evolans*								1									2
Squaliformes	Spiny Dogfish	*Squalus acanthias*		1															
Unidentified	Unidentified Fish							1			1								
Eggs																			
Cephalopoda	Squid Egg Mop		2					1											
Gastropoda	Moon Snail Egg Collar		1		6	37	29	8	17	33	46	3	54	37			3	1	6
Rajiformes	Skate Egg Case																		
Flora																			
Chlorophyta	Sea Lettuce	*Ulva* sp.										1							
	Unidentified Green Algae														1				
Rhodophyta	Unidentified Red Algae	Possibly *Ahnfeltia plicata*																	
Phaeophyta	Unidentified Brown Algae	Possibly *Punctaria* sp.																	

Taxa Group	Common Name	Lowest Taxonomic Grouping	544LI23-VT058	544LI23-VT059	544LI23-VT060	544LI23-VT061	544LI23-VT062	544LI23-VT063	544LI23-VT064
Invertebrates									
Arthropoda	Hermit Crabs	*Pagurus* sp.	>50	>50	>50	>50	>50	>50	>50
	Horseshoe Crab	*Limulus polyphemus*	2						
	Lady Crab	*Ovalipes ocellatus*						1	
	Mud Crab	Panopeidae							
	Portly Spider Crab	*Libinia emarginata*	9	6	6	6	8		
	Rock Crab	*Cancer* sp.		2	1			3	
	Unidentified Shrimp	Mysida	2						
Annelida	Echiurid Spoon Worm	Echiuridae							
	Spoon Worm	Echiuroidea							
Bivalvia	Atlantic Sea Scallop	*Placopecten magellanicus*							
	Blue Mussel	*Mytilus edulis*							
Bryozoa	Attached Bryozoa Colony	*Bugula* sp.	10		18	7	1		5
Cephalopoda	Northern Shortfin Squid	*Illex illecebrosus*							
	Longfin Squid	*Doryteuthis pealeii*		1	1				
	Unidentified Squid	Coleoidea	13	4	4		1		
Chordata	Mud Tunicates	*Molgula* sp.	>112						
	Unidentified Tunicate	Tunicata							
Ctenophora	Comb Jelly	Ctenophora							
Echinodermata	Common Sea Star	*Asterias rubens*							
	Sea Cucumber	*Caudina* sp.							
	Transleucent Sea Cucumber	Leptosynapta/Chiridota							
Gastropoda	Northern Moonsnail	*Euspira heros*	20	3	11	6	2		
	Unidentified Whelk	Nassariidae							
Hydrozoa	Unidentified Hydrozoa Colony	Hydrozoa	12	7	4	1			
Non-Scleractinian Anthozoa	Burrowing Anemone	Edwardsiidae	84	6	30	26	3		
	Sea Pen	Pennatulidae	1						
Phoronida	Tube Builder	Phoronida							10
Porifera	Boring Sponge	*Cliona celata*							
	Red Beard Sponge	*Microciona prolifera*			1	1			
	Unidentified Sponge	Porifera			1				
Unidentified	Unidentified Tube Worm								
	Unidentified Invertebrate		4						
Vertebrates									
Acanthuriformes	Northern Kingfish	*Menticirrhus saxatilis*							
Gadiformes	Red Hake	*Urophycis chuss*							
	Spotted Hake	*Urophycis regia*							
	White Hake	*Urophycis tenuis*							
	Unidentified Hake	Phycidae							
Perciformes	Bluefish	*Pomatomus saltatrix*	1						
	Black Sea Bass	*Centropristis striata*							
	Sandperch	*Diplectrum formosum*							
	Scup	*Stenotomus chrysops*	3	2	1				
Pleuronectiformes	Summer Flounder	*Paralichthys dentatus*	1		1				
	Winter Flounder	*Pseudopleuronectes americanus*							
	Unidentified Flounder	Pleuronectiformes			1			1	
Rajiformes	Clearnose Skate	*Raja eglanteria*							
	Little Skate	*Leucoraja erinacea*	5		2		1		
	Unidentified Skate	Rajidae							
Scombriformes	American Butterfish	*Peprilus triacanthus*							
Scorpaeniformes	Northern Sea Robin	*Prionotus carolinus*	2	5					
	Striped Sea Robin	*Prionotus evolans*		4	1				
Squaliformes	Spiny Dogfish	*Squalus acanthias*							
Unidentified	Unidentified Fish								
Eggs									
Cephalopoda	Squid Egg Mop						1		
Gastropoda	Moon Snail Egg Collar		12	2	6	4	4		
Rajiformes	Skate Egg Case			2					
Flora									
Chlorophyta	Sea Lettuce	*Ulva* sp.							
	Unidentified Green Algae								
Rhodophyta	Unidentified Red Algae	Possibly *Ahnfeltia plicata*						1	
Phaeophyta	Unidentified Brown Algae	Possibly *Punctaria* sp.						1	

Appendix F

Representative Still Images of Habitat Types

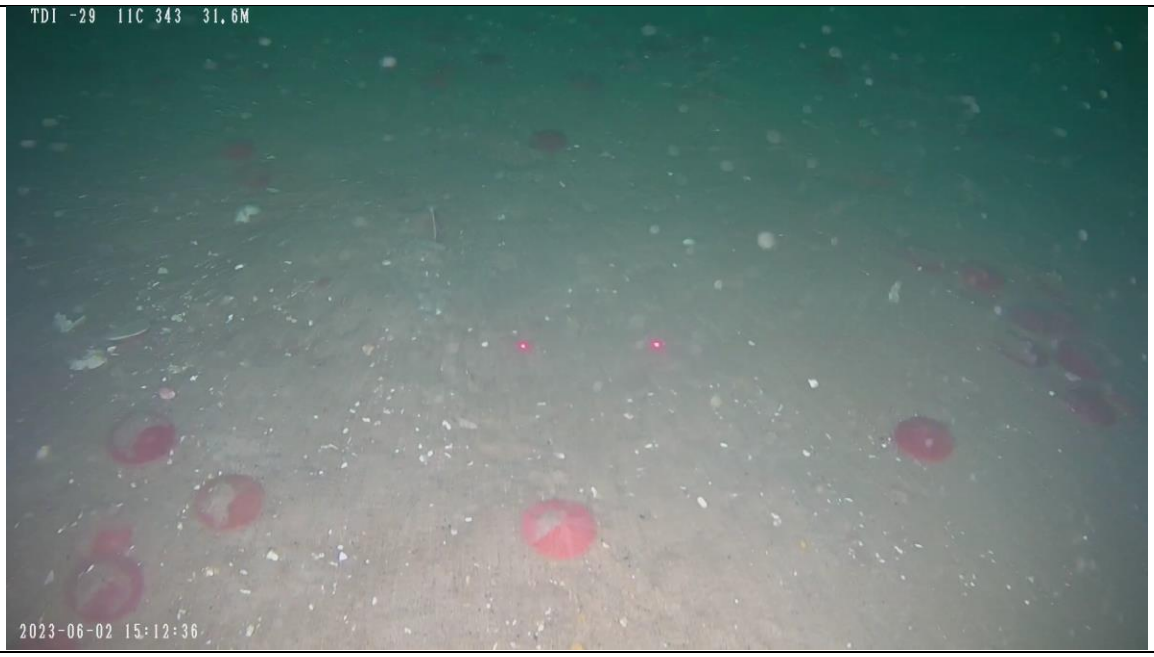
Photos compiled by Maxon Consulting



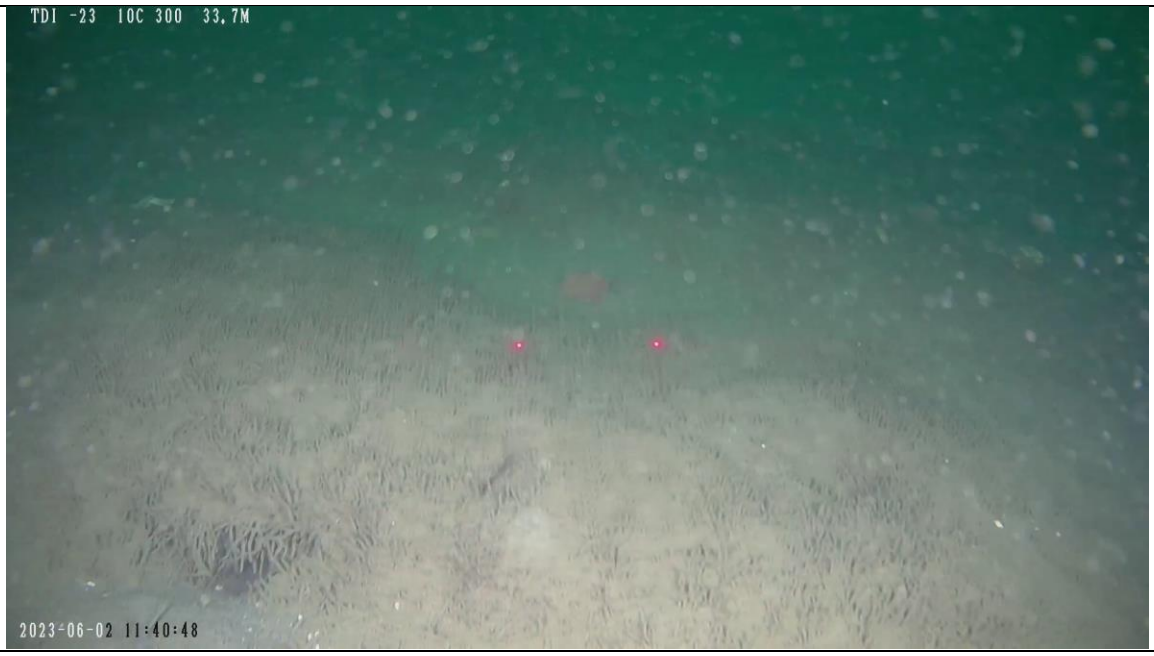
544LI23-VT044-1 – Gravel Mixes



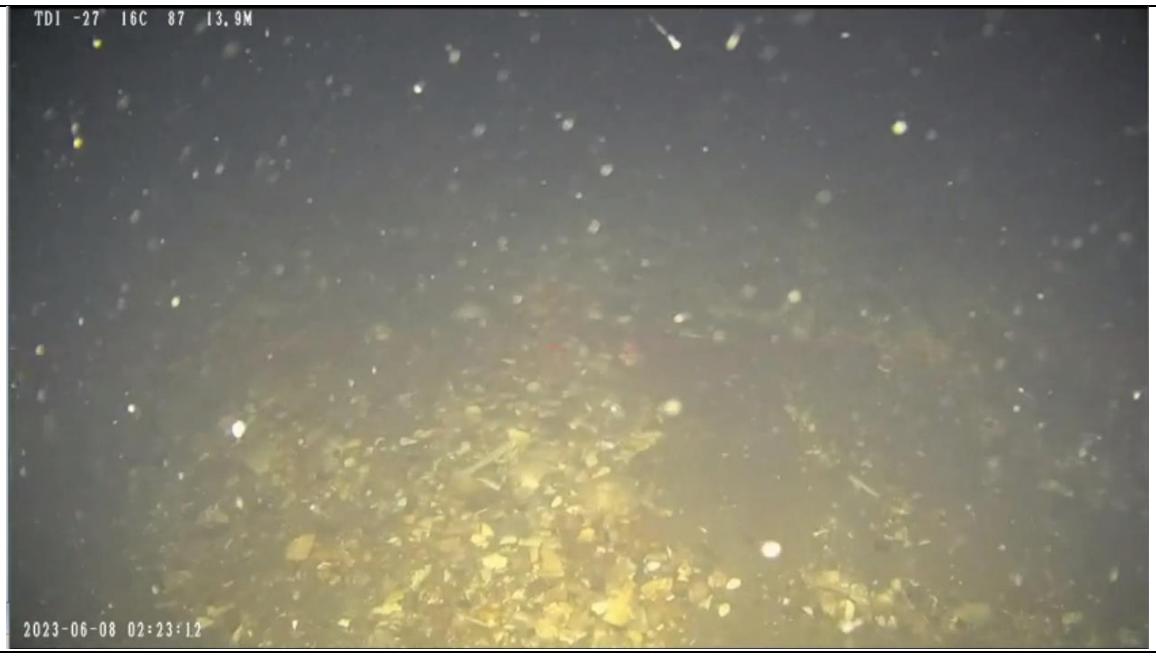
544LI23-VT026-2 – Gravelly



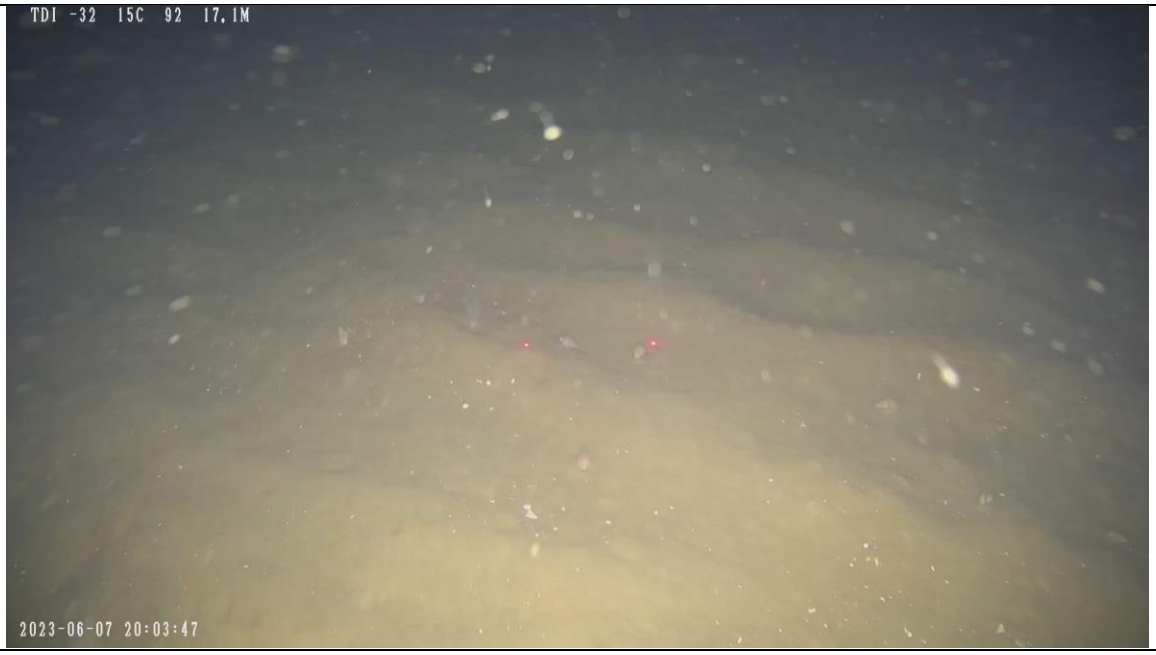
544LI23-VT017-2 – Sand



544LI23-VT015-1.2 – Muddy Sand



544LI23-VT040-3 – Shell Hash



544LI23-VT056-1 – Sand Ripples



544LI23-VT016-1 – Amphipod Tube Mat



544LI23-VT056-1 – Sand Dollar Bed



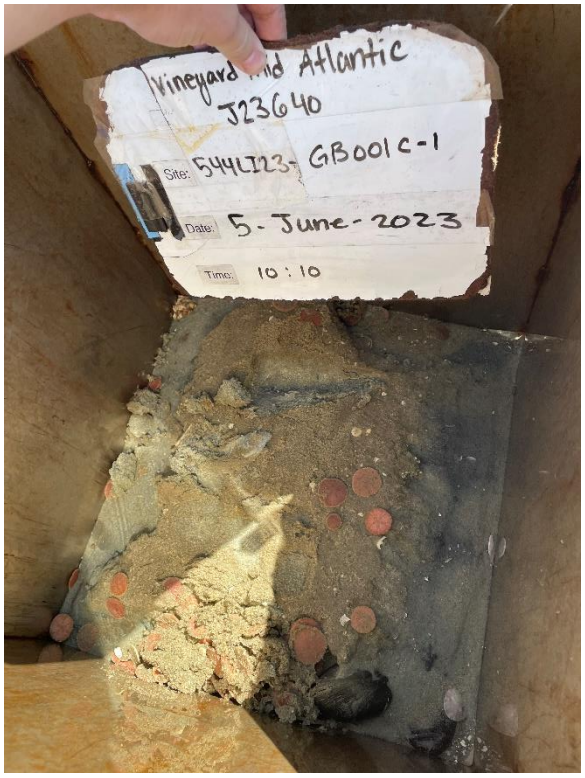
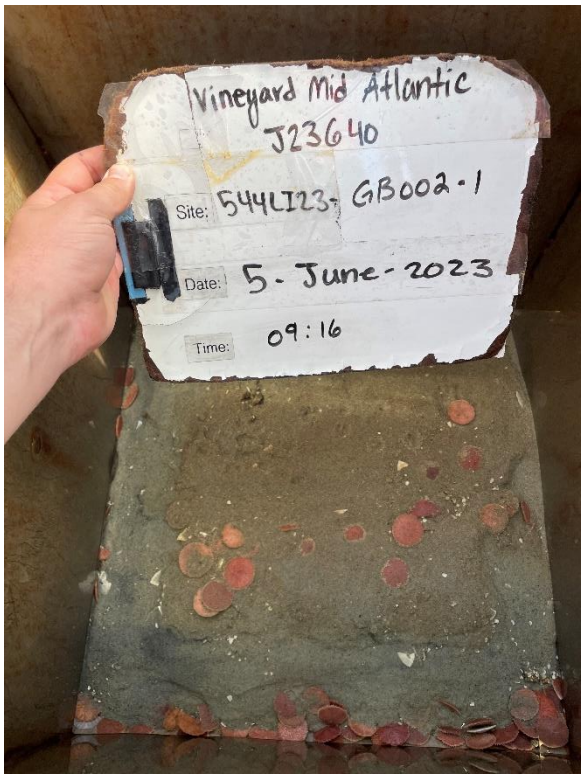
544LI23-VT016-1 – Decorator Worms

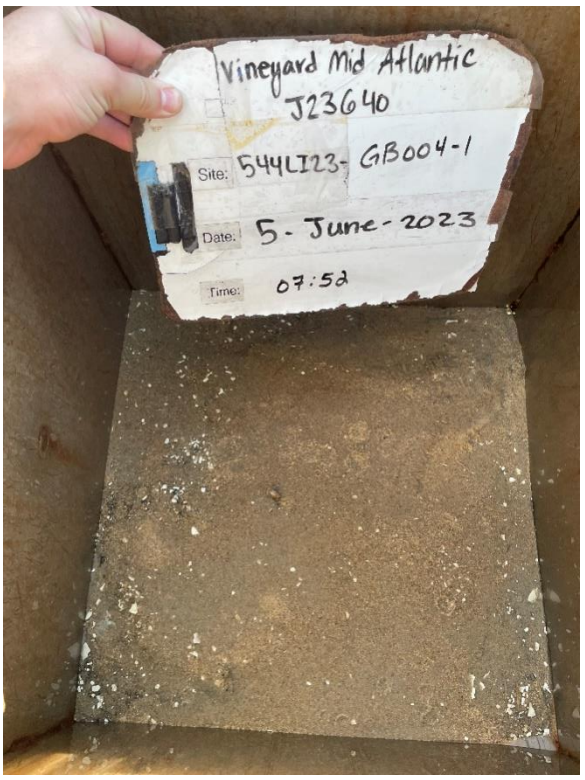
Appendix G

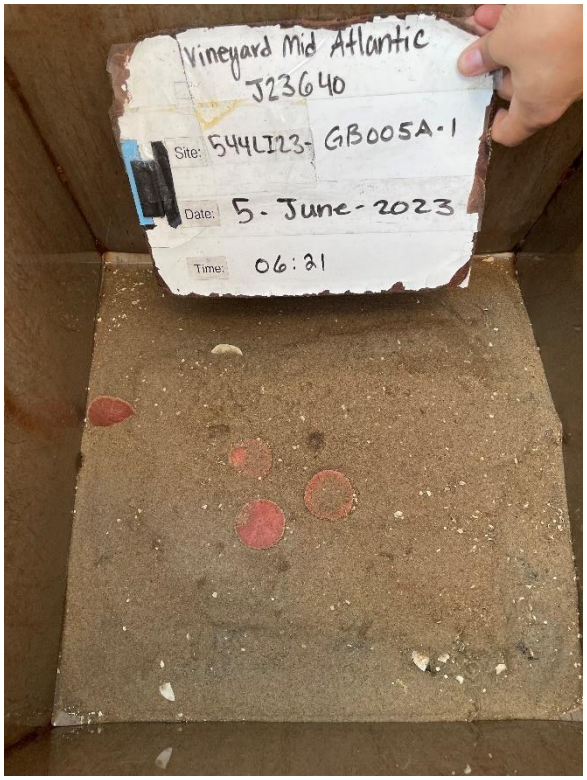
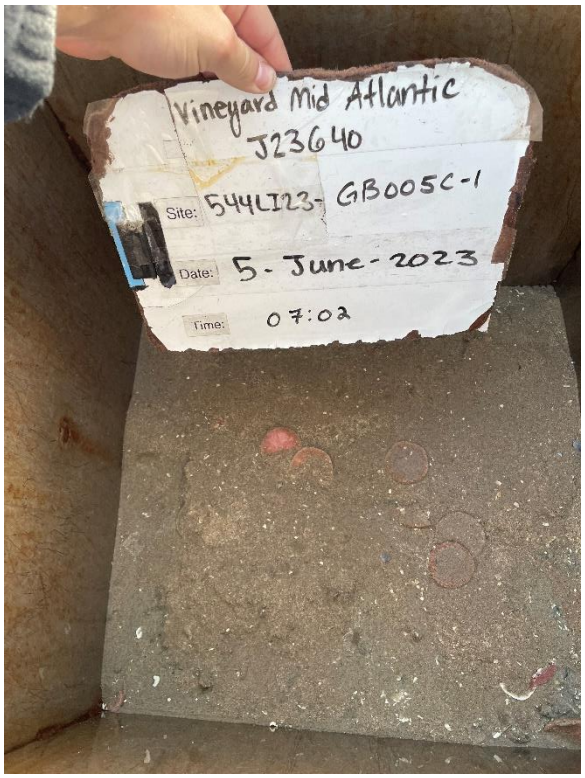
Images of Surface Sediment – Grab Sample and Video Stills

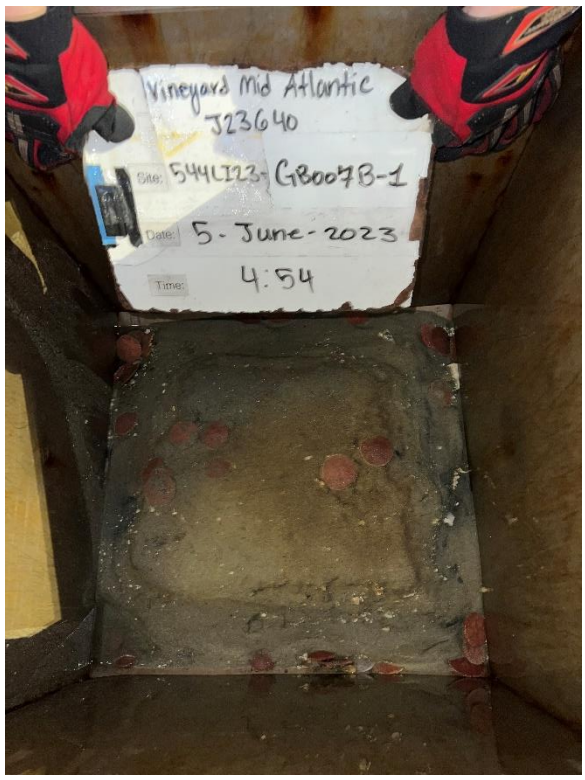
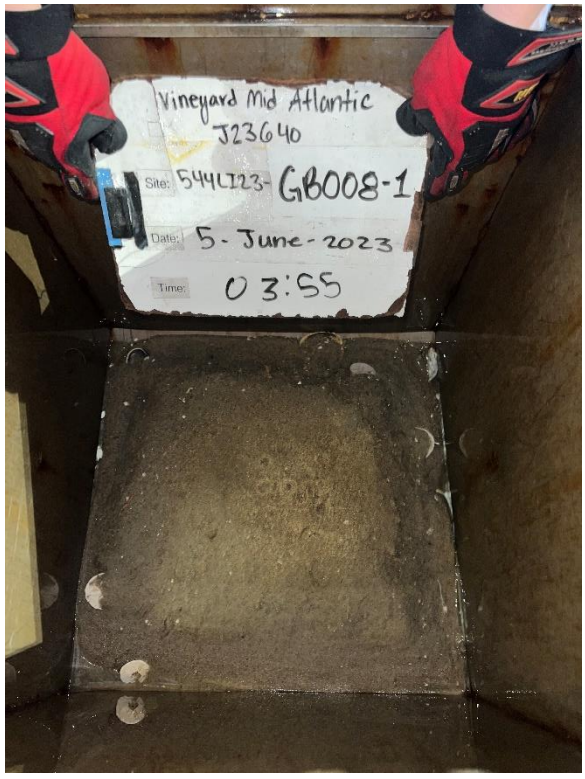
Photos compiled by Maxon Consulting

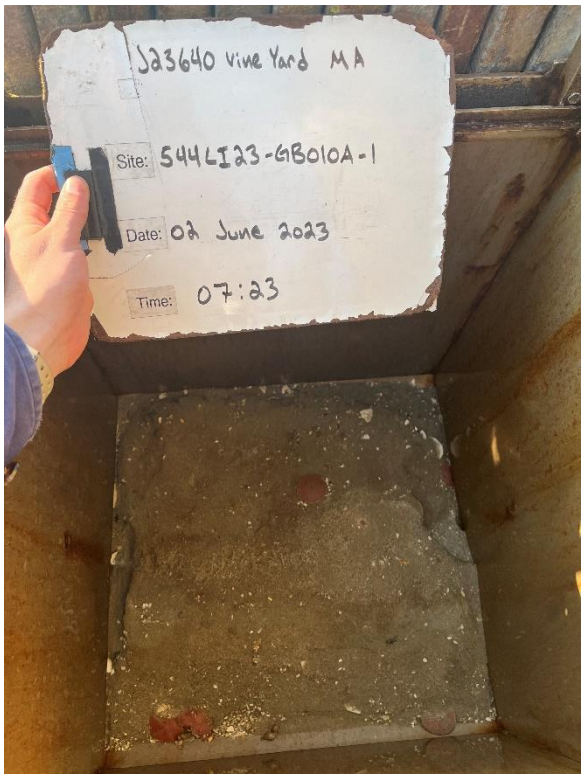
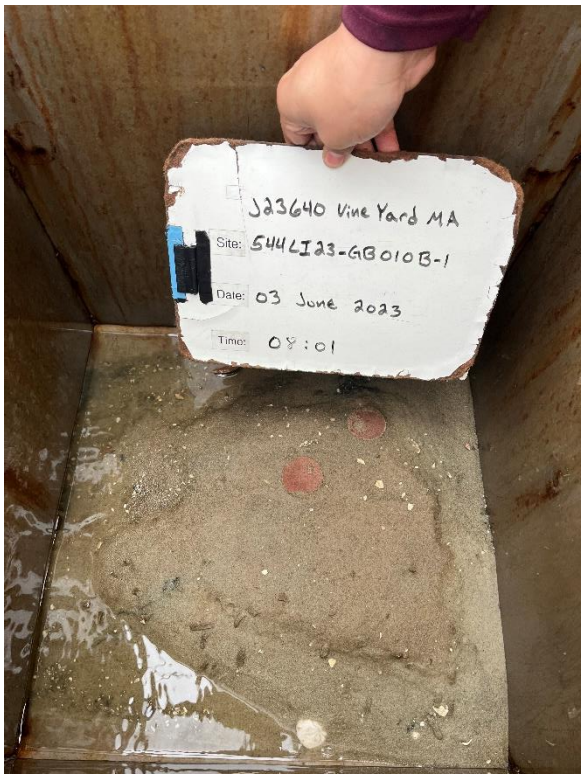
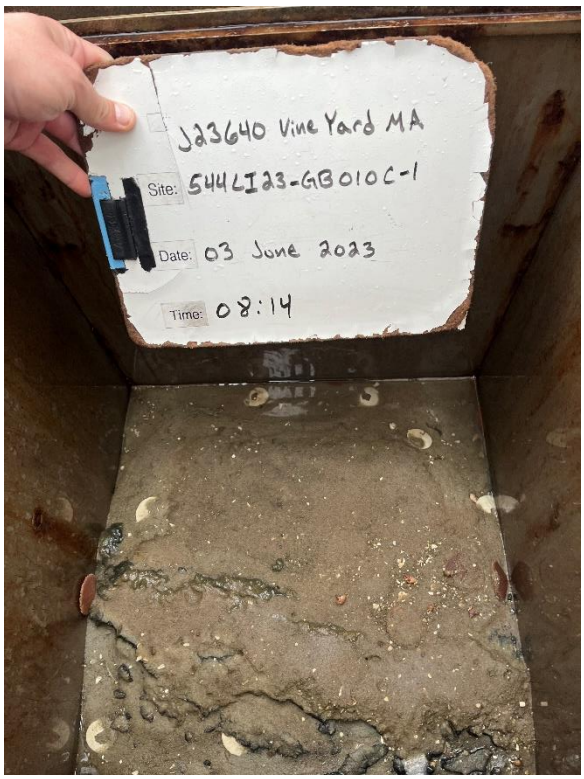
Images of Surface Sediment – Grab Sample Deck Photos

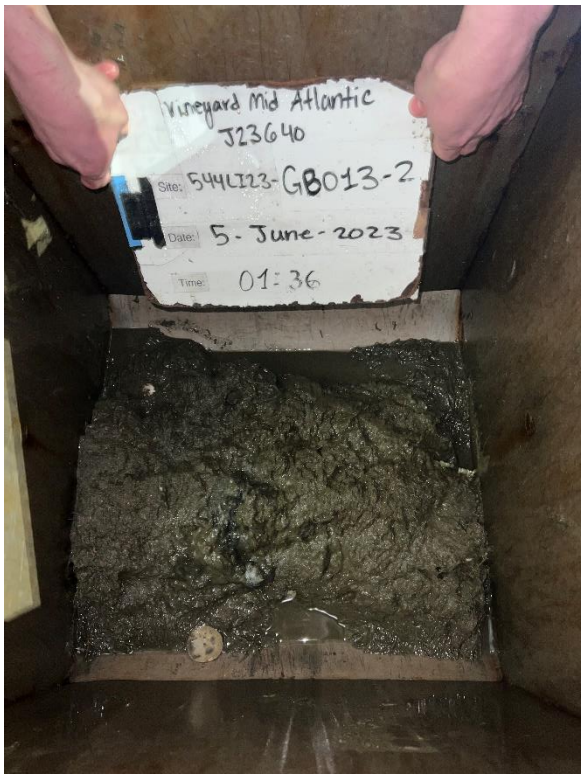
	
4LI23-GB001A-1	**544LI23-GB001B-1**
	
544LI23-GB001C-1	**544LI23-GB002-1**

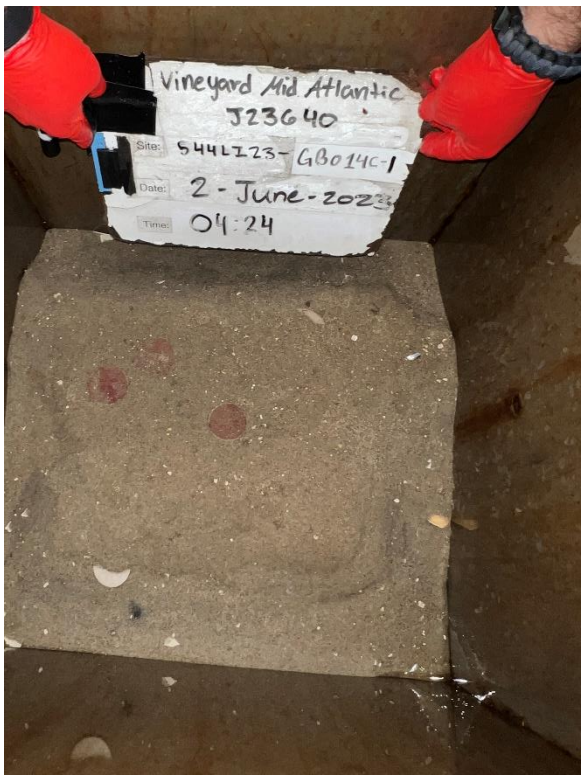
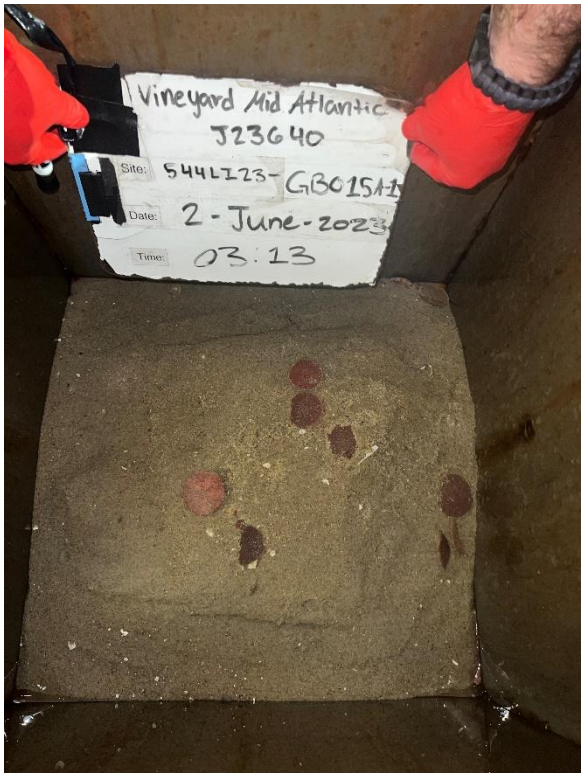
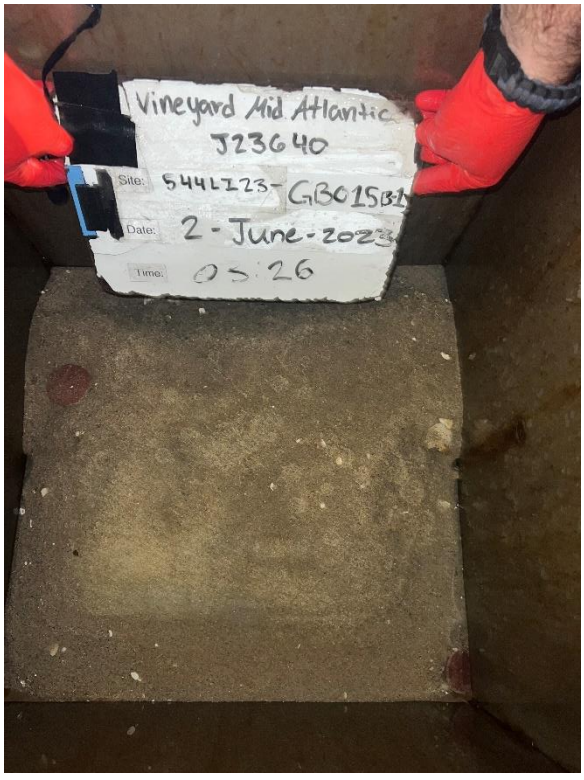
	
544LI23-GB003A-1	**544LI23-GB003B-1**
	
544LI23-GB003C-1	**544LI23-GB004-1**

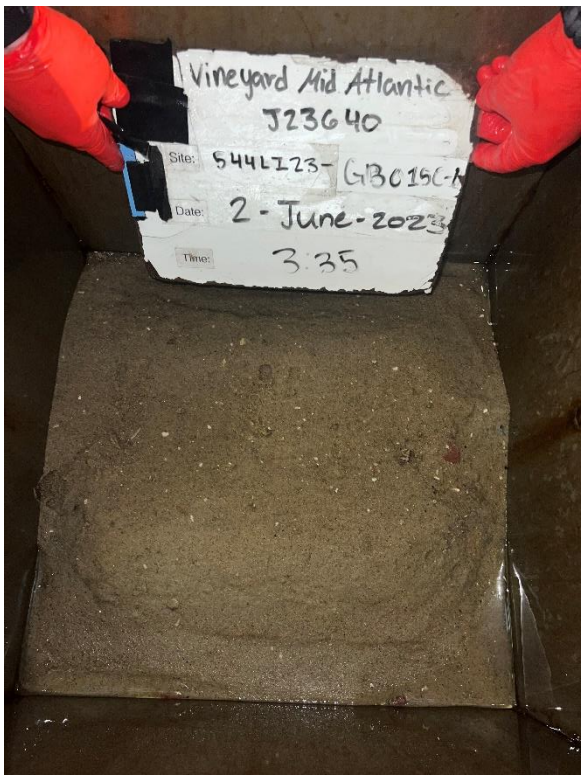
	
544LI23-GB005A-1	**544LI23-GB005B-1**
	
544LI23-GB005C-1	**544LI23-GB006-1**

	
544LI23-GB007A-1	**544LI23-GB007B-1**
	
544LI23-GB007C-1	**544LI23-GB008-1**

	
544LI23-GB009-1	**544LI23-GB010A-1**
	
544LI23-GB010B-1	**544LI23-GB010C-1**

	
544LI23-GB011-2	**544LI23-GB012-1**
	
544LI23-GB013-2	**544LI23-GB014A-1**

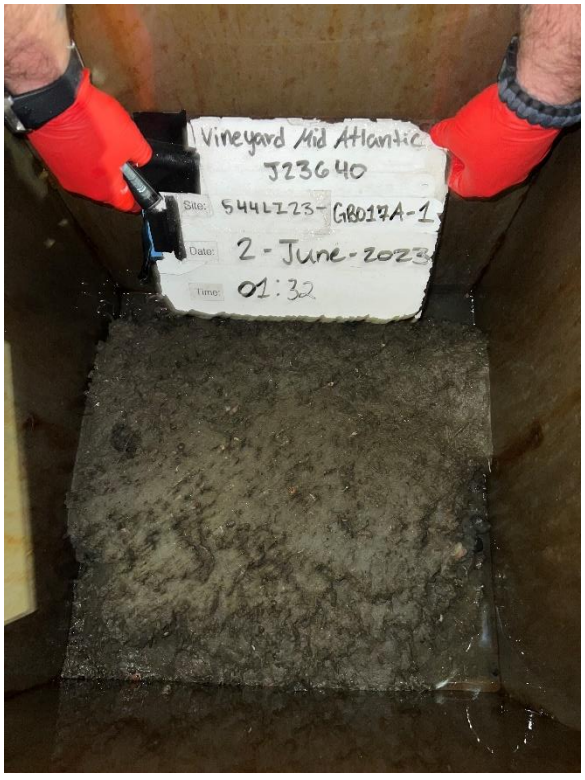
	
544LI23-GB014B-1	**544LI23-GB014C-1**
	
544LI23-GB015A-1	**544LI23-GB015B-1**



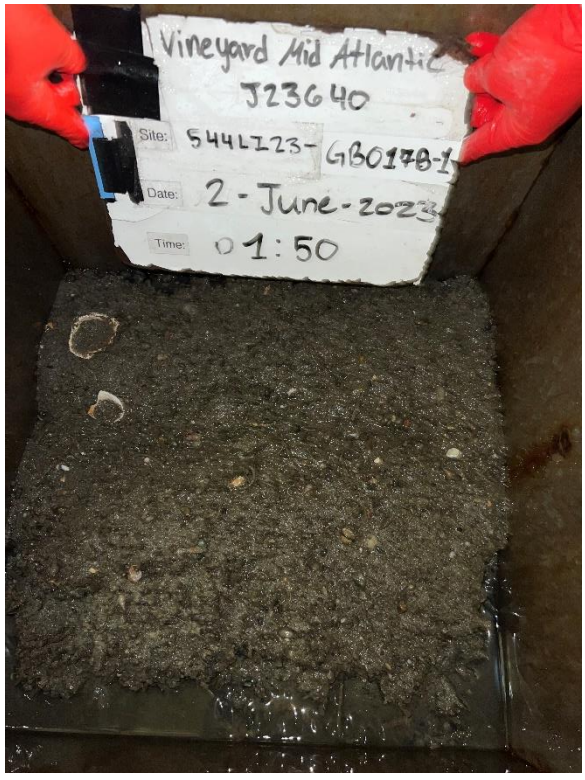
544LI23-GB015C-1



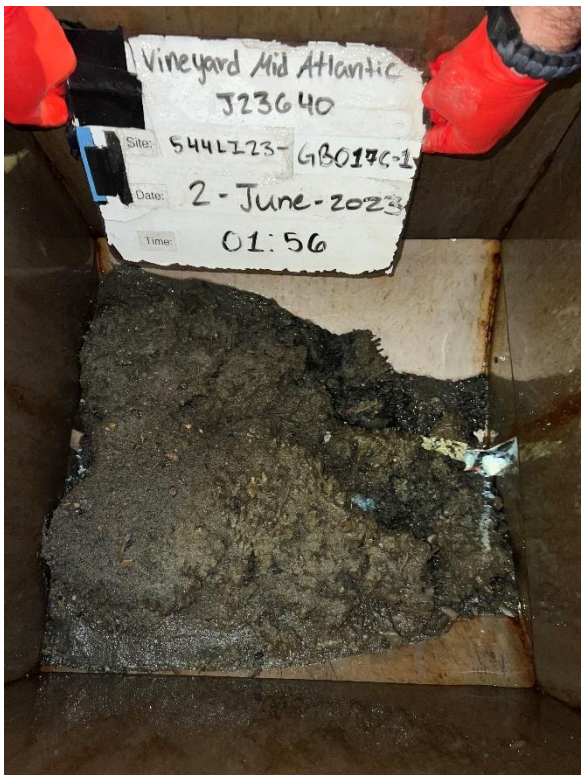
544LI23-GB016-2



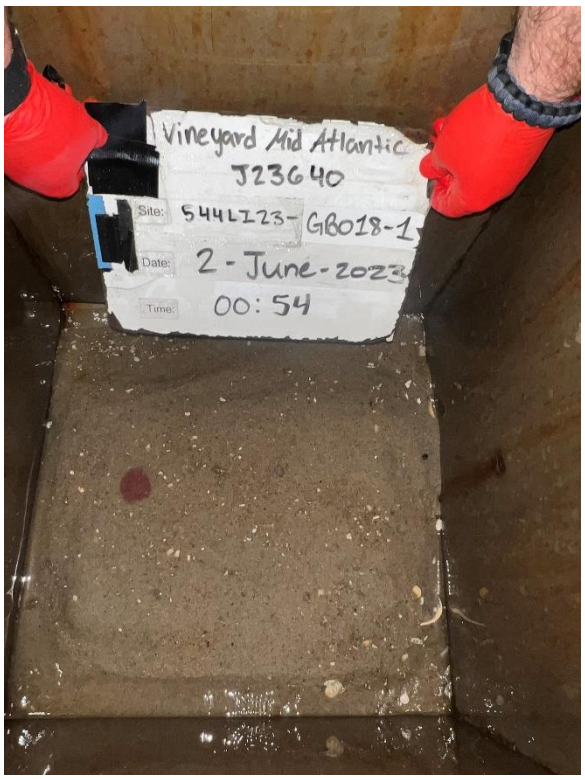
544LI23-GB017A-1



544LI23-GB017B-1



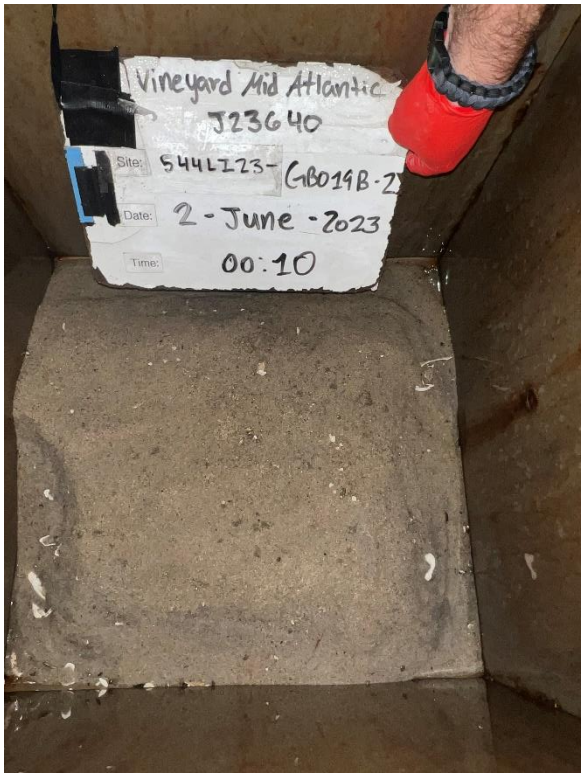
544LI23-GB017C-1



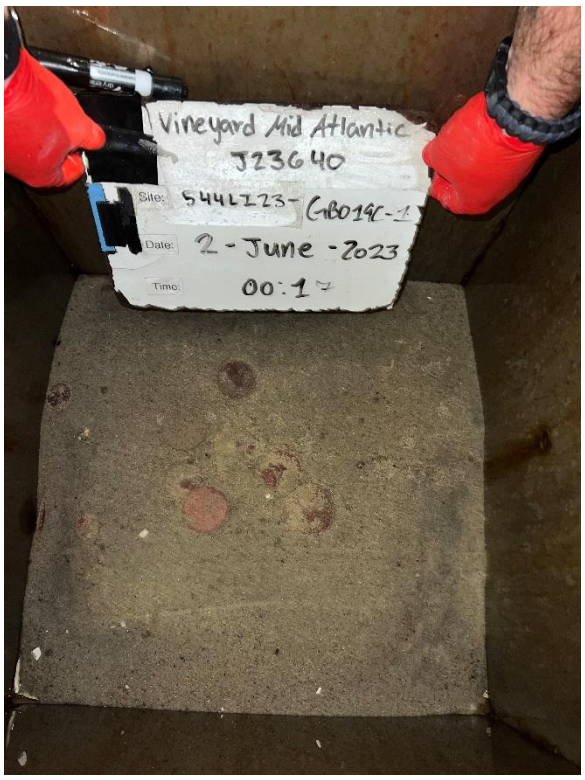
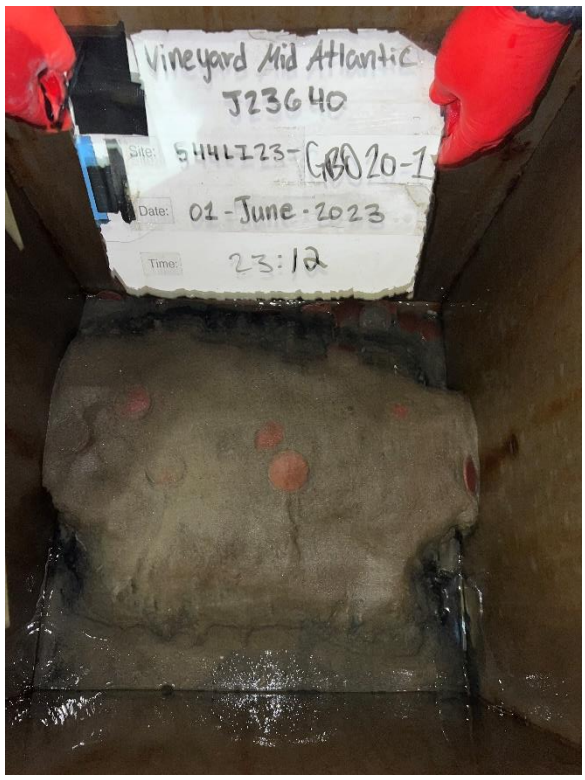
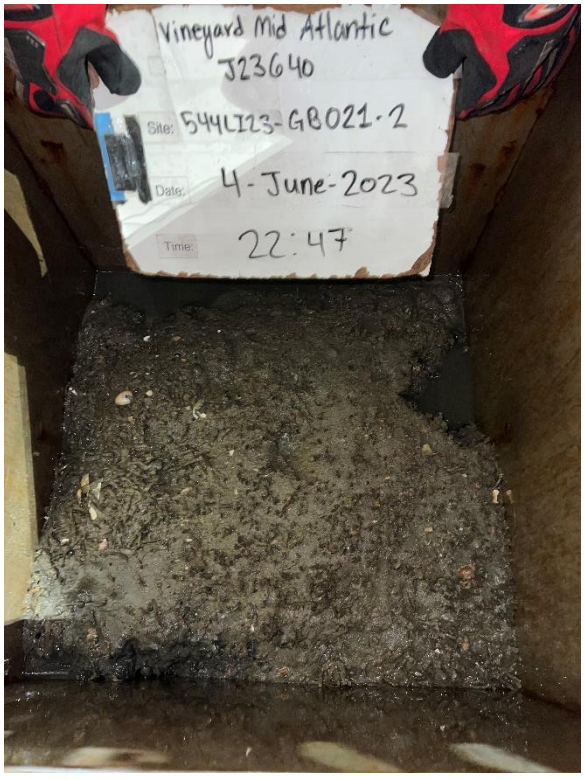
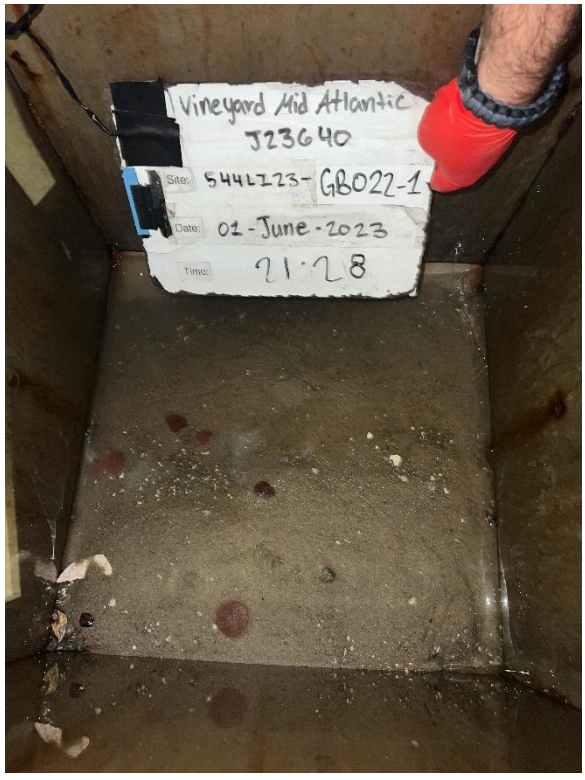
544LI23-GB018-1

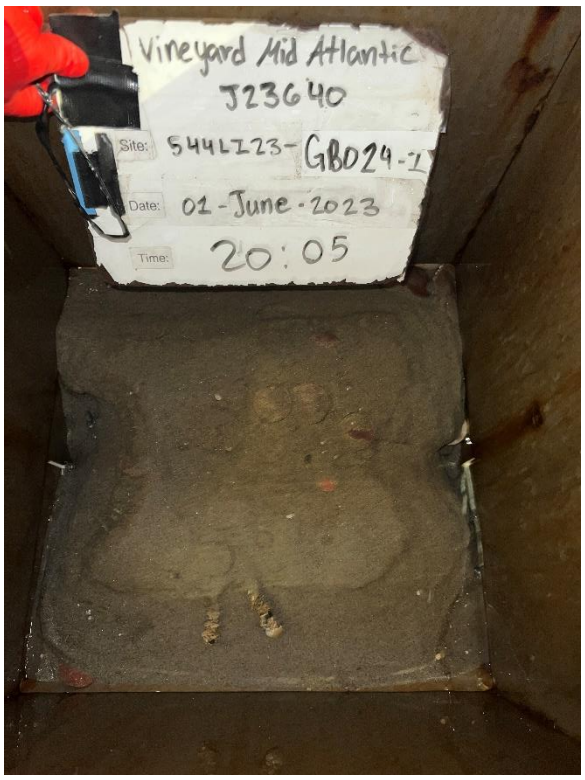
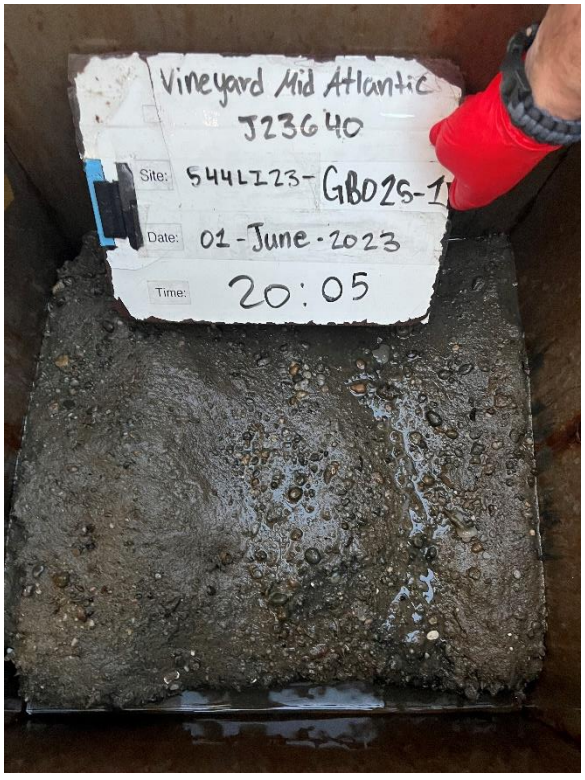


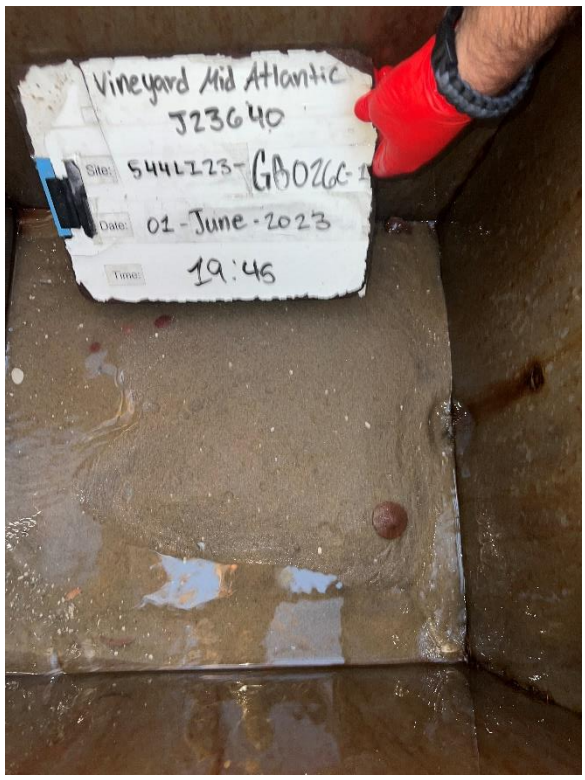
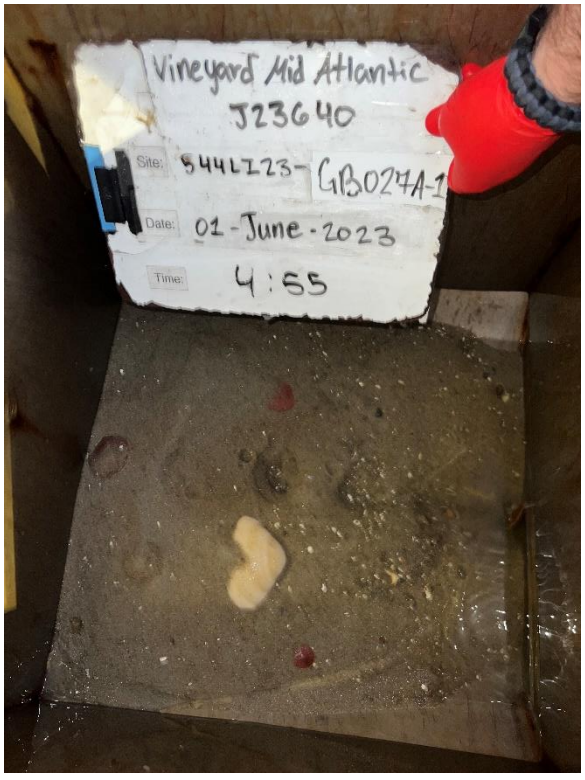
544LI23-GB019A-1

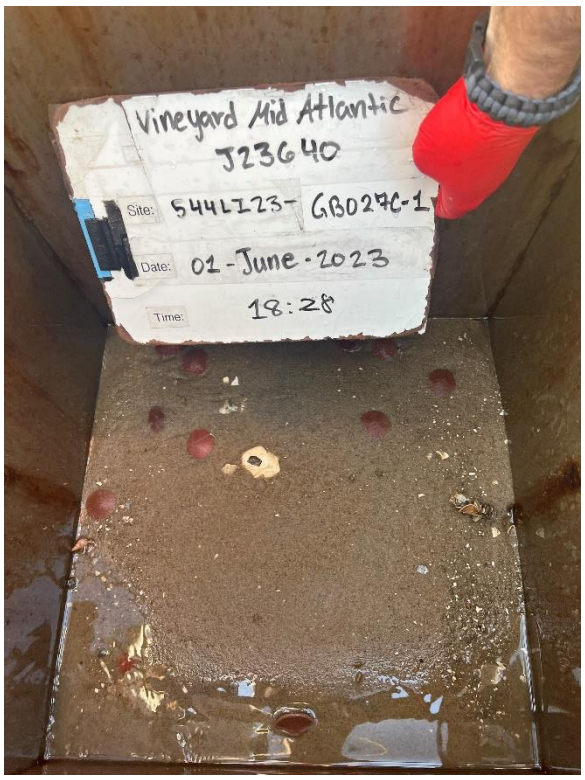


544LI23-GB019B-2

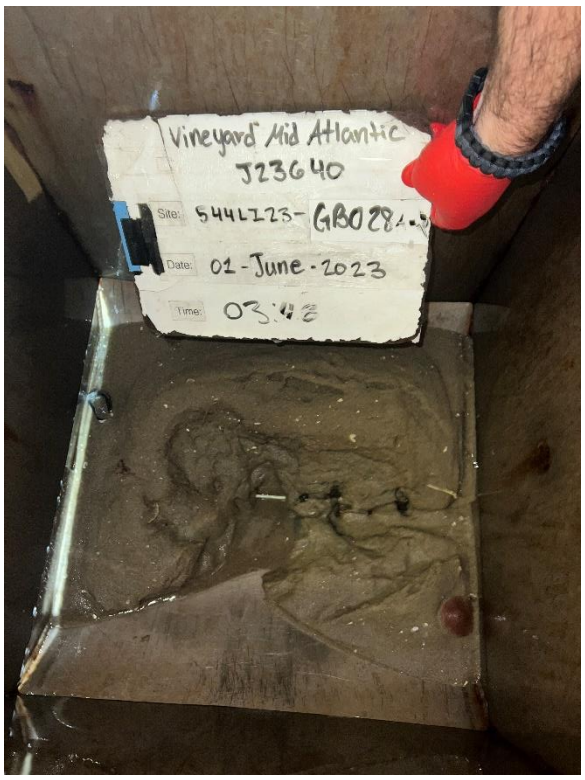
	
544LI23-GB019C-1	**544LI23-GB020-1**
	
544LI23-GB021-2	**544LI23-GB022-1**

	
544LI23-GB023-1	**544LI23-GB024-1**
	
544LI23-GB025-1	**544LI23-GB026A-1**

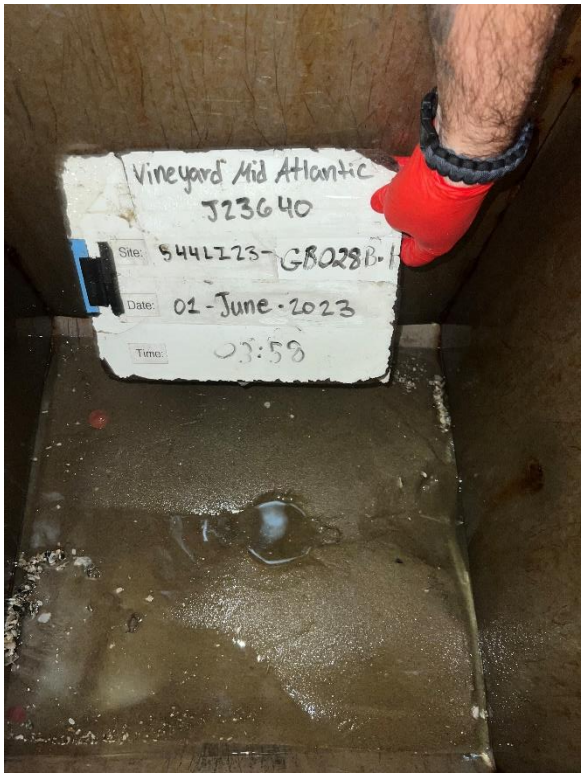
	
544LI23-GB026B-1	**544LI23-GB026C-1**
	
544LI23-GB027A-1	**544LI23-GB027B-1**



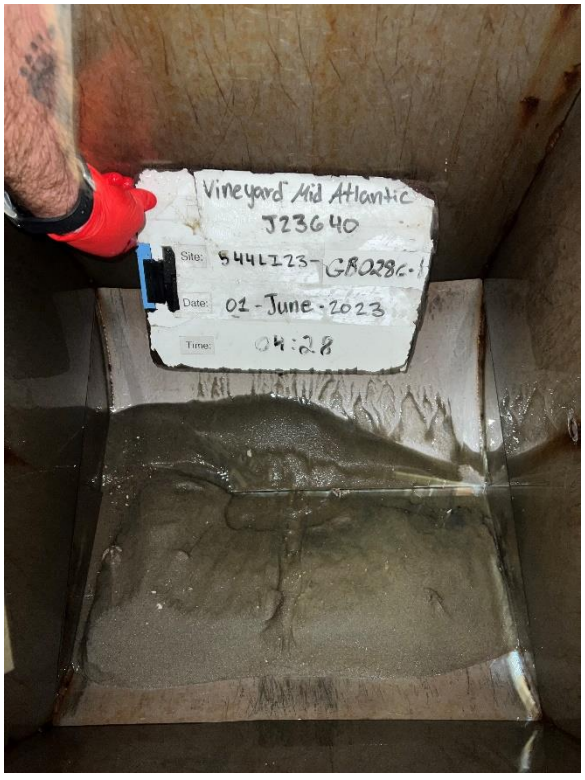
544LI23-GB027C-1



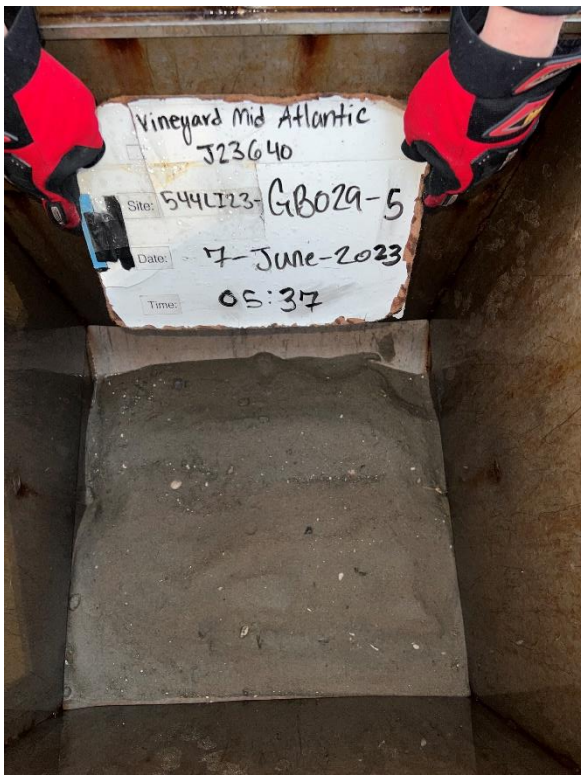
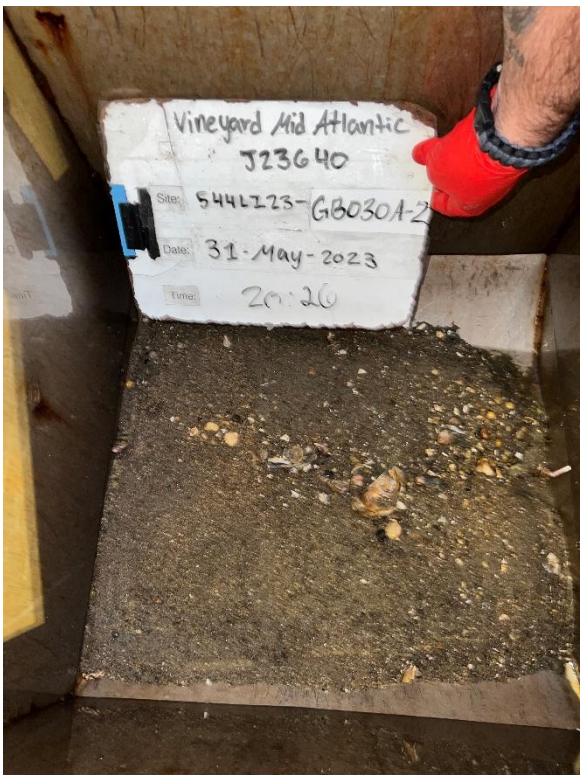
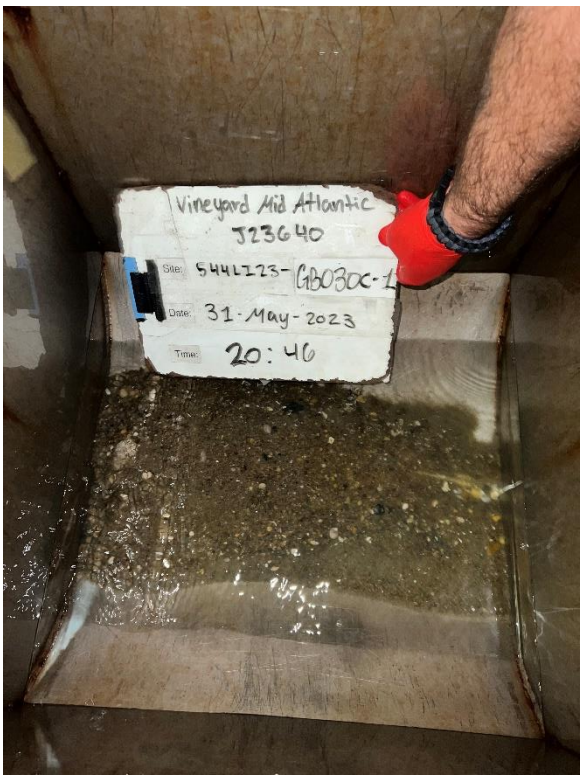
544LI23-GB028A-2

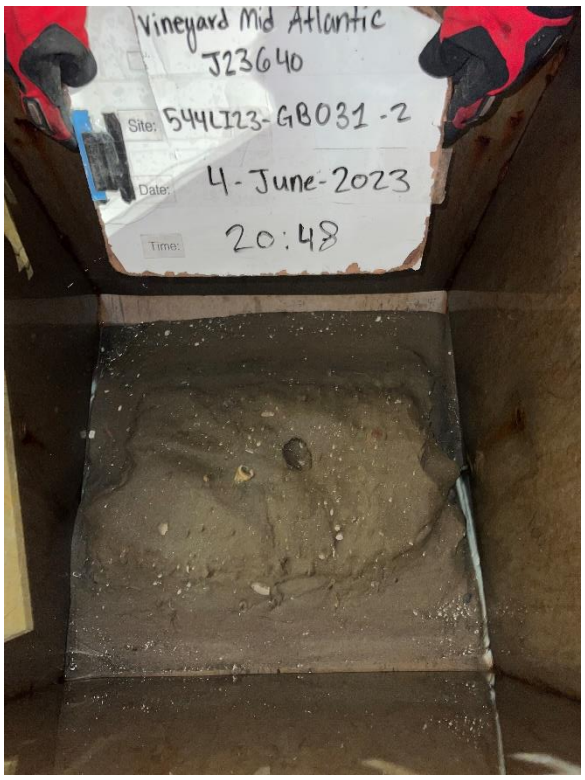


544LI23-GB028B-1

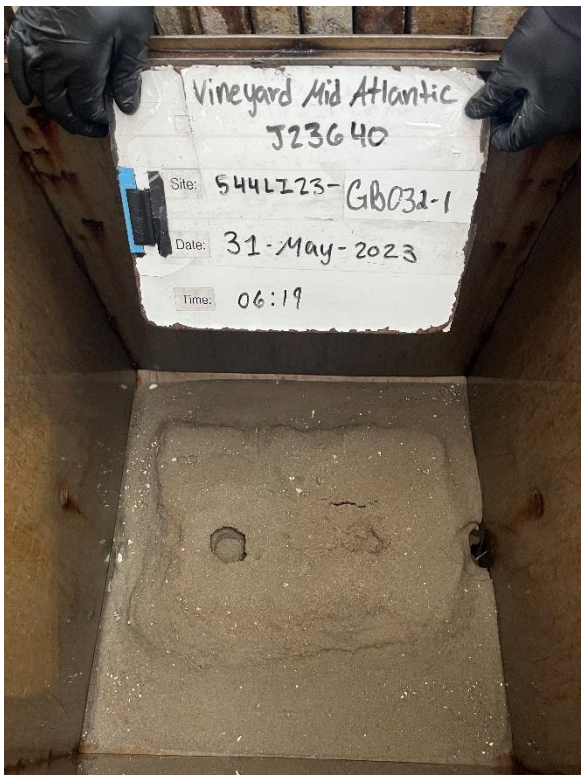


544LI23-GB028C-1

	
544LI23-GB029-5	**544LI23-GB030A-2**
	
544LI23-GB030B-1	**544LI23-GB030C-1**



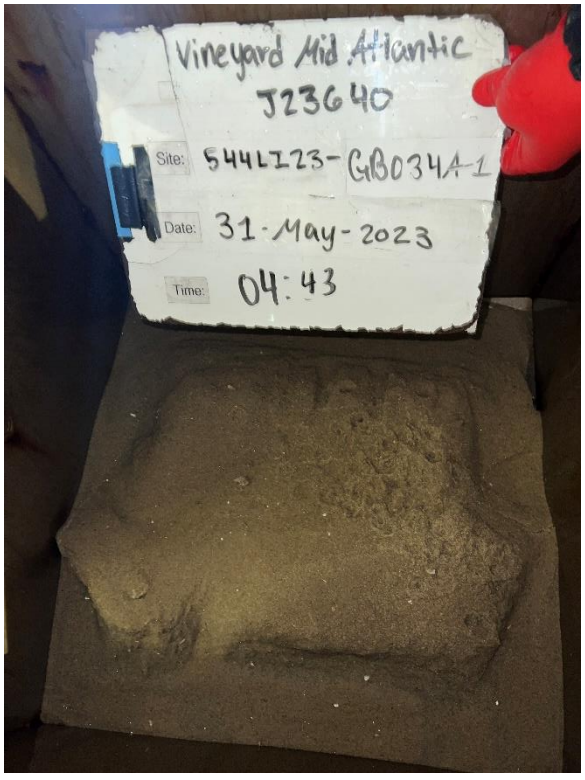
544LI23-GB031-2



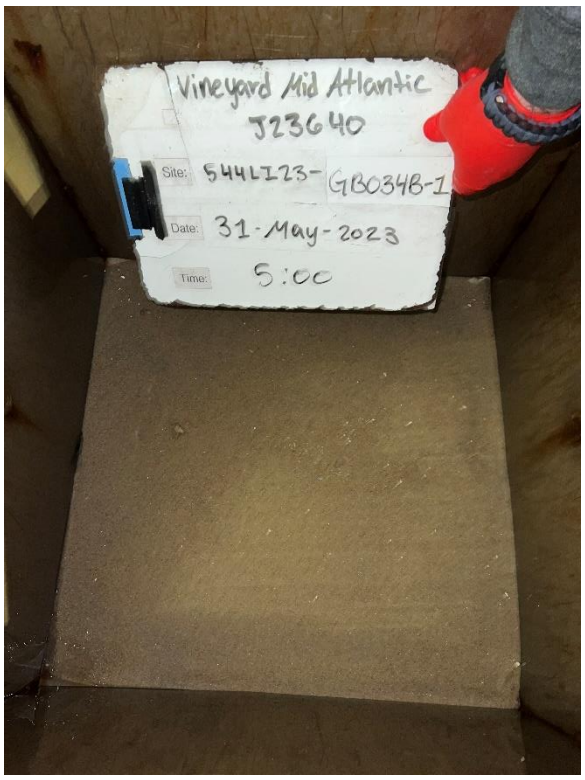
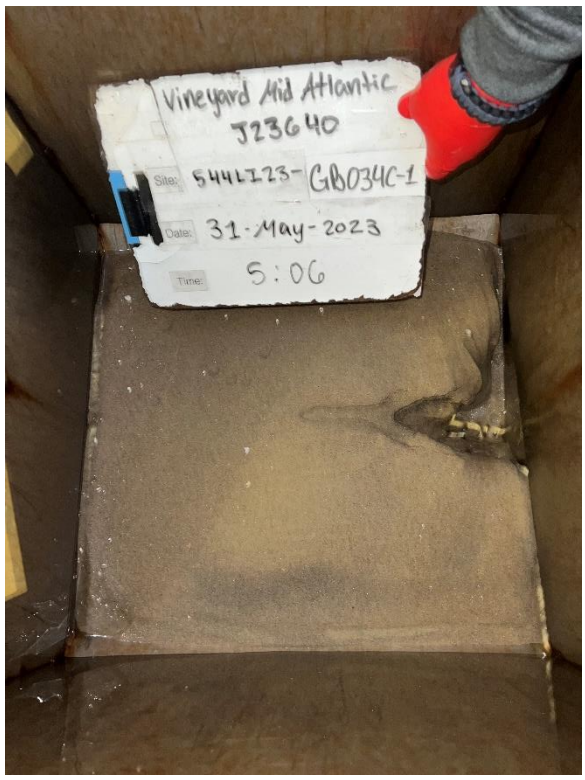
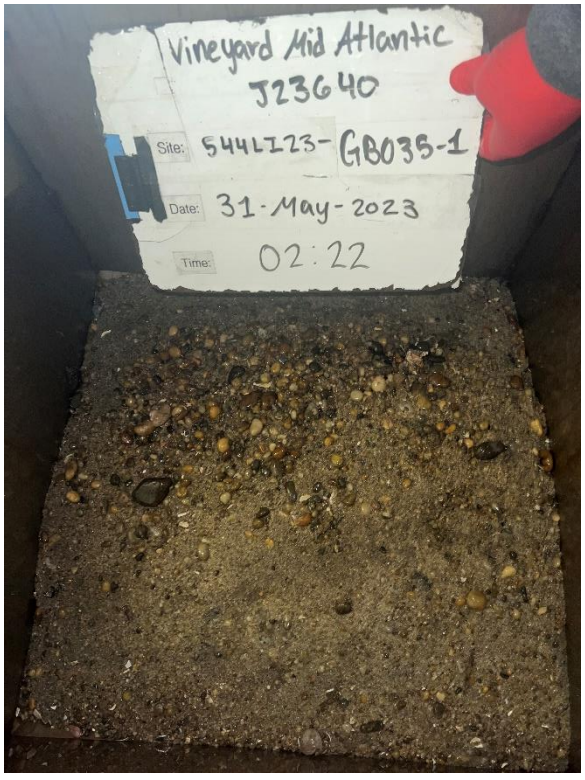
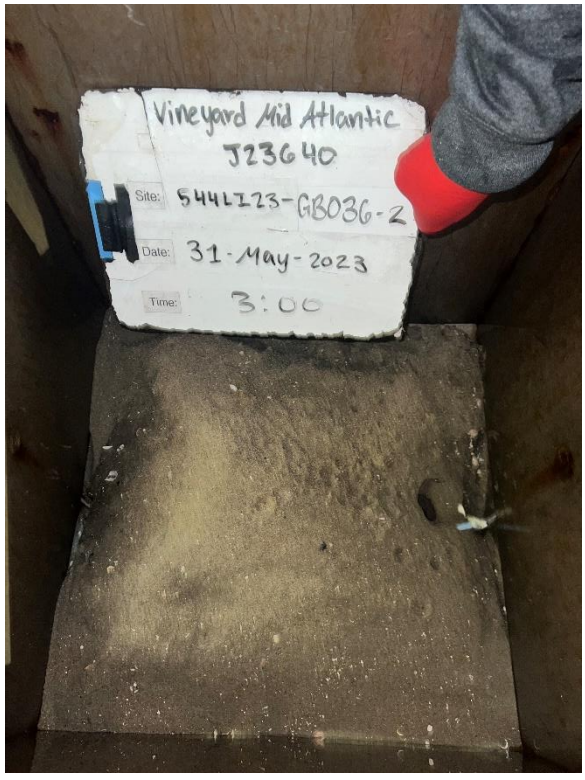
544LI23-GB032-1

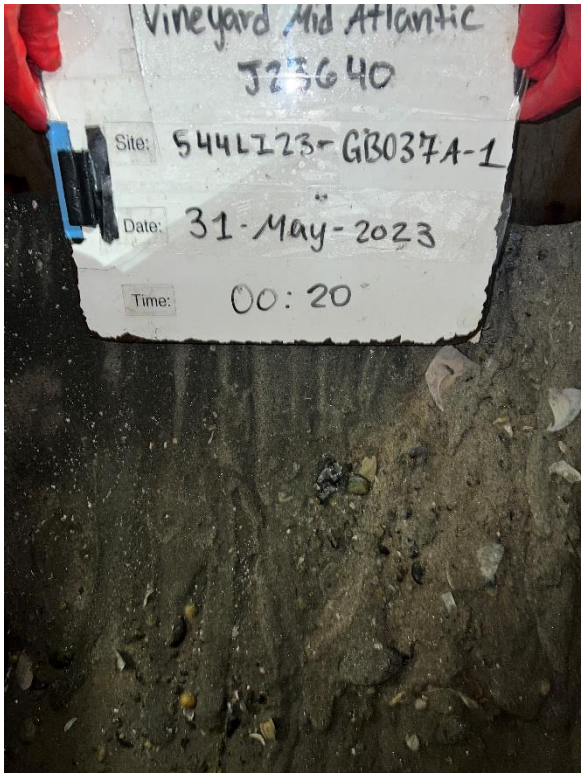


544LI23-GB033-3

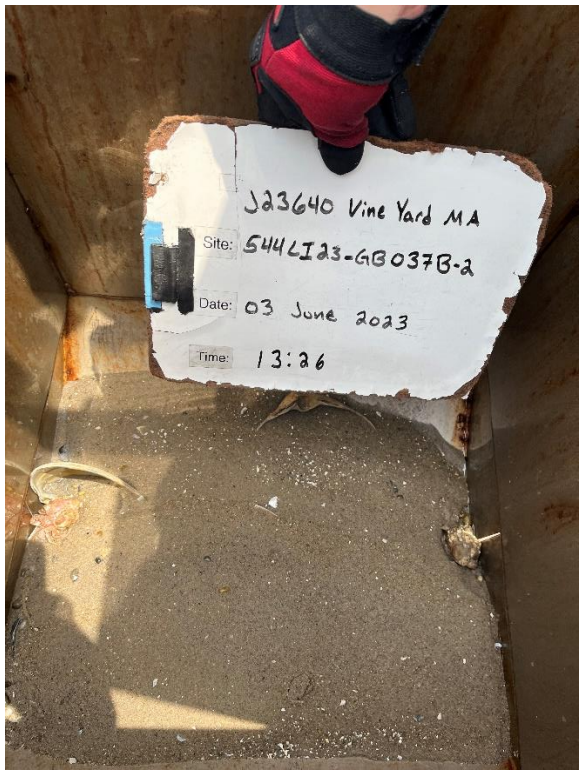


544LI23-GB034A-1

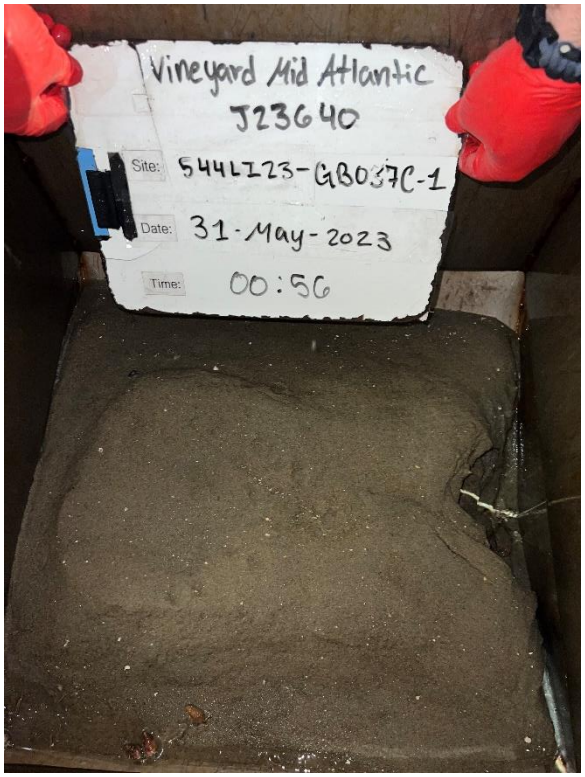
	
544LI23-GB034B-1	**544LI23-GB034C-1**
	
544LI23-GB035-1	**544LI23-GB036-2**



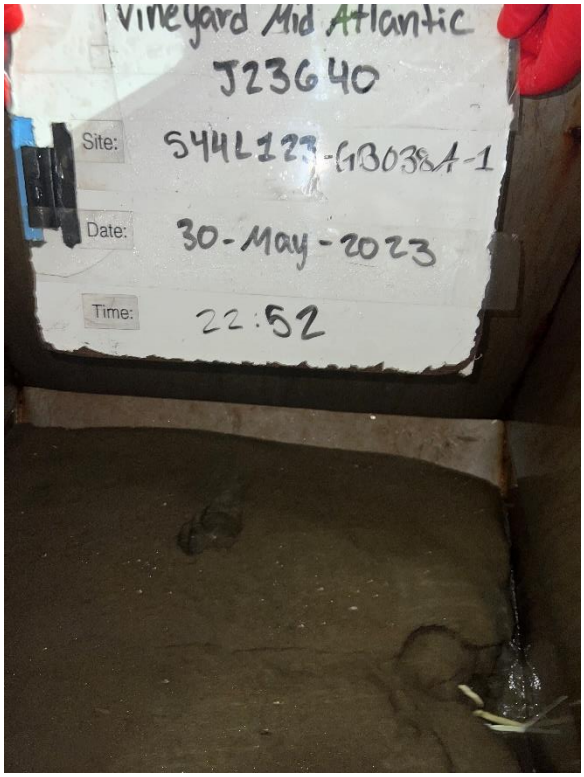
544LI23-GB037A-1



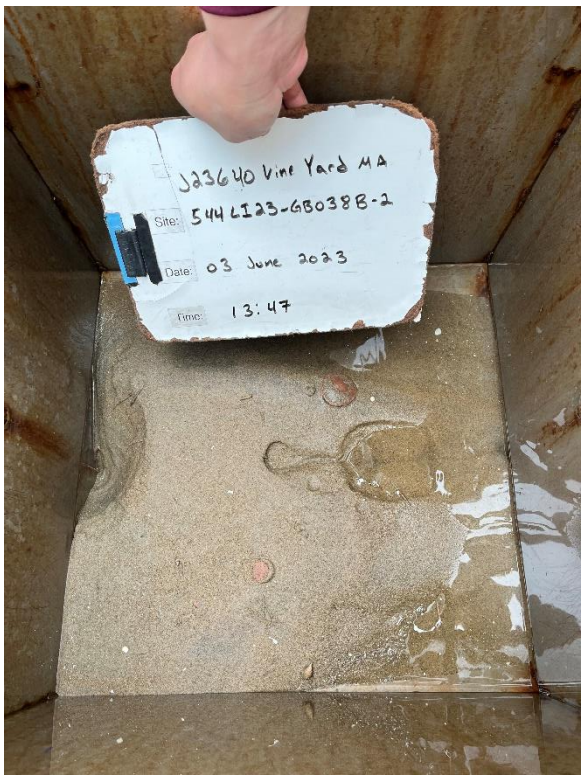
544LI23-GB037B-2



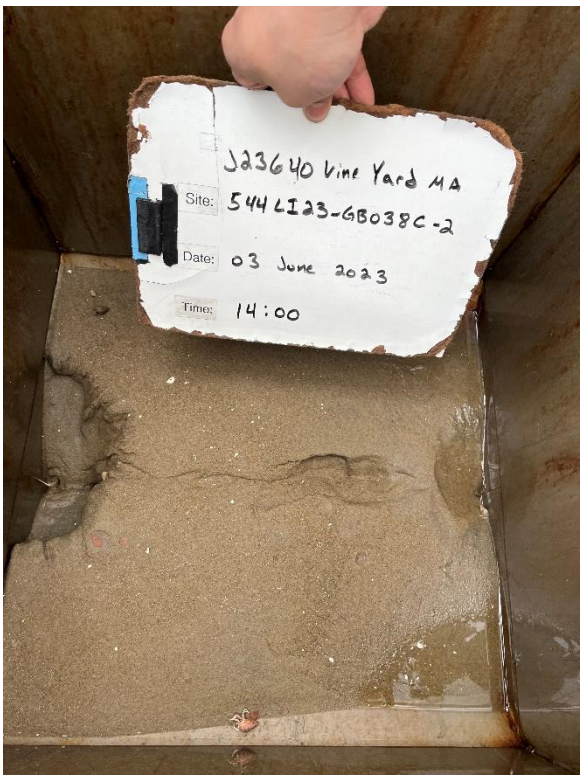
544LI23-GB037C-1



544LI23-GB038A-1



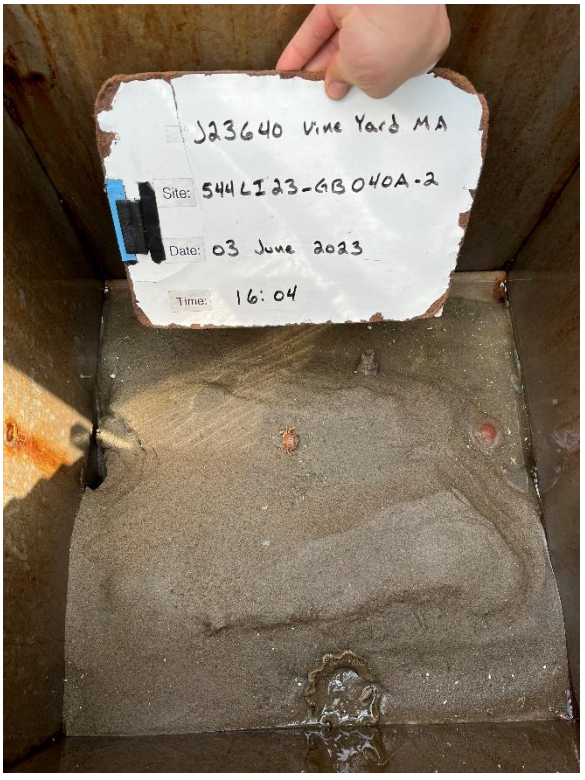
544LI23-GB038B-2



544LI23-GB038C-2



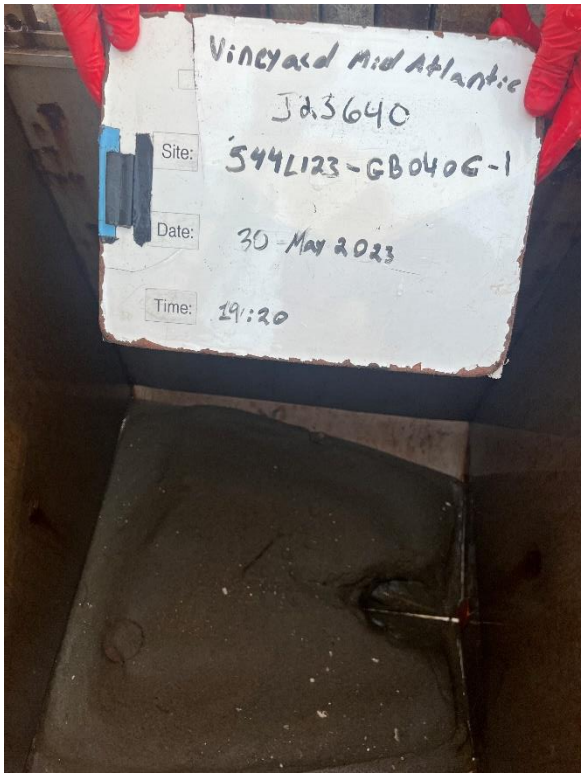
544LI23-GB039-3



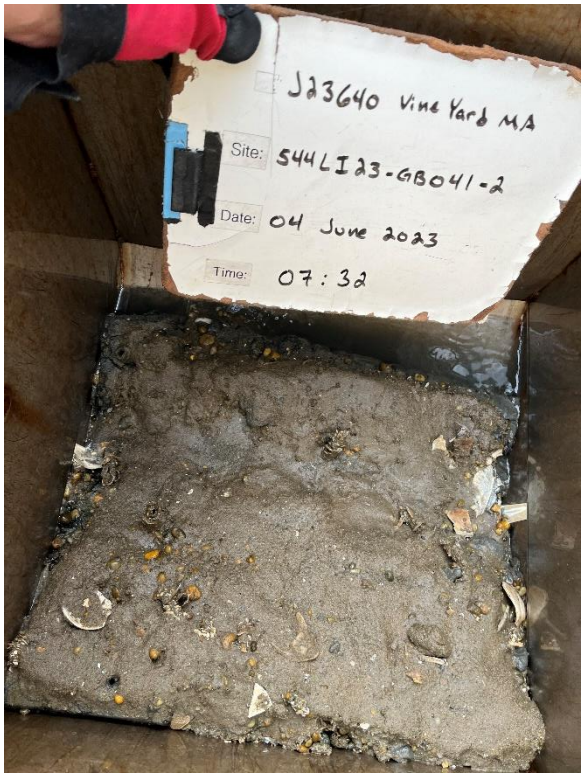
544LI23-GB040A-2



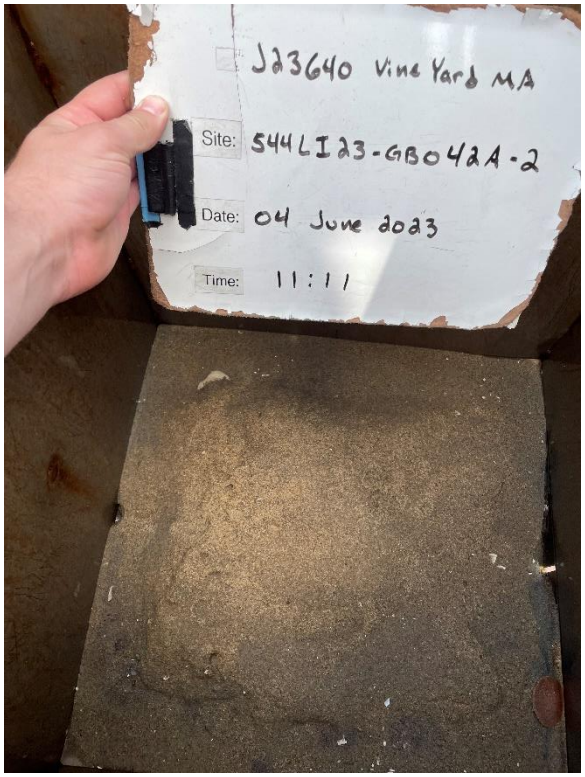
544LI23-GB040B-3



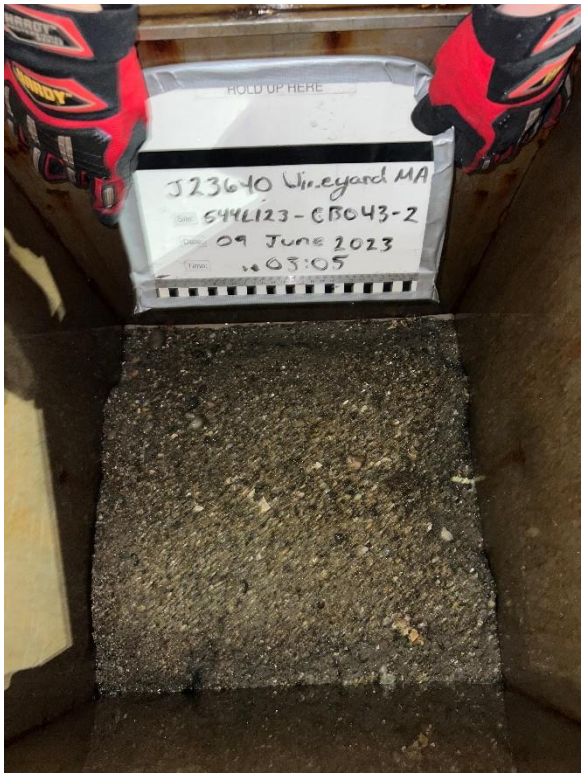
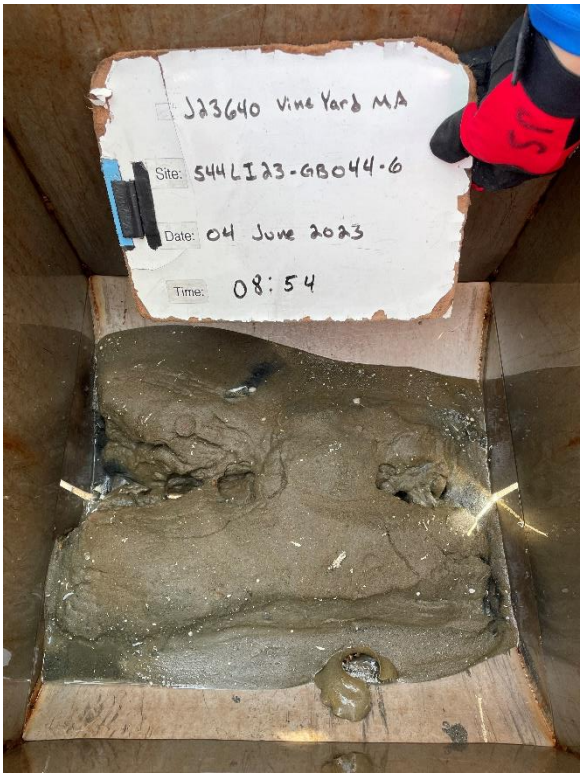
544LI23-GB040C-1



544LI23-GB041-2

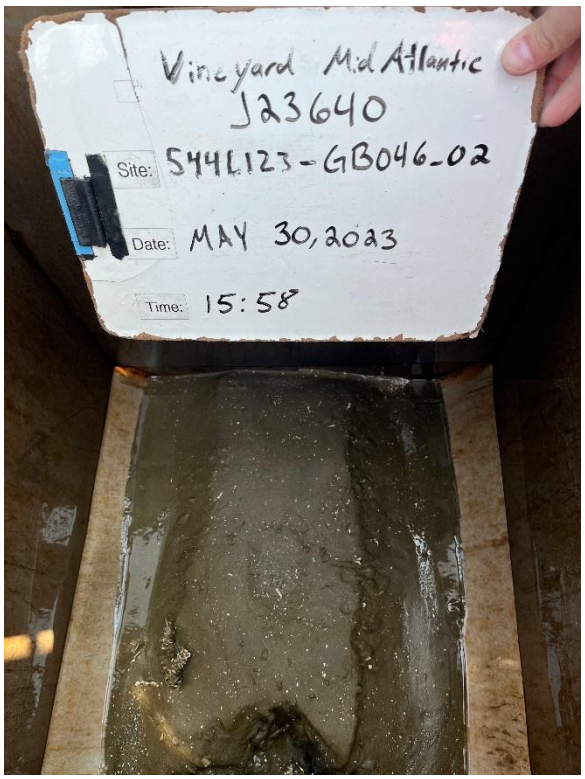


544LI23-GB042A-2

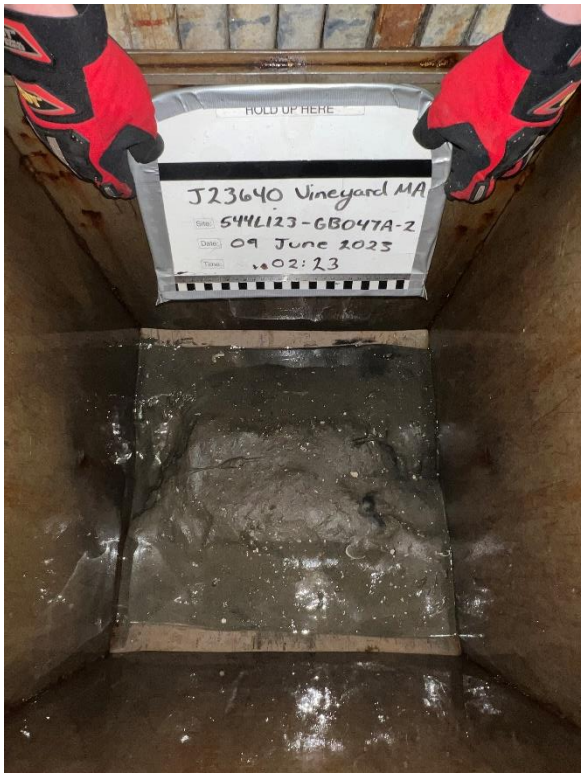
	
544LI23-GB042B-2	**544LI23-GB042C-2**
	
544LI23-GB043-2	**544LI23-GB044-6**



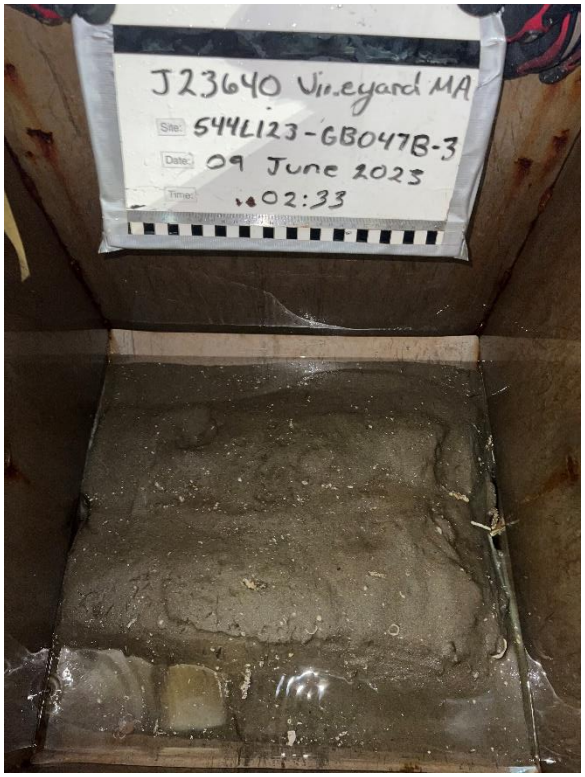
544LI23-GB045-1



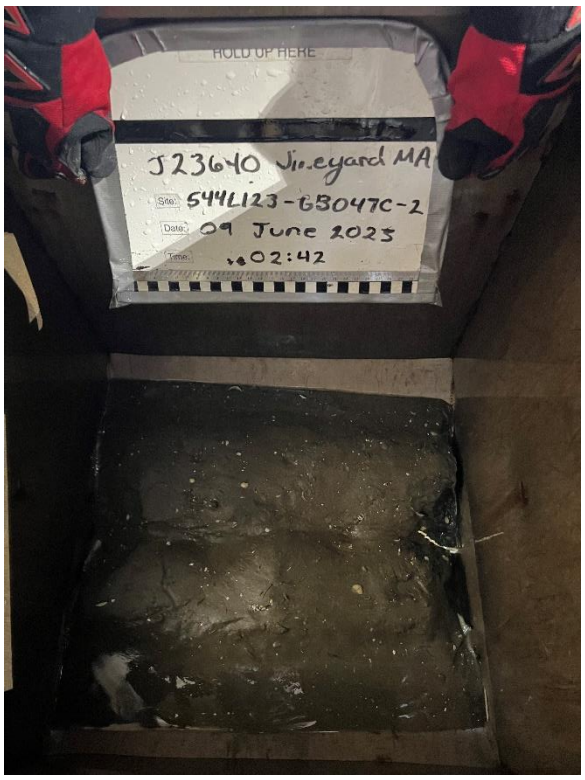
544LI23-GB046-2



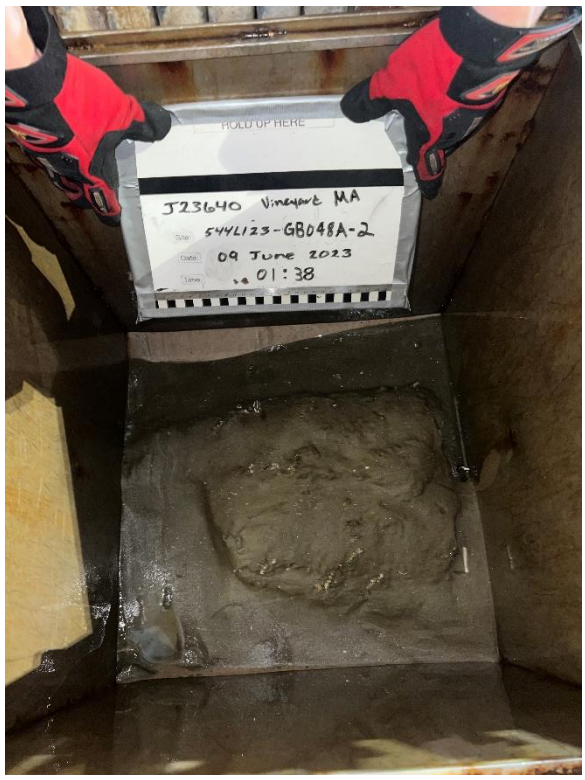
544LI23-GB047A-2



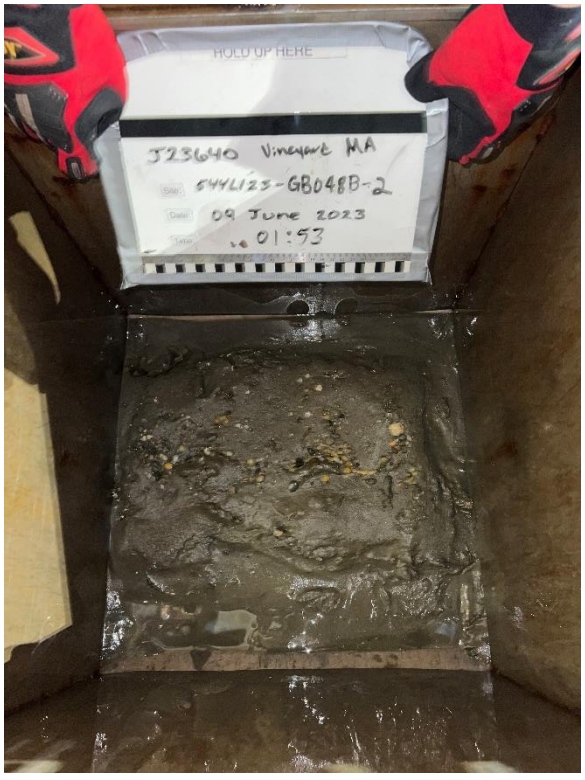
544LI23-GB047B-3



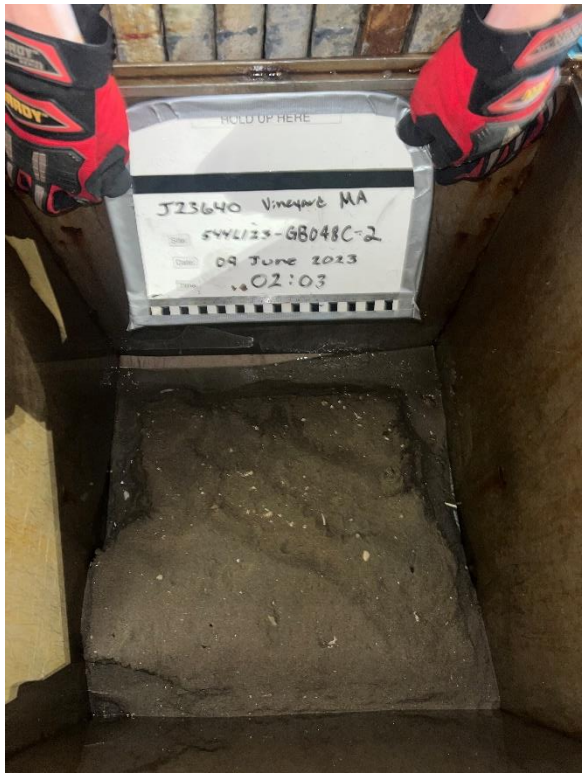
544LI23-GB047C-2



544LI23-GB048A-2



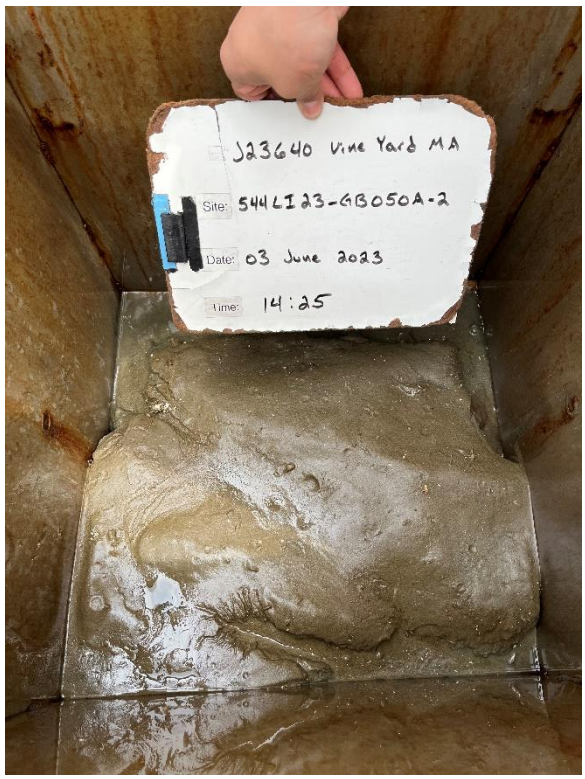
544LI23-GB048B-2



544LI23-GB048C-2



544LI23-GB049-1



544LI23-GB050A-2



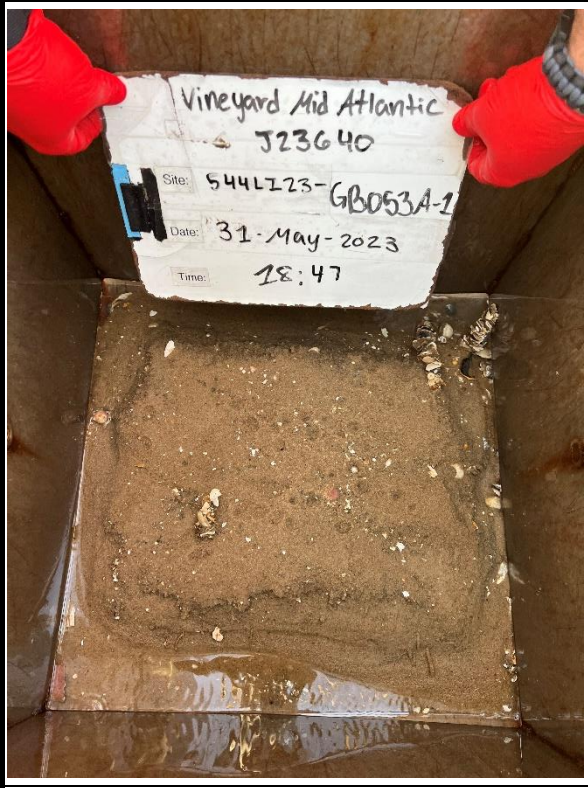
544LI23-GB050B-2



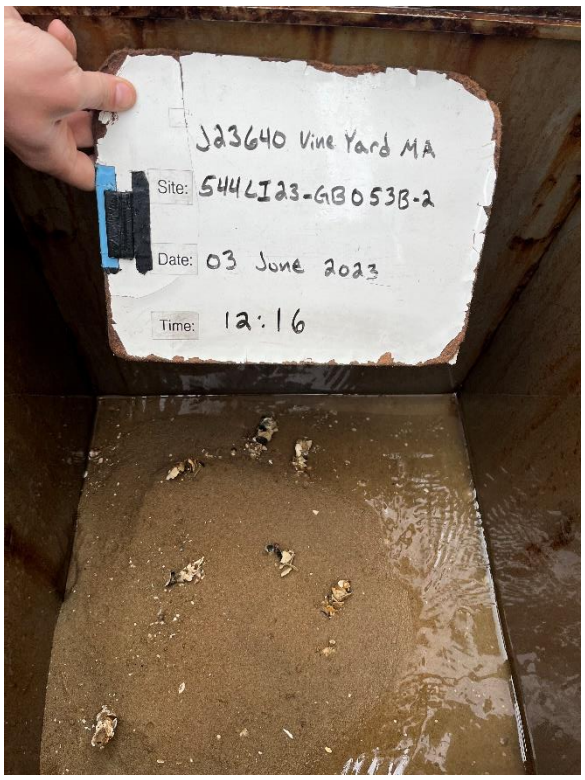
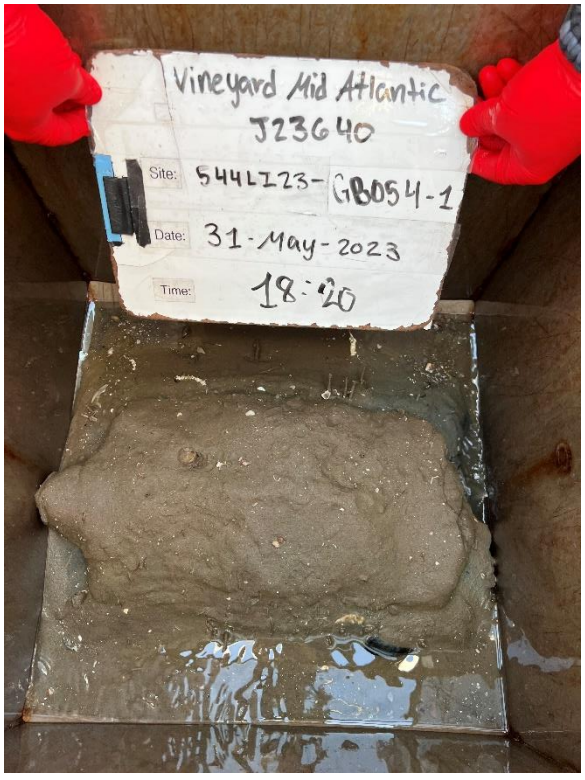
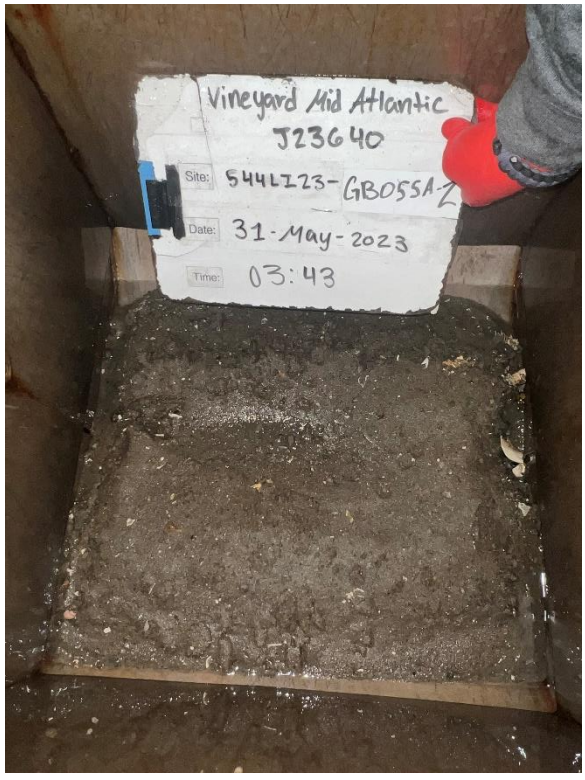
[redacted]

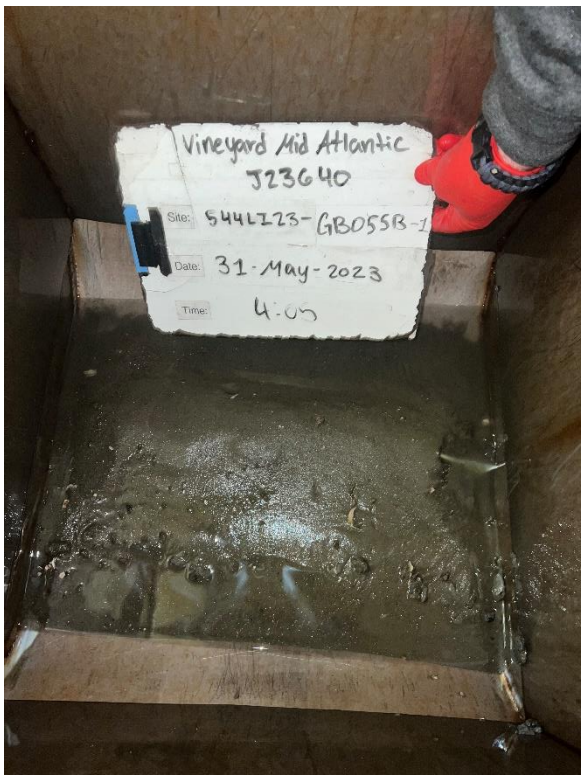
544LI23-GB050C-2

[redacted]



544LI23-GB053A-1

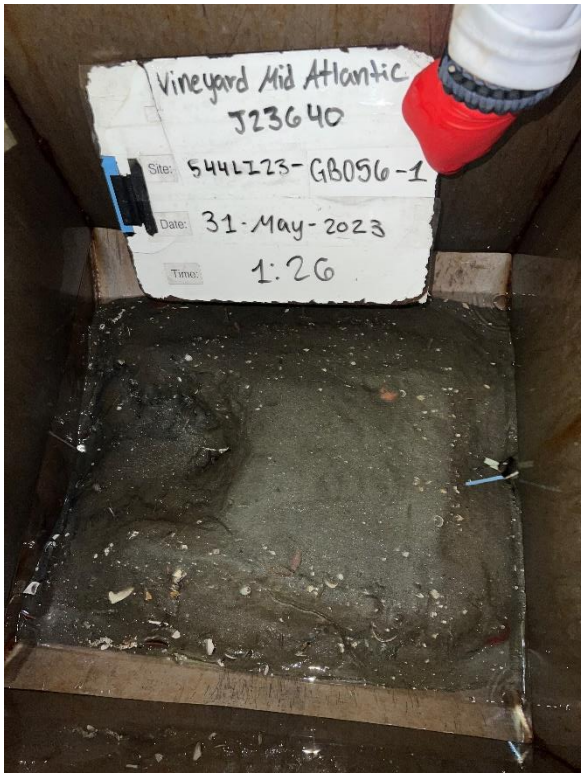
	
544LI23-GB053B-2	**544LI23-GB053C-2**
	
544LI23-GB054-1	**544LI23-GB055A-2**



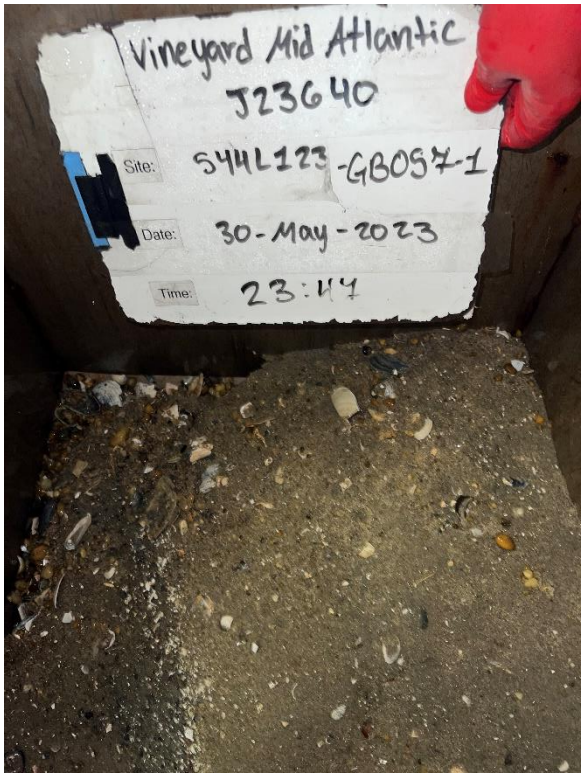
544LI23-GB055B-1



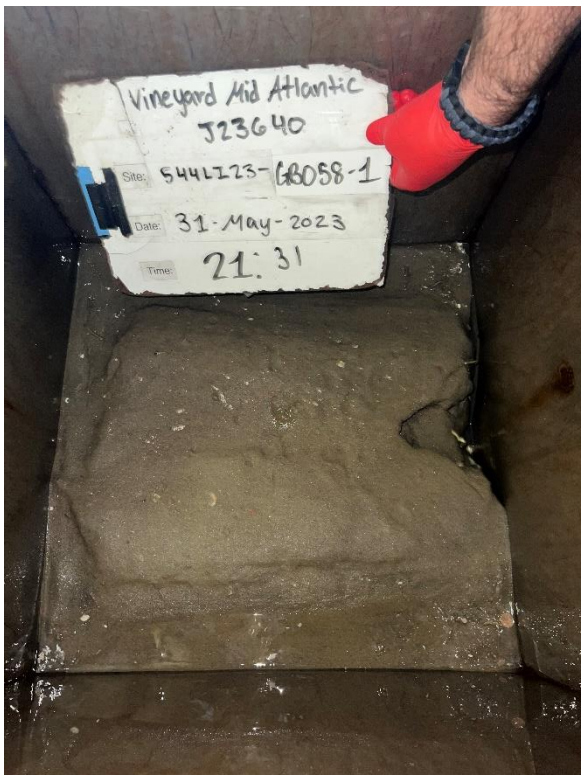
544LI23-GB055C-2



544LI23-GB056-1



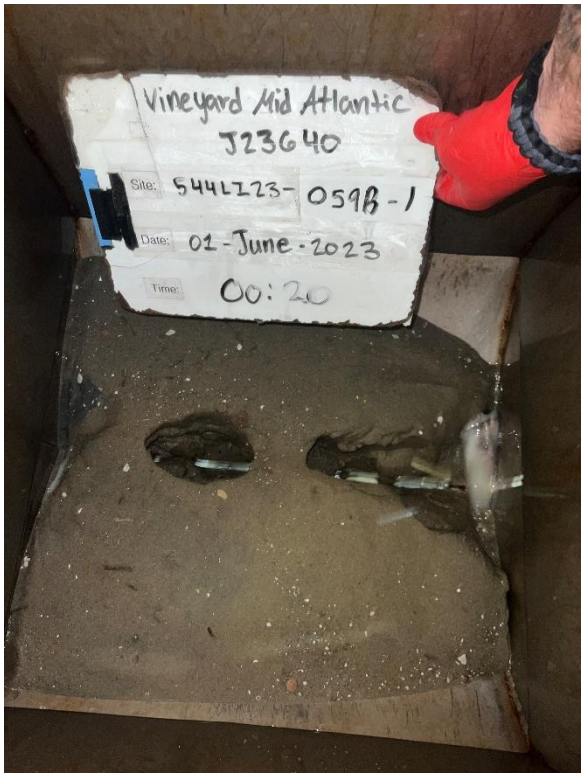
544LI23-GB057-1



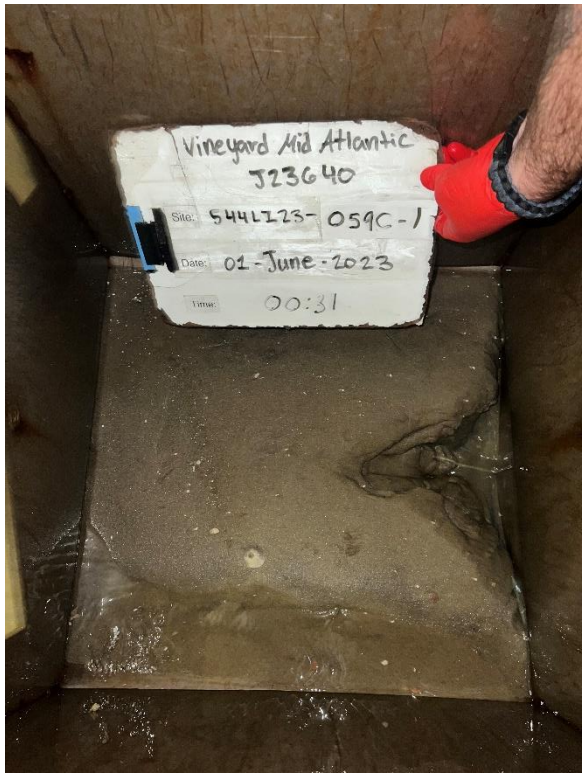
544LI23-GB058-1



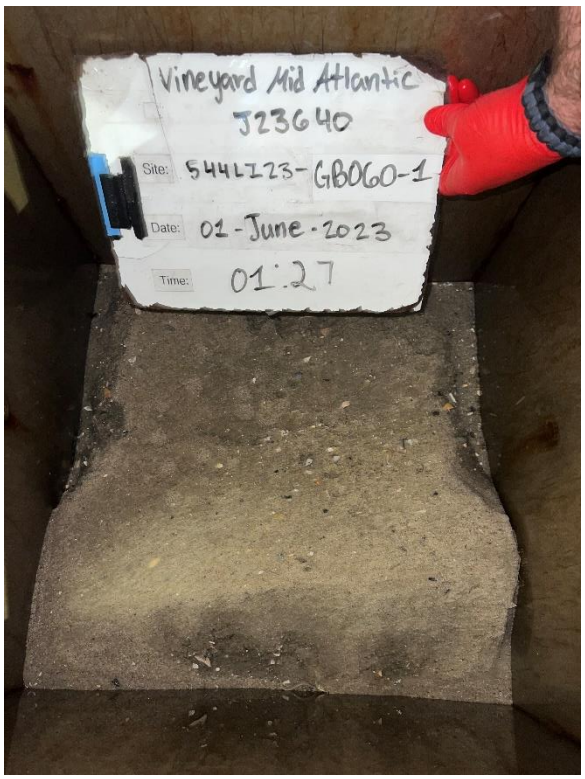
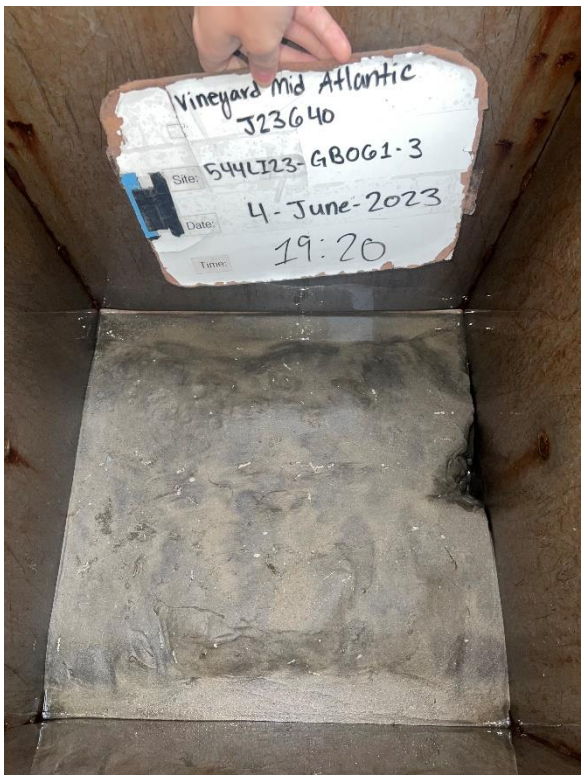
544LI23-GB059A-1



544LI23-GB059B-1



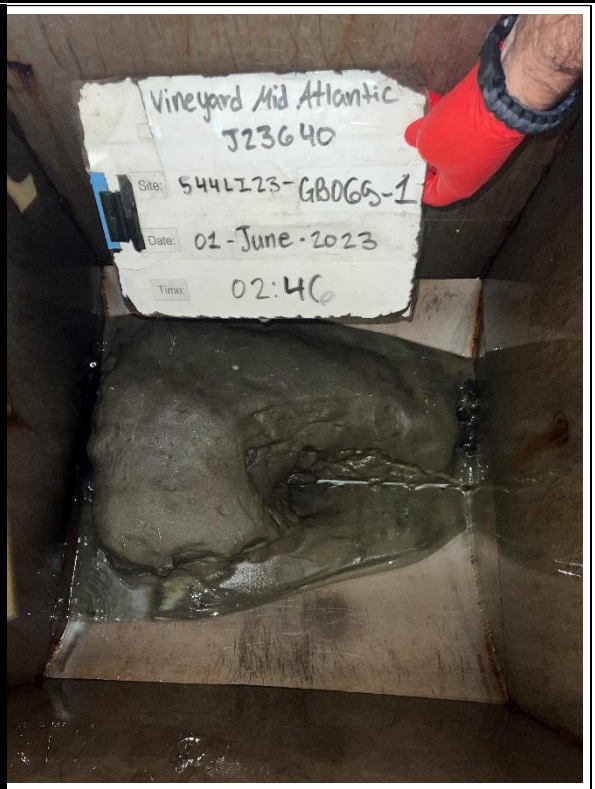
544LI23-GB059C-1

	
544LI23-GB060-1	**544LI23-GB061-3**

[redacted]

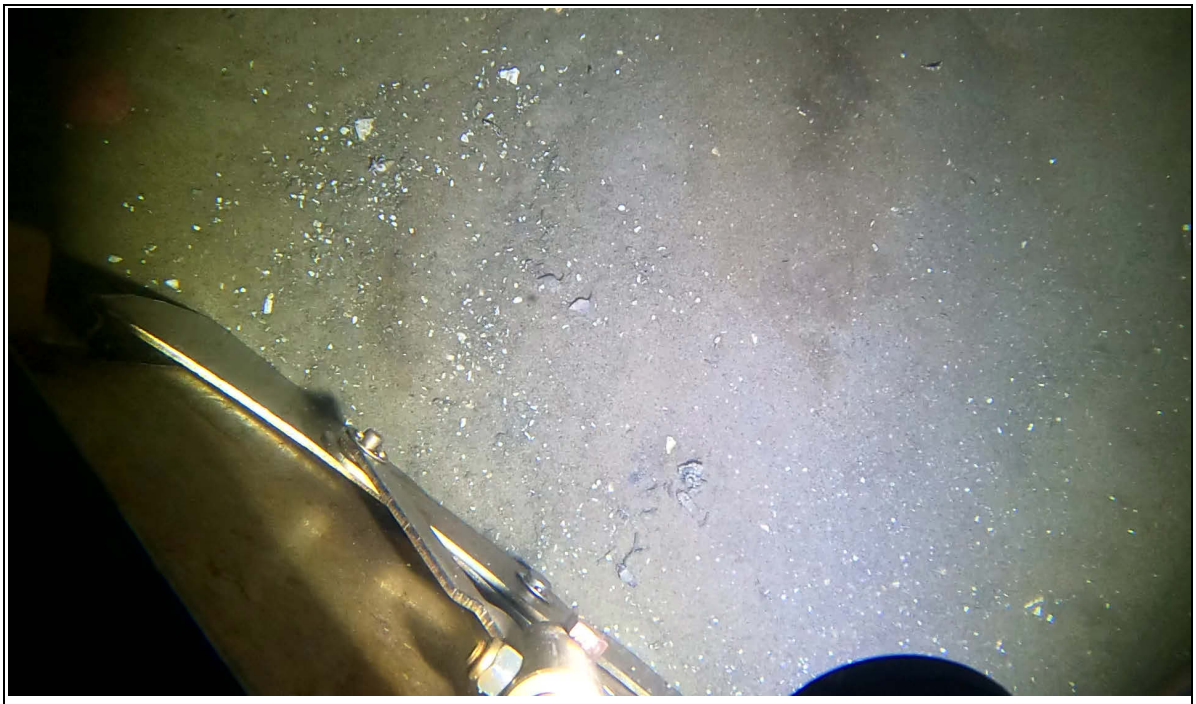
[redacted]

[redacted]

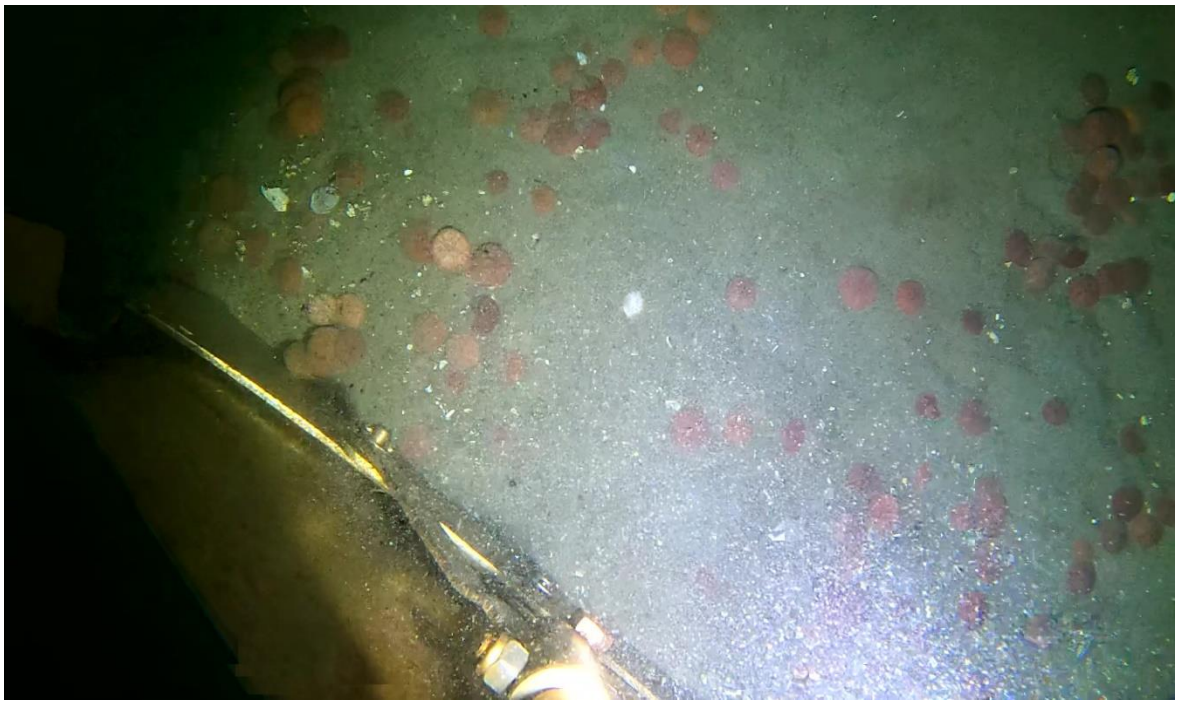


544LI23-GB065-1

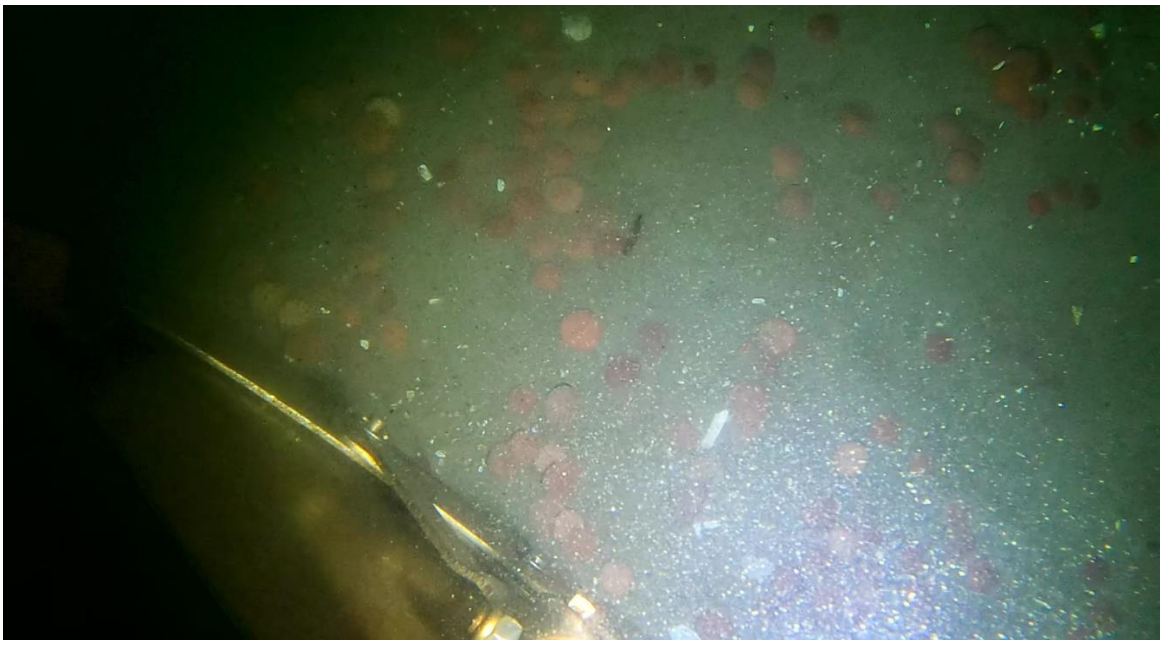
Images of Surface Sediment – Grab Sample Video Stills



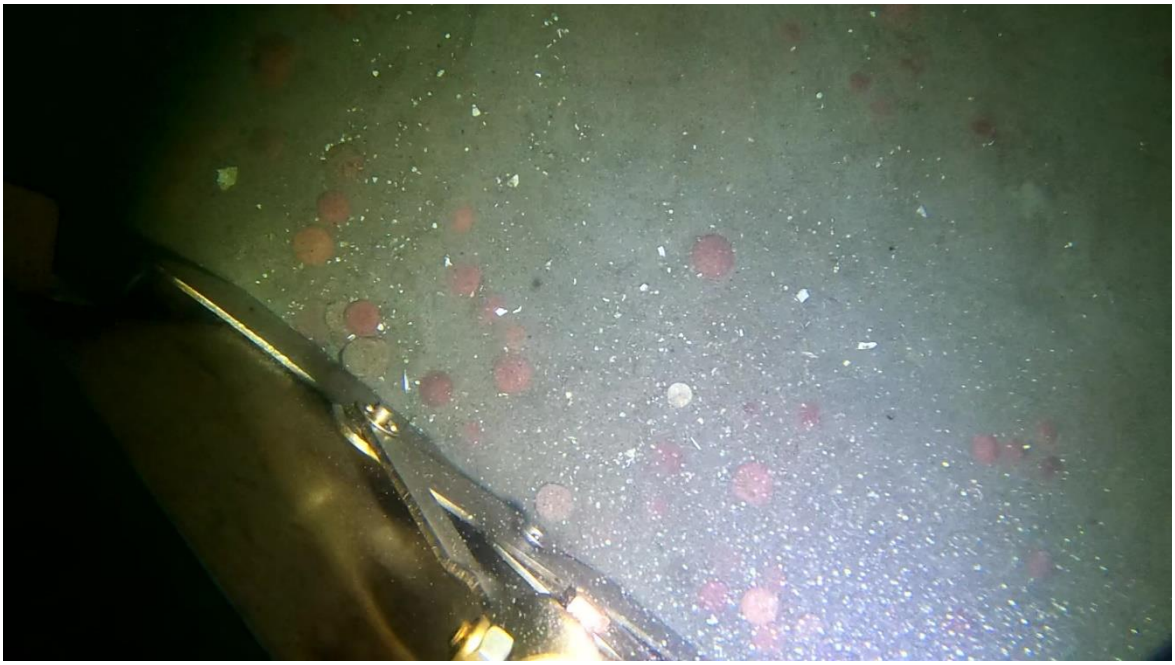
544LI23-GB001A-1



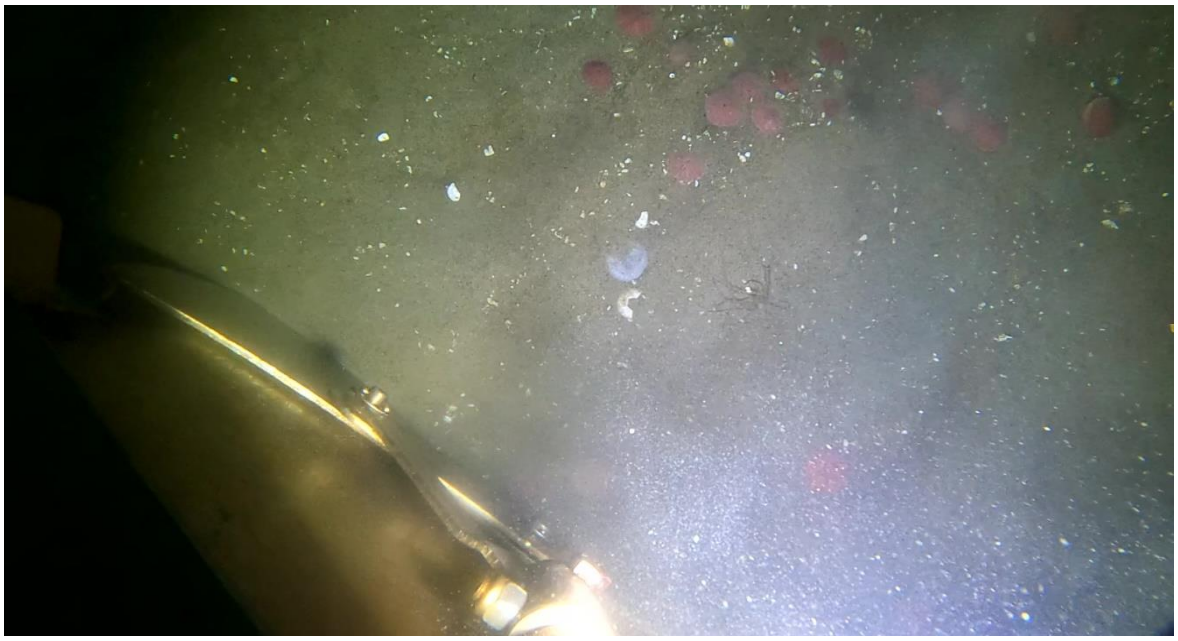
544LI23-GB001B-1



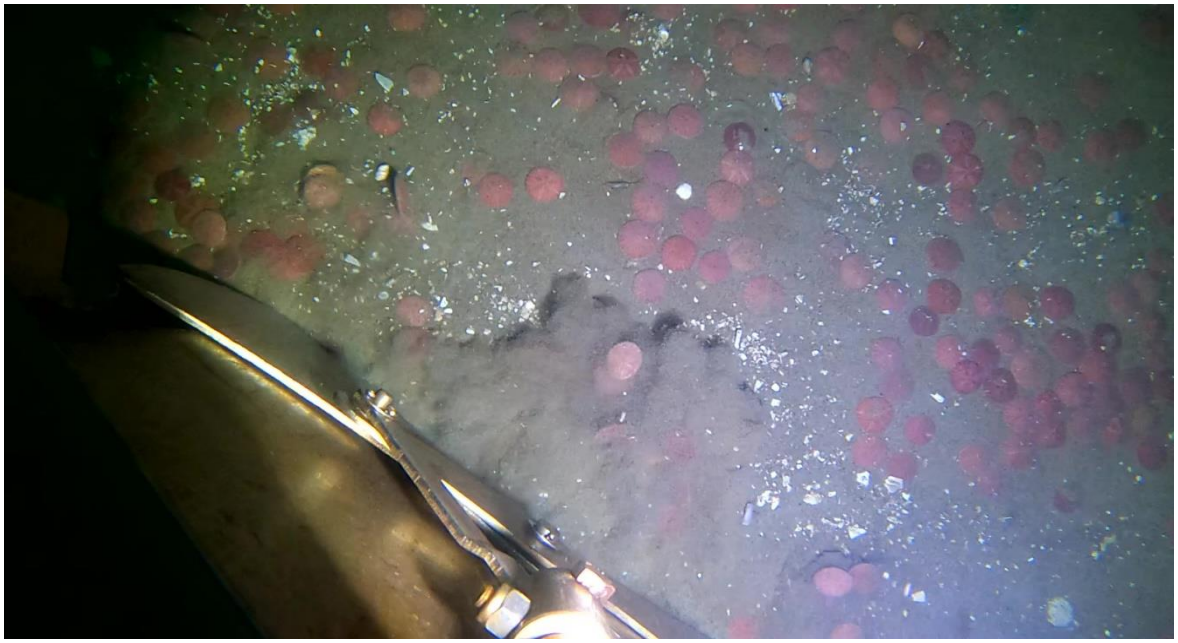
544LI23-GB001C-1



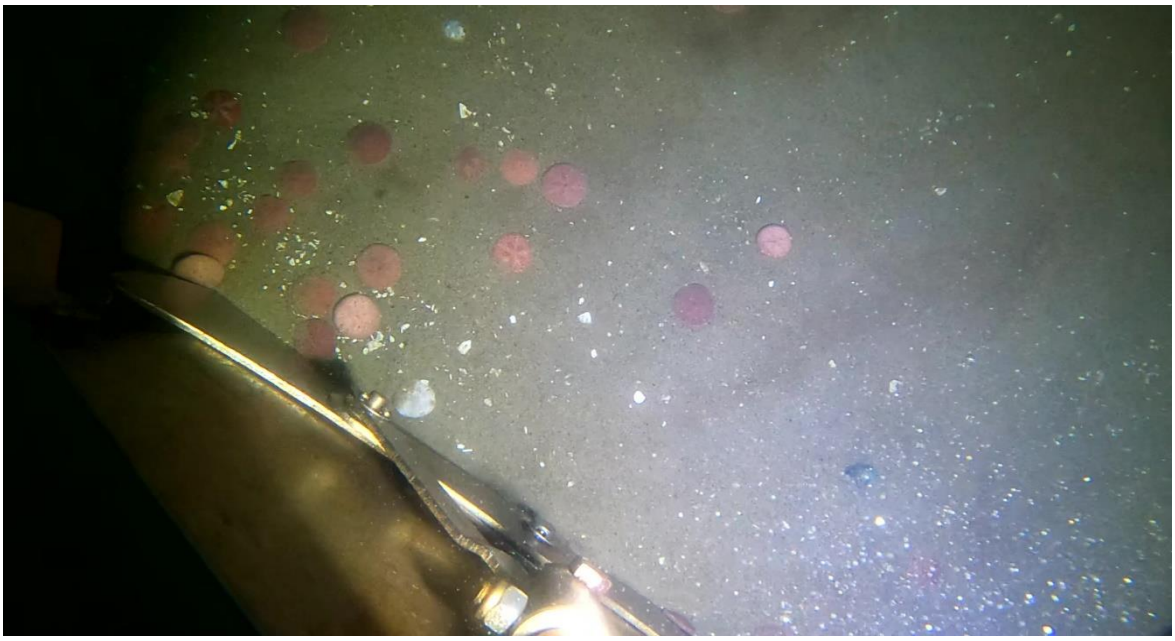
544LI23-GB002-1



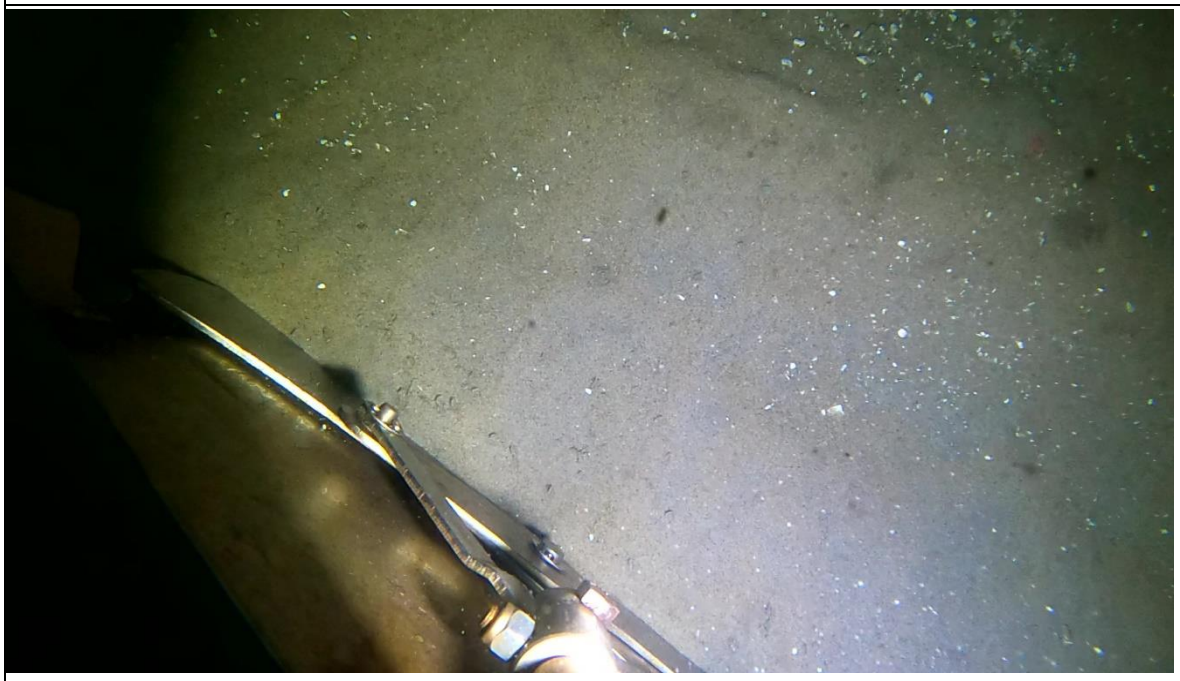
544LI23-GB003A-1



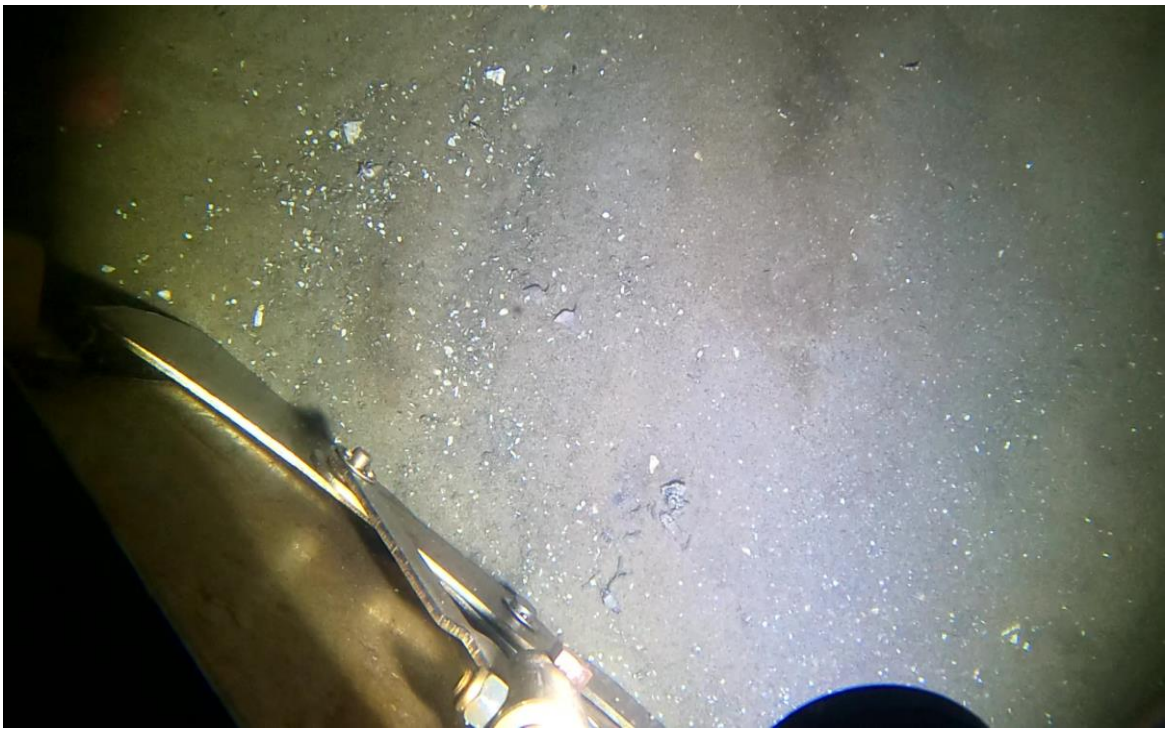
544LI23-GB003B-1



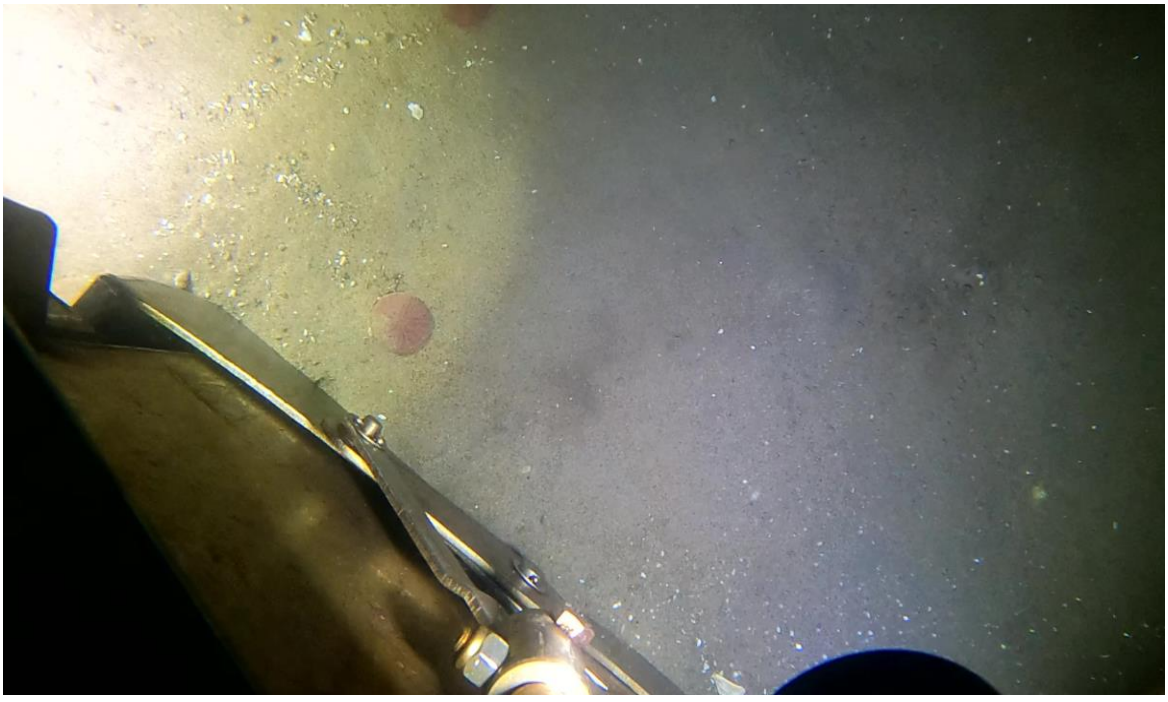
544LI23-GB003C-1



544LI23-GB004-1



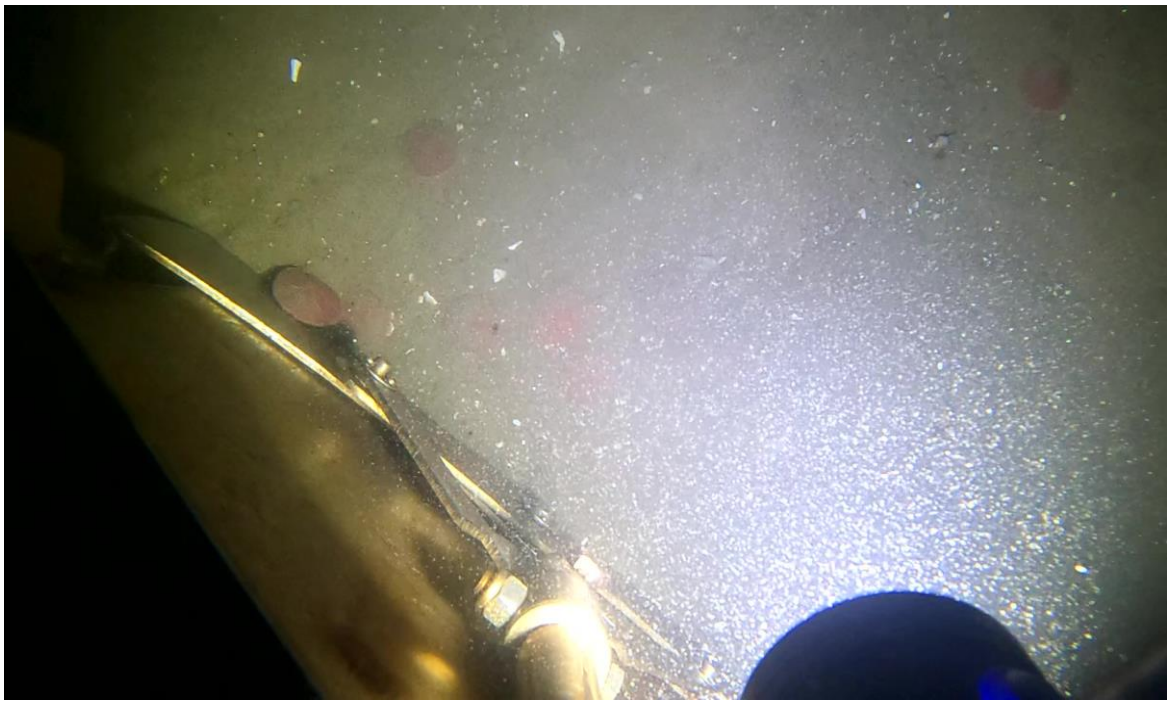
544LI23-GB005A-1



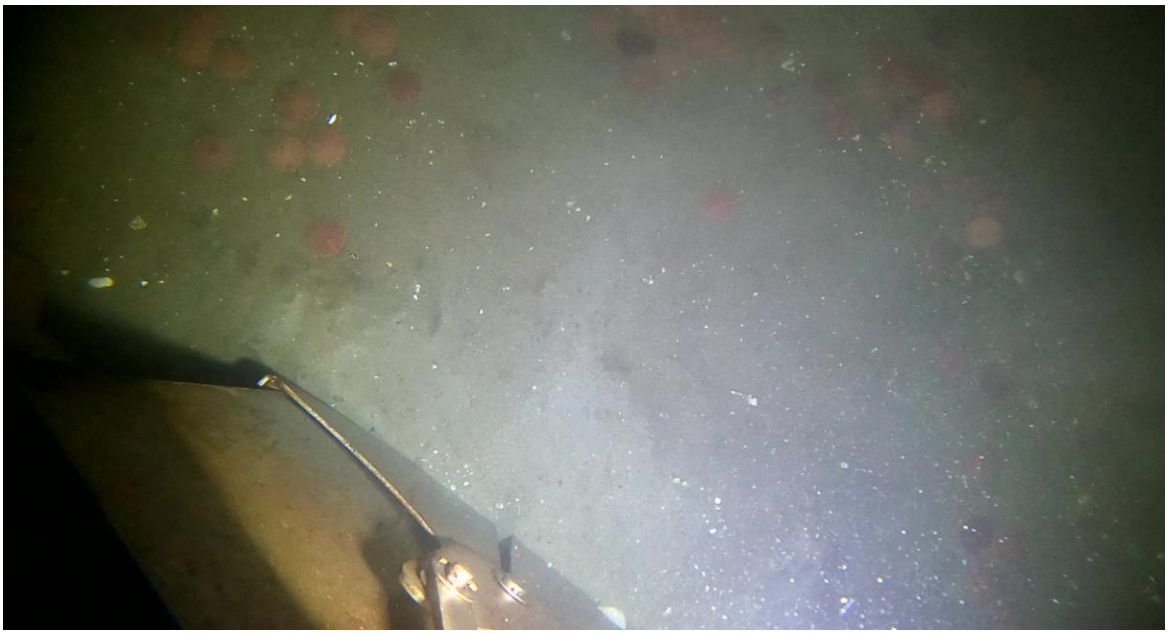
544LI23-GB005B-1



544LI23-GB005C-1



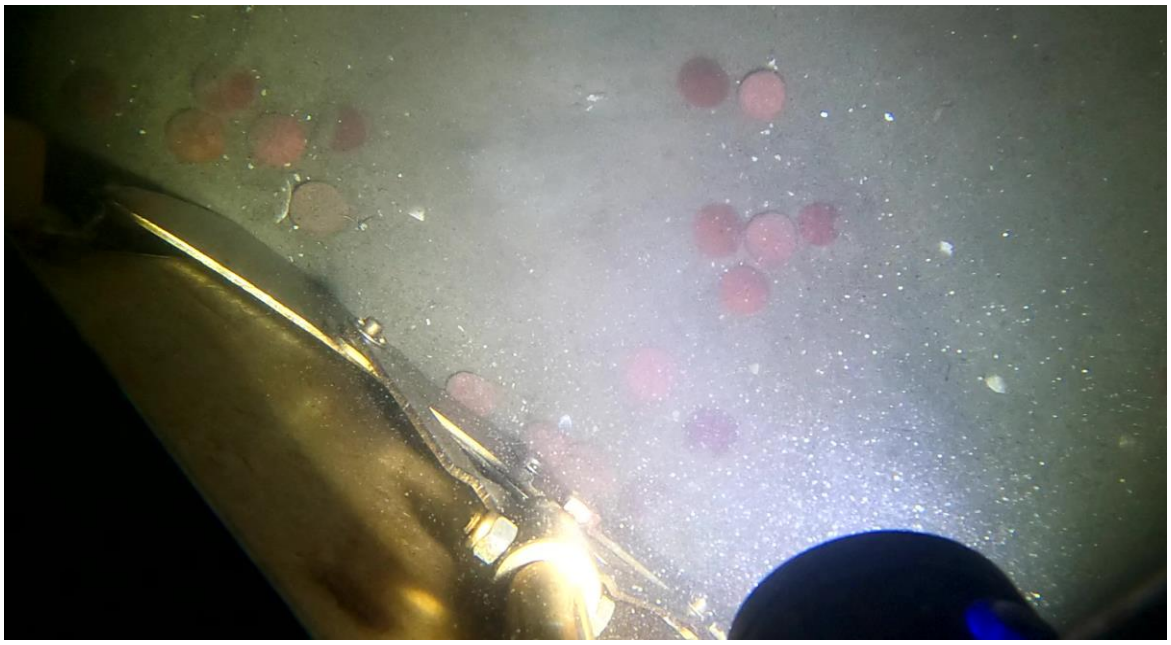
544LI23-GB006-1



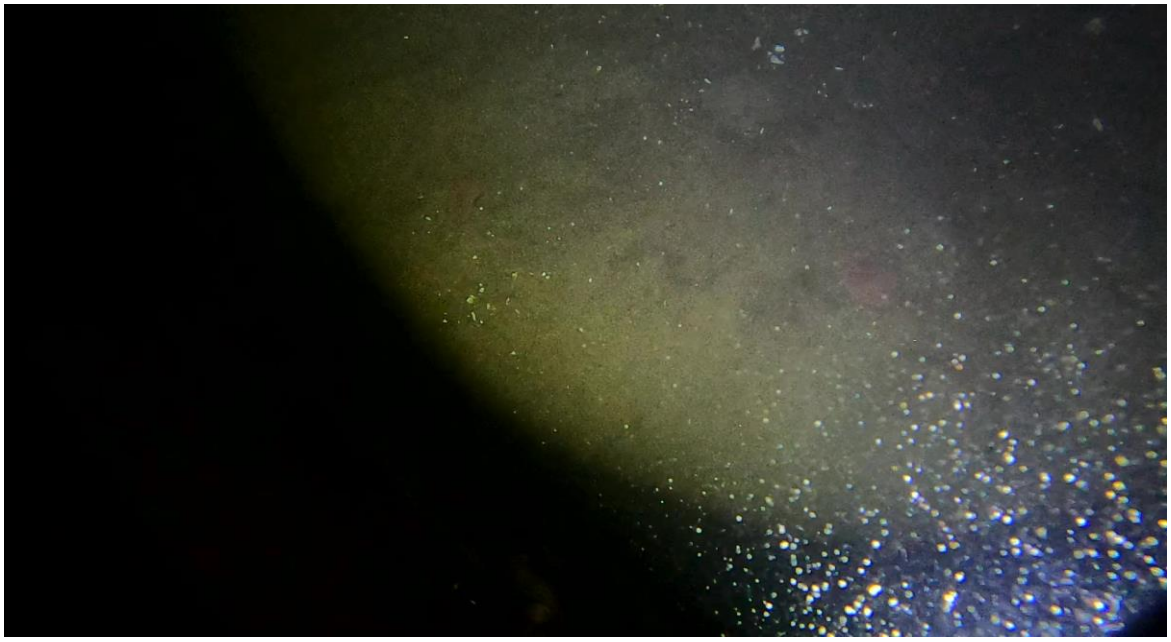
544LI23-GB007A-1



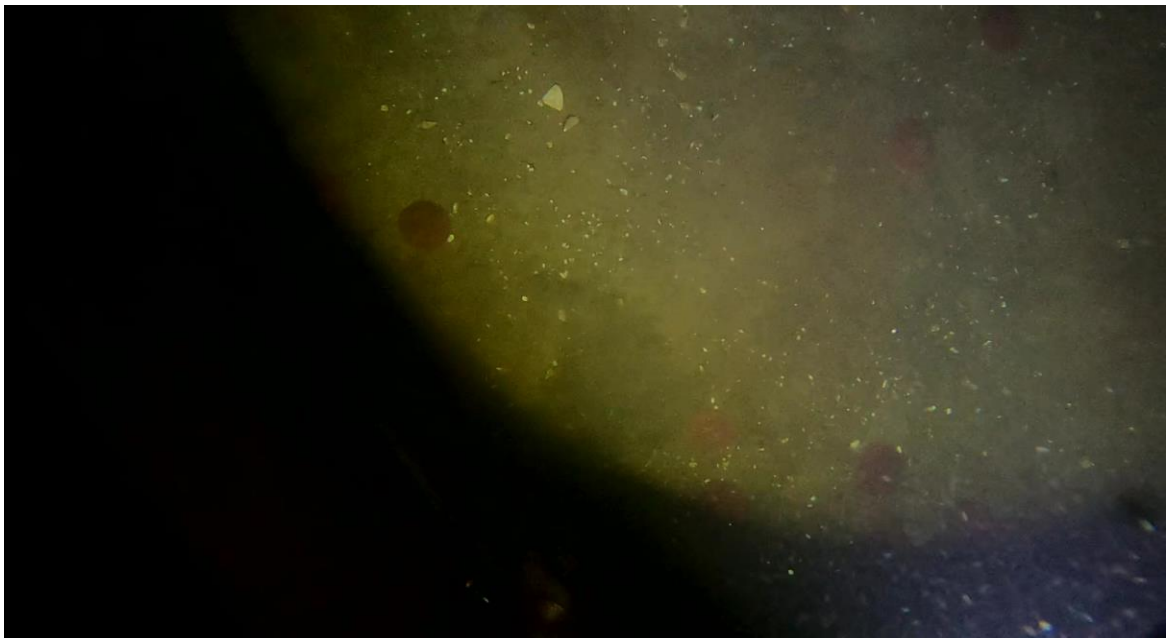
544LI23-GB007B-1



544LI23-GB007C-1



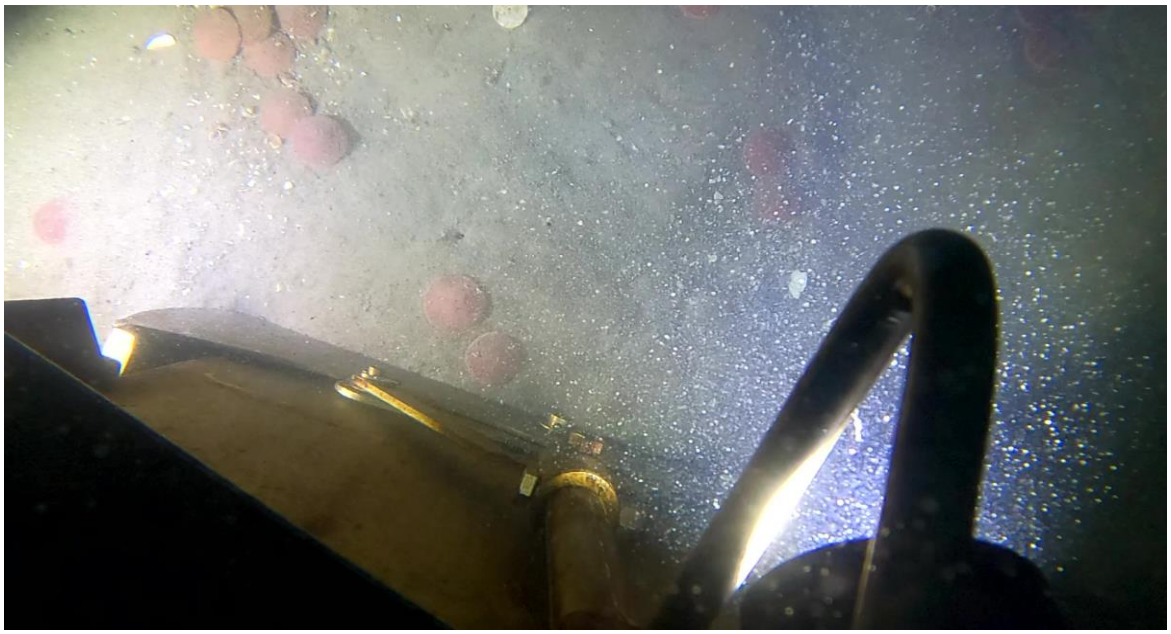
544LI23-GB008-1



544LI23-GB009-1



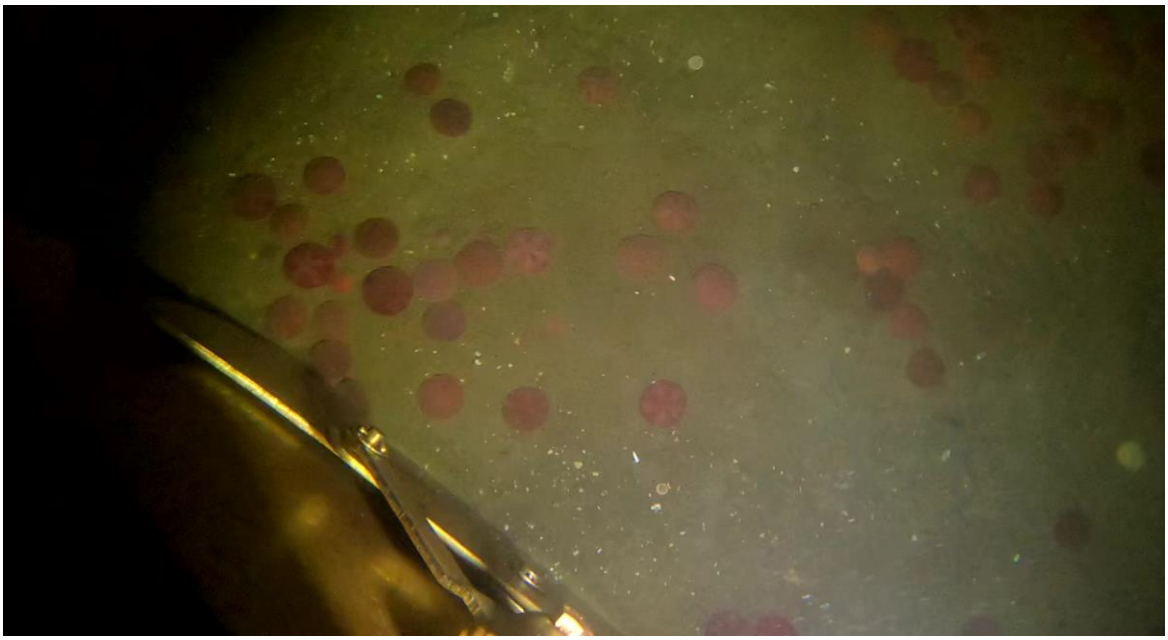
544LI23-GB010A-1



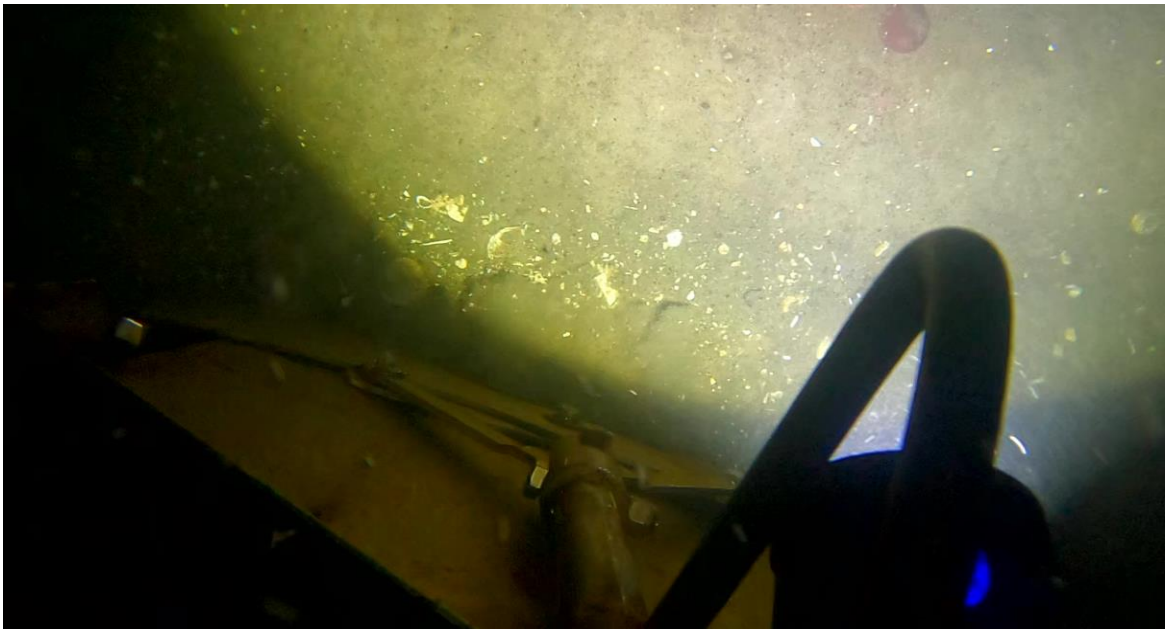
544LI23-GB010B-1



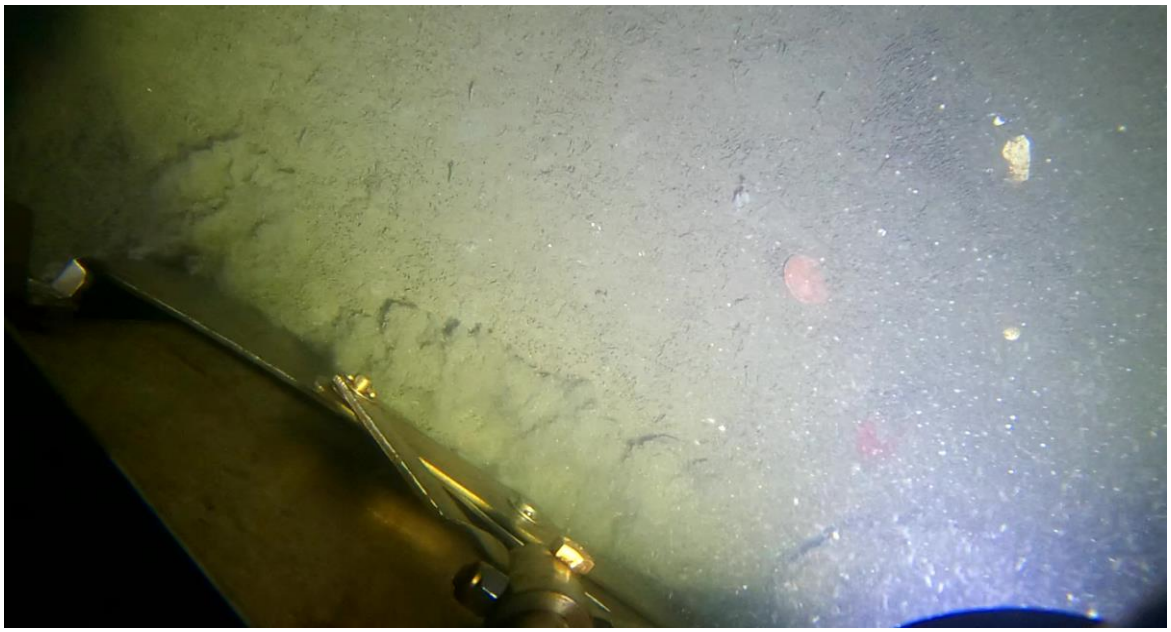
544LI23-GB010C-1



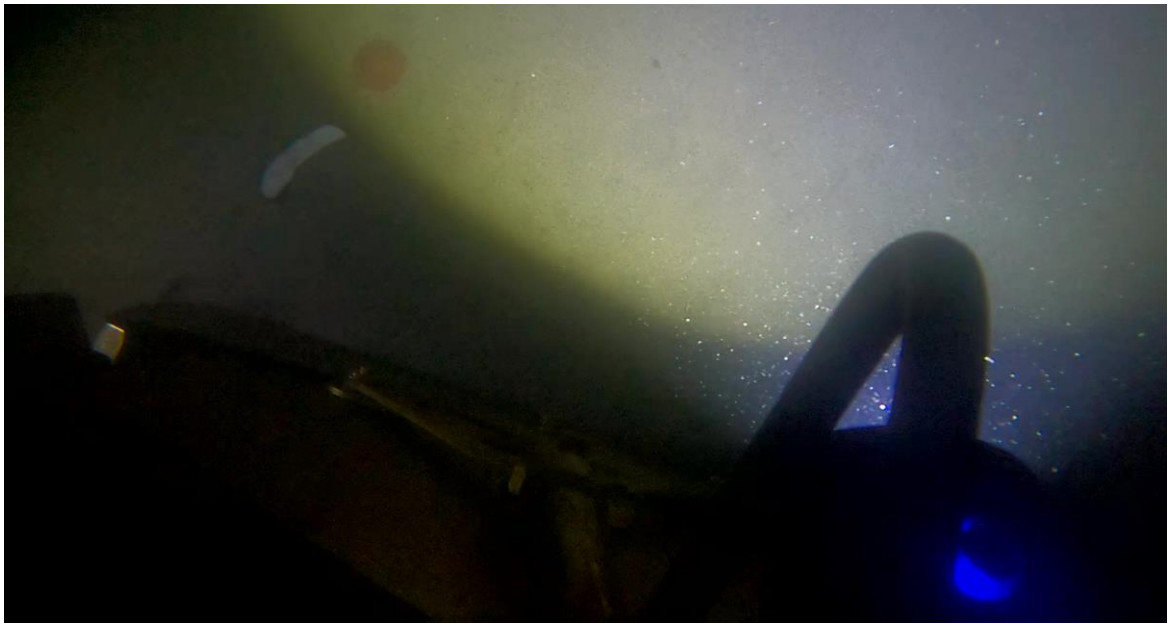
544LI23-GB011-2



544LI23-GB012-1



544LI23-GB013-2



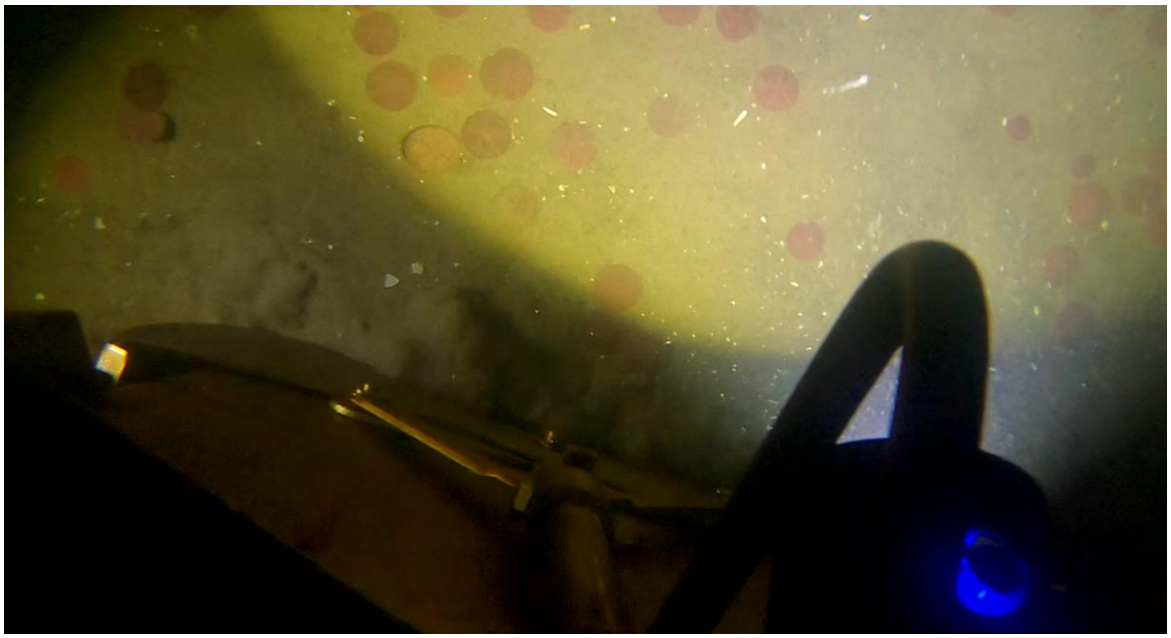
544LI23-GB014A-1



544LI23-GB014B-1



544LI23-GB014C-1



544LI23-GB015A-1



544LI23-GB015B-1



544LI23-GB015C-1



544LI23-GB016-2



544LI23-GB017A-1



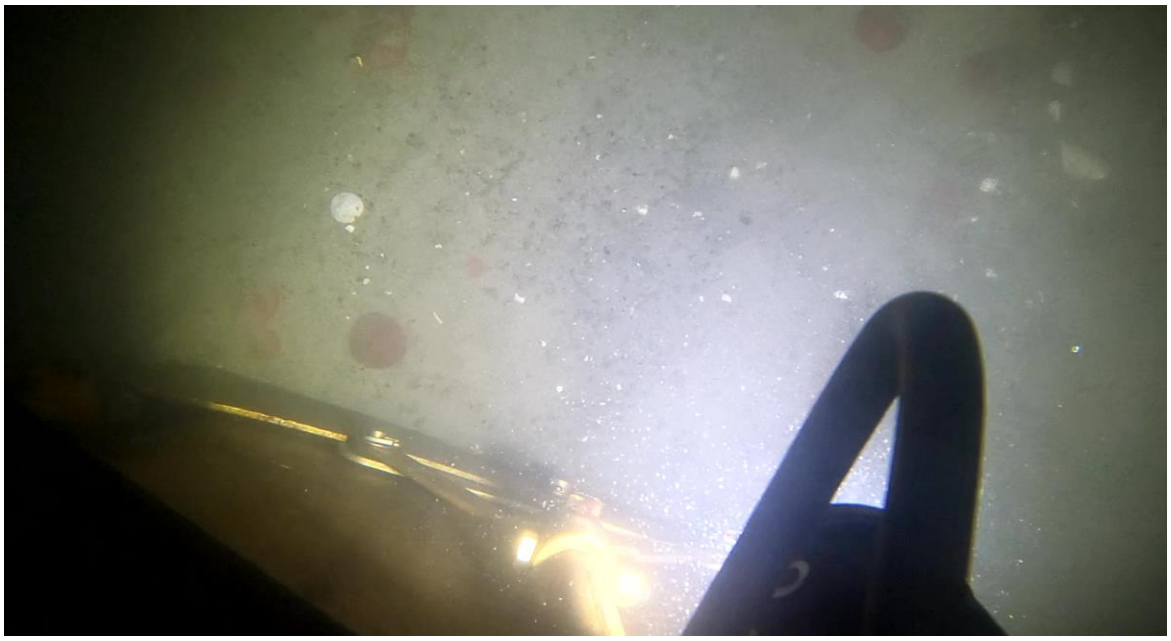
544LI23-GB017B-1



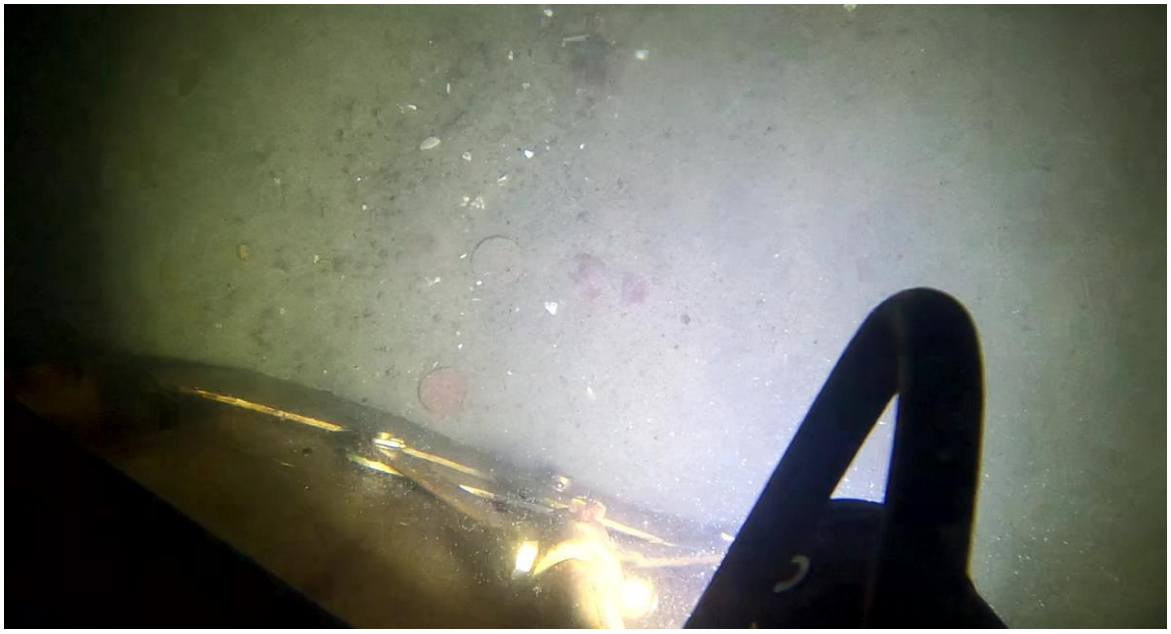
544LI23-GB017C-1



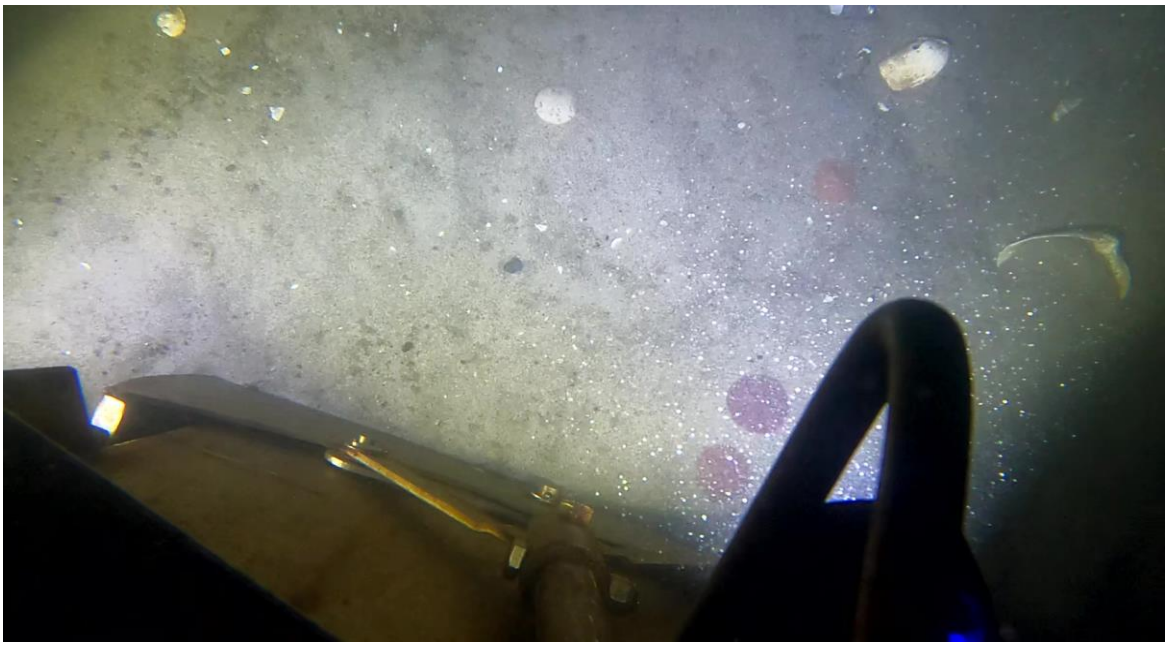
544LI23-GB018-1



544LI23-GB019A-1



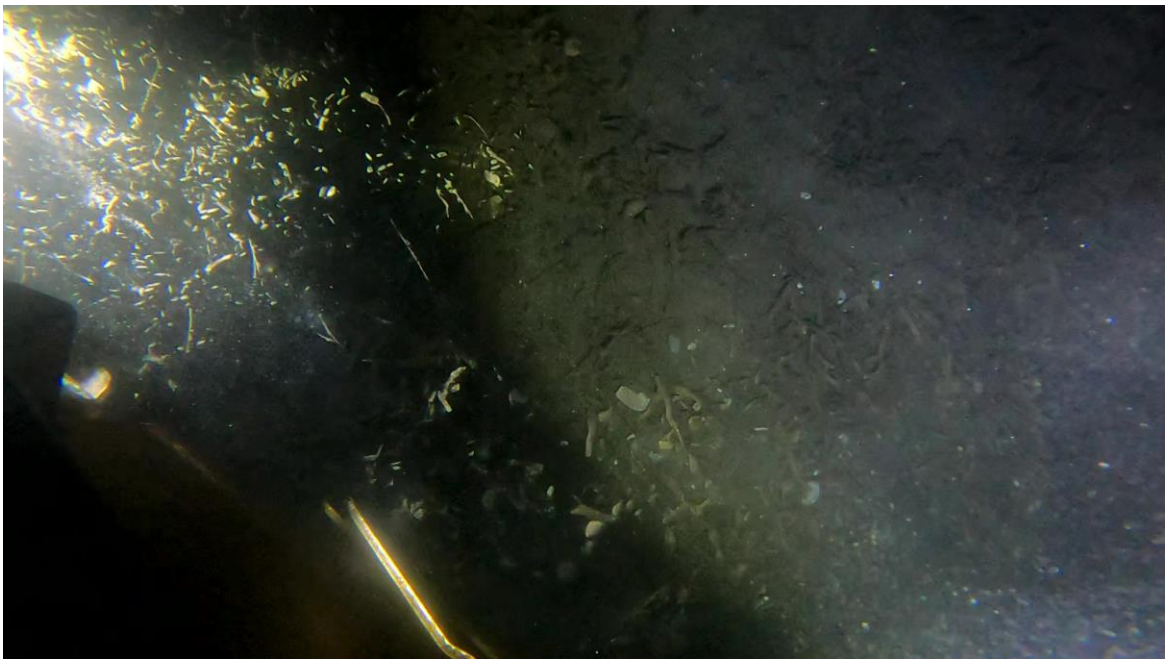
544LI23-GB019B-1



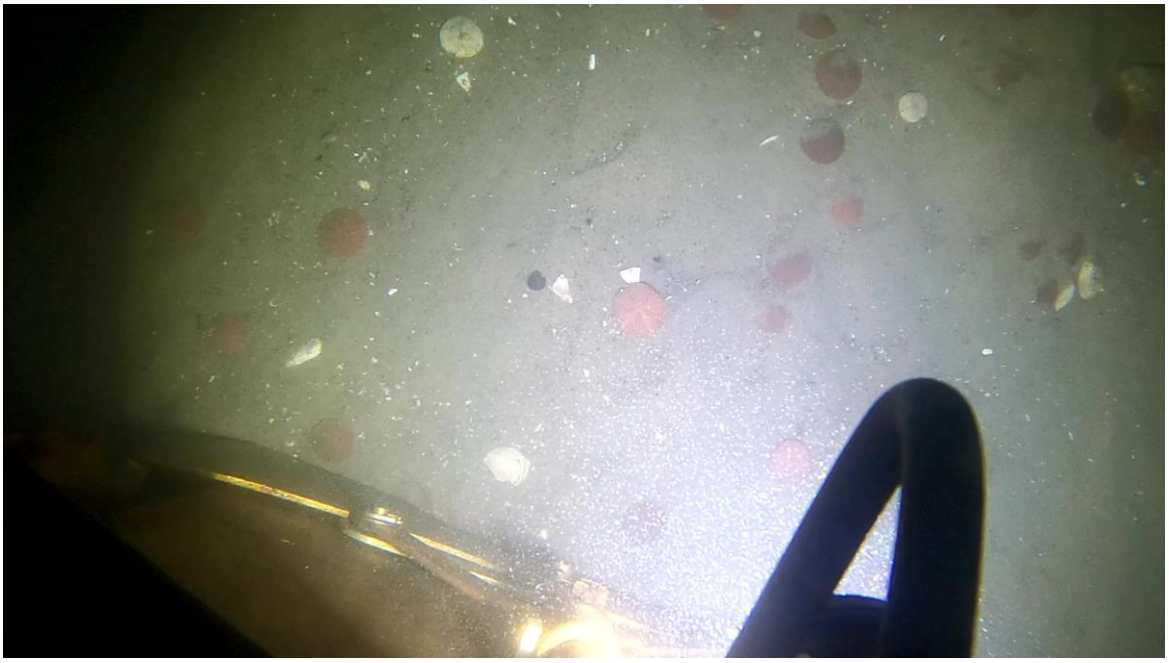
544LI23-GB019C-1



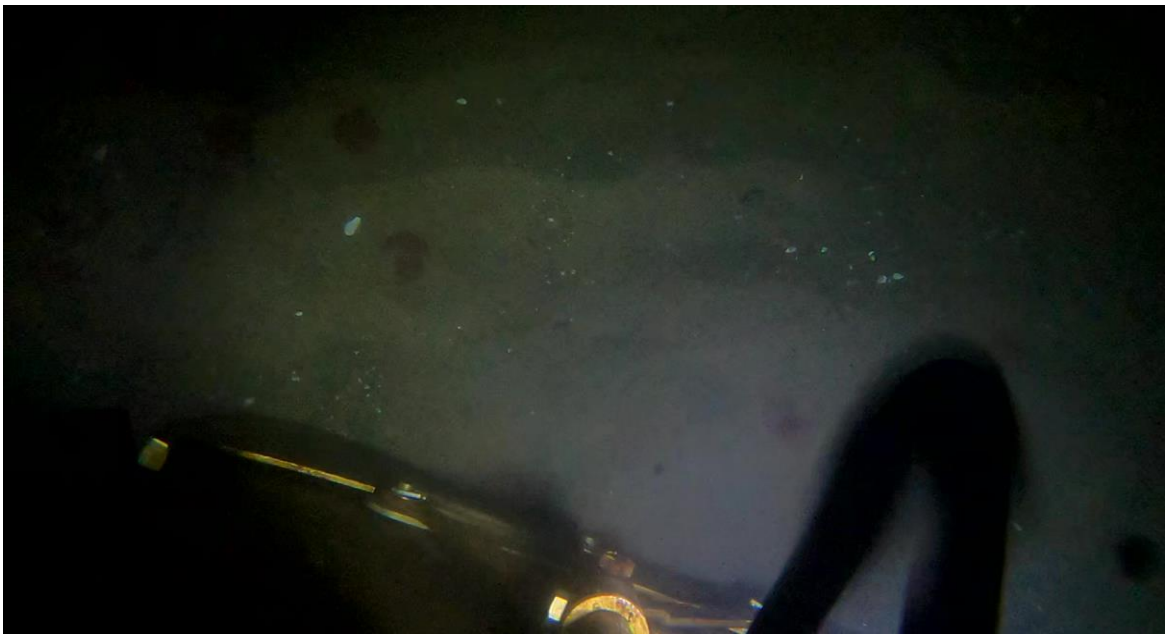
544LI23-GB020-1



544LI23-GB021-2



544LI23-GB022-1



544LI23-GB023-1



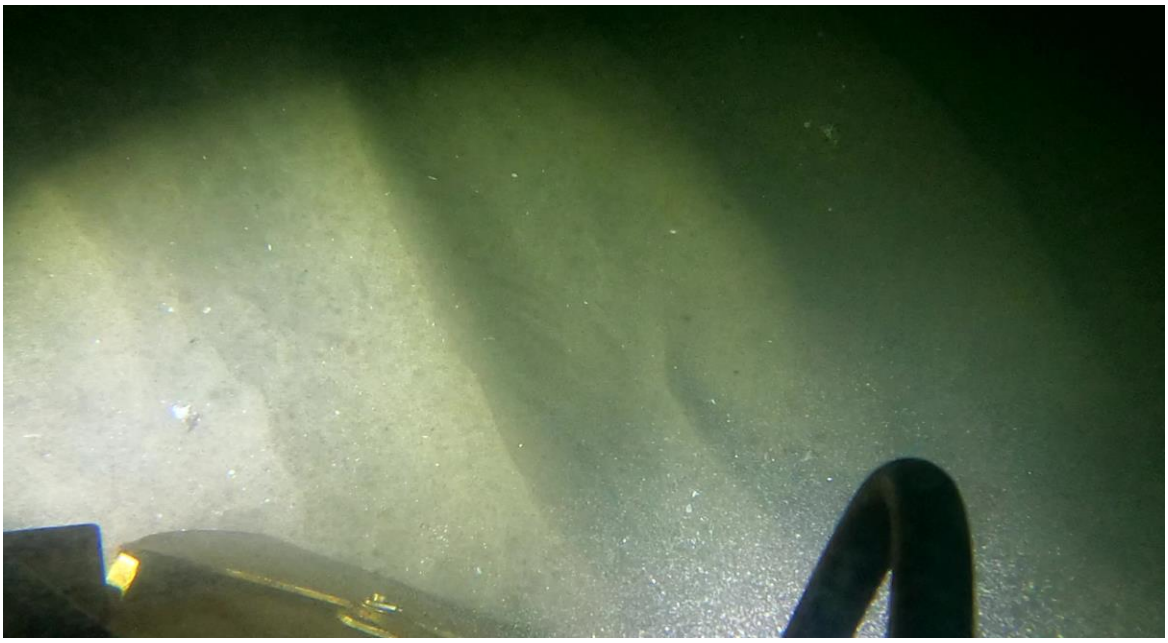
544LI23-GB024-1



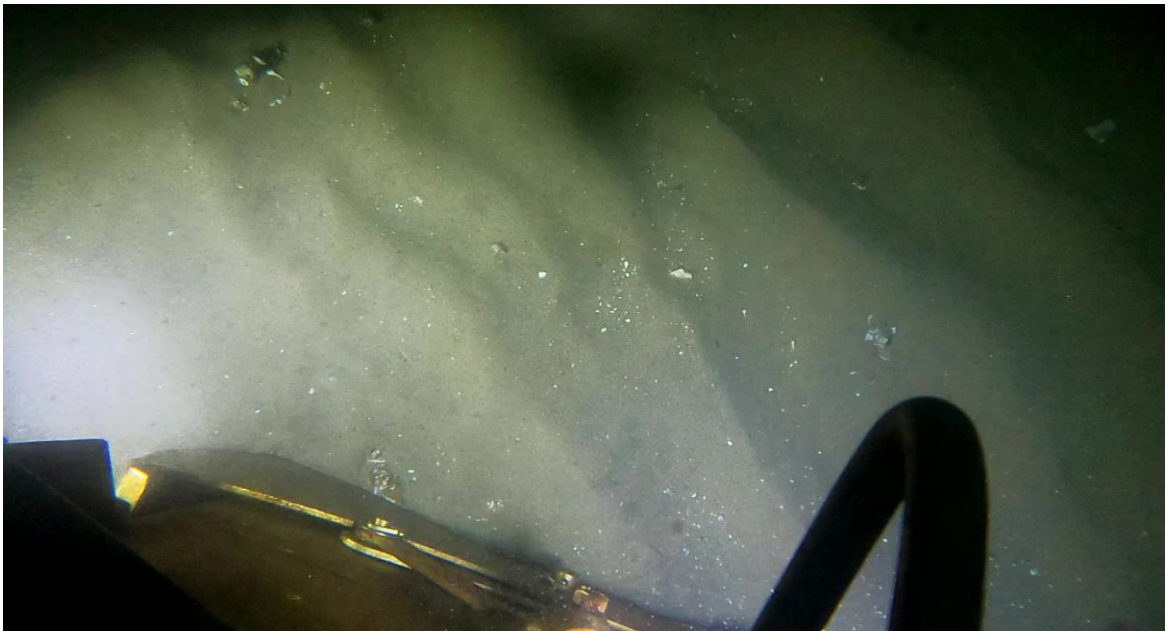
544LI23-GB025-1



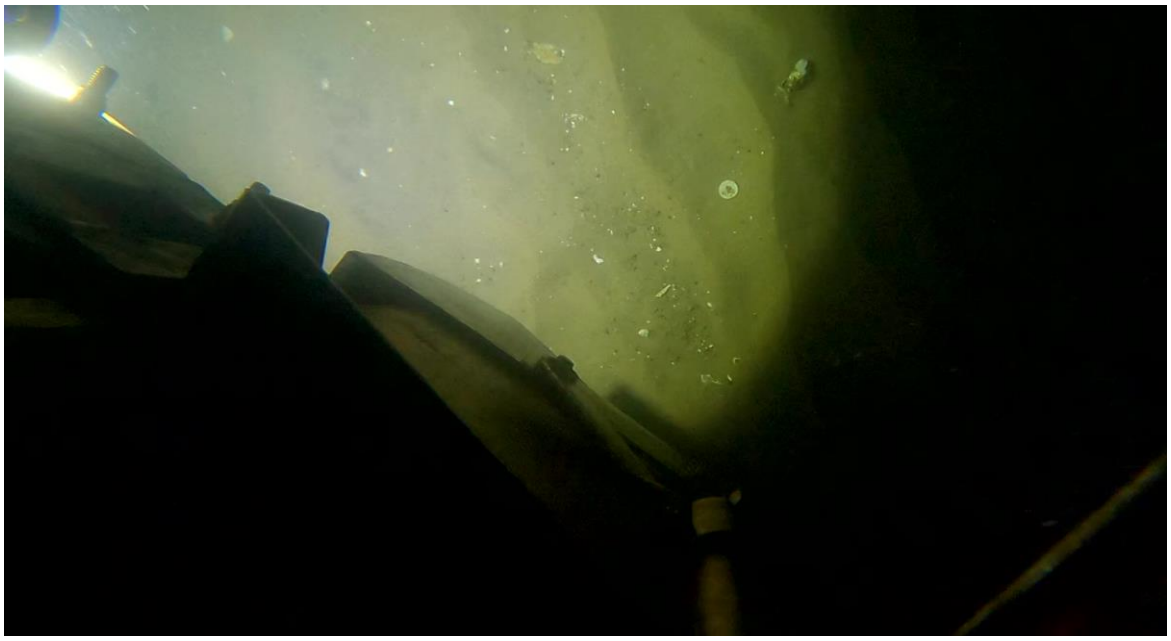
544LI23-GB026A-1



544LI23-GB026B-1



544LI23-GB026C-1



544LI23-GB027A-1



544LI23-GB027B-1



544LI23-GB027C-1



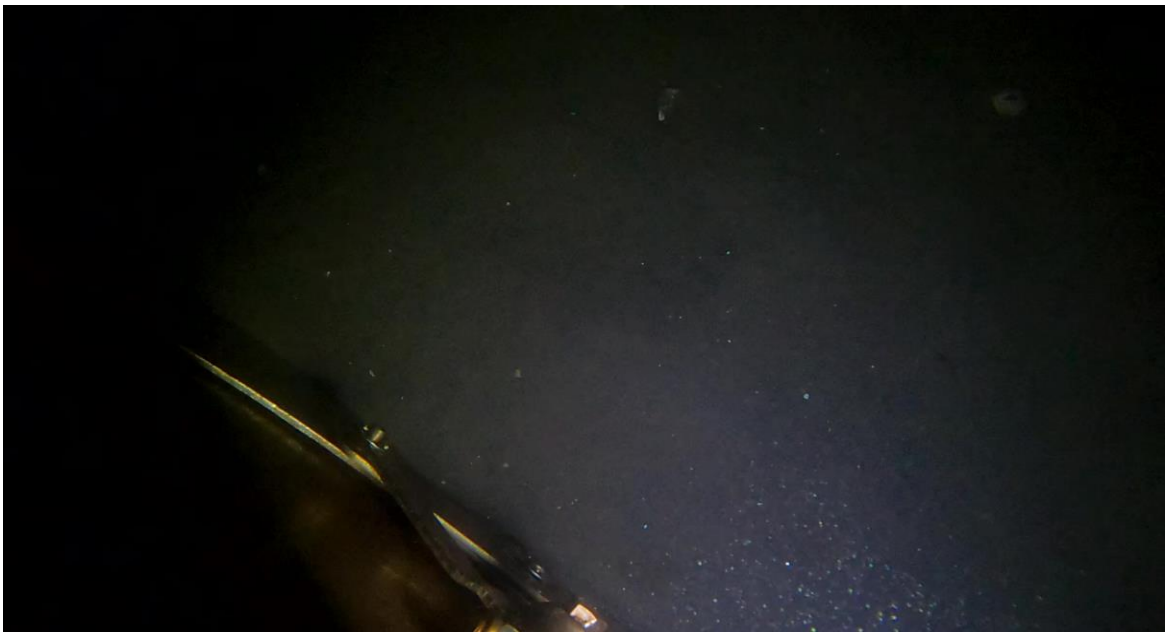
544LI23-GB028A-2



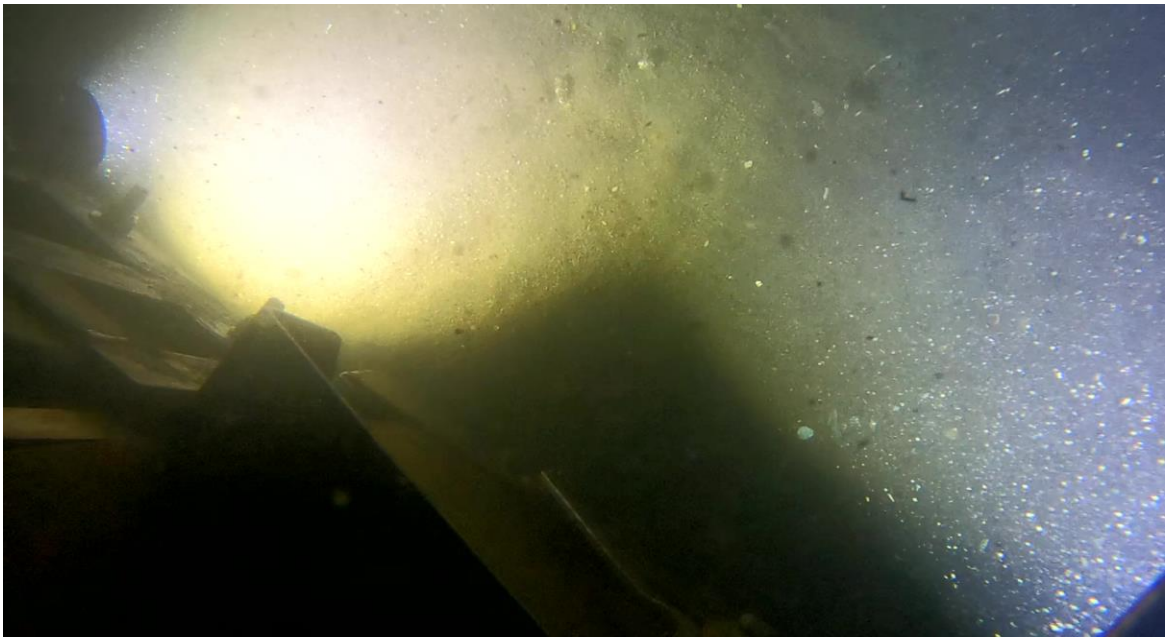
544LI23-GB028B-1



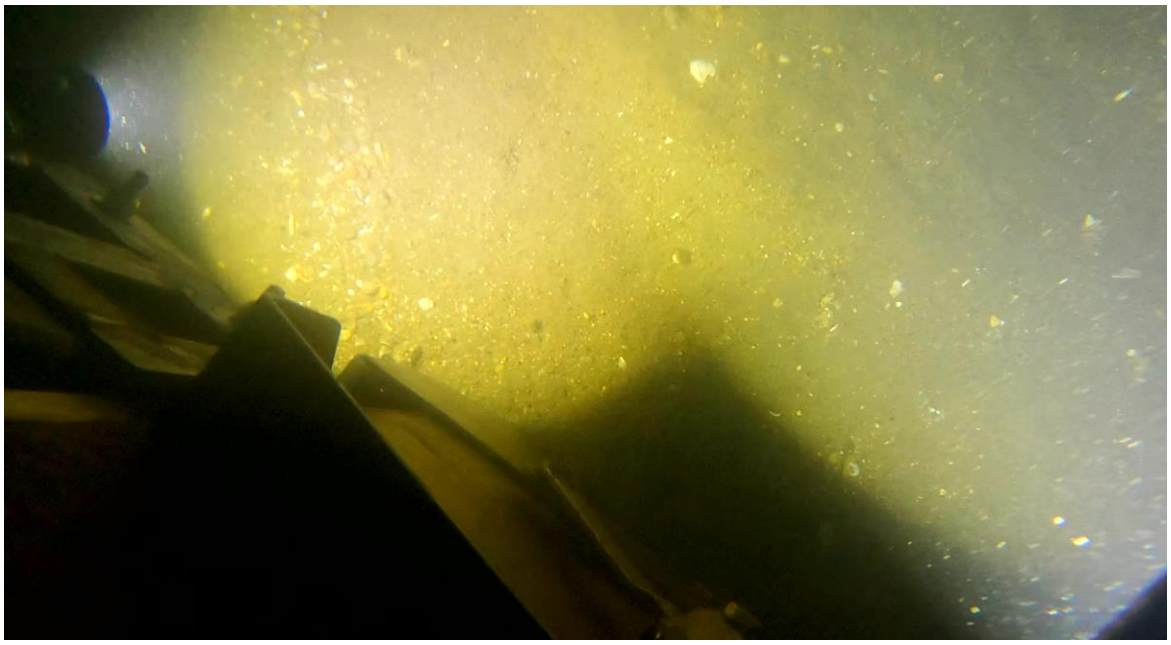
544LI23-GB028C-1



544LI23-GB029-5



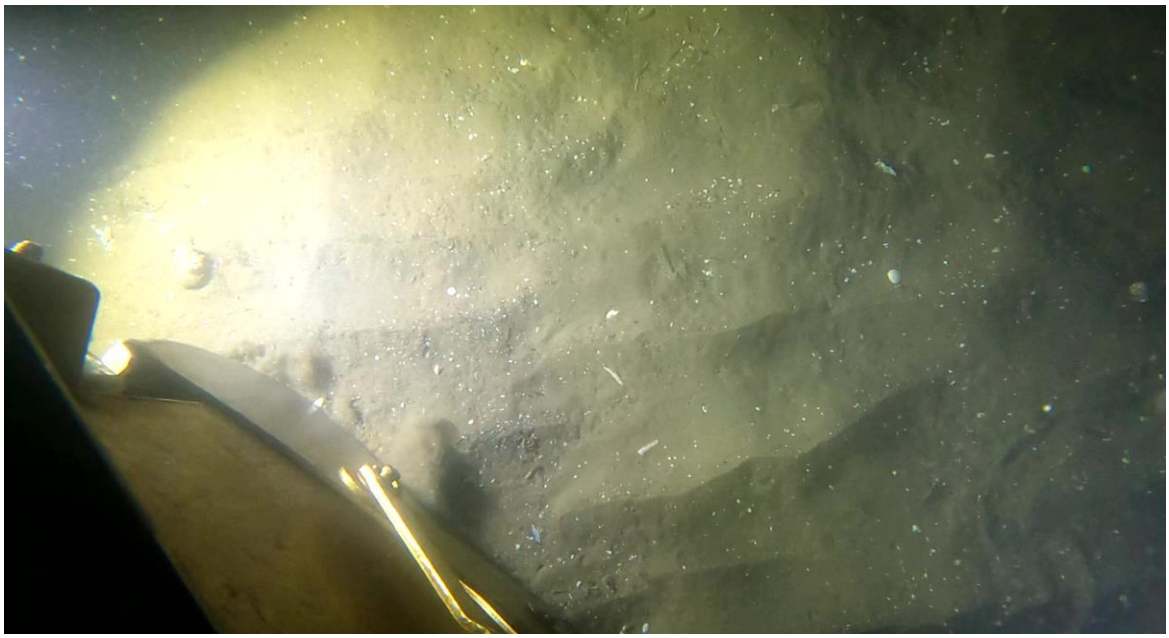
544LI23-GB030A-2



544LI23-GB030B-1



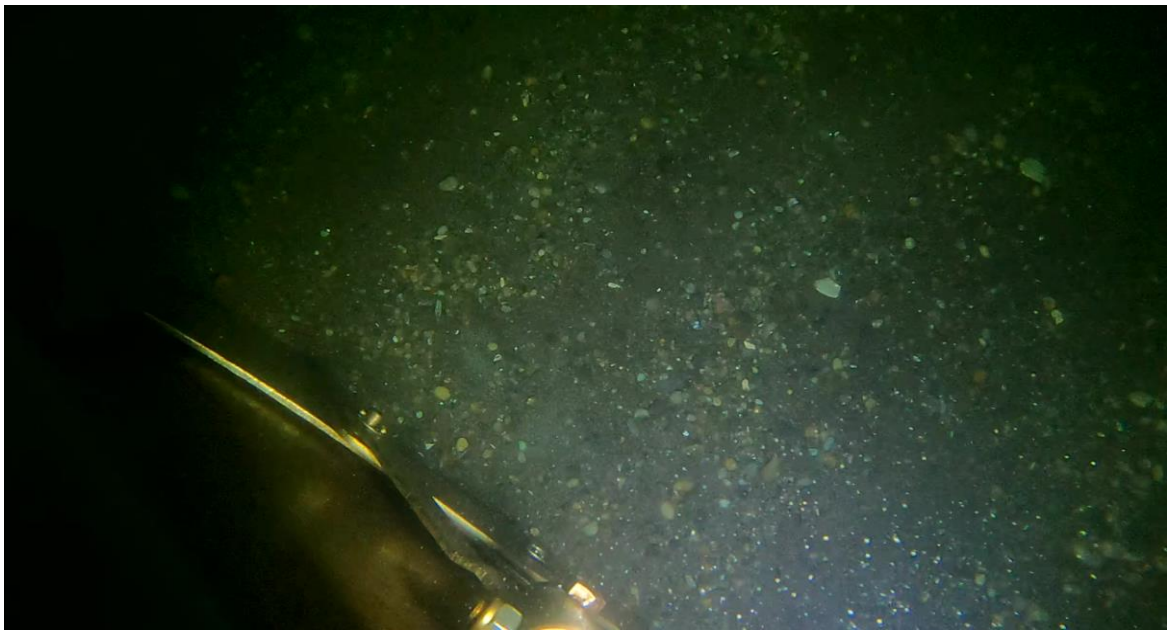
544LI23-GB030C-1



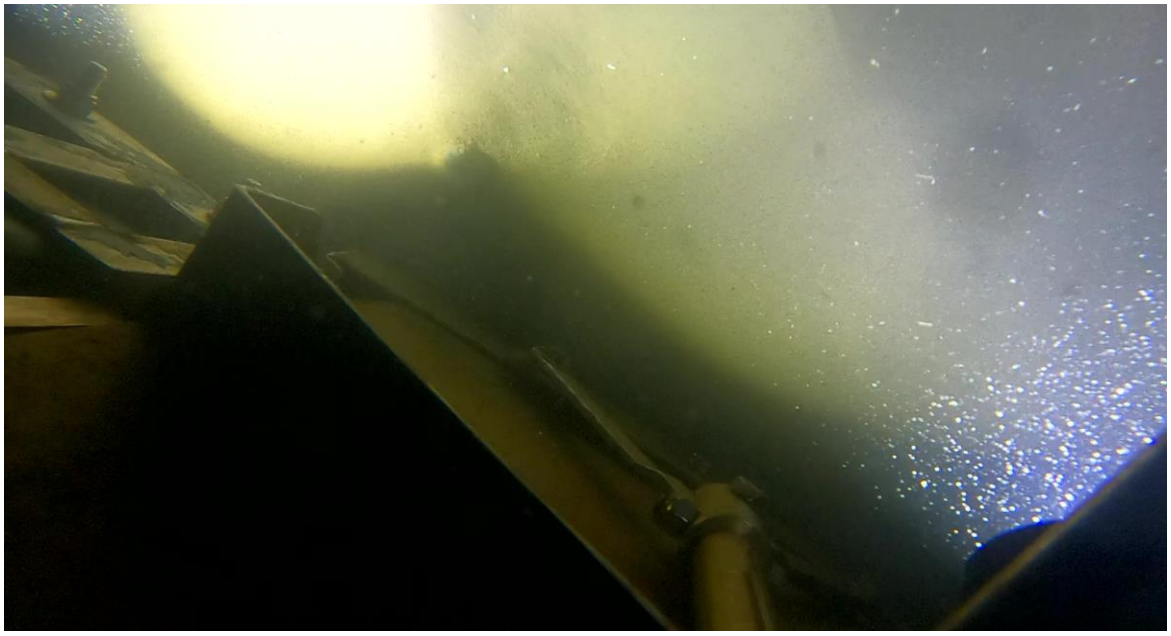
544LI23-GB031-2



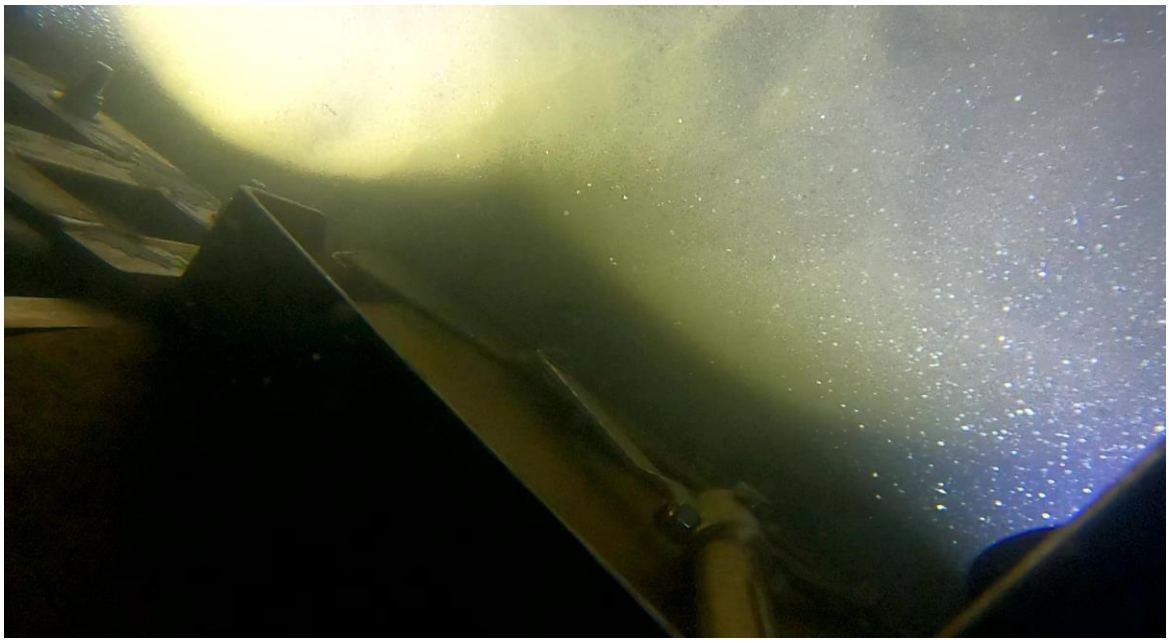
544LI23-GB032-1



544LI23-GB033-3



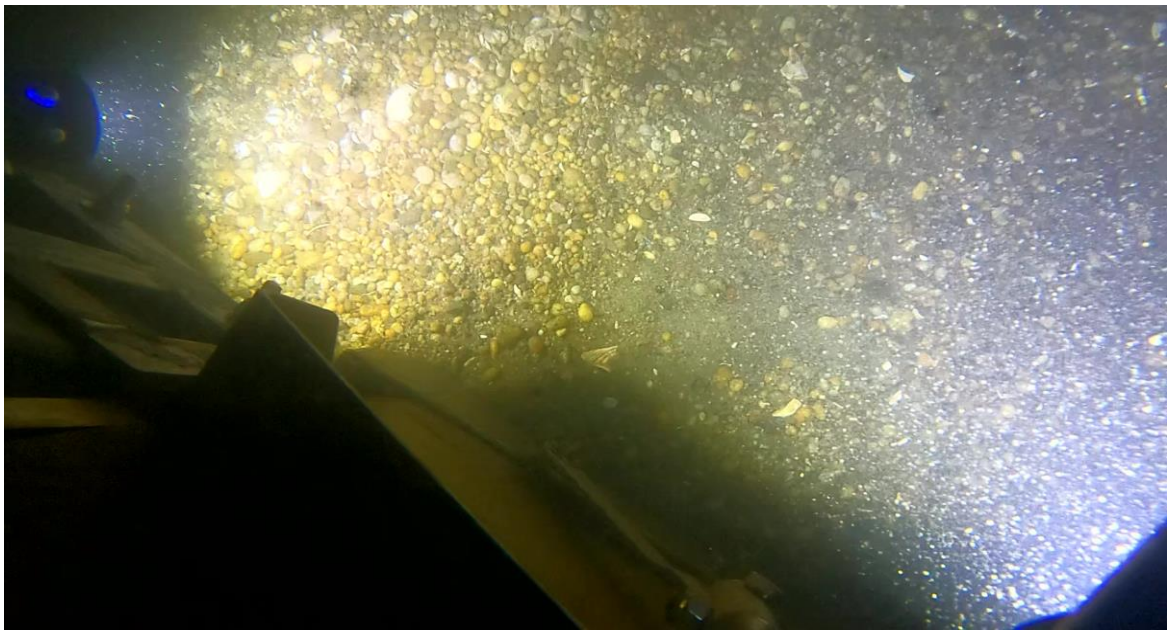
544LI23-GB034A-1



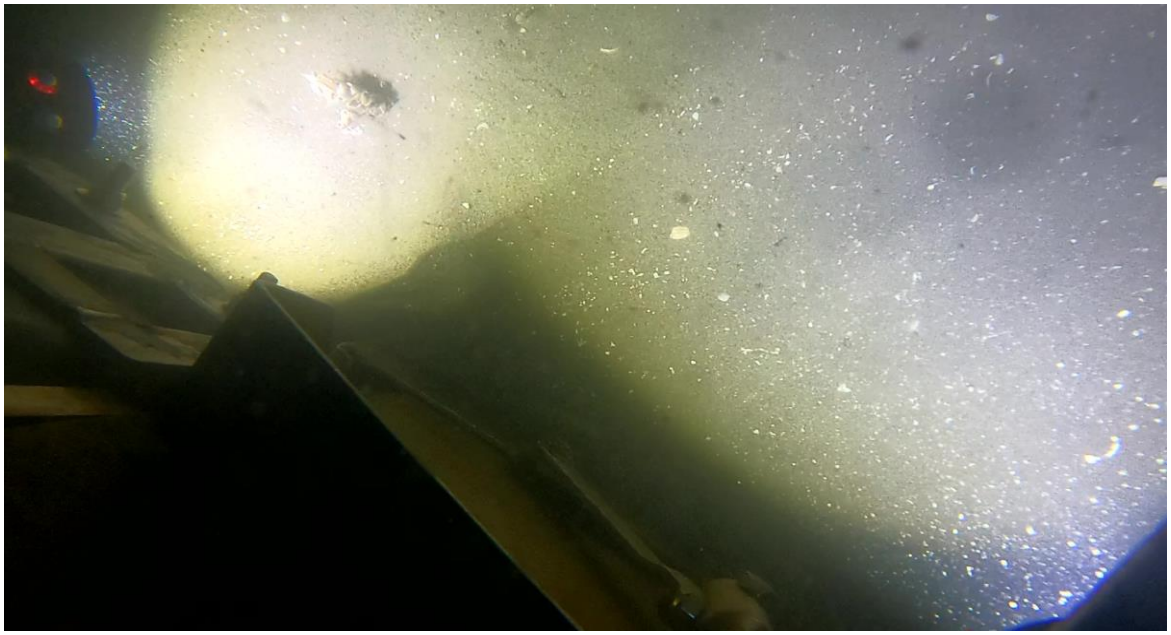
544LI23-GB034B-1



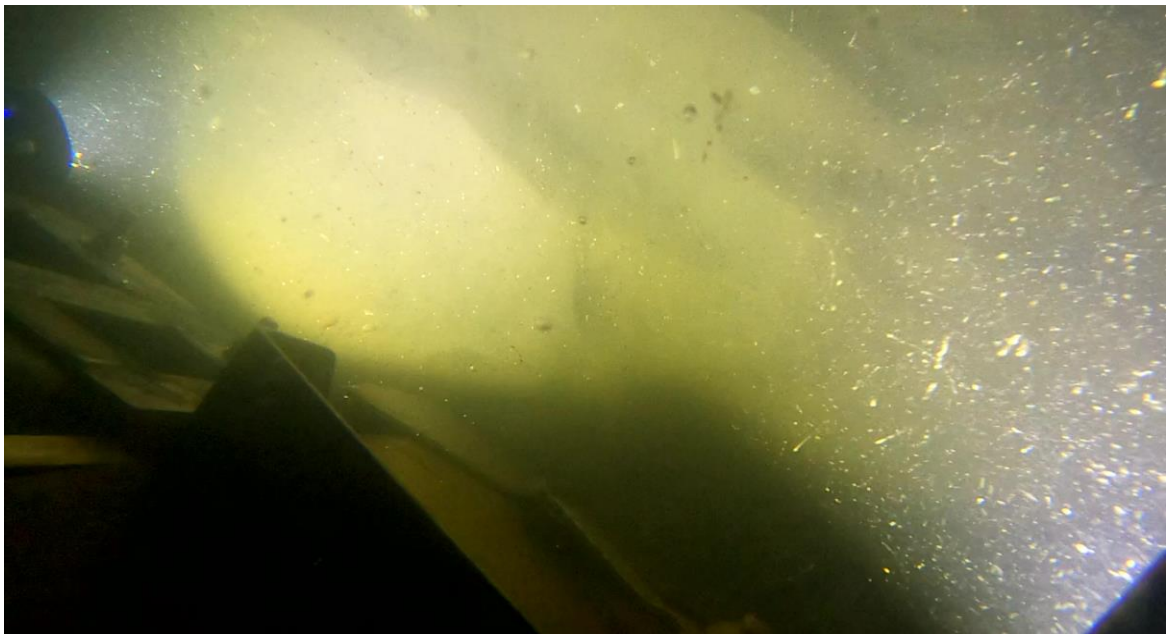
544LI23-GB034C-1



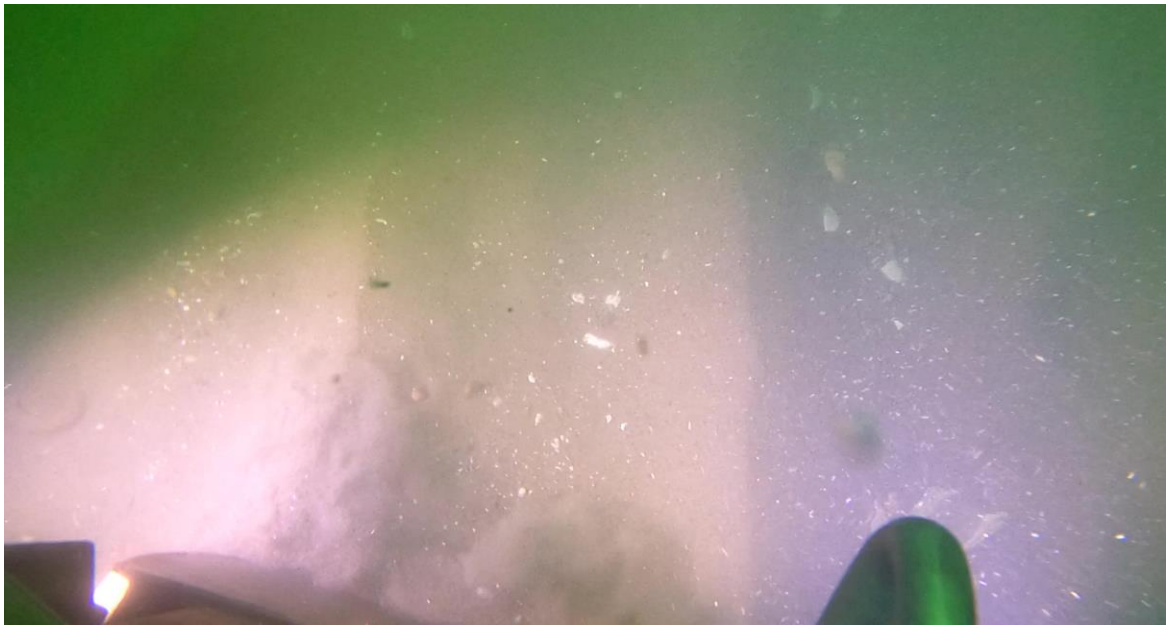
544LI23-GB035-1



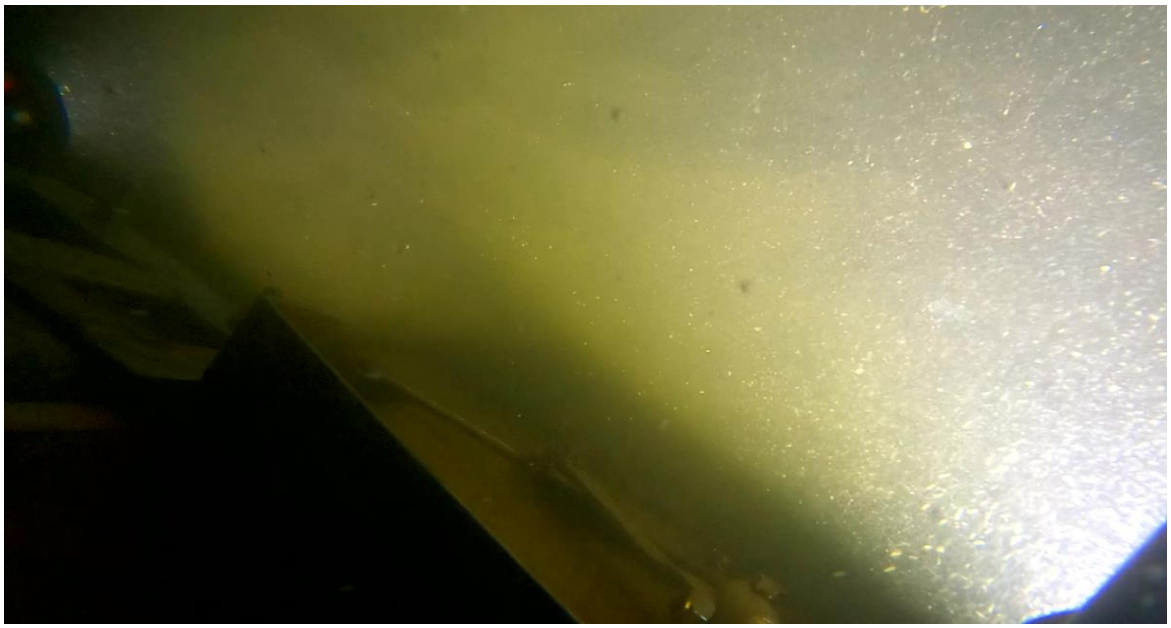
544LI23-GB036-2



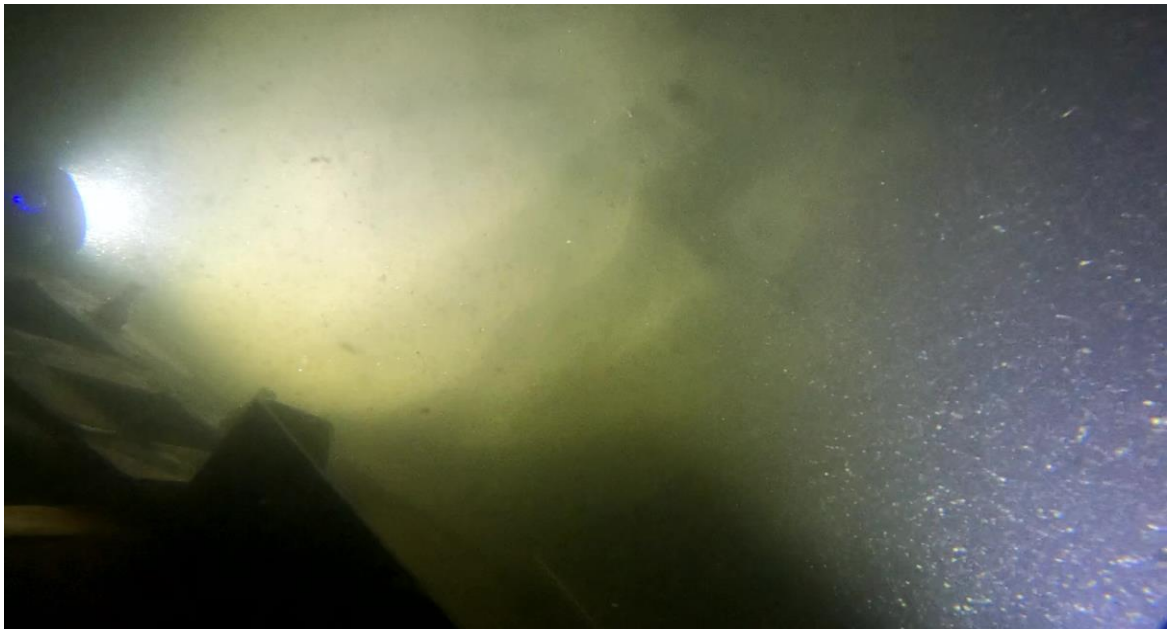
544LI23-GB037A-1



544LI23-GB037B-2



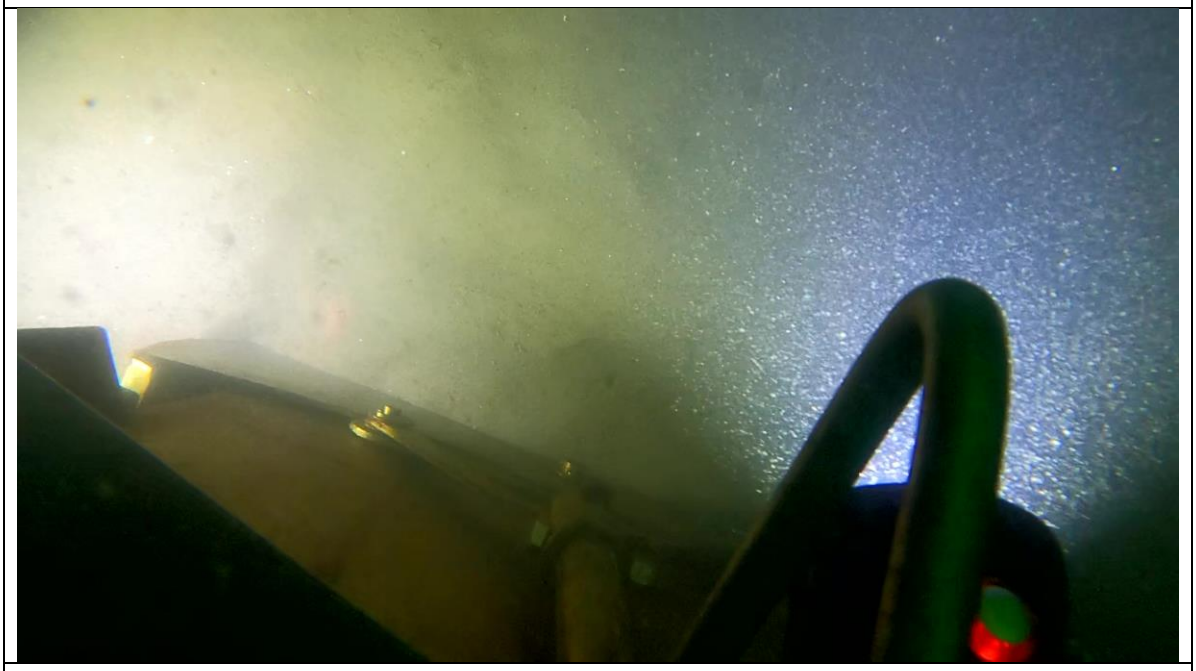
544LI23-GB037C-1



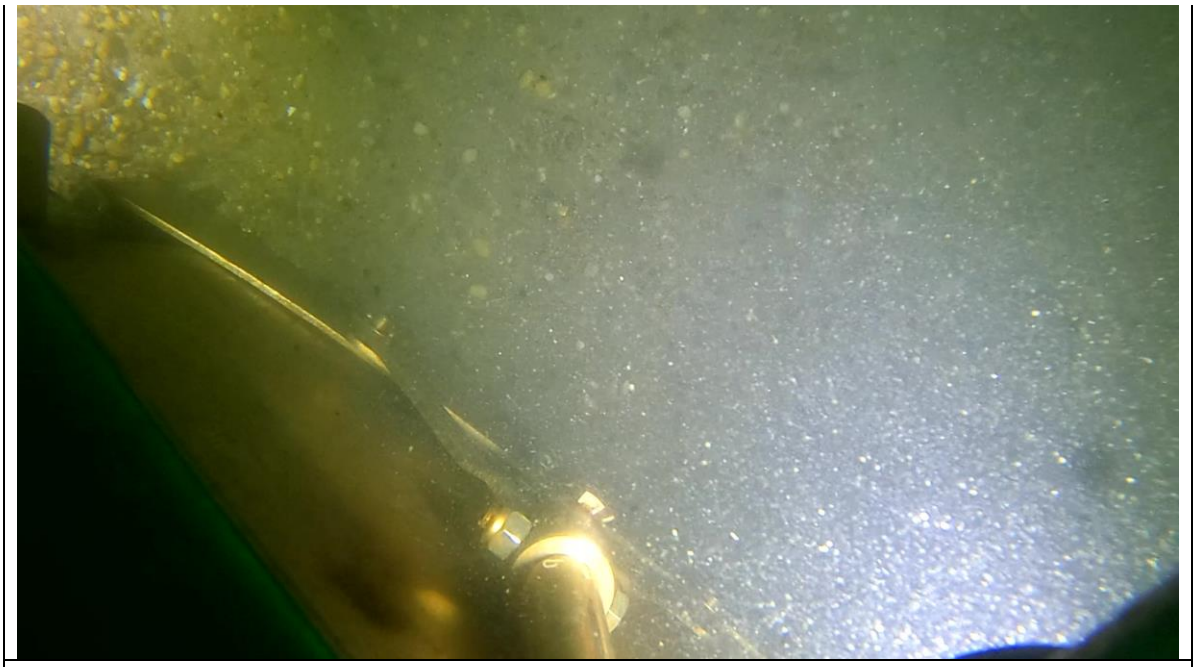
544LI23-GB038A-1



544LI23-GB038B-2



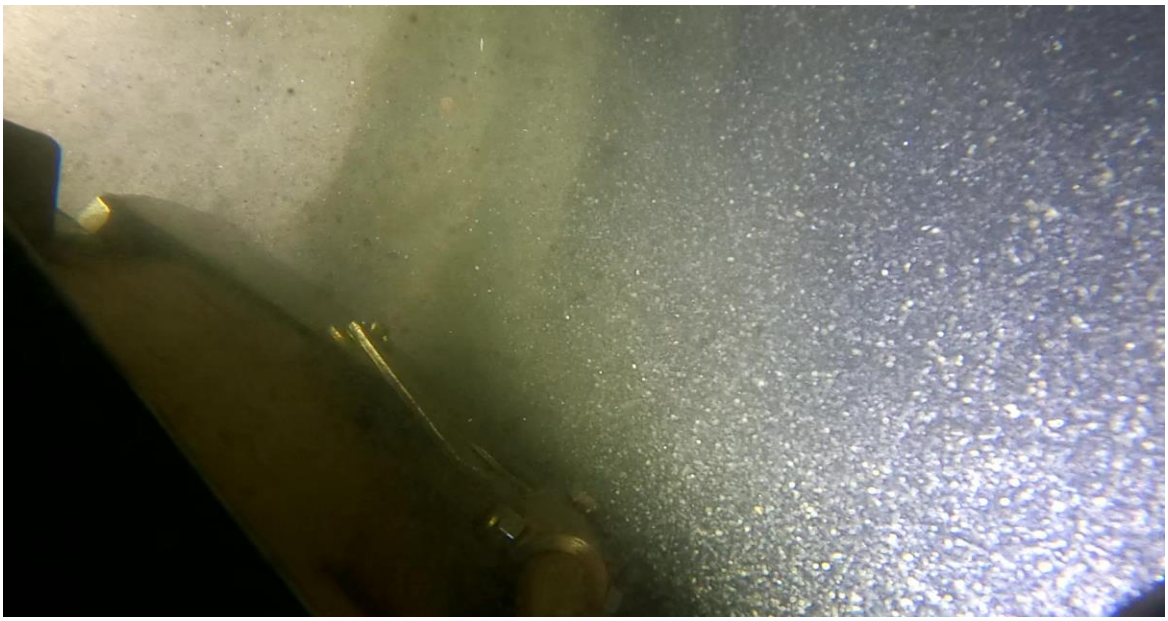
544LI23-GB038C-2



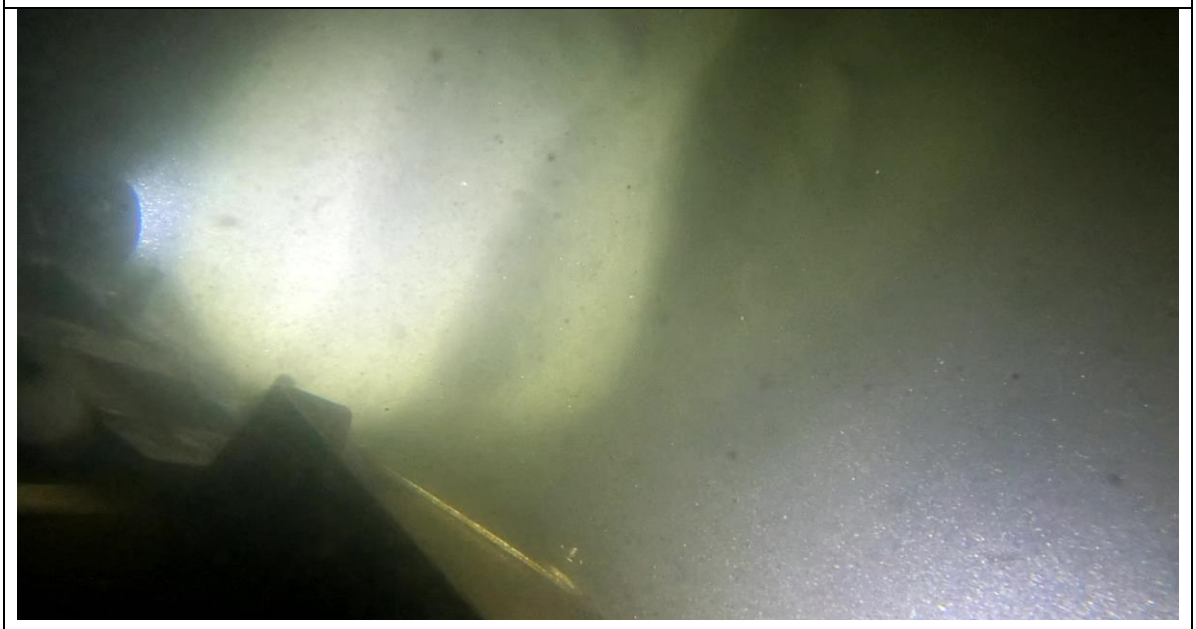
544LI23-GB039-3



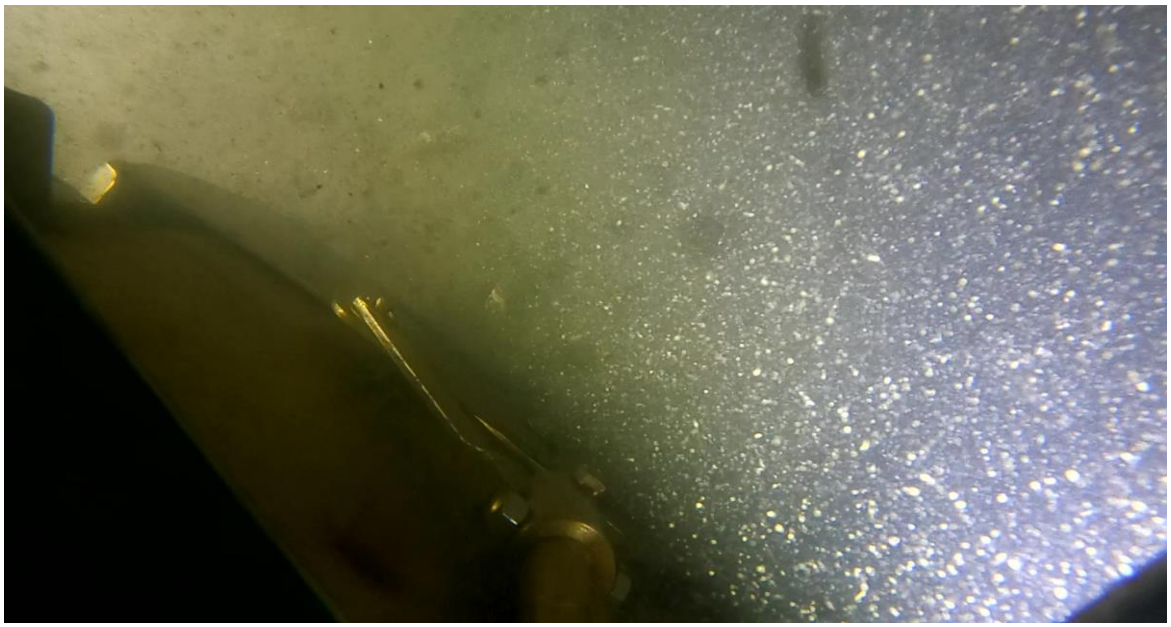
544LI23-GB040A-2



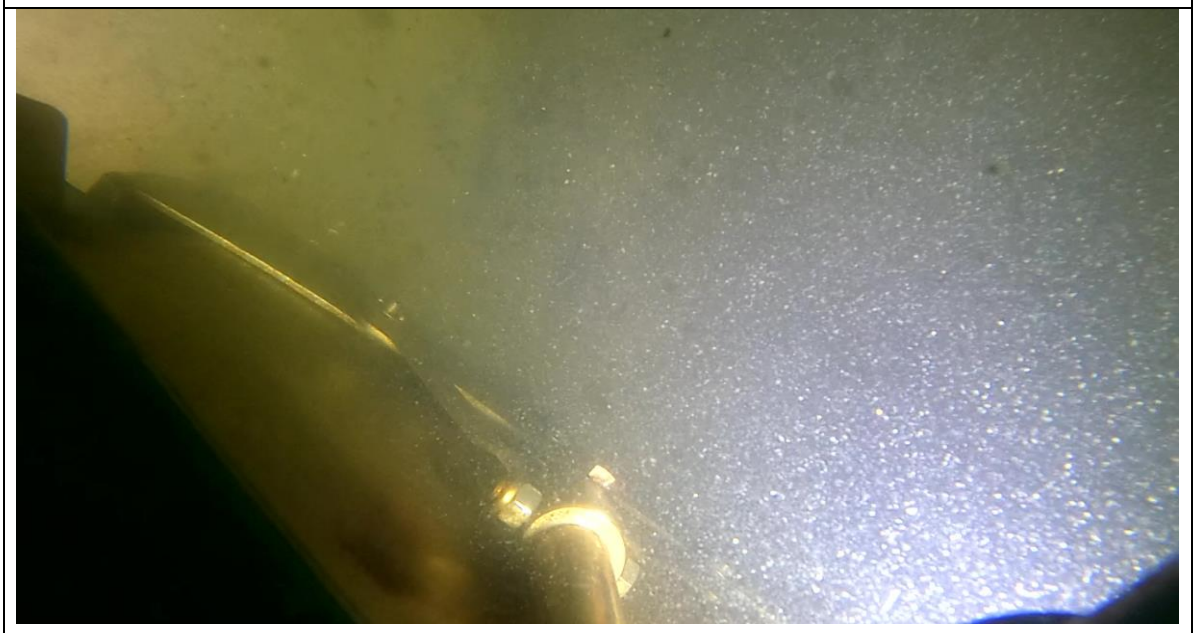
544LI23-GB040B-3



544LI23-GB040C-1



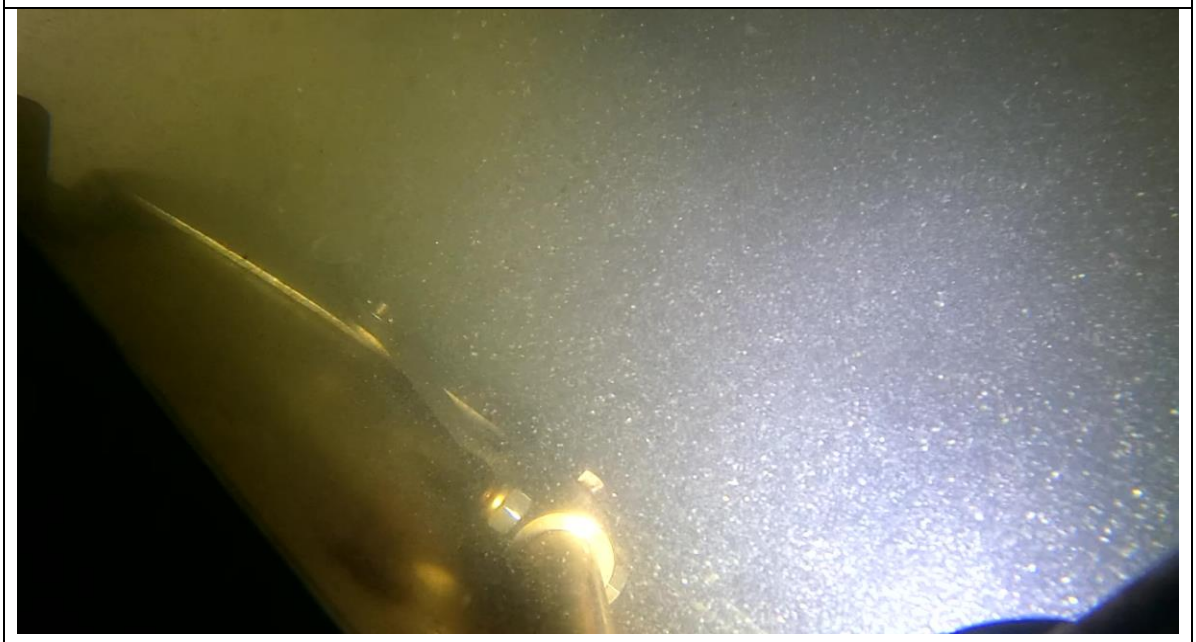
544LI23-GB041-2



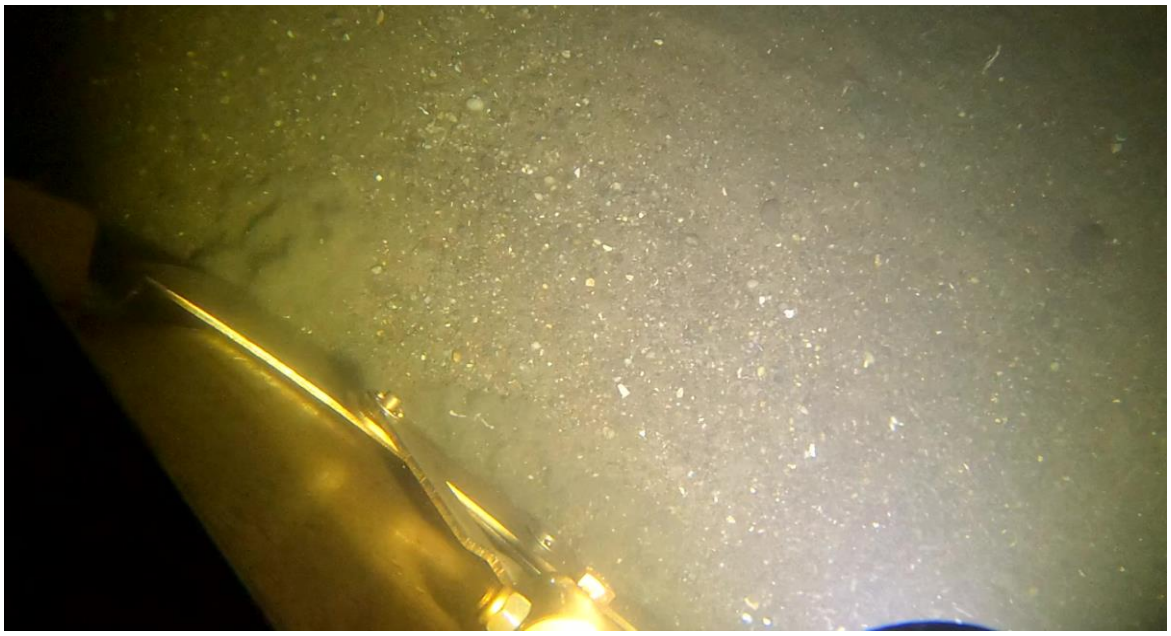
544LI23-GB042A-2



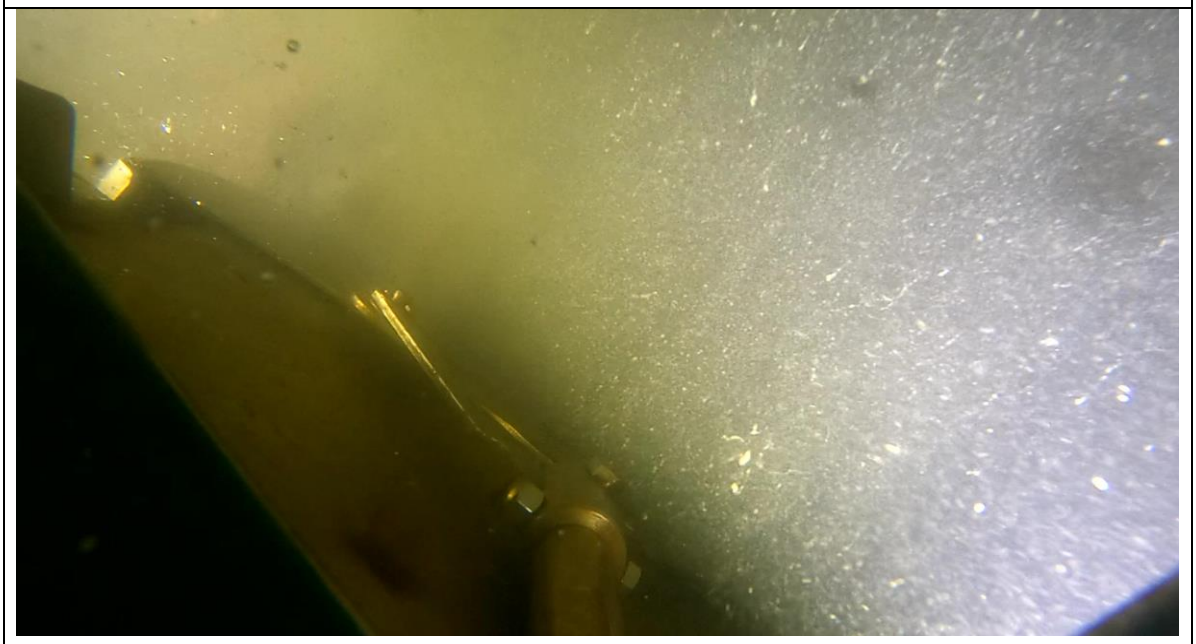
544LI23-GB042B-2



544LI23-GB042C-2



544LI23-GB043-2



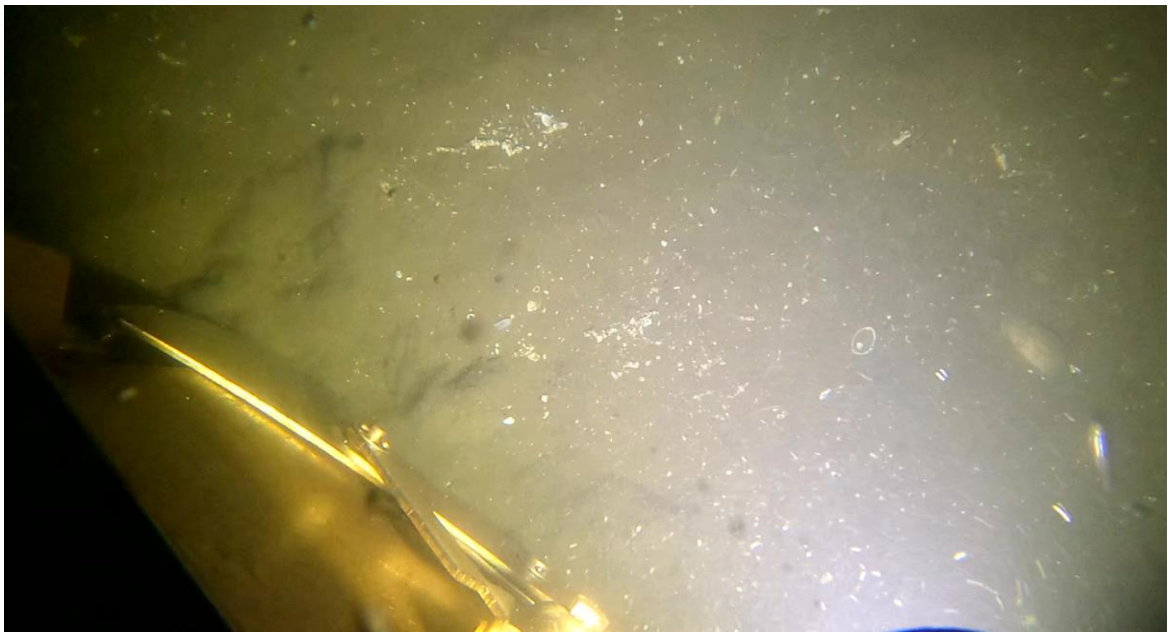
544LI23-GB044-6



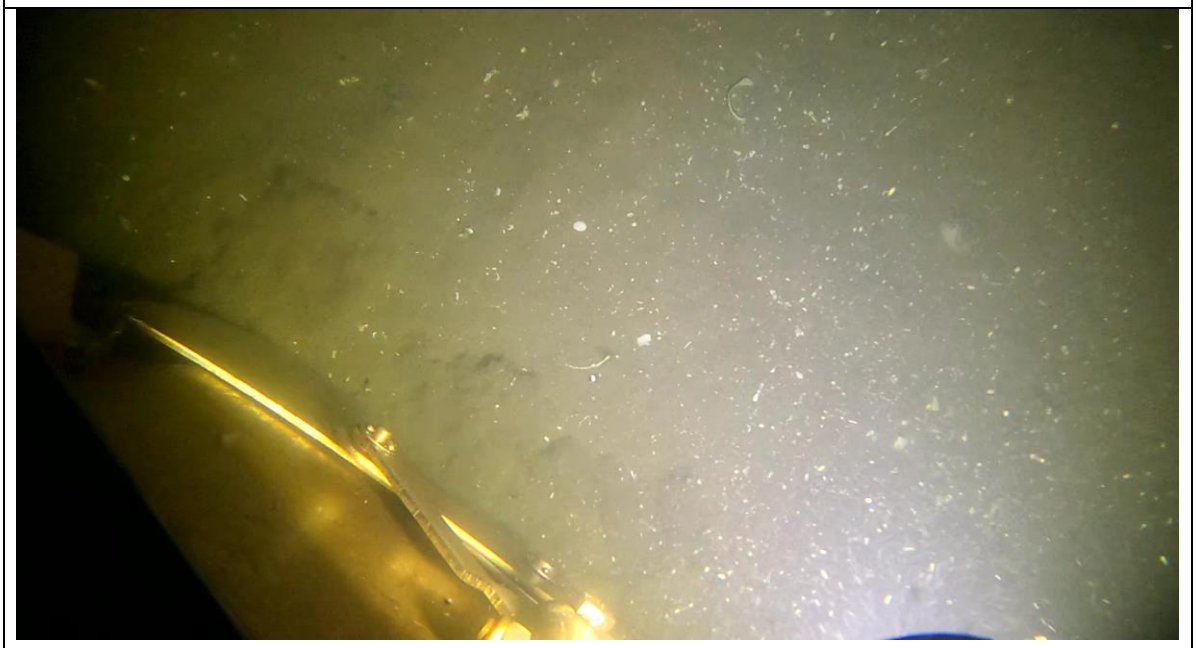
544LI23-GB045-1



544LI23-GB046-2



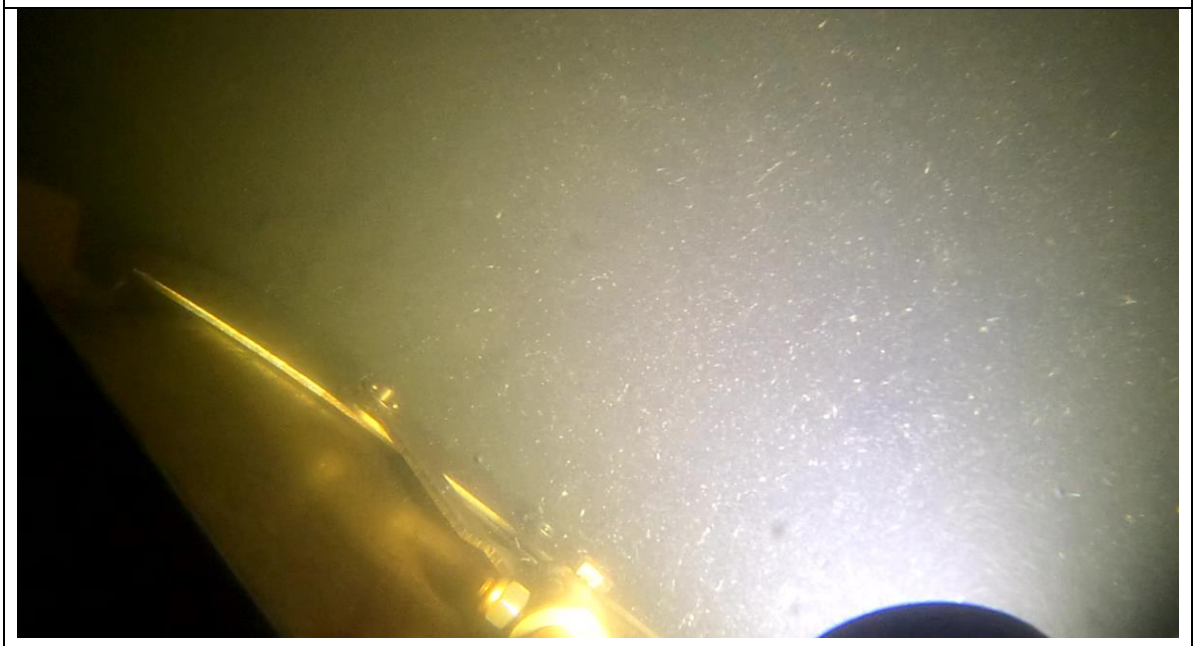
544LI23-GB047A-1



544LI23-GB047B-2



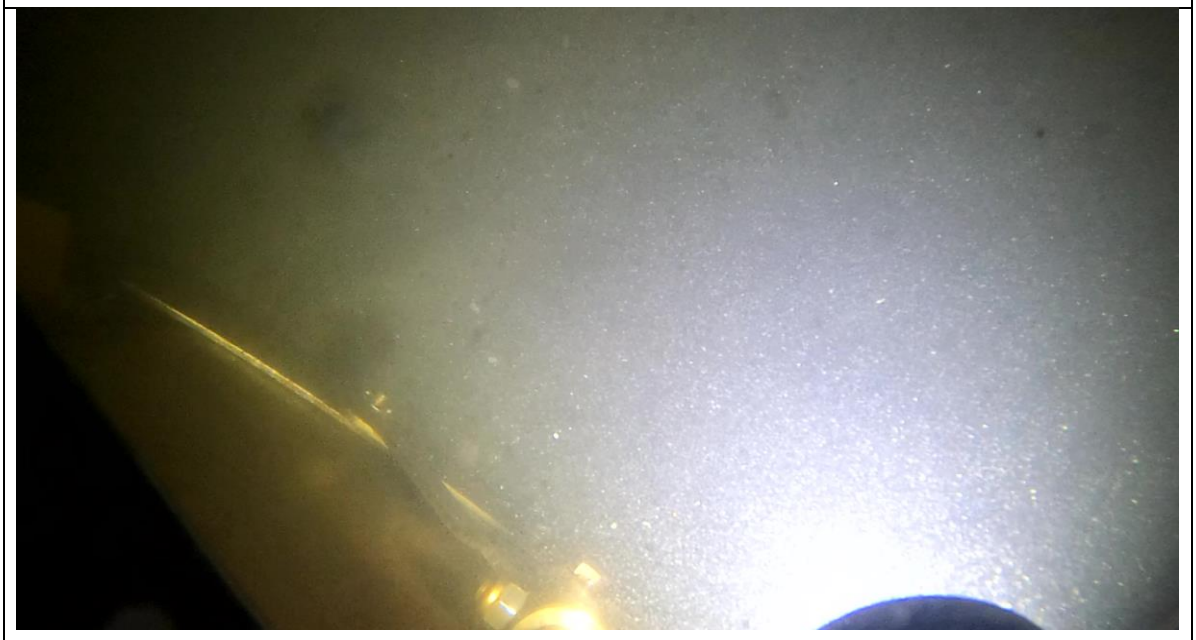
544LI23-GB047C-2



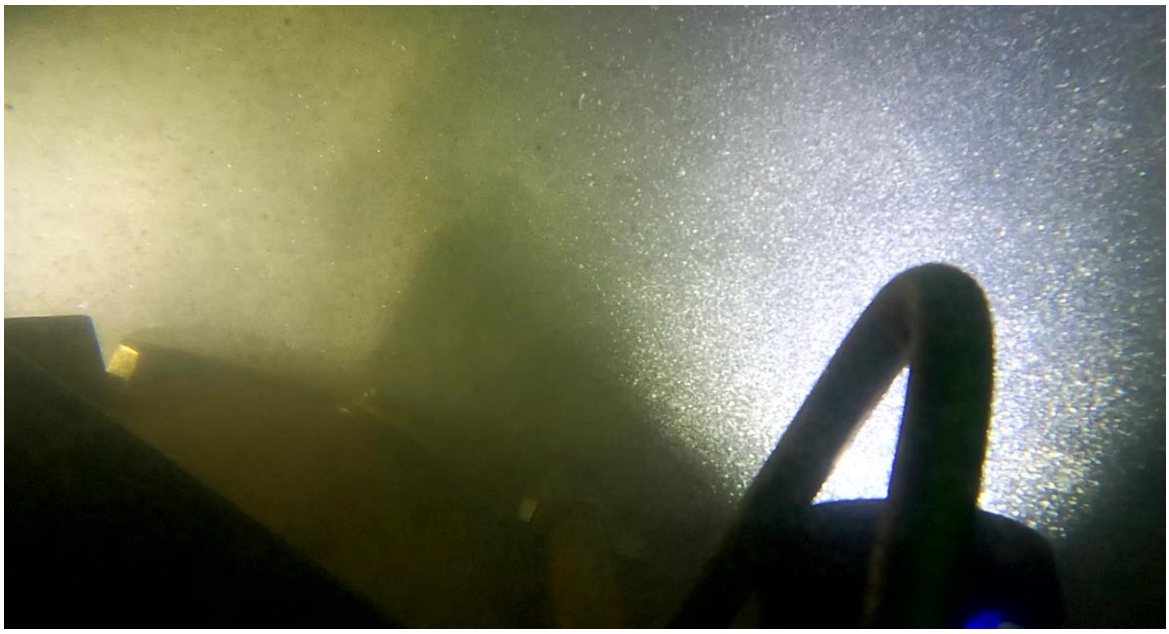
544LI23-GB048A-2



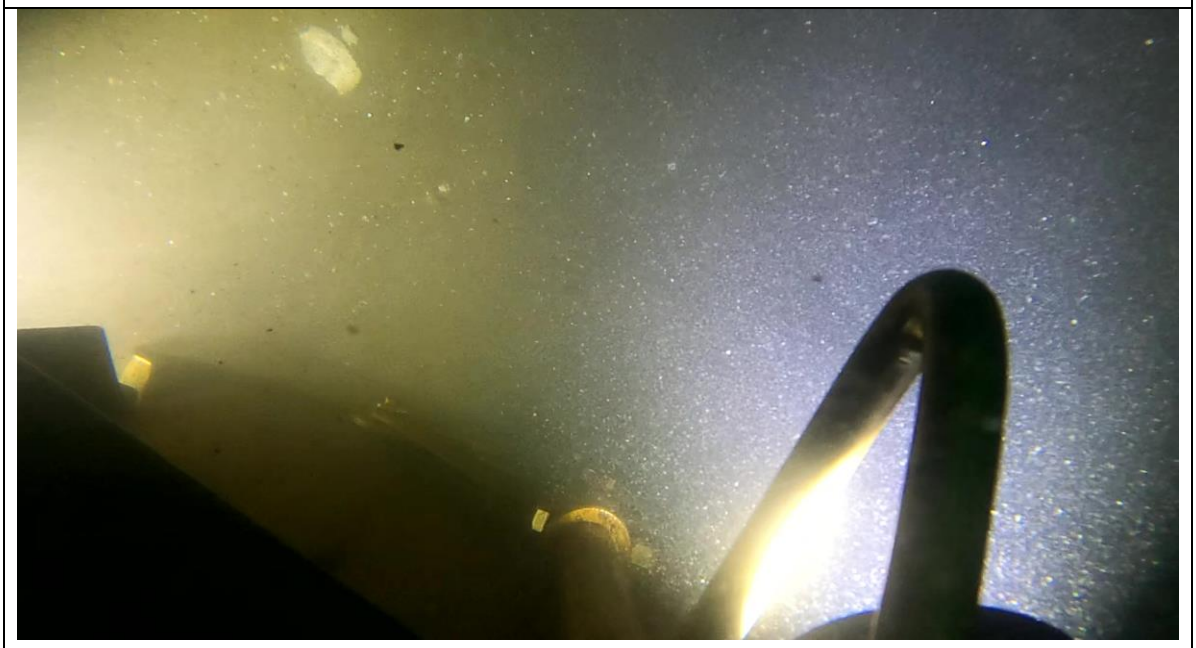
544LI23-GB048B-2



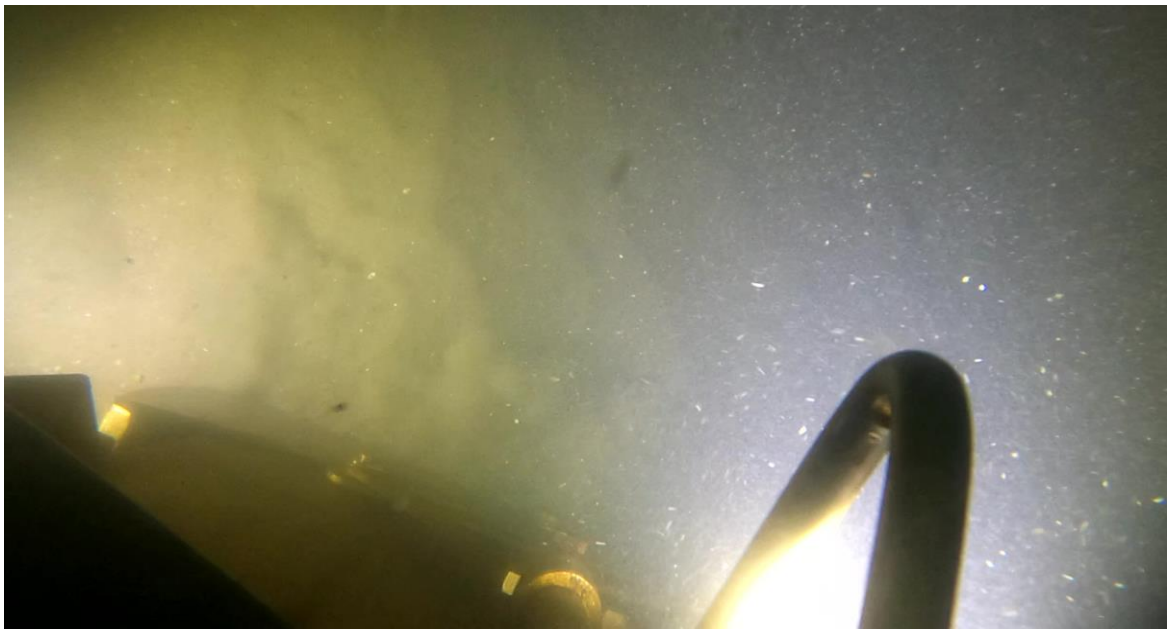
544LI23-GB048C-2



544LI23-GB050A-2



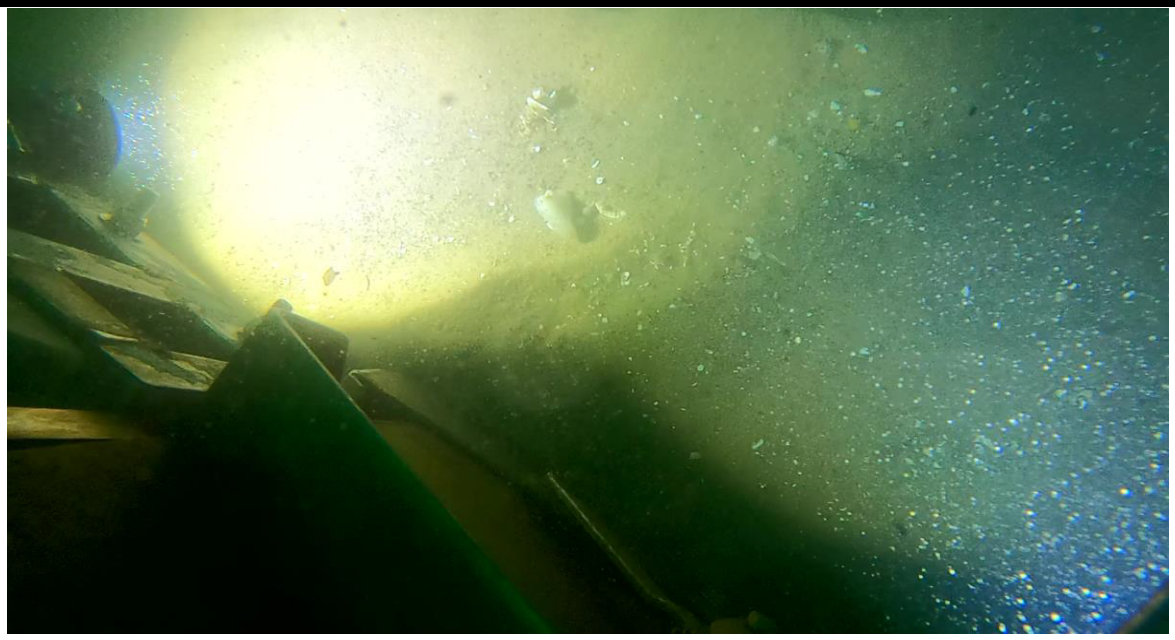
544LI23-GB050B-2



544LI23-GB050C-2

[redacted]

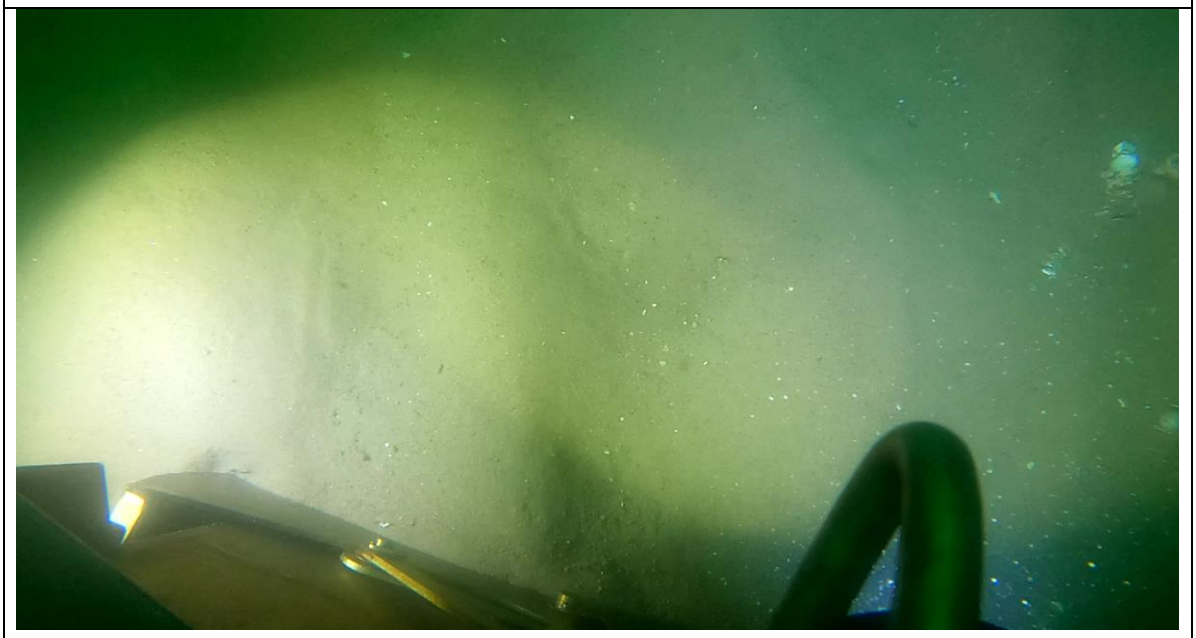
[redacted]



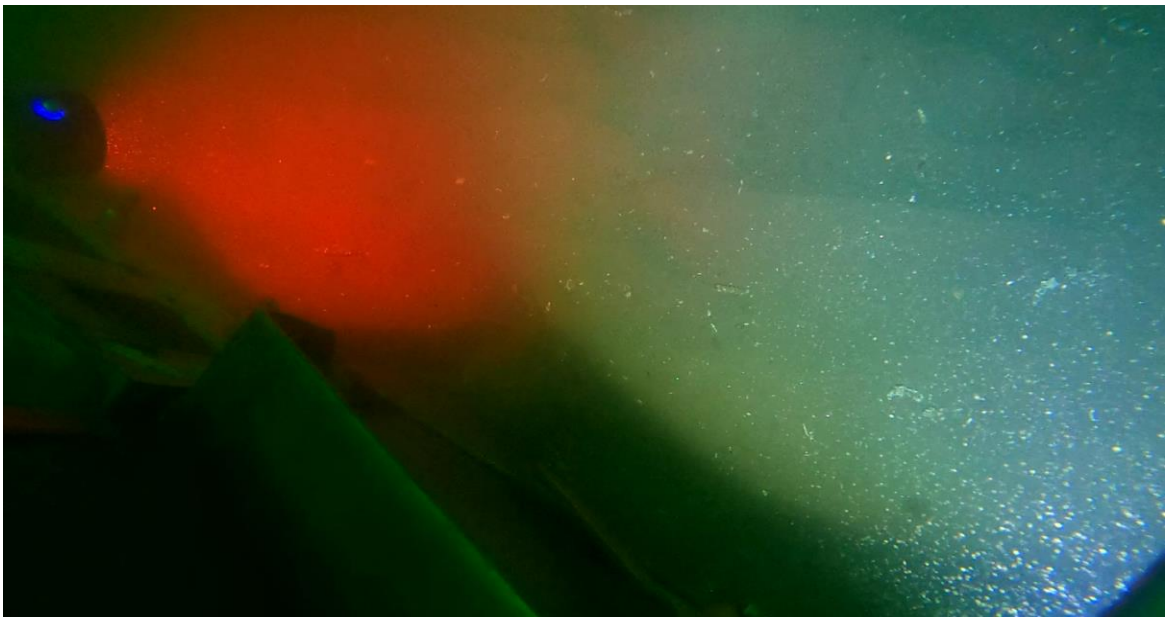
544LI23-GB053A-1



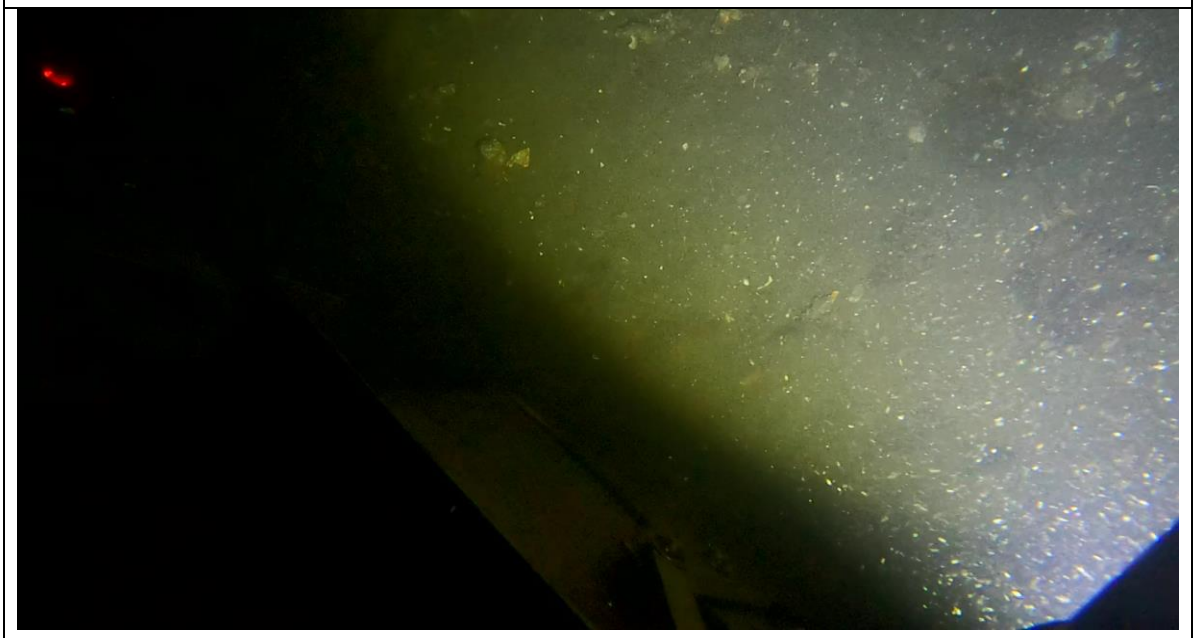
544LI23-GB053B-2



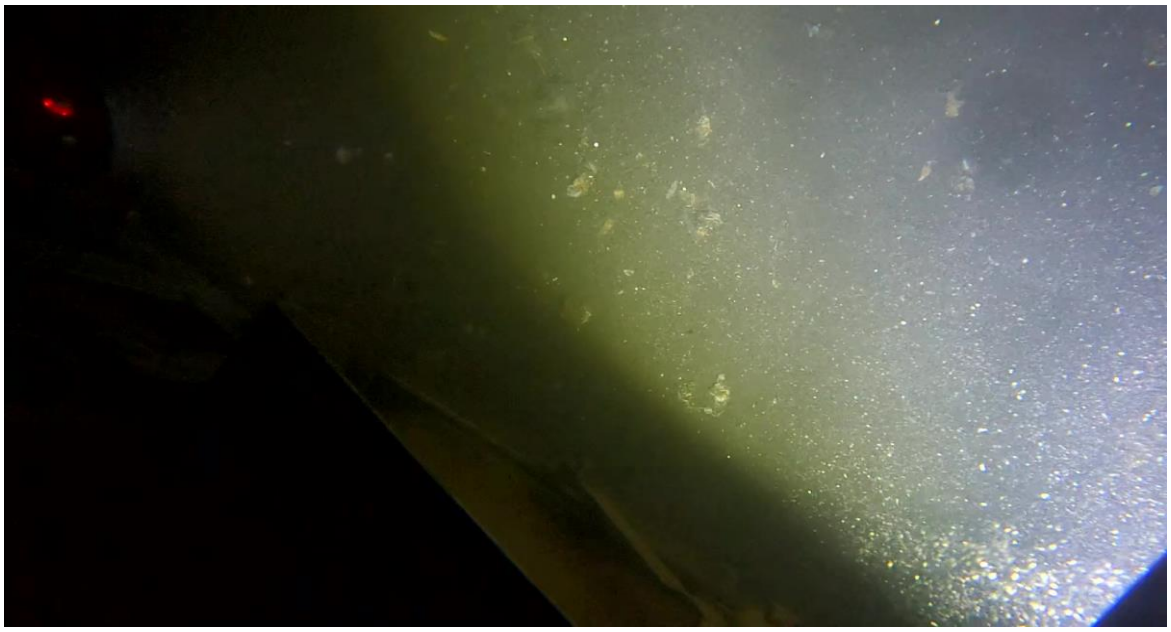
544LI23-GB053C-2



544LI23-GB054-1



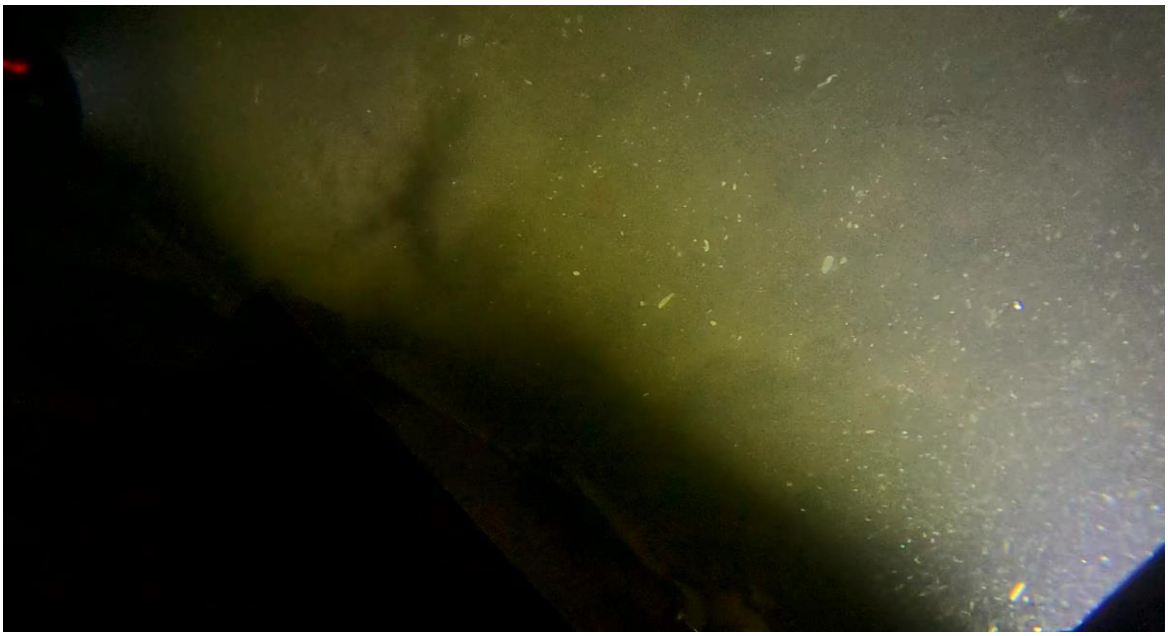
544LI23-GB055A-2



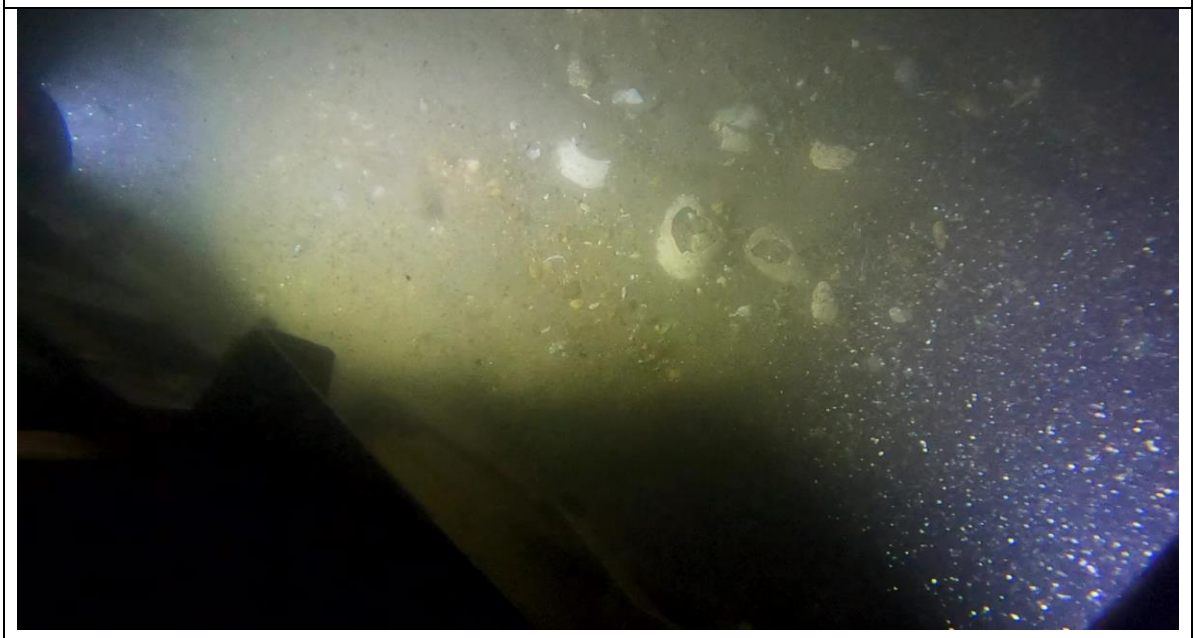
544LI23-GB055B-1



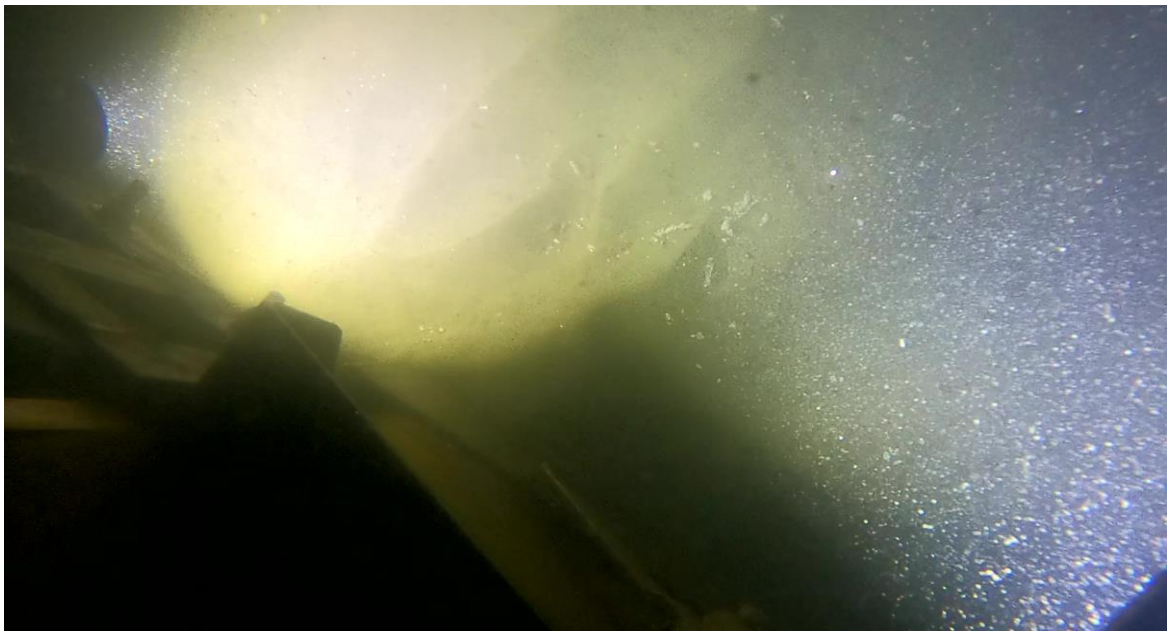
544LI23-GB055C-2



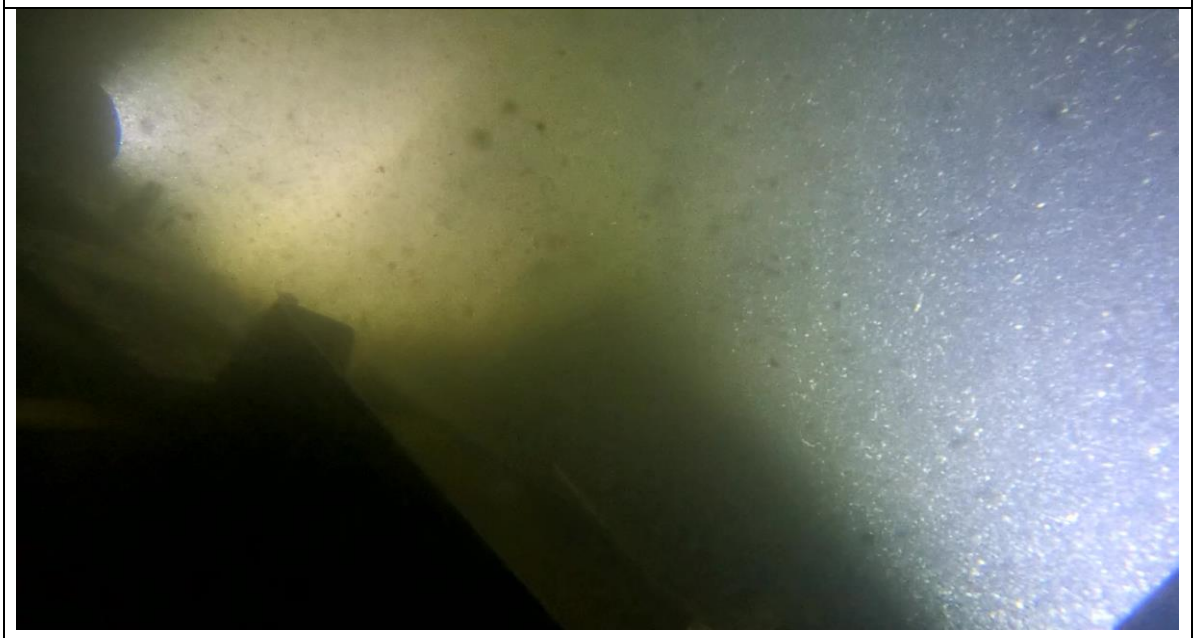
544LI23-GB056-1



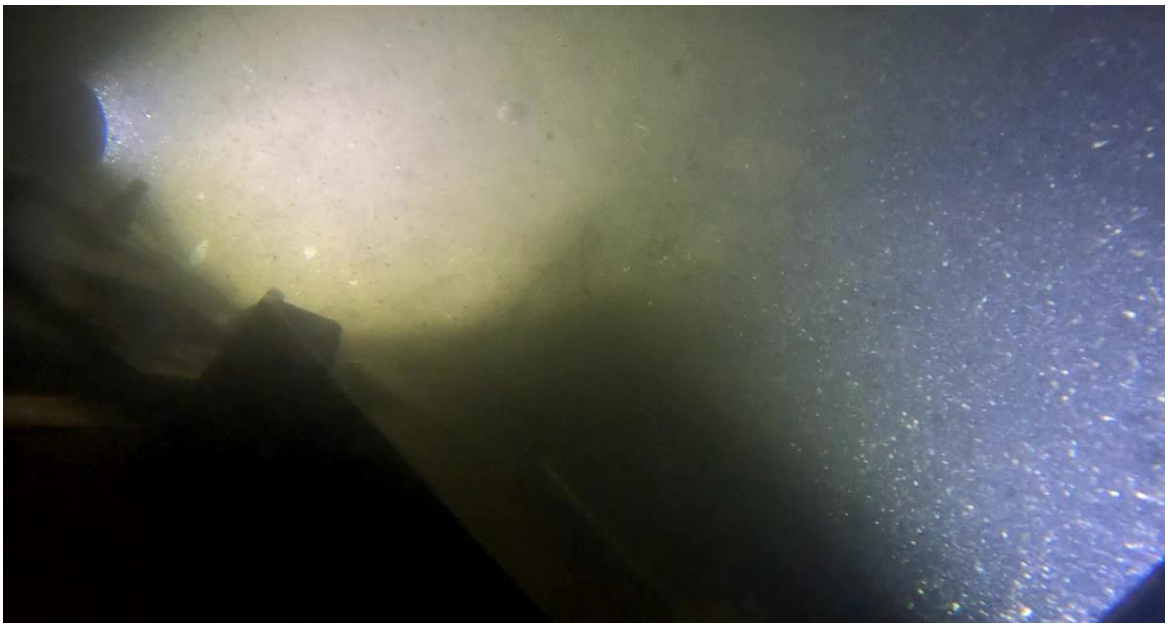
544LI23-GB057-1



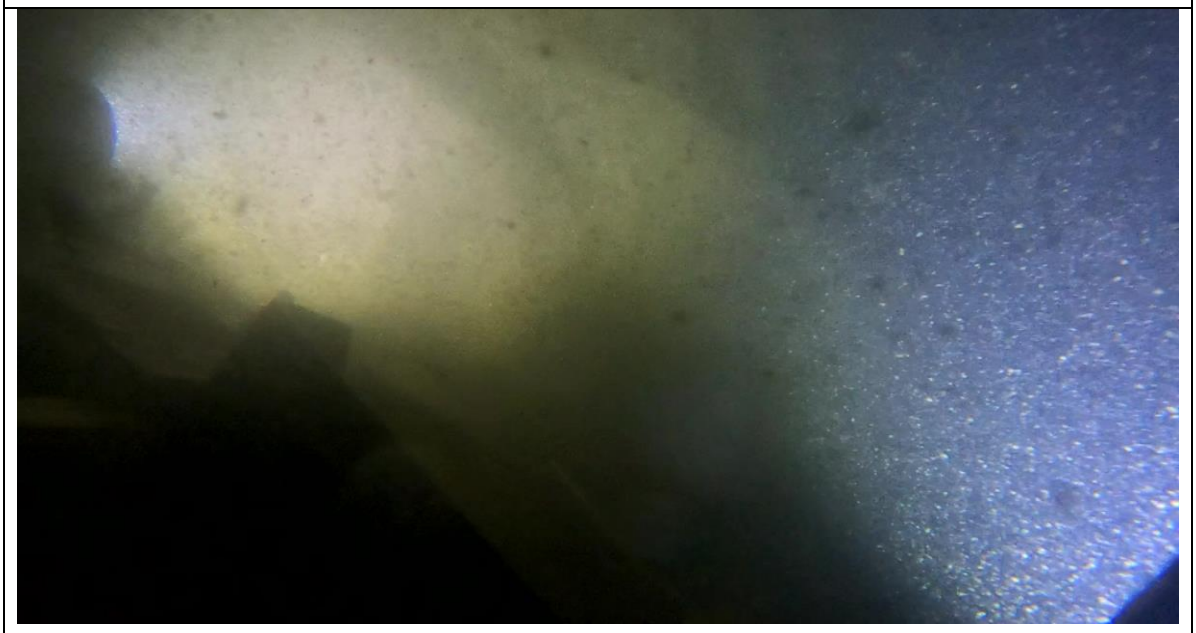
544LI23-GB058-1



544LI23-GB059A-1



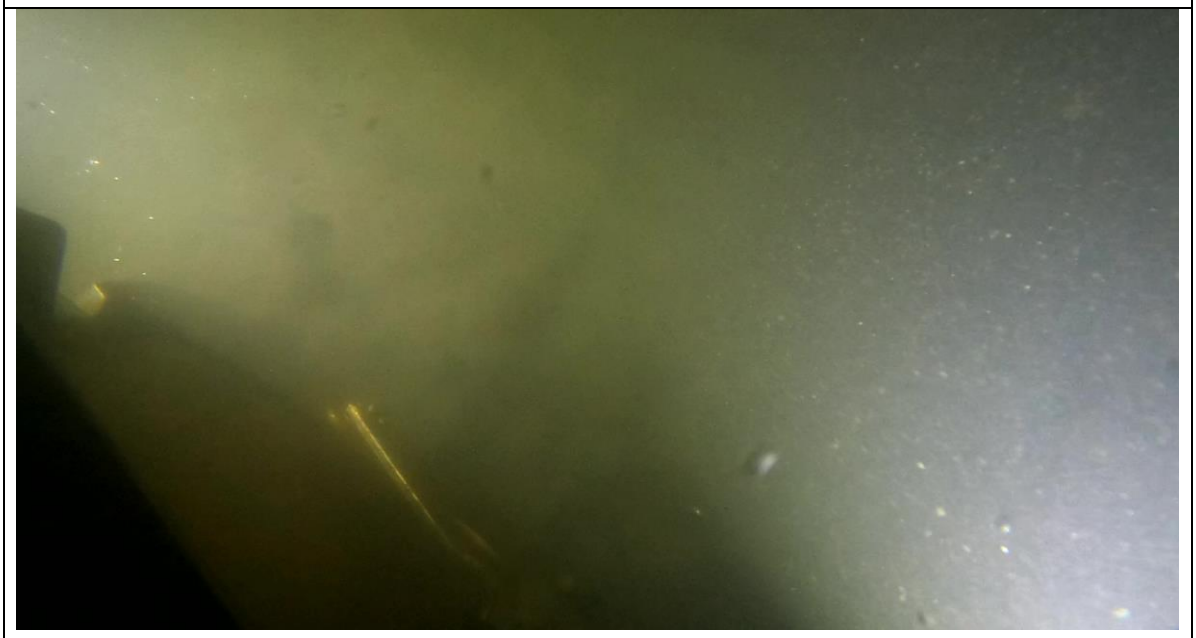
544LI23-GB059B-1



544LI23-GB059C-1

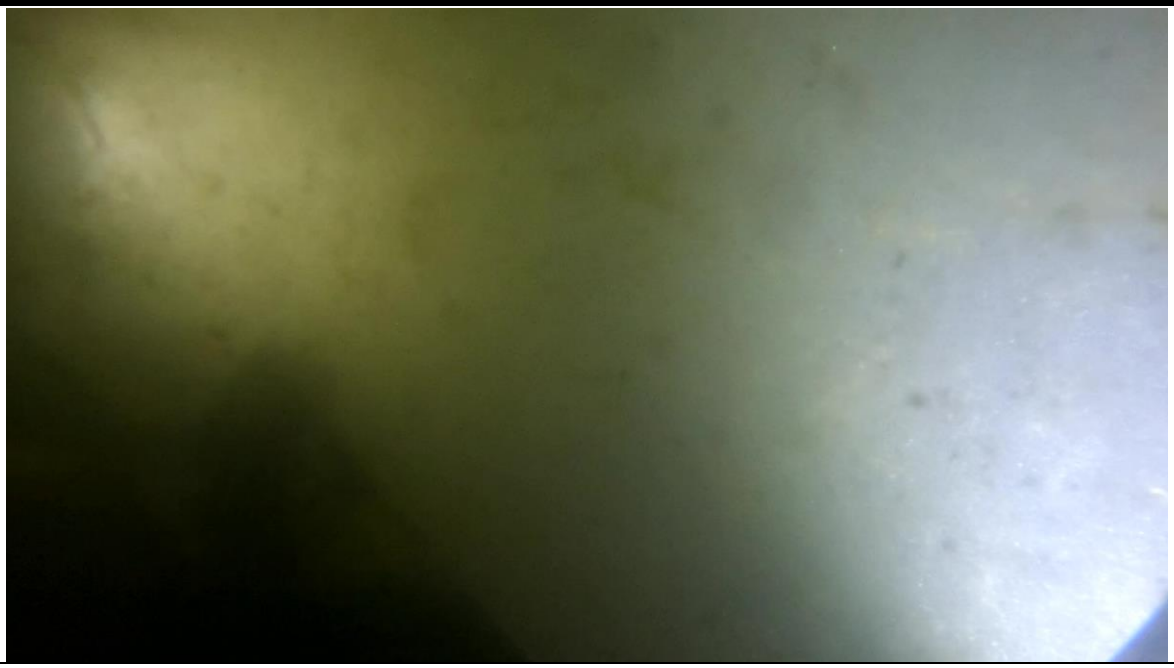


544LI23-GB060-1



544LI23-GB061-3

[redacted]



544LI23-GB065-1

Appendix H

Grain Size Summary Table

Summary table provided by TDI Brooks

			% Finer																	
Sample	Water Depth	Sieve #	2.5"	1.5"	3/4"	3/8"	4	10	20	Theoretical	40	Theoretical	100	140	200	230	% Gravel-Size Shell	% Gravel	% Gravel Geologic Substrate	% Sand
ID	(m)	D (mm)	63.5	37.5	19	9.5	4.75	2	0.85	0.5	0.425	0.25	0.15	0.106	0.075	0.063	>2.00 mm	> 2.00 mm	> 2.00 mm	0.063 - 2.00 mm
544LI23-GB001A-1	43.07		100.00	100.00	99.31	98.82	98.33	97.29	93.34	66.78	58.65	29.79	2.01	0.42	0.15	0.10	2.314	0.399	0.409	97.188
544LI23-GB001B-1	42.57		100.00	100.00	100.00	100.00	99.80	99.45	97.75	80.14	74.75	38.68	3.96	0.69	0.21	0.15	0.520	0.032	0.032	99.297
544LI23-GB001C-1	42.55		100.00	100.00	100.00	100.00	99.97	99.78	97.26	67.54	58.44	29.79	2.22	0.39	0.11	0.08	0.159	0.060	0.060	99.700
544LI23-GB002-1	40.70		100.00	100.00	100.00	99.75	99.65	99.49	97.77	82.53	77.86	39.72	3.00	0.51	0.26	0.25	0.432	0.0752	0.0755	99.242
544LI23-GB003A-1	38.59		100.00	100.00	100.00	99.33	99.23	98.04	92.27	65.06	56.73	28.71	1.73	0.46	0.21	0.05	1.727	0.229	0.233	97.997
544LI23-GB003B-1	38.61		100.00	100.00	100.00	100.00	99.73	98.79	91.25	61.66	52.60	26.48	1.32	0.21	0.05	0.01	1.021	0.189	0.191	98.775
544LI23-GB003C-1	38.41		100.00	100.00	100.00	99.54	99.30	98.14	91.91	64.69	56.36	28.36	1.41	0.36	0.15	0.06	1.603	0.261	0.265	98.075
544LI23-GB004-1	38.06		100.00	100.00	100.00	100.00	99.92	98.85	91.88	60.59	51.00	25.77	1.47	0.35	0.12	0.02	0.936	0.216	0.218	98.832
544LI23-GB005A-1	37.35		100.00	100.00	100.00	99.30	99.17	98.58	96.37	74.04	67.20	34.02	2.08	0.60	0.30	0.18	1.424	0.000	0.000	98.391
544LI23-GB005B-1	37.35		100.00	100.00	100.00	100.00	99.91	99.67	97.70	73.28	65.80	32.90	1.22	0.17	0.03	0.02	0.322	0.012	0.012	99.643
544LI23-GB005C-1	37.55		100.00	100.00	100.00	100.00	99.90	99.61	98.79	80.67	75.12	37.68	1.64	0.31	0.08	0.04	0.387	0.007	0.007	99.565
544LI23-GB006-1	37.03		100.00	100.00	99.73	99.64	99.53	98.92	96.42	75.27	68.79	34.63	1.74	0.28	0.06	0.03	1.085	0.000	0.000	98.890
544LI23-GB007A-1	35.79		100.00	100.00	100.00	100.00	99.90	99.42	96.78	75.46	68.92	35.22	2.78	0.55	0.11	0.04	0.502	0.076	0.076	99.381
544LI23-GB007B-1	36.12		100.00	100.00	100.00	99.87	99.72	98.81	96.43	78.92	73.56	38.20	4.17	0.87	0.17	0.10	1.147	0.041	0.042	98.716
544LI23-GB007C-1	36.27		100.00	100.00	99.65	99.53	99.30	98.18	92.09	62.96	54.04	27.21	1.37	0.22	0.03	0.01	1.244	0.572	0.579	98.177
544LI23-GB008-1	28.57		100.00	100.00	100.00	100.00	99.93	99.03	92.67	57.69	46.98	23.57	1.03	0.12	0.02	0.01	0.178	0.790	0.791	99.024
544LI23-GB009-1	34.58		100.00	100.00	100.00	100.00	99.95	99.06	96.99	74.15	67.15	33.91	1.90	0.27	0.04	0.01	0.888	0.056	0.057	99.048
544LI23-GB010A-1	35.51		100.00	100.00	100.00	99.80	99.63	98.78	94.95	64.69	55.43	28.00	1.59	0.33	0.10	0.04	1.128	0.096	0.097	98.741
544LI23-GB010B-1	35.51		100.00	100.00	100.00	99.72	99.61	99.58	98.48	75.96	69.07	34.72	1.66	0.27	0.05	0.01	0.409	0.008	0.008	99.578
544LI23-GB010C-1	35.52		100.00	100.00	100.00	100.00	99.91	99.45	97.00	70.93	62.95	32.17	2.53	1.14	0.79	0.69	0.552	0.000	0.000	98.761
544LI23-GB011-2	32.21		100.00	100.00	100.00	99.13	98.67	97.71	93.70	64.42	55.45	27.74	1.06	0.19	0.08	0.07	1.644	0.648	0.659	97.638
544LI23-GB012-1	33.75		100.00	100.00	100.00	99.83	99.38	97.78	91.59	53.67	42.05	21.25	1.23	0.26	0.01	0.00	0.602	1.614	1.624	97.782
544LI23-GB013-2	32.85		100.00	100.00	100.00	100.00	99.87	99.29	98.70	87.39	83.93	53.03	23.28	13.07	8.67	6.89	0.000	0.705	0.705	92.404
544LI23-GB014A-1	33.23		100.00	100.00	100.00	99.70	98.96	96.80	90.22	54.69	43.81	22.11	1.21	0.20	0.03	0.01	1.402	1.794	1.819	96.791
544LI23-GB014B-1	33.26		100.00	100.00	100.00	99.90	99.75	98.37	93.39	62.45	52.97	26.52	1.05	0.11	0.01	0.00	0.577	1.058	1.064	98.361
544LI23-GB014C-1	33.24		100.00	100.00	100.00	99.96	99.75	98.10	90.65	53.44	42.04	20.93	0.61	0.08	0.01	0.00	0.687	1.215	1.224	98.095
544LI23-GB015A-1	32.45		100.00	100.00	100.00	100.00	99.96	98.90	94.23	65.34	56.49	28.34	1.23	0.22	0.07	0.06	0.131	0.964	0.966	98.849
544LI23-GB015B-1	32.61		100.00	100.00	100.00	100.00	99.93	99.35	96.31	70.81	63.01	31.38	0.93	0.09	0.01	0.01	0.158	0.495	0.496	99.337
544LI23-GB015C-1	32.24		100.00	100.00	100.00	100.00	99.84	98.84	95.31	71.57	64.30	32.30	1.49	0.22	0.04	0.01	0.315	0.843	0.845	98.837
544LI23-GB016-2	28.72		100.00	100.00	100.00	99.55	99.51	99.25	95.28	65.16	55.94	28.26	1.61	0.24	0.07	0.05	0.617	0.137	0.138	99.200
544LI23-GB017A-1	34.30		100.00	100.00	100.00	100.00	98.33	96.60	94.45	90.44	89.21	63.76	39.27	7.48	1.34	0.80	0.187	3.211	3.217	95.799
544LI23-GB017B-1	33.97		100.00	100.00	100.00	90.05	79.12	68.59	56.65	33.26	26.10	16.90	8.05	3.31	1.80	0.92	1.210	30.204	30.574	67.661
544LI23-GB017C-1	33.62		100.00	100.00	100.00	89.90	78.08	65.16	51.09	27.73	20.58	13.68	7.04	2.82	1.34	0.99	0.000	34.844	34.844	64.163
544LI23-GB018-1	28.71		100.00	100.00	99.28	98.62	97.86	94.28	84.92	49.39	38.50	19.78	1.76	0.26	0.04	0.01	2.638	3.085	3.169	94.262
544LI23-GB019A-1	28.28		100.00	100.00	100.00	99.95	99.71	99.14	95.16	62.04	51.90	25.97	1.00	0.18	0.05	0.03	0.195	0.668	0.669	99.111
544LI23-GB019B-2	28.44		100.00	100.00	100.00	99.89	99.01	98.17	93.96	63.31	53.92	27.02	1.12	0.20	0.03	0.00	0.655	1.170	1.178	98.175
544LI23-GB019C-1	28.01		100.00	100.00	100.00	100.00	99.99	99.51	93.46	50.23	36.99	18.46	0.62	0.15	0.05	0.04	0.070	0.415	0.416	99.478
544LI23-GB020-1	30.68		100.00	100.00	100.00	100.00	99.74	99.02	93.95	81.82	78.11	47.69	18.41	5.74	2.89	2.12	0.088	0.897	0.897	96.896
544LI23-GB021-2	27.93		100.00	100.00	100.00	96.70	87.40	80.89	75.49	65.93	63.01	41.59	20.97	4.63	1.42	0.98	0.341	18.770	18.834	79.910
544LI23-GB022-1	25.79		100.00	100.00	100.00	99.14	97.38	97.00	93.84	73.57	67.36	36.48	6.75	4.10	1.49	0.93	1.245	1.758	1.780	96.068
544LI23-GB023-1	25.90		100.00	100.00	95.15	92.63	90.99	90.70	90.46	64.53	56.58	33.96	12.18	4.31	1.90	0.40	1.047	8.250	8.337	90.305
544LI23-GB024-1	26.85		100.00	100.00	100.00	100.00	100.00	99.94	99.37	90.52	87.81	45.30	4.38	0.73	0.15	0.05	0.034	0.022	0.022	99.896
544LI23-GB025-1	28.12		100.00	100.00	100.00	93.87	83.50	76.64	63.05	45.49	40.11	28.36	17.05	6.55	3.97	2.03	0.102	23.262	23.285	74.611
544LI23-GB026A-1	21.33		100.00	100.00	100.00	100.00	99.91	99.57	98.59	91.98	89.96	46.76	5.17	0.56	0.11	0.08	0.417	0.010	0.010	99.494
544LI23-GB026B-1	21.41		100.00	100.00	100.00	99.80	99.60	99.40	98.72	94.76	93.54	48.27	4.68	0.41	0.03	0.02	0.585	0.012	0.013	99.385
544LI23-GB026C-1	21.44		100.00	100.00	100.00	99.55	99.37	99.21	98.57	91.53	89.38	45.21	2.68	0.22	0.02	0.01	0.794	0.000	0.000	99.191
544LI23-GB027A-1	23.27		100.00	100.00	94.11	94.04	93.98	93.64	89.79	59.30	49.96	25.04	1.06	0.22	0.07	0.04	6.210	0.151	0.161	93.597
544LI23-GB027B-1	23.06		100.00	100.00	100.00	99.66	98.35	96.86	85.59	49.22	38.08	19.17	0.98	0.22	0.05	0.03	1.409	1.732	1.757	96.827
544LI23-GB027C-1	21.33		100.00	100.00	93.46	93.31	92.75	91.91	85.66	54.11	44.44	22.51	1.39	0.34	0.10	0.06	7.678	0.412	0.446	91.854
544LI23-GB028A-1	20.55		100.00	100.00	100.00	100.00	99.99	99.76	99.18	92.38	90.29	47.25	5.81	0.89	0.16	0.07	0.235	0.004	0.004	99.689
544LI23-GB028B-1	20.09		100.00	100.00	100.00	100.00	99.99	99.86	99.50	93.32	91.42	47.48	5.18	0.67	0.09	0.03	0.139	0.000	0.000	99.836
544LI23-GB028C-1	20.35		100.00	100.00	100.00	100.00	99.97	99.88	99.50	93.29	91.39	48.36	6.94	0.70	0.09	0.03	0.115	0.000	0.000	99.859
544LI23-GB029-5	17.92		100.00	100.00	100.00	99.73	99.15	97.90	94.89	91.91	91.00	53.20	16.81	2.99	1.03	0.58	0.466	1.636	1.644	97.319
544LI23-GB030A-1	19.97		100.00	100.00	97.10	94.57	89.20	82.80	48.58	28.43	22.26	14.98	7.97	5.68	4.00	0.92	1.305	15.894	16.105	81.885
544LI23-GB030B-1	20.31		100.00	100.00	100.00	99.57	97.82	85.62	46.96	25.98	19.56	10.81	2.39	1.14	0.72	0.47	0.805	13.580	13.690	85.141
544LI23-GB030C-1	19.49		100.00	100.00	96.63	93.19	88.20	69.35	31.63	14.08	8.70	4.52	0.50	0.20	0.11	0.09	6.559	24.094	25.785	69.258
544LI23-GB031-2	20.11		100.00	100.00	100.00	100.00	99.89	99.70	99.38	98.31	97.98	63.84	30.97	5.73	0.93	0.32	0.293	0.005	0.005	99.381
544LI23-GB032-1	16.93		100.00	100.00	100.00	99.31	99.31	99.16	98.06	89.75	87.20	46.20	6.74	1.64	0.39	0.14	0.781	0.058	0.058	99.020
544LI23-GB033-3	16.80		100.00	100.00	100.00	93.24	75.58	59.54	24.92	10.12	5.59	3.00	0.51	0.28	0.14	0.08	1.184	39.280	39.751	59.457
544LI23-GB034A-1	14.26		100.00	100.00	100.00	98.89	98.89	98.82	98.57	88.12	84.92	42.36	1.38	0.36	0.07	0.02	1.163	0.022	0.022	98.796
544LI23-GB034B-1	12.89		100.00	100.00	100.00	100.00	99.99	99.92	99.52	90.73	88.03	44.02	1.65	0.42	0.04	0.02	0.057	0.025	0.025	99.896
544LI23-GB034C-1	13.52		100.00	100.00	100.00	100.00	99.94	99.90	99.62	93.69	91.87	46.26	2.35	0.86	0.12	0.07	0.079	0.025	0.025	99.828
544LI23-GB035-1	15.06		100.00	100.00	93.78	88.80	77.21	63.38	41.41	20.30	13.83	6.95	0.31	0.16	0.04	0.02	0.593	36.024	36.239	63.364
544LI23-GB036-1	14.14		100.00	100.00	100.00	99.90	99.81	99.33	97.23	79.74	74.38	37.11	1.24	0.33	0.02	0.00	0.479	0.192	0.193	99.329

	Grain Size Distribution											
Sample	% Sand Geologic Substrate	% Coarse Sand	% Coarse Sand Geologic Substrate	% Medium Sand	% Medium Sand Geologic Substrate	% Fine Sand	% Fine Sand Geologic Substrate	% Silt and Clay	% Silt and Clay Geologic Substrate	% Silt	% Clay	D50
ID	0.063 - 2.00 mm	0.5 - 2.00 mm	0.5 - 2.00 mm	0.25 - 0.50 mm	0.25 - 0.50 mm	0.063 - 0.25 mm	0.063 - 0.25 mm	< 0.063 mm	< 0.063 mm	0.002 - 0.063 mm	<0.002 mm	(mm)
544LI23-GB001A-1	99.490	30.506	31.228	36.990	37.866	29.692	30.395	0.099	0.101	NA	NA	0.363
544LI23-GB001B-1	99.816	19.305	19.406	41.460	41.677	38.532	38.734	0.151	0.152	NA	NA	0.295
544LI23-GB001C-1	99.859	32.241	32.293	37.746	37.806	29.713	29.760	0.081	0.081	NA	NA	0.364
544LI23-GB002-1	99.673	16.964	17.038	42.809	42.995	39.469	39.640	0.251	0.252	NA	NA	0.288
544LI23-GB003A-1	99.719	32.982	33.561	36.353	36.992	28.662	29.166	0.047	0.048	NA	NA	0.374
544LI23-GB003B-1	99.794	37.125	37.508	35.189	35.552	26.462	26.735	0.014	0.014	NA	NA	0.403
544LI23-GB003C-1	99.673	33.442	33.987	36.332	36.924	28.301	28.762	0.061	0.062	NA	NA	0.377
544LI23-GB004-1	99.766	38.260	38.622	34.821	35.150	25.751	25.994	0.016	0.016	NA	NA	0.416
544LI23-GB005A-1	99.812	24.535	24.890	40.017	40.596	33.838	34.327	0.185	0.188	NA	NA	0.323
544LI23-GB005B-1	99.965	26.391	26.476	40.379	40.510	32.873	32.979	0.023	0.023	NA	NA	0.329
544LI23-GB005C-1	99.952	18.938	19.012	42.988	43.156	37.639	37.785	0.041	0.041	NA	NA	0.298
544LI23-GB006-1	99.975	23.647	23.906	40.638	41.084	34.605	34.984	0.025	0.025	NA	NA	0.317
544LI23-GB007A-1	99.882	23.967	24.088	40.232	40.435	35.181	35.359	0.042	0.042	NA	NA	0.315
544LI23-GB007B-1	99.861	19.889	20.120	40.718	41.191	38.109	38.551	0.095	0.097	NA	NA	0.298
544LI23-GB007C-1	99.414	35.219	35.663	35.758	36.209	27.200	27.542	0.007	0.007	NA	NA	0.392
544LI23-GB008-1	99.200	41.341	41.414	34.124	34.185	23.559	23.601	0.009	0.009	NA	NA	0.445
544LI23-GB009-1	99.936	24.908	25.131	40.242	40.602	33.899	34.202	0.008	0.008	NA	NA	0.323
544LI23-GB010A-1	99.868	34.082	34.471	36.696	37.115	27.962	28.281	0.035	0.036	NA	NA	0.383
544LI23-GB010B-1	99.987	23.620	23.717	41.240	41.409	34.718	34.860	0.005	0.005	NA	NA	0.317
544LI23-GB010C-1	99.308	28.518	28.676	38.765	38.980	31.477	31.652	0.688	0.692	NA	NA	0.340
544LI23-GB011-2	99.270	33.290	33.847	36.679	37.292	27.669	28.131	0.070	0.071	NA	NA	0.383
544LI23-GB012-1	98.374	44.118	44.385	32.413	32.609	21.251	21.379	0.002	0.002	NA	NA	0.475
544LI23-GB013-2	92.404	11.900	11.900	34.366	34.366	46.138	46.138	6.890	6.890	NA	NA	0.237
544LI23-GB014A-1	98.167	42.116	42.715	32.584	33.047	22.092	22.406	0.014	0.014	NA	NA	0.466
544LI23-GB014B-1	98.932	35.917	36.126	35.931	36.140	26.513	26.666	0.005	0.005	NA	NA	0.400
544LI23-GB014C-1	98.774	44.661	44.970	32.507	32.732	20.926	21.071	0.002	0.002	NA	NA	0.476
544LI23-GB015A-1	98.978	33.563	33.607	37.005	37.054	28.281	28.318	0.056	0.056	NA	NA	0.376
544LI23-GB015B-1	99.495	28.532	28.577	39.438	39.501	31.367	31.417	0.009	0.009	NA	NA	0.342
544LI23-GB015C-1	99.149	27.272	27.358	39.272	39.396	32.293	32.395	0.006	0.006	NA	NA	0.335
544LI23-GB016-2	99.816	34.082	34.293	36.907	37.136	28.211	28.386	0.047	0.047	NA	NA	0.379
544LI23-GB017A-1	95.979	6.163	6.175	26.675	26.725	62.960	63.078	0.802	0.804	NA	NA	0.188
544LI23-GB017B-1	68.490	35.324	35.756	16.360	16.561	15.977	16.173	0.925	0.936	NA	NA	0.731
544LI23-GB017C-1	64.163	37.423	37.423	14.052	14.052	12.688	12.688	0.993	0.993	NA	NA	0.829
544LI23-GB018-1	96.816	44.890	46.107	29.604	30.407	19.767	20.303	0.015	0.015	NA	NA	0.505
544LI23-GB019A-1	99.305	37.093	37.166	36.077	36.147	25.941	25.992	0.026	0.026	NA	NA	0.409
544LI23-GB019B-2	98.822	34.865	35.095	36.292	36.531	27.019	27.197	0.000	0.000	NA	NA	0.393
544LI23-GB019C-1	99.548	49.287	49.322	31.770	31.793	18.421	18.434	0.036	0.036	NA	NA	0.499
544LI23-GB020-1	96.982	17.191	17.206	34.134	34.164	45.572	45.612	2.119	2.121	NA	NA	0.260
544LI23-GB021-2	80.183	14.957	15.008	24.341	24.424	40.612	40.750	0.979	0.982	NA	NA	0.308
544LI23-GB022-1	97.280	23.426	23.722	37.090	37.558	35.552	36.000	0.928	0.940	NA	NA	0.315
544LI23-GB023-1	91.261	26.178	26.454	30.566	30.889	33.562	33.917	0.398	0.402	NA	NA	0.364
544LI23-GB024-1	99.930	9.423	9.426	45.221	45.236	45.252	45.268	0.048	0.048	NA	NA	0.265
544LI23-GB025-1	74.687	31.147	31.179	17.130	17.147	26.335	26.362	2.025	2.027	NA	NA	0.573
544LI23-GB026A-1	99.910	7.589	7.621	45.225	45.414	46.680	46.875	0.079	0.080	NA	NA	0.260
544LI23-GB026B-1	99.970	4.647	4.674	46.489	46.763	48.249	48.533	0.017	0.018	NA	NA	0.255
544LI23-GB026C-1	99.986	7.672	7.733	46.328	46.699	45.191	45.553	0.014	0.014	NA	NA	0.265
544LI23-GB027A-1	99.794	34.340	36.614	34.256	36.524	25.001	26.657	0.042	0.045	NA	NA	0.425
544LI23-GB027B-1	98.211	47.643	48.324	30.042	30.472	19.141	19.414	0.032	0.033	NA	NA	0.506
544LI23-GB027C-1	99.493	37.804	40.947	31.602	34.230	22.449	24.316	0.056	0.061	NA	NA	0.467
544LI23-GB028A-1	99.924	7.385	7.402	45.127	45.234	47.176	47.287	0.072	0.072	NA	NA	0.259
544LI23-GB028B-1	99.975	6.545	6.554	45.833	45.897	47.458	47.524	0.025	0.025	NA	NA	0.258
544LI23-GB028C-1	99.974	6.592	6.600	44.930	44.981	48.337	48.392	0.026	0.026	NA	NA	0.255
544LI23-GB029-5	97.775	5.986	6.014	38.714	38.895	52.619	52.865	0.579	0.582	NA	NA	0.239
544LI23-GB030A-1	82.968	54.367	55.086	13.455	13.633	14.063	14.249	0.915	0.927	NA	NA	0.881
544LI23-GB030B-1	85.832	59.633	60.117	15.173	15.296	10.335	10.419	0.475	0.479	NA	NA	0.909
544LI23-GB030C-1	74.119	55.270	59.150	9.556	10.227	4.432	4.743	0.089	0.096	NA	NA	1.289
544LI23-GB031-2	99.673	1.394	1.398	34.470	34.572	63.517	63.704	0.320	0.321	NA	NA	0.202
544LI23-GB032-1	99.799	9.413	9.487	43.544	43.886	46.063	46.426	0.142	0.143	NA	NA	0.263
544LI23-GB033-3	60.170	49.414	50.006	7.119	7.204	2.925	2.960	0.079	0.080	NA	NA	1.580
544LI23-GB034A-1	99.958	10.693	10.819	45.765	46.304	42.338	42.836	0.019	0.020	NA	NA	0.275
544LI23-GB034B-1	99.953	9.190	9.195	46.707	46.734	43.999	44.024	0.022	0.022	NA	NA	0.269
544LI23-GB034C-1	99.906	6.208	6.213	47.427	47.464	46.193	46.229	0.068	0.068	NA	NA	0.261
544LI23-GB035-1	63.742	43.084	43.341	13.353	13.433	6.927	6.968	0.019	0.020	NA	NA	1.188
544LI23-GB036-1	99.807	19.593	19.688	42.623	42.828	37.113	37.291	0.000	0.000	NA	NA	0.300

			% Finer																
Sample	Water Depth	Sieve #	2.5"	1.5"	3/4"	3/8"	4	10	20	Theoretical	40	Theoretical	100	140	200	230	% Gravel-Size Shell	% Gravel	% Gravel Geologic Substrate	% Sand
ID	(m)	D (mm)	63.5	37.5	19	9.5	4.75	2	0.85	0.5	0.425	0.25	0.15	0.106	0.075	0.063	>2.00 mm	> 2.00 mm	> 2.00 mm	0.063 - 2.00 mm
544LI23-GB037A-1	15.64		100.00	100.00	94.61	82.10	73.59	69.69	65.60	58.59	56.44	29.84	4.24	0.80	0.09	0.01	1.413	28.894	29.308	69.682
544LI23-GB037B-2	15.27		100.00	100.00	100.00	92.37	85.55	82.26	74.98	51.19	43.90	22.36	1.63	0.39	0.07	0.04	0.815	16.927	17.066	82.219
544LI23-GB037C-1	15.81		100.00	100.00	100.00	99.95	99.95	99.90	99.45	90.99	88.40	46.22	5.62	1.70	0.44	0.23	0.056	0.040	0.040	99.677
544LI23-GB038A-1	15.08		100.00	100.00	100.00	100.00	99.78	99.51	99.13	93.32	91.54	52.90	15.70	4.81	0.82	0.32	0.178	0.309	0.309	99.193
544LI23-GB038B-2	14.76		100.00	100.00	100.00	100.00	100.00	99.98	99.52	94.00	92.32	50.84	10.91	2.32	0.36	0.04	0.024	0.000	0.000	99.939
544LI23-GB038C-2	14.76		100.00	100.00	100.00	99.85	99.67	99.62	99.52	96.38	95.43	54.14	14.40	3.15	0.61	0.15	0.378	0.000	0.000	99.472
544LI23-GB039-3	15.51		100.00	100.00	96.93	93.79	76.97	56.07	38.74	19.56	13.68	9.36	5.20	2.41	0.88	0.49	0.100	43.828	43.871	55.579
544LI23-GB040A-2	17.42		100.00	100.00	100.00	99.89	99.88	99.76	99.56	95.34	94.04	57.67	22.65	7.37	1.34	0.19	0.205	0.039	0.040	99.563
544LI23-GB040B-3	17.42		100.00	100.00	100.00	99.59	99.57	99.51	99.38	91.78	89.45	50.73	13.46	4.76	0.87	0.33	0.461	0.033	0.034	99.174
544LI23-GB040C-1	17.36		100.00	100.00	100.00	100.00	99.93	99.87	99.57	93.46	91.58	55.82	21.38	8.52	1.43	0.47	0.012	0.121	0.121	99.395
544LI23-GB041-2	14.87		100.00	100.00	100.00	97.40	92.51	87.25	82.09	68.26	64.03	42.76	22.30	13.50	5.50	3.30	0.242	12.510	12.540	83.948
544LI23-GB042A-2	14.65		100.00	100.00	100.00	100.00	99.55	98.85	97.26	63.00	52.51	27.28	2.99	1.35	0.26	0.03	0.050	1.098	1.099	98.822
544LI23-GB042B-2	14.65		100.00	100.00	100.00	100.00	99.18	97.22	94.53	63.70	54.26	28.26	3.22	1.24	0.29	0.10	0.315	2.466	2.474	97.115
544LI23-GB042C-2	14.97		100.00	100.00	100.00	99.43	99.00	98.32	95.10	53.28	40.48	20.78	1.82	0.37	0.08	0.07	0.772	0.912	0.919	98.241
544LI23-GB043-2	15.16		100.00	100.00	100.00	93.47	81.56	45.22	20.39	13.88	11.88	6.64	1.60	1.18	0.59	0.38	0.216	54.562	54.680	44.842
544LI23-GB044-6	13.60		100.00	100.00	100.00	100.00	98.77	98.06	96.64	89.61	87.46	64.25	41.91	20.18	6.56	3.38	0.302	1.642	1.647	94.674
544LI23-GB045-1	9.51		100.00	100.00	100.00	99.83	97.77	90.99	80.13	35.87	22.32	11.57	1.23	0.44	0.10	0.04	0.685	8.328	8.386	90.945
544LI23-GB046-1	13.94		100.00	100.00	100.00	99.80	99.73	99.57	98.81	97.28	96.81	77.74	59.39	21.95	5.66	2.53	0.378	0.053	0.054	97.035
544LI23-GB047A-2	11.88		100.00	100.00	100.00	100.00	99.75	99.47	98.84	96.17	95.36	74.22	53.86	22.46	5.20	1.83	0.513	0.020	0.020	97.641
544LI23-GB047B-3	12.05		100.00	100.00	100.00	100.00	99.97	99.85	99.58	97.39	96.71	73.66	51.46	20.20	4.20	1.37	0.139	0.015	0.015	98.480
544LI23-GB047C-2	13.03		100.00	100.00	100.00	99.81	99.53	98.79	97.87	94.89	93.97	68.60	44.17	18.59	3.06	1.14	1.040	0.171	0.173	97.650
544LI23-GB048A-2	10.30		100.00	100.00	97.96	97.96	97.58	97.47	96.96	94.20	93.36	69.22	45.99	17.32	3.60	1.58	2.475	0.054	0.056	95.889
544LI23-GB048B-2	10.12		100.00	100.00	100.00	99.78	98.84	98.19	97.94	95.47	94.71	74.95	55.93	19.68	4.32	2.10	0.430	1.377	1.382	96.097
544LI23-GB048C-2	10.17		100.00	100.00	100.00	100.00	99.97	99.80	98.95	94.02	92.51	58.91	26.56	7.82	1.10	0.49	0.129	0.072	0.072	99.308
544LI23-GB049-1	5.51		100.00	100.00	100.00	100.00	100.00	99.98	99.90	98.77	98.42	61.34	25.64	4.22	0.42	0.17	0.016	0.000	0.000	99.815
544LI23-GB050A-2	16.35		100.00	100.00	100.00	100.00	100.00	99.96	99.70	95.43	94.12	68.51	43.84	17.51	5.04	2.32	0.030	0.015	0.015	97.631
544LI23-GB050B-2	16.57		100.00	100.00	100.00	100.00	99.05	88.46	77.25	55.25	48.51	30.94	14.02	5.68	1.69	0.89	0.400	11.144	11.189	87.571
544LI23-GB050C-2	16.68		100.00	100.00	100.00	100.00	97.90	74.17	43.93	25.37	19.69	13.39	7.33	3.96	1.48	0.91	0.350	25.482	25.571	73.260
[redacted]																				
544LI23-GB053A-1	17.87		100.00	100.00	100.00	100.00	99.28	97.62	94.46	65.44	56.56	28.53	1.55	0.47	0.19	0.14	0.971	1.409	1.423	97.481
544LI23-GB053B-2	17.96		100.00	100.00	99.17	98.01	96.52	94.94	92.75	62.19	52.83	26.28	0.72	0.21	0.07	0.04	4.611	0.447	0.468	94.900
544LI23-GB053C-2	17.95		100.00	100.00	100.00	100.00	99.80	99.30	97.16	63.23	52.84	26.39	0.93	0.20	0.03	0.02	0.320	0.376	0.377	99.287
544LI23-GB054-1	19.42		100.00	100.00	100.00	99.91	99.76	99.57	99.33	98.74	98.56	58.22	19.39	4.90	0.82	0.37	0.431	0.000	0.000	99.199
544LI23-GB055A-2	19.78		100.00	100.00	100.00	99.14	96.07	93.06	86.26	61.44	53.84	36.75	20.30	8.96	1.90	0.89	1.818	5.126	5.220	92.169
544LI23-GB055B-1	19.93		100.00	100.00	100.00	100.00	98.99	97.91	95.13	81.80	77.72	50.45	24.19	7.85	1.34	0.86	0.256	1.831	1.835	97.053
544LI23-GB055C-2	19.37		100.00	100.00	100.00	98.19	91.95	85.46	77.93	52.84	45.16	24.86	5.31	2.08	0.57	0.26	1.775	12.764	12.995	85.197
544LI23-GB056-1	18.39		100.00	100.00	98.05	97.96	97.72	96.84	96.24	93.41	92.54	64.17	36.86	7.79	1.14	0.25	3.156	0.000	0.000	96.593
544LI23-GB057-1	15.86		100.00	100.00	100.00	94.10	78.05	67.66	57.39	32.45	24.81	12.54	0.73	0.26	0.09	0.05	4.304	28.034	29.295	67.615
544LI23-GB058-1	17.47		100.00	100.00	100.00	100.00	99.98	99.80	99.52	96.61	95.71	55.47	16.72	3.11	0.46	0.07	0.190	0.009	0.009	99.726
544LI23-GB059A-1	14.31		100.00	100.00	100.00	100.00	99.86	99.65	98.99	95.69	94.68	51.02	8.99	2.23	0.41	0.07	0.328	0.022	0.022	99.583
544LI23-GB059B-1	14.25		100.00	100.00	100.00	99.96	99.92	99.70	99.27	97.64	97.15	55.50	15.41	4.20	0.93	0.43	0.247	0.057	0.058	99.260
544LI23-GB059C-1	14.34		100.00	100.00	100.00	100.00	99.93	99.72	99.38	97.89	97.44	54.88	13.91	3.55	0.60	0.22	0.253	0.029	0.029	99.499
544LI23-GB060-1	11.23		100.00	100.00	100.00	99.86	98.20	93.66	73.12	36.86	25.76	13.13	0.98	0.53	0.19	0.13	1.905	4.434	4.520	93.528
544LI23-GB061-3	10.23		100.00	100.00	100.00	100.00	99.98	99.97	99.92	99.27	99.06	76.23	54.24	16.60	3.56	1.05	0.030	0.000	0.000	98.919
[redacted]																				

	Grain Size Distribution											
Sample	% Sand Geologic Substrate	% Coarse Sand	% Coarse Sand Geologic Substrate	% Medium Sand	% Medium Sand Geologic Substrate	% Fine Sand	% Fine Sand Geologic Substrate	% Silt and Clay	% Silt and Clay Geologic Substrate	% Silt	% Clay	D50
ID	0.063 - 2.00 mm	0.5 - 2.00 mm	0.5 - 2.00 mm	0.25 - 0.50 mm	0.25 - 0.50 mm	0.063 - 0.25 mm	0.063 - 0.25 mm	< 0.063 mm	< 0.063 mm	0.002 - 0.063 mm	<0.002 mm	(mm)
544LI23-GB037A-1	70.680	11.106	11.265	28.746	29.158	29.830	30.257	0.012	0.012	NA	NA	0.374
544LI23-GB037B-2	82.895	31.071	31.327	28.825	29.062	22.323	22.507	0.039	0.039	NA	NA	0.487
544LI23-GB037C-1	99.733	8.911	8.916	44.768	44.794	45.998	46.024	0.227	0.227	NA	NA	0.262
544LI23-GB038A-1	99.370	6.191	6.202	40.419	40.491	52.583	52.677	0.320	0.320	NA	NA	0.240
544LI23-GB038B-2	99.963	5.973	5.974	43.164	43.175	50.802	50.814	0.037	0.037	NA	NA	0.247
544LI23-GB038C-2	99.849	3.238	3.250	42.241	42.401	53.993	54.198	0.151	0.151	NA	NA	0.237
544LI23-GB039-3	55.634	36.515	36.552	10.196	10.206	8.868	8.877	0.494	0.494	NA	NA	1.482
544LI23-GB040A-2	99.768	4.418	4.427	37.669	37.746	57.477	57.595	0.192	0.193	NA	NA	0.224
544LI23-GB040B-3	99.633	7.723	7.758	41.050	41.240	50.401	50.634	0.332	0.334	NA	NA	0.248
544LI23-GB040C-1	99.408	6.411	6.412	37.640	37.644	55.344	55.351	0.472	0.472	NA	NA	0.229
544LI23-GB041-2	84.152	18.986	19.032	25.497	25.559	39.464	39.560	3.300	3.308	NA	NA	0.299
544LI23-GB042A-2	98.871	35.848	35.866	35.726	35.744	27.248	27.262	0.030	0.030	NA	NA	0.403
544LI23-GB042B-2	97.422	33.514	33.620	35.448	35.560	28.153	28.242	0.104	0.104	NA	NA	0.390
544LI23-GB042C-2	99.005	45.033	45.383	32.502	32.755	20.706	20.867	0.075	0.076	NA	NA	0.480
544LI23-GB043-2	44.940	31.345	31.413	7.232	7.247	6.266	6.279	0.379	0.380	NA	NA	2.241
544LI23-GB044-6	94.961	8.446	8.472	25.360	25.437	60.868	61.052	3.382	3.392	NA	NA	0.180
544LI23-GB045-1	91.572	55.114	55.495	24.298	24.466	11.532	11.612	0.042	0.042	NA	NA	0.592
544LI23-GB046-1	97.403	2.285	2.294	19.539	19.613	75.211	75.496	2.534	2.543	NA	NA	0.137
544LI23-GB047A-2	98.145	3.295	3.312	21.956	22.070	72.390	72.763	1.826	1.835	NA	NA	0.144
544LI23-GB047B-3	98.617	2.461	2.464	23.731	23.764	72.289	72.389	1.366	1.368	NA	NA	0.148
544LI23-GB047C-2	98.676	3.901	3.942	26.287	26.563	67.461	68.170	1.139	1.151	NA	NA	0.169
544LI23-GB048A-2	98.323	3.268	3.351	24.980	25.614	67.641	69.358	1.581	1.622	NA	NA	0.164
544LI23-GB048B-2	96.512	2.728	2.739	20.516	20.604	72.854	73.168	2.097	2.106	NA	NA	0.142
544LI23-GB048C-2	99.437	5.778	5.786	35.111	35.156	58.419	58.495	0.491	0.491	NA	NA	0.217
544LI23-GB049-1	99.831	1.219	1.219	37.429	37.435	61.167	61.177	0.169	0.169	NA	NA	0.213
544LI23-GB050A-2	97.660	4.524	4.525	26.925	26.933	66.182	66.202	2.324	2.325	NA	NA	0.170
544LI23-GB050B-2	87.922	33.206	33.339	24.312	24.410	30.052	30.173	0.886	0.889	NA	NA	0.441
544LI23-GB050C-2	73.518	48.797	48.968	11.979	12.021	12.484	12.528	0.908	0.911	NA	NA	1.009
[redacted]												
544LI23-GB053A-1	98.437	32.175	32.491	36.911	37.273	28.395	28.674	0.138	0.140	NA	NA	0.375
544LI23-GB053B-2	99.487	32.754	34.338	35.910	37.645	26.236	27.504	0.042	0.044	NA	NA	0.402
544LI23-GB053C-2	99.606	36.074	36.190	36.841	36.960	26.372	26.457	0.017	0.017	NA	NA	0.401
544LI23-GB054-1	99.629	0.828	0.831	40.521	40.697	57.850	58.101	0.369	0.371	NA	NA	0.224
544LI23-GB055A-2	93.876	31.617	32.203	24.687	25.144	35.865	36.530	0.887	0.903	NA	NA	0.377
544LI23-GB055B-1	97.303	16.110	16.151	31.355	31.436	49.588	49.716	0.860	0.862	NA	NA	0.248
544LI23-GB055C-2	86.737	32.617	33.206	27.986	28.492	24.594	25.039	0.263	0.268	NA	NA	0.471
544LI23-GB056-1	99.741	3.435	3.547	29.237	30.190	63.921	66.004	0.251	0.259	NA	NA	0.192
544LI23-GB057-1	70.657	35.213	36.797	19.909	20.805	12.493	13.054	0.047	0.049	NA	NA	0.726
544LI23-GB058-1	99.915	3.195	3.201	41.139	41.217	55.393	55.498	0.075	0.075	NA	NA	0.233
544LI23-GB059A-1	99.910	3.958	3.971	44.673	44.820	50.952	51.120	0.068	0.068	NA	NA	0.247
544LI23-GB059B-1	99.506	2.051	2.056	42.143	42.248	55.067	55.203	0.435	0.436	NA	NA	0.233
544LI23-GB059C-1	99.751	1.826	1.830	43.013	43.122	54.661	54.800	0.219	0.220	NA	NA	0.235
544LI23-GB060-1	95.344	56.798	57.901	23.729	24.190	13.000	13.253	0.133	0.136	NA	NA	0.606
544LI23-GB061-3	98.949	0.705	0.705	23.038	23.045	75.176	75.199	1.051	1.051	NA	NA	0.144
[redacted]												

Appendix I

Grain Size Results

Grain size analysis performed by TDI Brooks

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB001A-1
Water Depth (m)	43.07

Grain Size Data

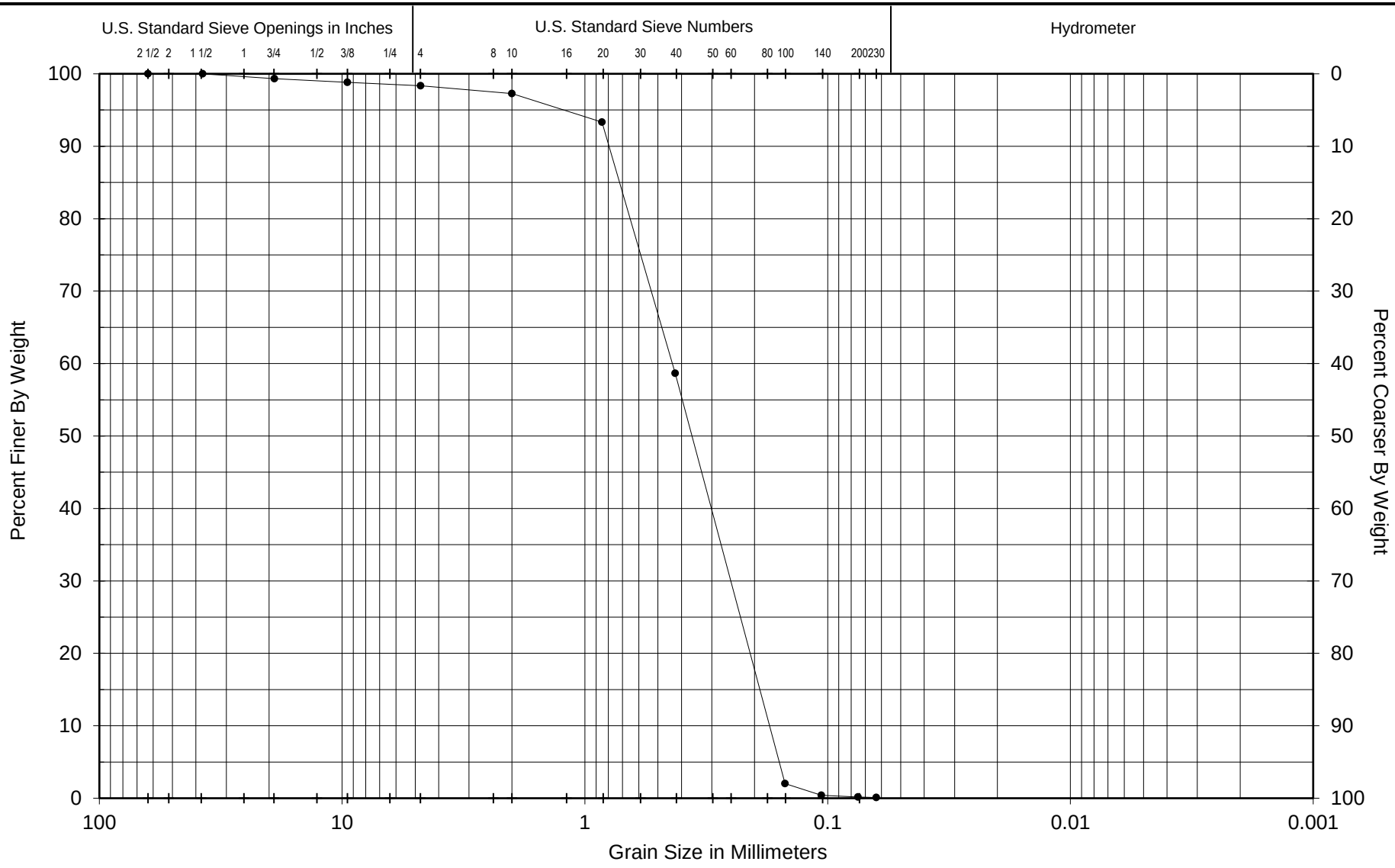
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.31	0.69	
9.5	3/8"	98.82	1.18	
4.75	4	98.33	1.67	
2	10	97.29	2.71	85.28
0.85	20	93.34	6.66	
0.425	40	58.65	41.35	
0.15	100	2.01	97.99	
0.106	140	0.42	99.58	
0.075	200	0.15	99.85	
0.063	230	0.10	99.90	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.29
% Passing #230 0.10
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.40
% Gravel-Sized Shell	> 2.00 mm	2.31
% Sand	0.063 - 2.00 mm	97.19
% Silt and Clay	< 0.063 mm	0.10
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	30.51
% Medium Sand	0.25 - 0.50 mm	36.99
% Fine Sand	0.063 - 0.25 mm	29.69

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	58.65	0.425	2.01	0.150	0.174
D30	30	58.65	0.425	2.01	0.150	0.251
D50	50	58.65	0.425	2.01	0.150	0.363
D60	60	93.34	0.850	58.65	0.425	0.437

Uniformity Coefficient (Cu)	2.513
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB001A-1

Water Depth (m) 43.07

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB001B-1
Water Depth (m)	42.57

Grain Size Data

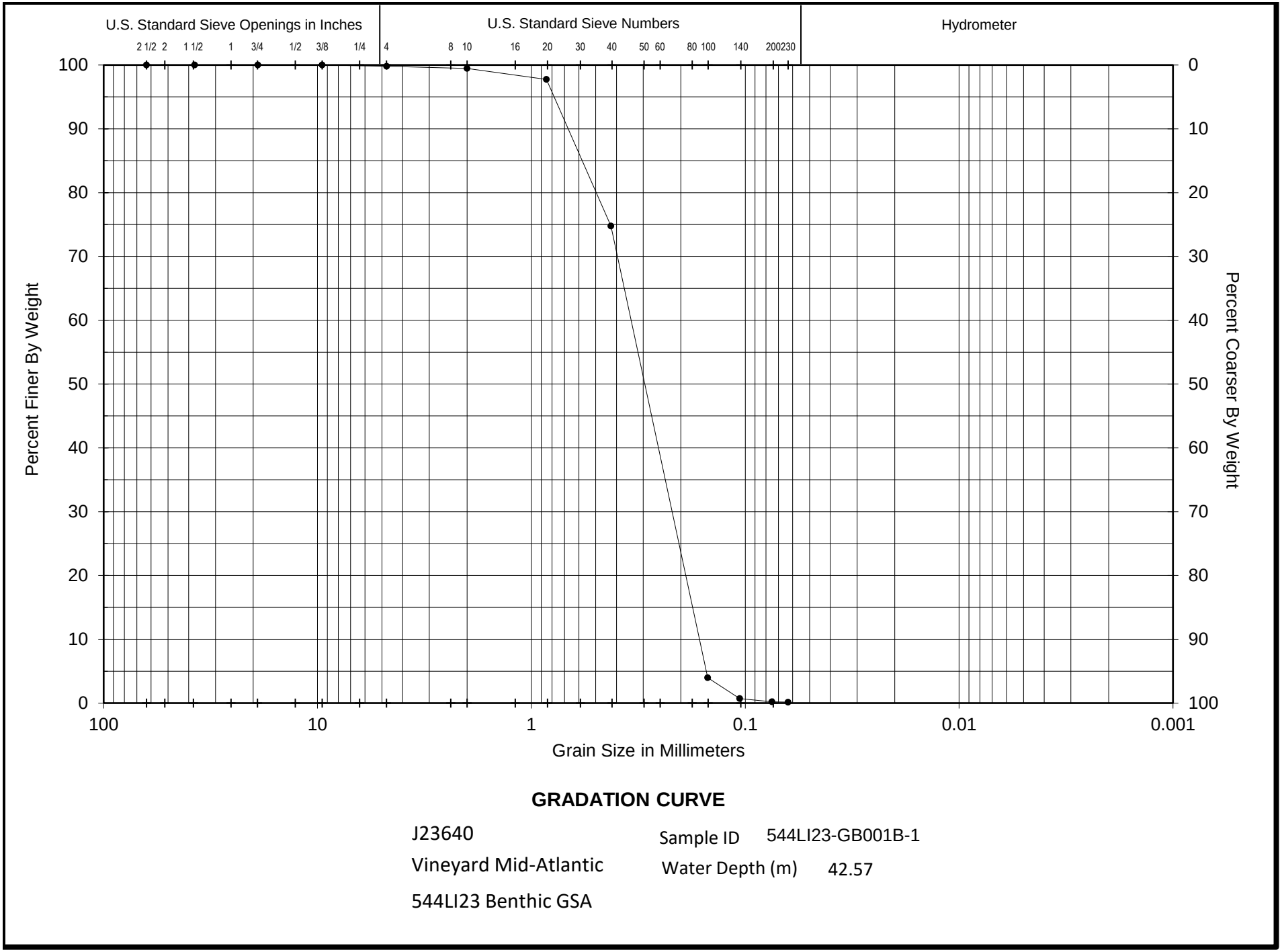
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.80	0.20	
2	10	99.45	0.55	94.23
0.85	20	97.75	2.25	
0.425	40	74.75	25.25	
0.15	100	3.96	96.04	
0.106	140	0.69	99.31	
0.075	200	0.21	99.79	
0.063	230	0.15	99.85	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.45
% Passing #230 0.15
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.52
% Sand	0.063 - 2.00 mm	99.30
% Silt and Clay	< 0.063 mm	0.15
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	19.30
% Medium Sand	0.25 - 0.50 mm	41.46
% Fine Sand	0.063 - 0.25 mm	38.53

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	74.75	0.425	3.96	0.150	0.164
D30	30	74.75	0.425	3.96	0.150	0.220
D50	50	74.75	0.425	3.96	0.150	0.295
D60	60	74.75	0.425	3.96	0.150	0.342

Uniformity Coefficient (Cu)	2.087
Coefficient of Curvature (Cc)	0.863



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB001B-1

Water Depth (m) 42.57

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB001C-1
Water Depth (m)	42.55

Grain Size Data

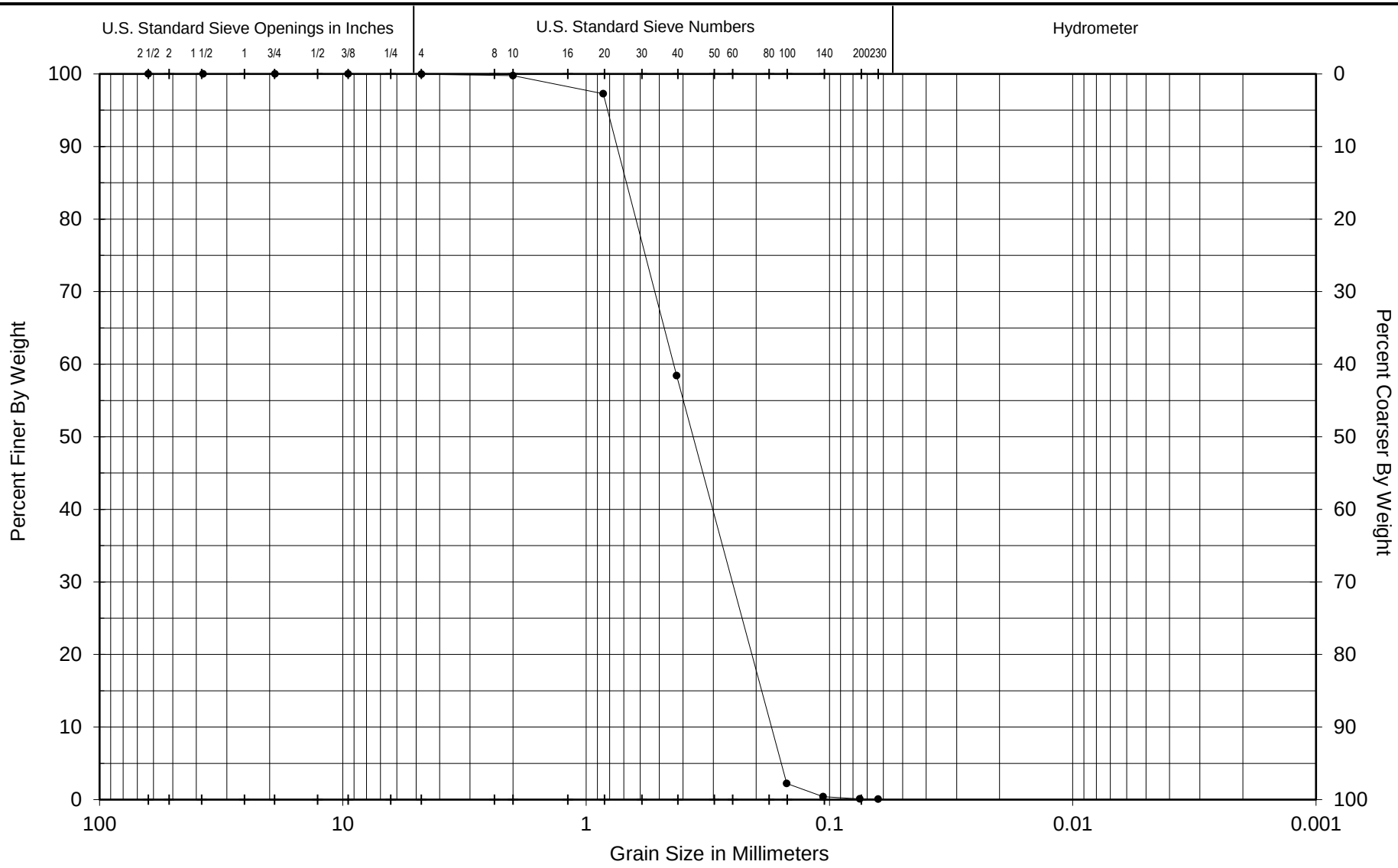
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.78	0.22	72.60
0.85	20	97.26	2.74	
0.425	40	58.44	41.56	
0.15	100	2.22	97.78	
0.106	140	0.39	99.61	
0.075	200	0.11	99.89	
0.063	230	0.08	99.92	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.78
% Passing #230 0.08
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.06
% Gravel-Sized Shell	> 2.00 mm	0.16
% Sand	0.063 - 2.00 mm	99.70
% Silt and Clay	< 0.063 mm	0.08
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	32.24
% Medium Sand	0.25 - 0.50 mm	37.75
% Fine Sand	0.063 - 0.25 mm	29.71

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	58.44	0.425	2.22	0.150	0.173
D30	30	58.44	0.425	2.22	0.150	0.251
D50	50	58.44	0.425	2.22	0.150	0.364
D60	60	97.26	0.850	58.44	0.425	0.437

Uniformity Coefficient (Cu)	2.523
Coefficient of Curvature (Cc)	0.832



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB001C-1

Water Depth (m) 42.55

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB002-1
Water Depth (m)	40.70

Grain Size Data

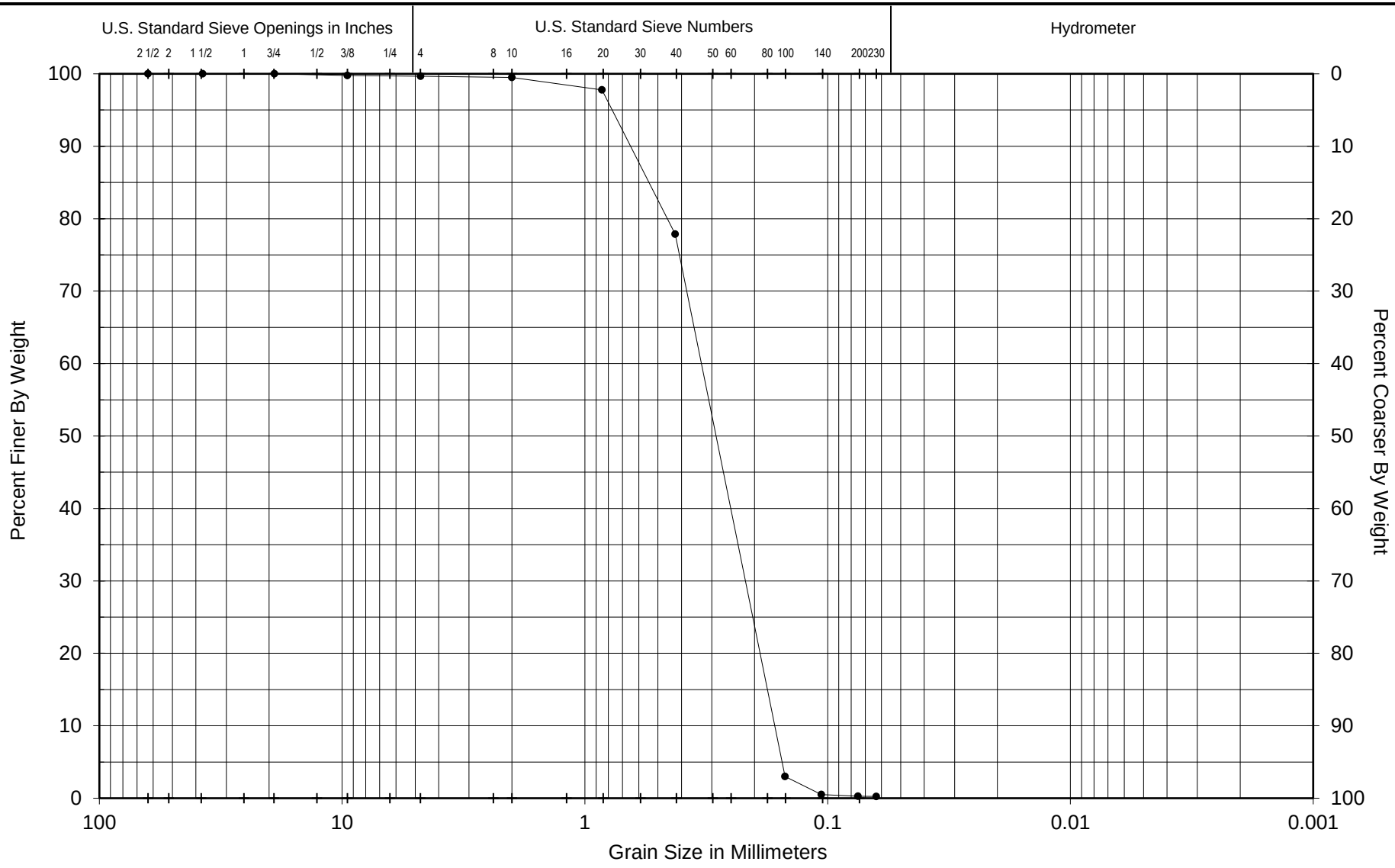
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.75	0.25	
4.75	4	99.65	0.35	
2	10	99.49	0.51	85.19
0.85	20	97.77	2.23	
0.425	40	77.86	22.14	
0.15	100	3.00	97.00	
0.106	140	0.51	99.49	
0.075	200	0.26	99.74	
0.063	230	0.25	99.75	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.49
% Passing #230 0.25
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.08
% Gravel-Sized Shell	> 2.00 mm	0.43
% Sand	0.063 - 2.00 mm	99.24
% Silt and Clay	< 0.063 mm	0.25
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	16.96
% Medium Sand	0.25 - 0.50 mm	42.81
% Fine Sand	0.063 - 0.25 mm	39.47

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	77.86	0.425	3.00	0.150	0.165
D30	30	77.86	0.425	3.00	0.150	0.218
D50	50	77.86	0.425	3.00	0.150	0.288
D60	60	77.86	0.425	3.00	0.150	0.331

Uniformity Coefficient (Cu)	2.005
Coefficient of Curvature (Cc)	0.870



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB002-1

Water Depth (m) 40.70

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB003A-1
Water Depth (m)	38.59

Grain Size Data

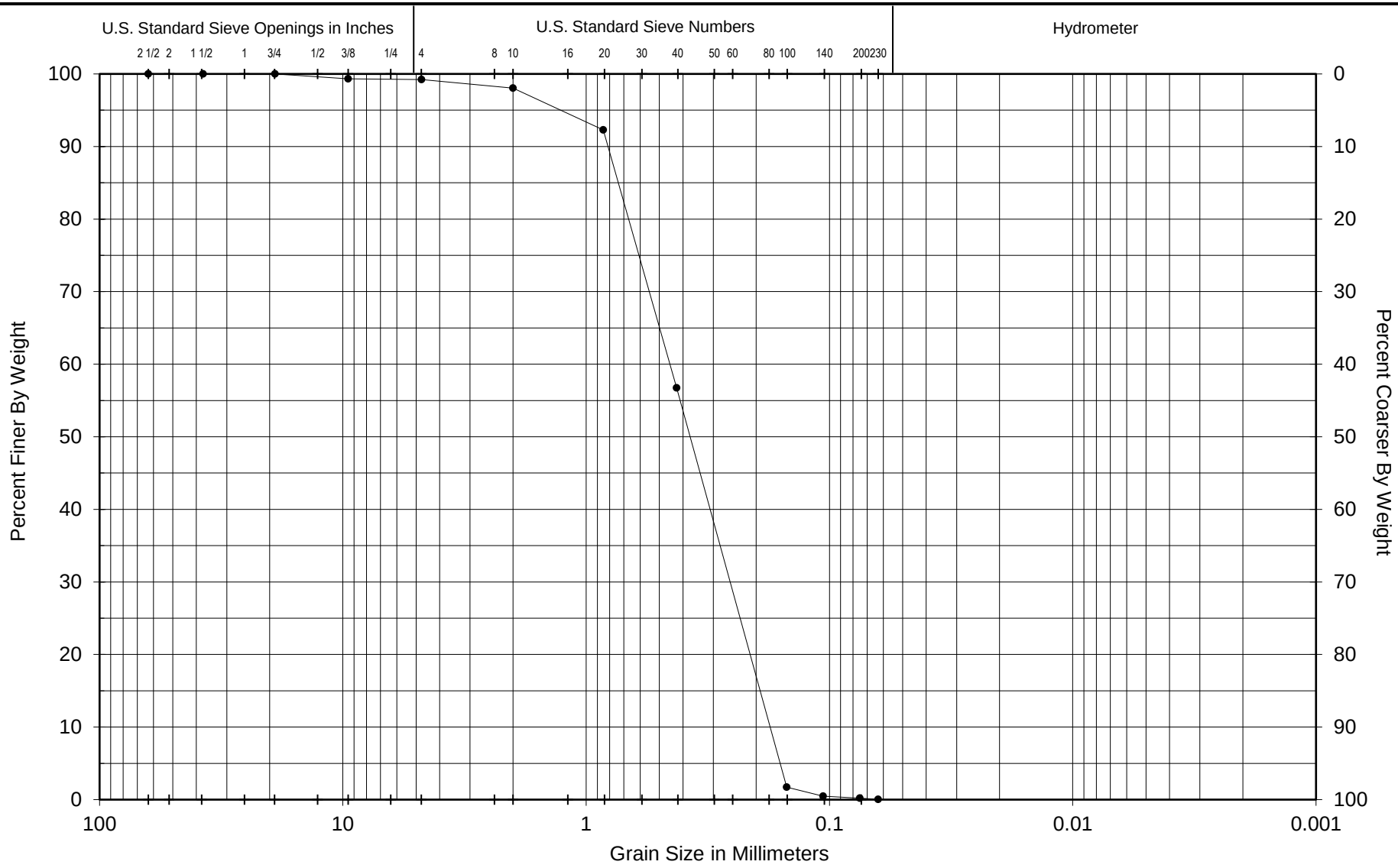
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.33	0.67	
4.75	4	99.23	0.77	
2	10	98.04	1.96	88.28
0.85	20	92.27	7.73	
0.425	40	56.73	43.27	
0.15	100	1.73	98.27	
0.106	140	0.46	99.54	
0.075	200	0.21	99.79	
0.063	230	0.05	99.95	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.04
% Passing #230 0.05
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.23
% Gravel-Sized Shell	> 2.00 mm	1.73
% Sand	0.063 - 2.00 mm	98.00
% Silt and Clay	< 0.063 mm	0.05
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	32.98
% Medium Sand	0.25 - 0.50 mm	36.35
% Fine Sand	0.063 - 0.25 mm	28.66

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	56.73	0.425	1.73	0.150	0.175
D30	30	56.73	0.425	1.73	0.150	0.256
D50	50	56.73	0.425	1.73	0.150	0.374
D60	60	92.27	0.850	56.73	0.425	0.453

Uniformity Coefficient (Cu)	2.582
Coefficient of Curvature (Cc)	0.826



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB003A-1

Water Depth (m) 38.59

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB003B-1
Water Depth (m)	38.61

Grain Size Data

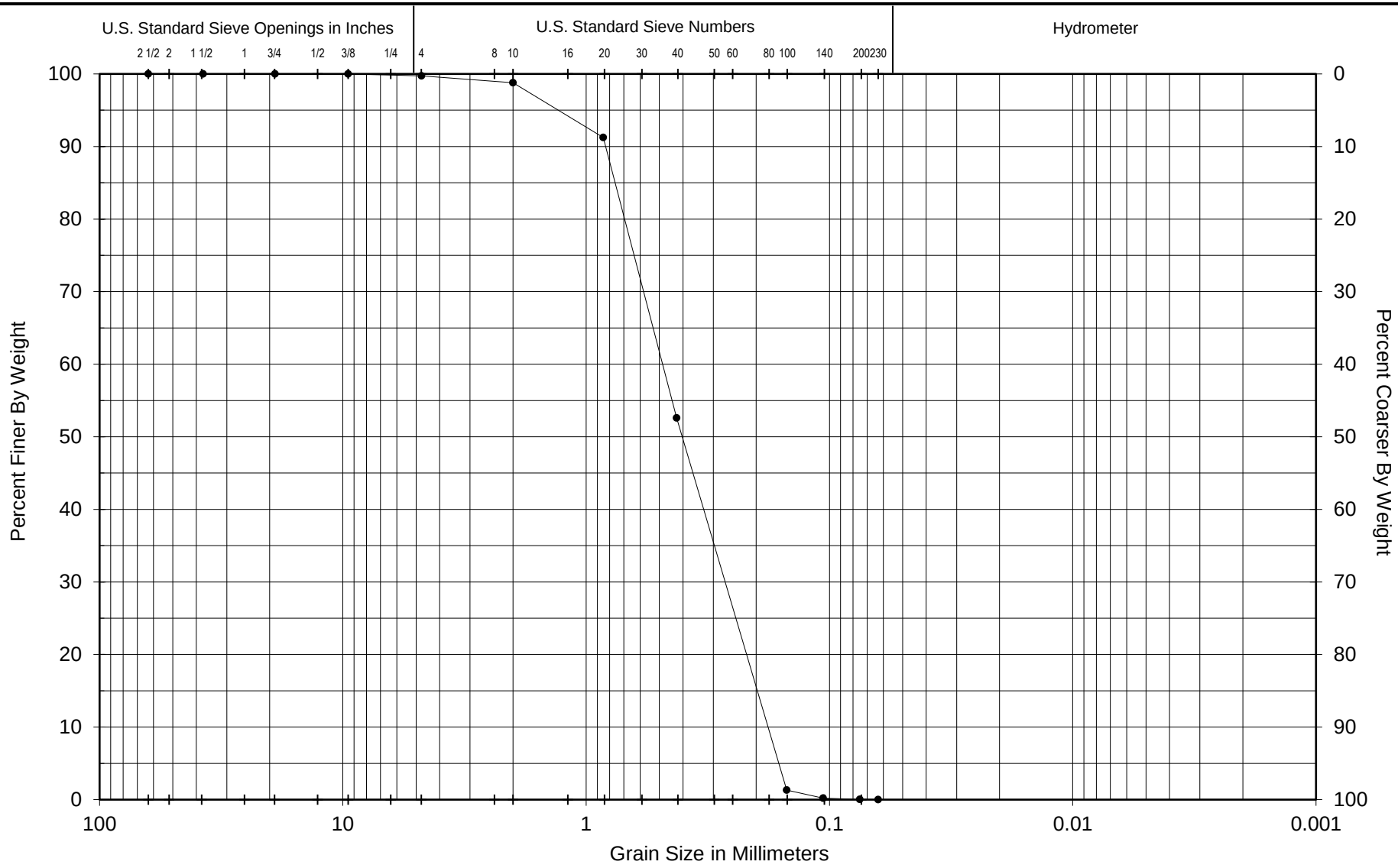
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.73	0.27	
2	10	98.79	1.21	84.35
0.85	20	91.25	8.75	
0.425	40	52.60	47.40	
0.15	100	1.32	98.68	
0.106	140	0.21	99.79	
0.075	200	0.05	99.95	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.79
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.19
% Gravel-Sized Shell	> 2.00 mm	1.02
% Sand	0.063 - 2.00 mm	98.78
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	37.12
% Medium Sand	0.25 - 0.50 mm	35.19
% Fine Sand	0.063 - 0.25 mm	26.46

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	52.60	0.425	1.32	0.150	0.179
D30	30	52.60	0.425	1.32	0.150	0.269
D50	50	52.60	0.425	1.32	0.150	0.403
D60	60	91.25	0.850	52.60	0.425	0.485

Uniformity Coefficient (Cu)	2.713
Coefficient of Curvature (Cc)	0.831



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB003B-1

Water Depth (m) 38.61

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB003C-1
Water Depth (m)	38.41

Grain Size Data

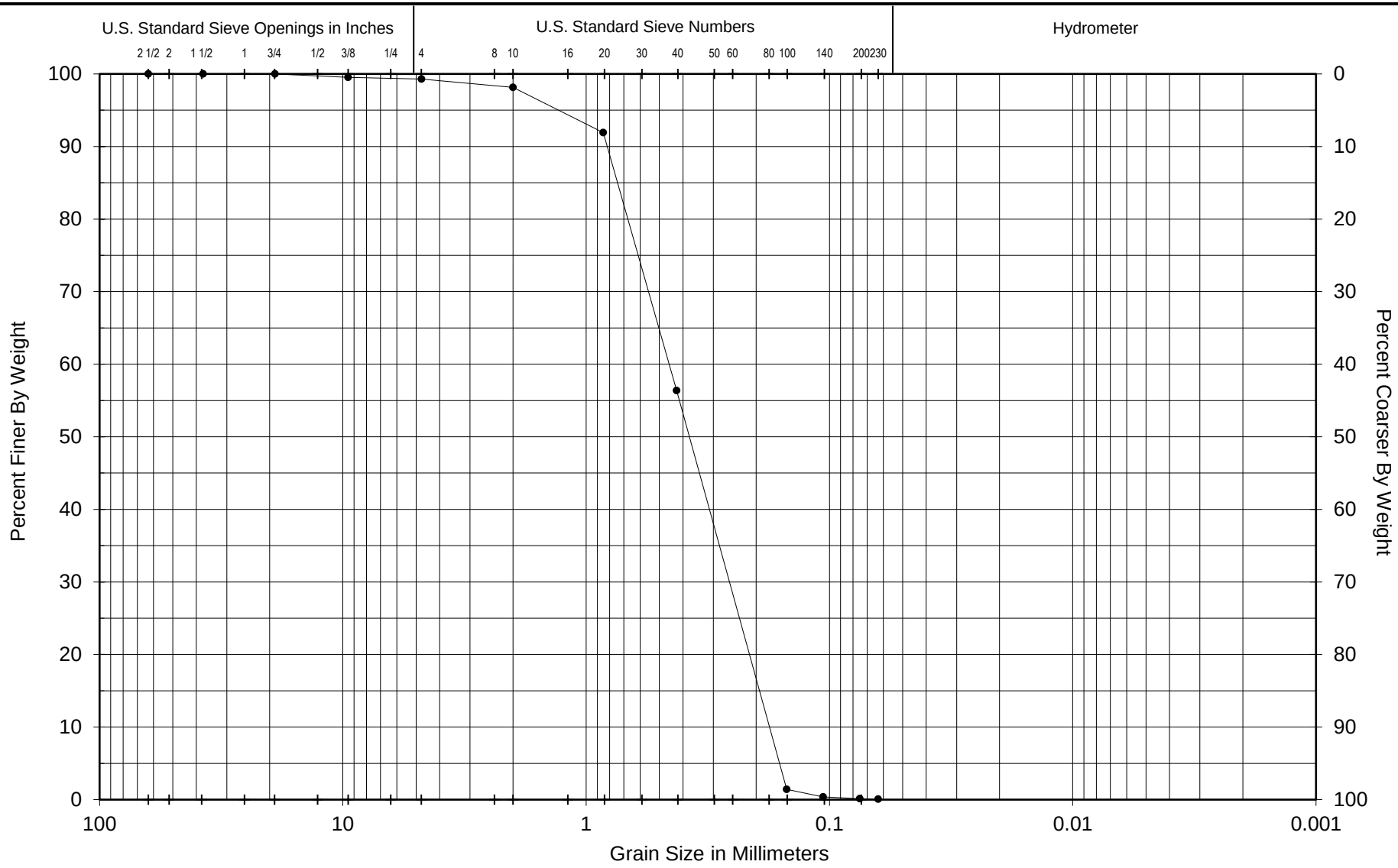
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.54	0.46	
4.75	4	99.30	0.70	
2	10	98.14	1.86	85.99
0.85	20	91.91	8.09	
0.425	40	56.36	43.64	
0.15	100	1.41	98.59	
0.106	140	0.36	99.64	
0.075	200	0.15	99.85	
0.063	230	0.06	99.94	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.14
% Passing #230 0.06
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.26
% Gravel-Sized Shell	> 2.00 mm	1.60
% Sand	0.063 - 2.00 mm	98.07
% Silt and Clay	< 0.063 mm	0.06
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	33.44
% Medium Sand	0.25 - 0.50 mm	36.33
% Fine Sand	0.063 - 0.25 mm	28.30

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	56.36	0.425	1.41	0.150	0.177
D30	30	56.36	0.425	1.41	0.150	0.258
D50	50	56.36	0.425	1.41	0.150	0.377
D60	60	91.91	0.850	56.36	0.425	0.456

Uniformity Coefficient (Cu)	2.585
Coefficient of Curvature (Cc)	0.826



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB003C-1

Water Depth (m) 38.41

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB004-1
Water Depth (m)	38.06

Grain Size Data

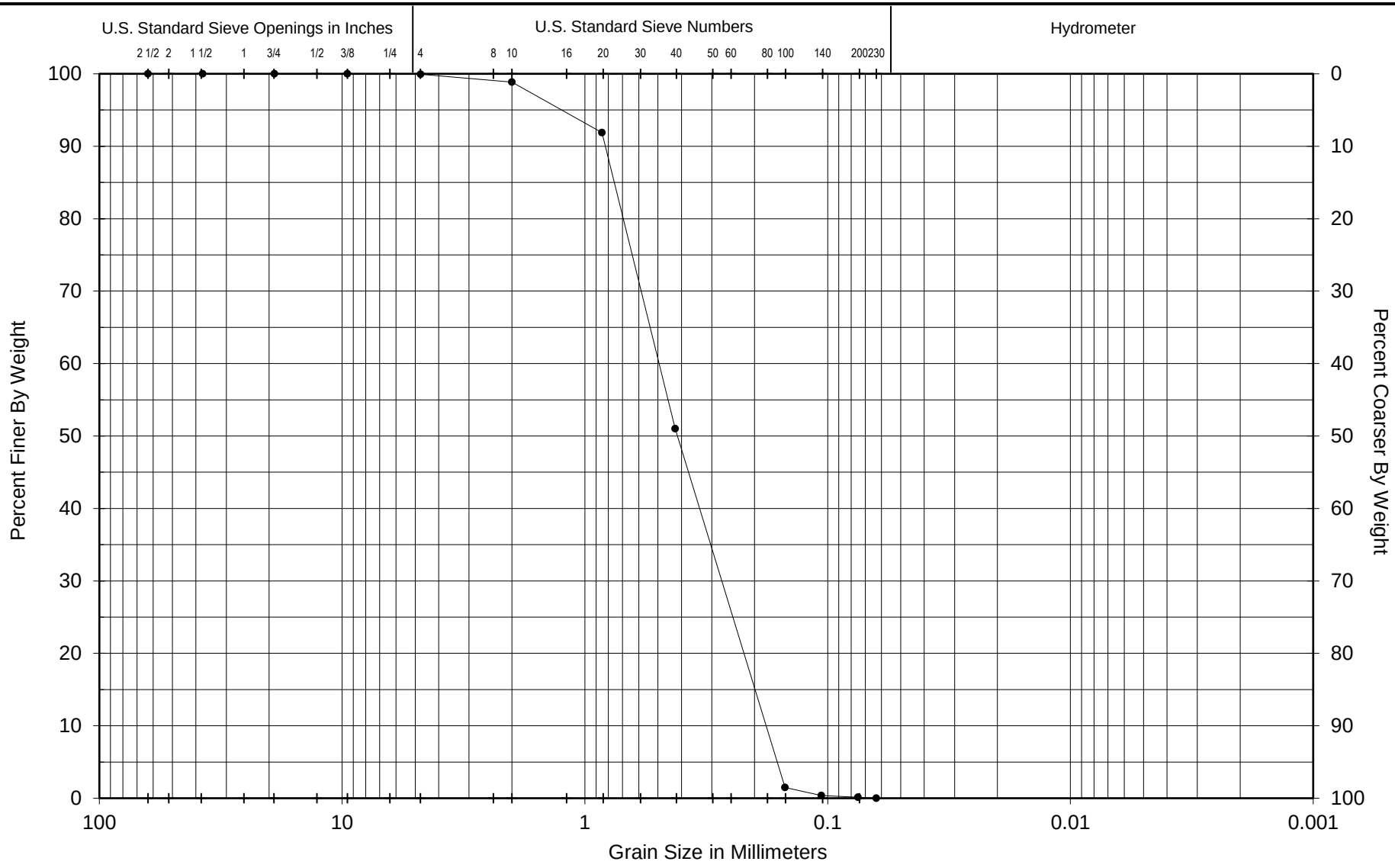
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.92	0.08	
2	10	98.85	1.15	81.22
0.85	20	91.88	8.12	
0.425	40	51.00	49.00	
0.15	100	1.47	98.53	
0.106	140	0.35	99.65	
0.075	200	0.12	99.88	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.85
% Passing #230 0.02
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.22
% Gravel-Sized Shell	> 2.00 mm	0.94
% Sand	0.063 - 2.00 mm	98.83
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	38.26
% Medium Sand	0.25 - 0.50 mm	34.82
% Fine Sand	0.063 - 0.25 mm	25.75

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	51.00	0.425	1.47	0.150	0.179
D30	30	51.00	0.425	1.47	0.150	0.273
D50	50	51.00	0.425	1.47	0.150	0.416
D60	60	91.88	0.850	51.00	0.425	0.495

Uniformity Coefficient (Cu)	2.758
Coefficient of Curvature (Cc)	0.841



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB004-1

Water Depth (m) 38.06

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB005A-1
Water Depth (m)	37.35

Grain Size Data

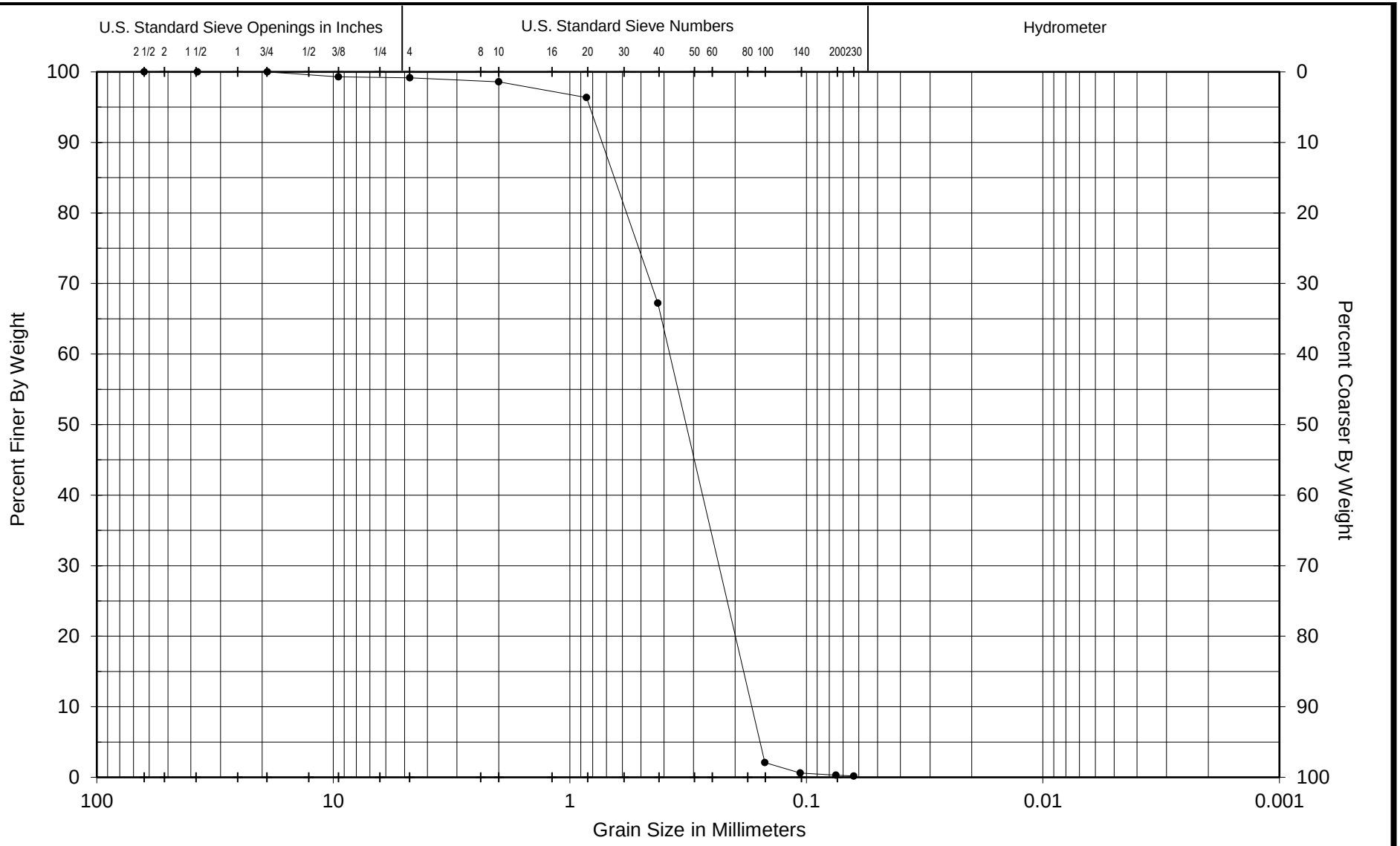
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.30	0.70	
4.75	4	99.17	0.83	
2	10	98.58	1.42	100.00
0.85	20	96.37	3.63	
0.425	40	67.20	32.80	
0.15	100	2.08	97.92	
0.106	140	0.60	99.40	
0.075	200	0.30	99.70	
0.063	230	0.18	99.82	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.58
% Passing #230 0.18
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	1.42
% Sand	0.063 - 2.00 mm	98.39
% Silt and Clay	< 0.063 mm	0.18
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	24.54
% Medium Sand	0.25 - 0.50 mm	40.02
% Fine Sand	0.063 - 0.25 mm	33.84

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	67.20	0.425	2.08	0.150	0.170
D30	30	67.20	0.425	2.08	0.150	0.234
D50	50	67.20	0.425	2.08	0.150	0.323
D60	60	67.20	0.425	2.08	0.150	0.379

Uniformity Coefficient (Cu)	2.225
Coefficient of Curvature (Cc)	0.852



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB005A-1

Water Depth (m) 37.35

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB005B-1
Water Depth (m)	37.35

Grain Size Data

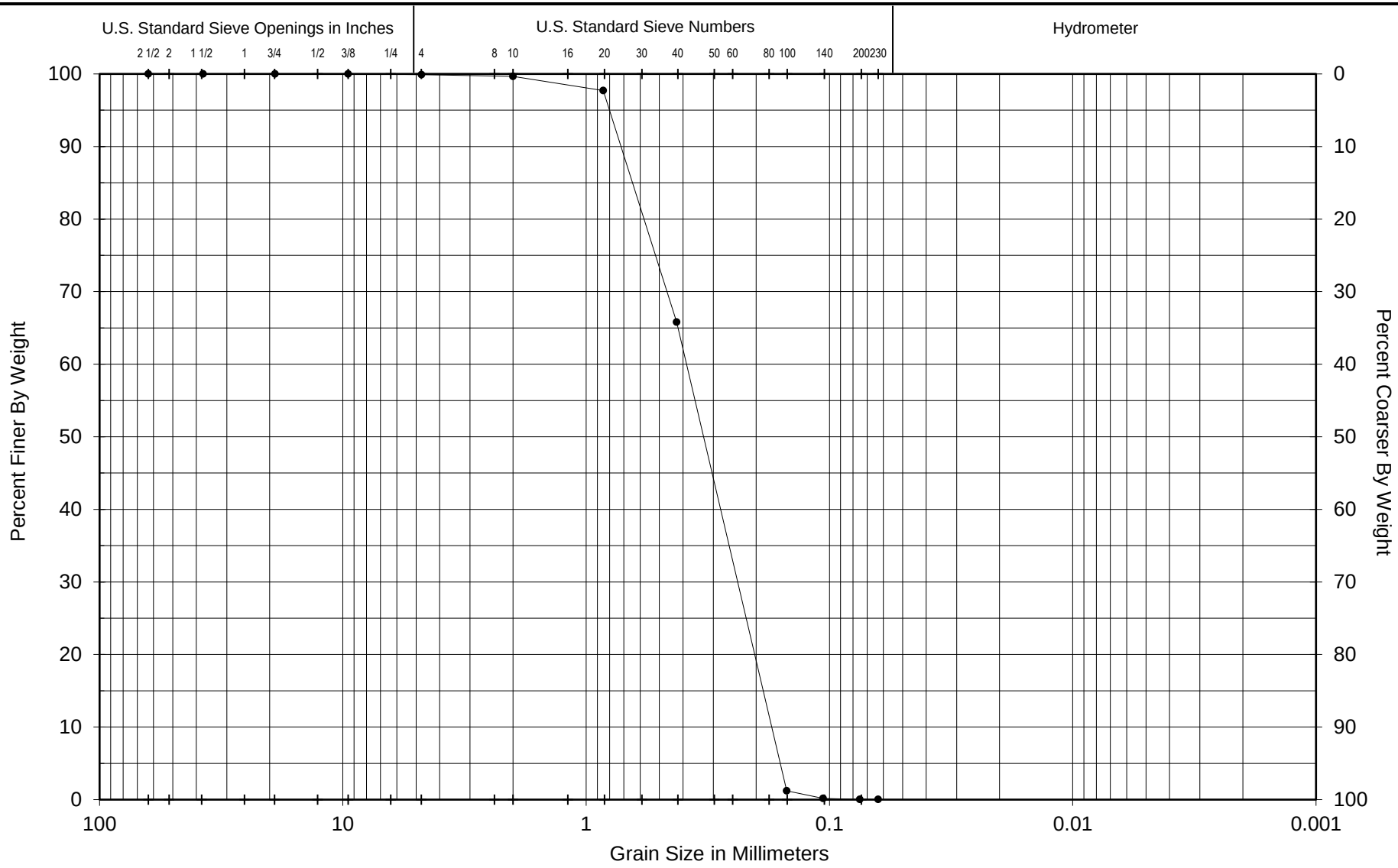
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.91	0.09	
2	10	99.67	0.33	96.52
0.85	20	97.70	2.30	
0.425	40	65.80	34.20	
0.15	100	1.22	98.78	
0.106	140	0.17	99.83	
0.075	200	0.03	99.97	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.67
% Passing #230	0.02
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.32
% Sand	0.063 - 2.00 mm	99.64
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	26.39
% Medium Sand	0.25 - 0.50 mm	40.38
% Fine Sand	0.063 - 0.25 mm	32.87

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	65.80	0.425	1.22	0.150	0.173
D30	30	65.80	0.425	1.22	0.150	0.239
D50	50	65.80	0.425	1.22	0.150	0.329
D60	60	65.80	0.425	1.22	0.150	0.387

Uniformity Coefficient (Cu)	2.240
Coefficient of Curvature (Cc)	0.851



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB005B-1

Water Depth (m) 37.35

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB005C-1
Water Depth (m)	37.55

Grain Size Data

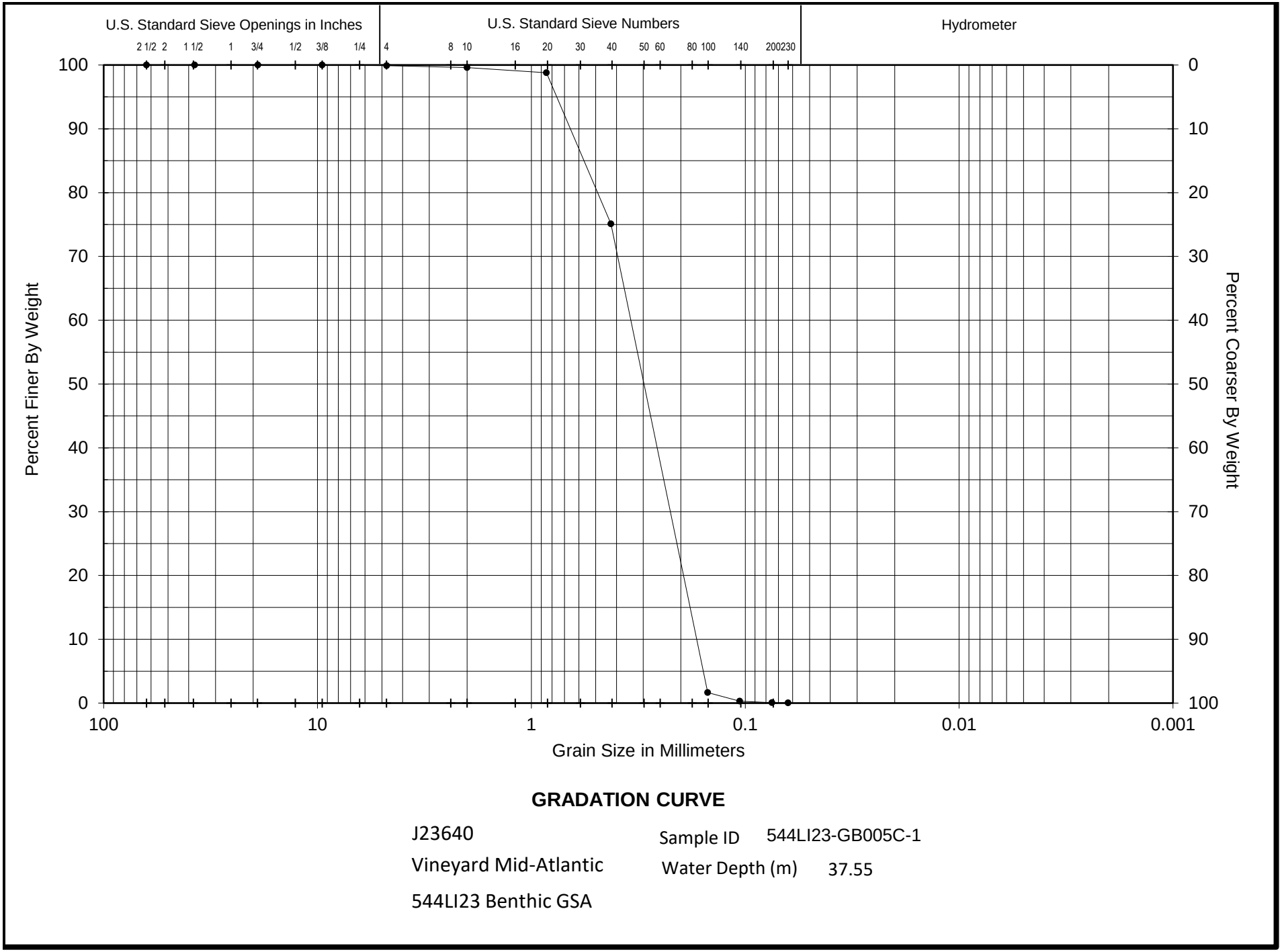
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.90	0.10	
2	10	99.61	0.39	98.27
0.85	20	98.79	1.21	
0.425	40	75.12	24.88	
0.15	100	1.64	98.36	
0.106	140	0.31	99.69	
0.075	200	0.08	99.92	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.61
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.39
% Sand	0.063 - 2.00 mm	99.57
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	18.94
% Medium Sand	0.25 - 0.50 mm	42.99
% Fine Sand	0.063 - 0.25 mm	37.64

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	75.12	0.425	1.64	0.150	0.169
D30	30	75.12	0.425	1.64	0.150	0.224
D50	50	75.12	0.425	1.64	0.150	0.298
D60	60	75.12	0.425	1.64	0.150	0.343

Uniformity Coefficient (Cu)	2.031
Coefficient of Curvature (Cc)	0.868



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB005C-1

Water Depth (m) 37.55

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB006-1
Water Depth (m)	37.03

Grain Size Data

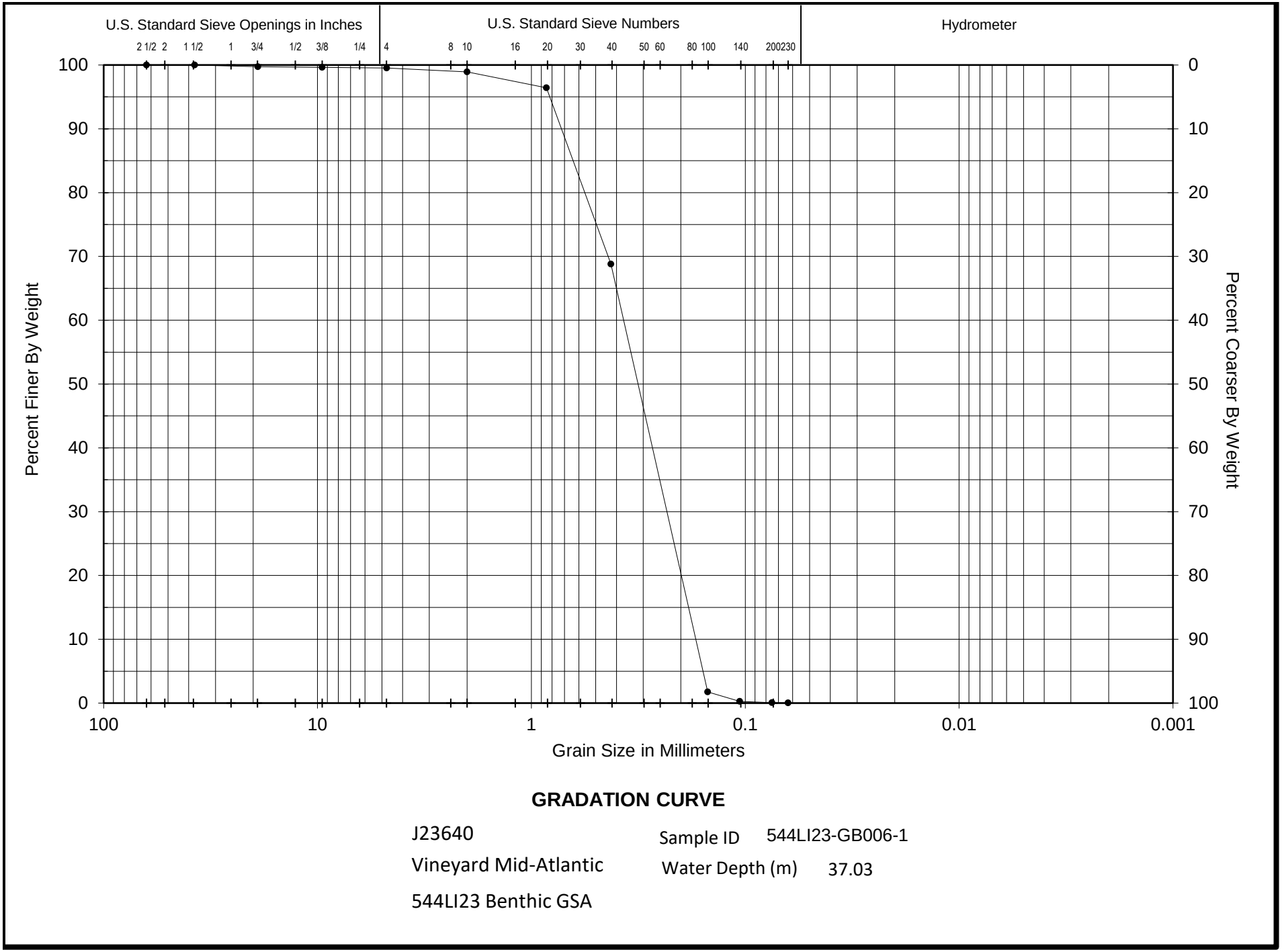
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.73	0.27	
9.5	3/8"	99.64	0.36	
4.75	4	99.53	0.47	
2	10	98.92	1.08	100.00
0.85	20	96.42	3.58	
0.425	40	68.79	31.21	
0.15	100	1.74	98.26	
0.106	140	0.28	99.72	
0.075	200	0.06	99.94	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	98.92
% Passing #230	0.03
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	1.08
% Sand	0.063 - 2.00 mm	98.89
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	23.65
% Medium Sand	0.25 - 0.50 mm	40.64
% Fine Sand	0.063 - 0.25 mm	34.61

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	68.79	0.425	1.74	0.150	0.171
D30	30	68.79	0.425	1.74	0.150	0.233
D50	50	68.79	0.425	1.74	0.150	0.317
D60	60	68.79	0.425	1.74	0.150	0.371

Uniformity Coefficient (Cu)	2.174
Coefficient of Curvature (Cc)	0.856



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB006-1

Water Depth (m) 37.03

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB007A-1
Water Depth (m)	35.79

Grain Size Data

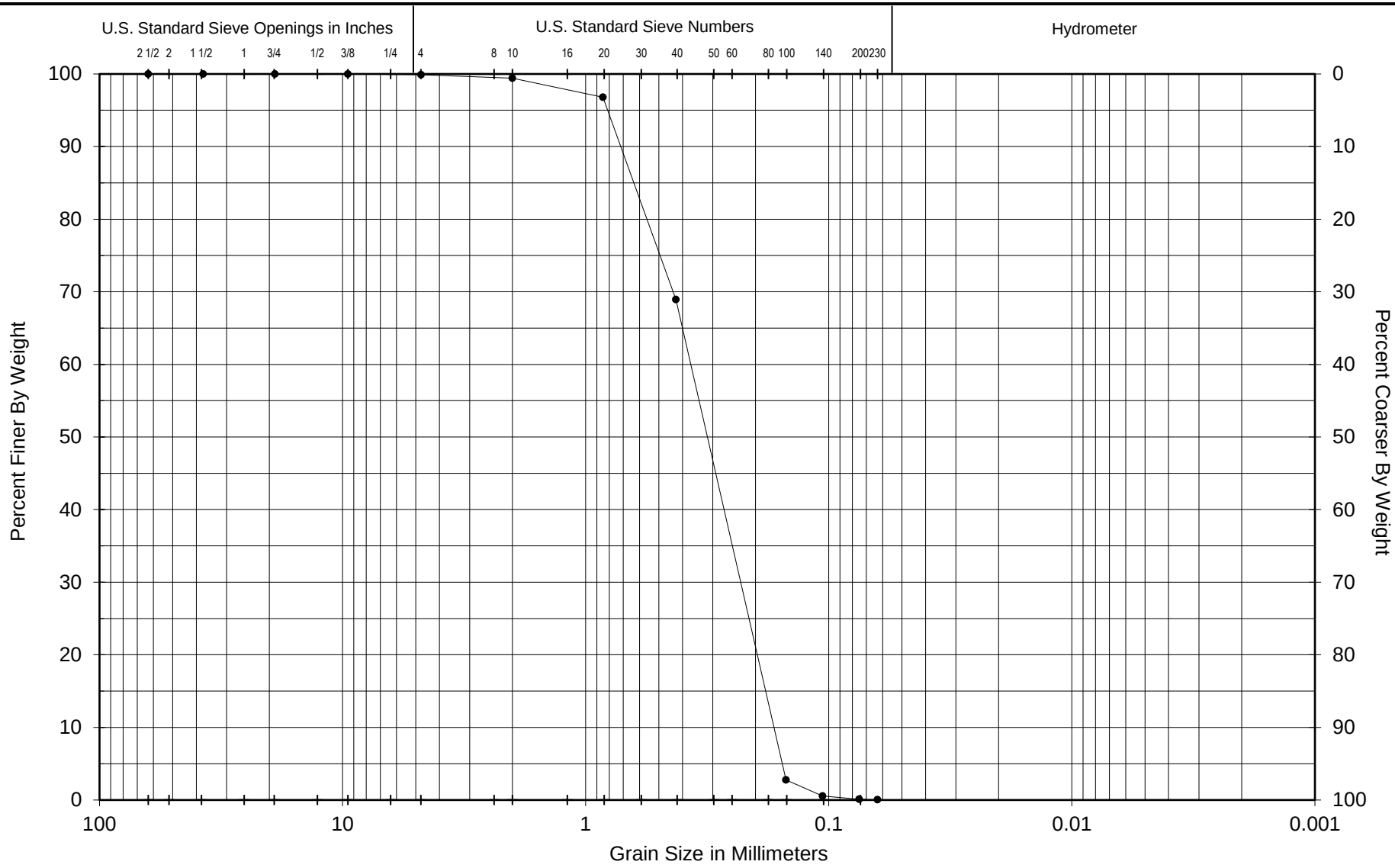
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.90	0.10	
2	10	99.42	0.58	86.86
0.85	20	96.78	3.22	
0.425	40	68.92	31.08	
0.15	100	2.78	97.22	
0.106	140	0.55	99.45	
0.075	200	0.11	99.89	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.42
% Passing #230	0.04
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.08
% Gravel-Sized Shell	> 2.00 mm	0.50
% Sand	0.063 - 2.00 mm	99.38
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	23.97
% Medium Sand	0.25 - 0.50 mm	40.23
% Fine Sand	0.063 - 0.25 mm	35.18

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	68.92	0.425	2.78	0.150	0.168
D30	30	68.92	0.425	2.78	0.150	0.230
D50	50	68.92	0.425	2.78	0.150	0.315
D60	60	68.92	0.425	2.78	0.150	0.369

Uniformity Coefficient (Cu)	2.197
Coefficient of Curvature (Cc)	0.854



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB007A-1

Water Depth (m) 35.79

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB007B-1
Water Depth (m)	36.12

Grain Size Data

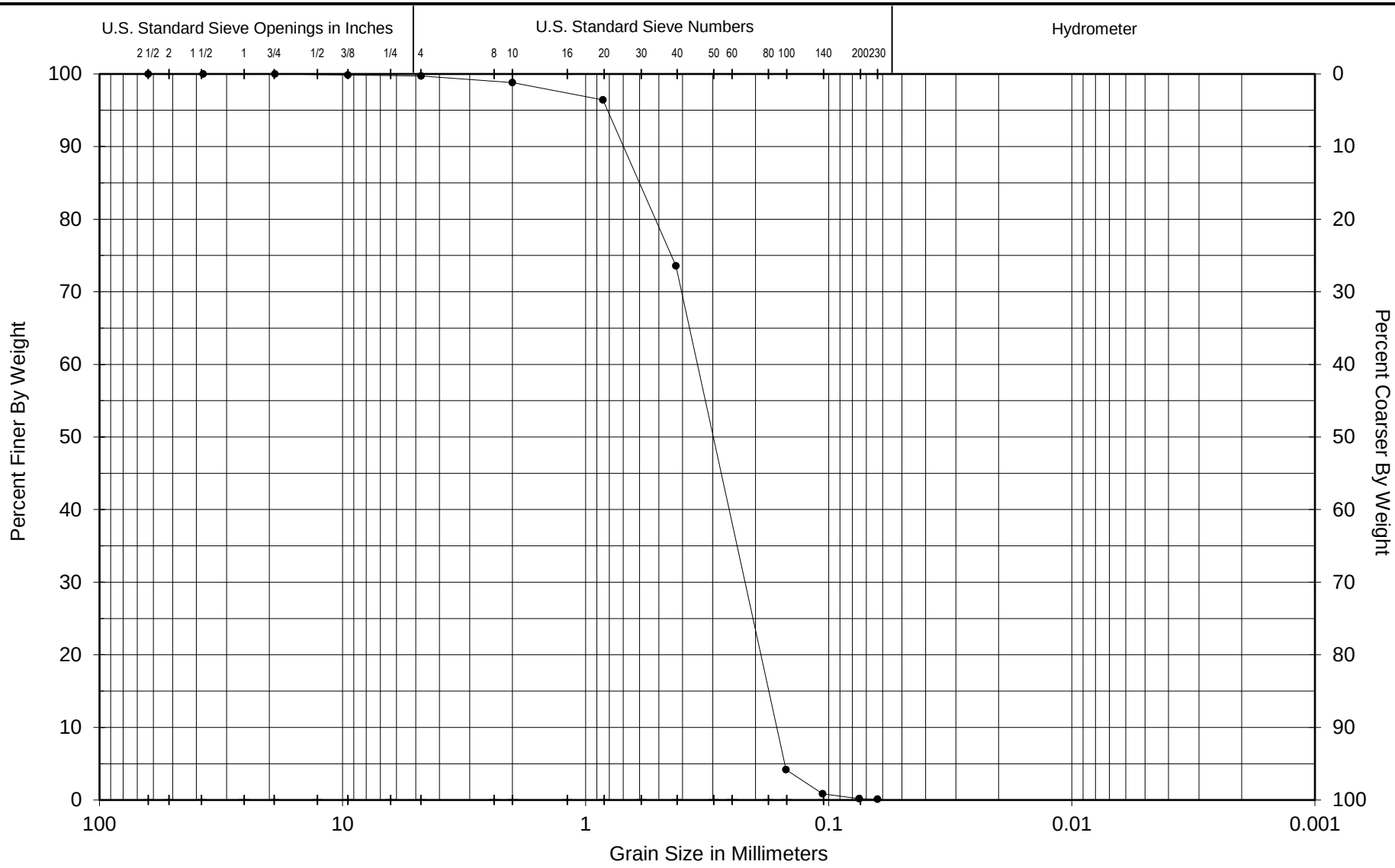
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.87	0.13	
4.75	4	99.72	0.28	
2	10	98.81	1.19	96.51
0.85	20	96.43	3.57	
0.425	40	73.56	26.44	
0.15	100	4.17	95.83	
0.106	140	0.87	99.13	
0.075	200	0.17	99.83	
0.063	230	0.10	99.90	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.81
% Passing #230 0.10
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.04
% Gravel-Sized Shell	> 2.00 mm	1.15
% Sand	0.063 - 2.00 mm	98.72
% Silt and Clay	< 0.063 mm	0.10
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	19.89
% Medium Sand	0.25 - 0.50 mm	40.72
% Fine Sand	0.063 - 0.25 mm	38.11

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	73.56	0.425	4.17	0.150	0.164
D30	30	73.56	0.425	4.17	0.150	0.221
D50	50	73.56	0.425	4.17	0.150	0.298
D60	60	73.56	0.425	4.17	0.150	0.347

Uniformity Coefficient (Cu)	2.118
Coefficient of Curvature (Cc)	0.861



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB007B-1

Water Depth (m) 36.12

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB007C-1
Water Depth (m)	36.27

Grain Size Data

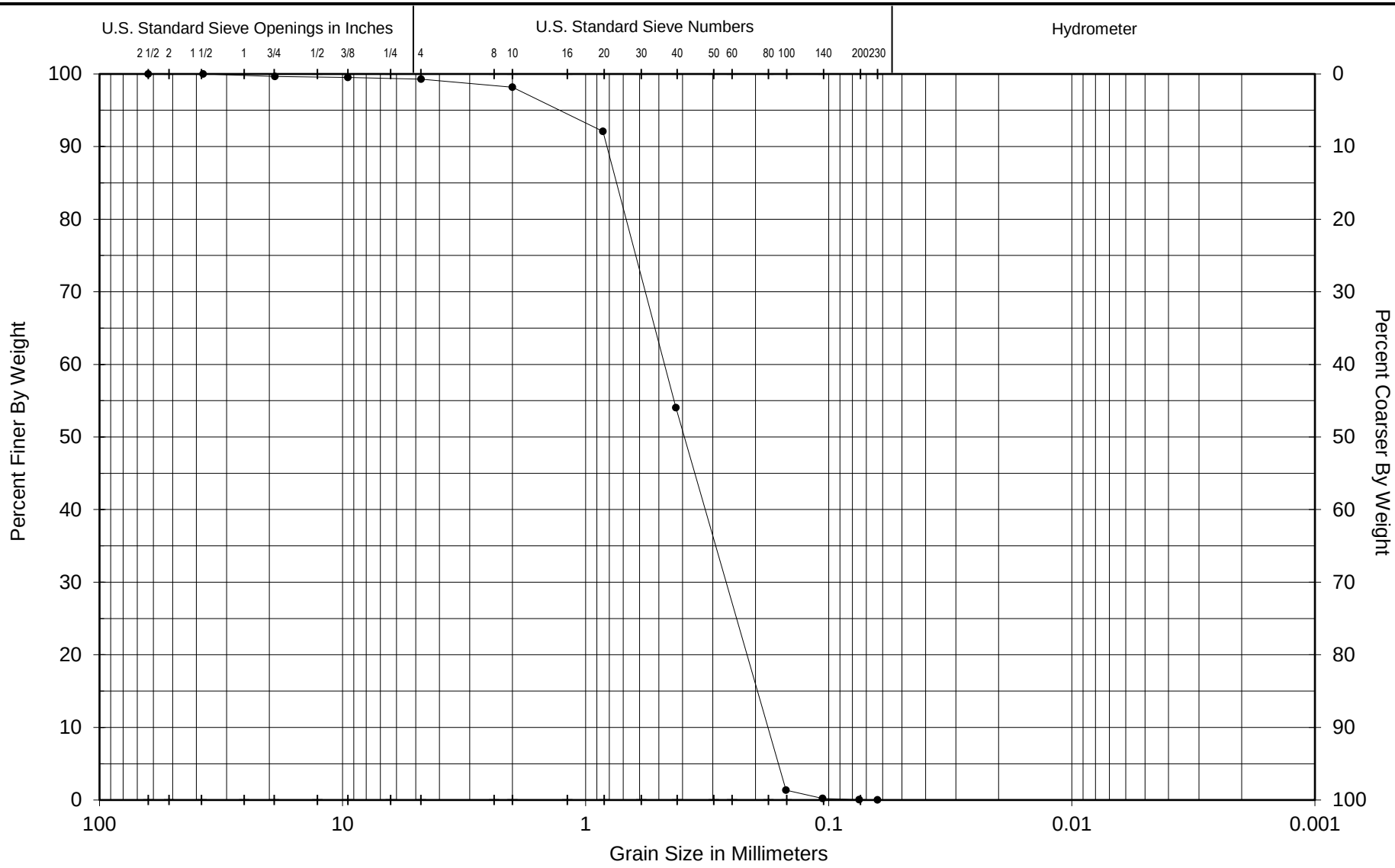
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.65	0.35	
9.5	3/8"	99.53	0.47	
4.75	4	99.30	0.70	
2	10	98.18	1.82	68.50
0.85	20	92.09	7.91	
0.425	40	54.04	45.96	
0.15	100	1.37	98.63	
0.106	140	0.22	99.78	
0.075	200	0.03	99.97	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.18
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.57
% Gravel-Sized Shell	> 2.00 mm	1.24
% Sand	0.063 - 2.00 mm	98.18
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	35.22
% Medium Sand	0.25 - 0.50 mm	35.76
% Fine Sand	0.063 - 0.25 mm	27.20

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	54.04	0.425	1.37	0.150	0.178
D30	30	54.04	0.425	1.37	0.150	0.264
D50	50	54.04	0.425	1.37	0.150	0.392
D60	60	92.09	0.850	54.04	0.425	0.474

Uniformity Coefficient (Cu)	2.663
Coefficient of Curvature (Cc)	0.828



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB007C-1

Water Depth (m) 36.27

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB008-1
Water Depth (m)	28.57

Grain Size Data

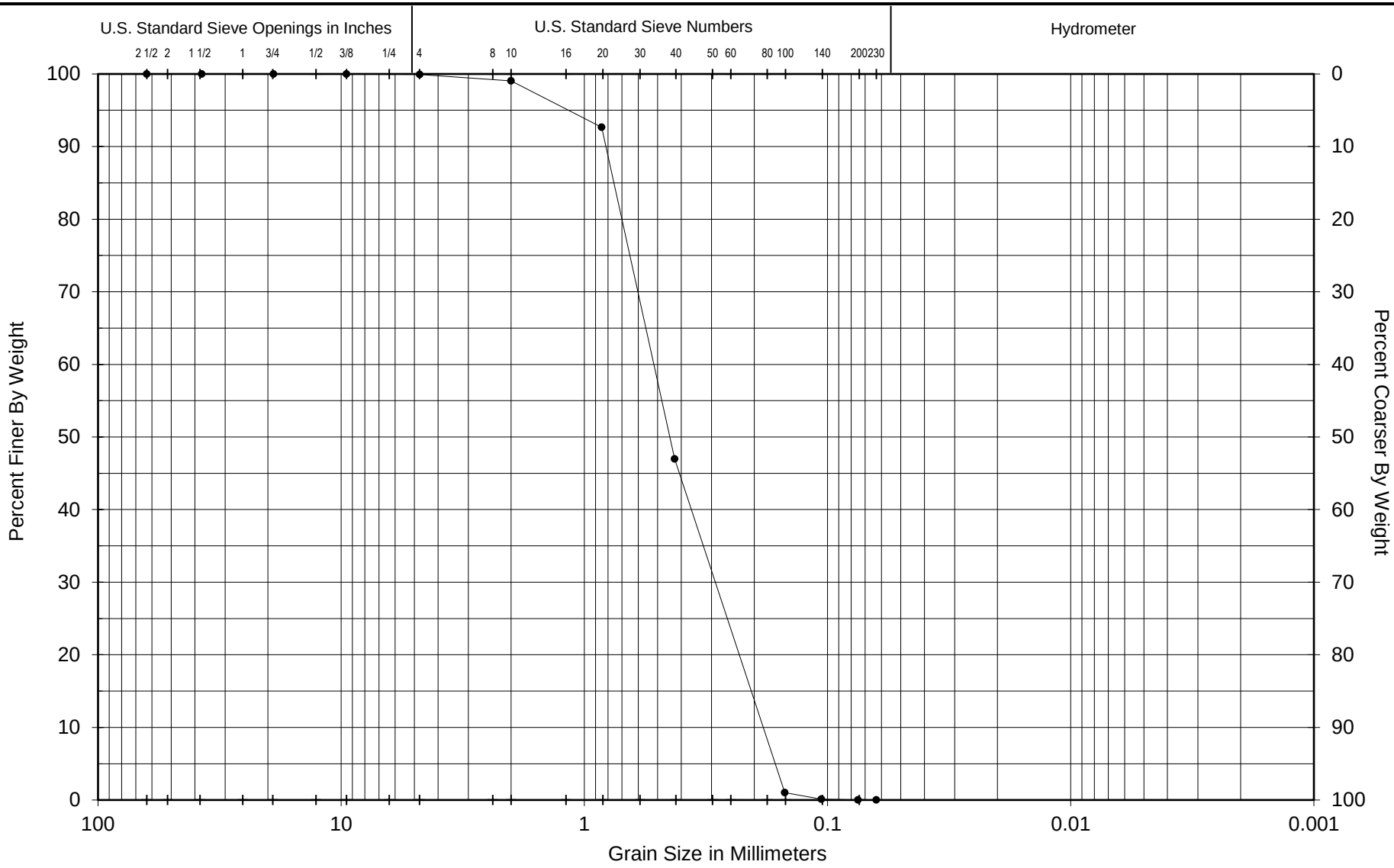
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.93	0.07	
2	10	99.03	0.97	18.37
0.85	20	92.67	7.33	
0.425	40	46.98	53.02	
0.15	100	1.03	98.97	
0.106	140	0.12	99.88	
0.075	200	0.02	99.98	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.03
% Passing #230	0.01
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.79
% Gravel-Sized Shell	> 2.00 mm	0.18
% Sand	0.063 - 2.00 mm	99.02
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	41.34
% Medium Sand	0.25 - 0.50 mm	34.12
% Fine Sand	0.063 - 0.25 mm	23.56

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	46.98	0.425	1.03	0.150	0.184
D30	30	46.98	0.425	1.03	0.150	0.289
D50	50	92.67	0.850	46.98	0.425	0.445
D60	60	92.67	0.850	46.98	0.425	0.518

Uniformity Coefficient (Cu)	2.817
Coefficient of Curvature (Cc)	0.879



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB008-1

Water Depth (m) 28.57

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB009-1
Water Depth (m)	34.58

Grain Size Data

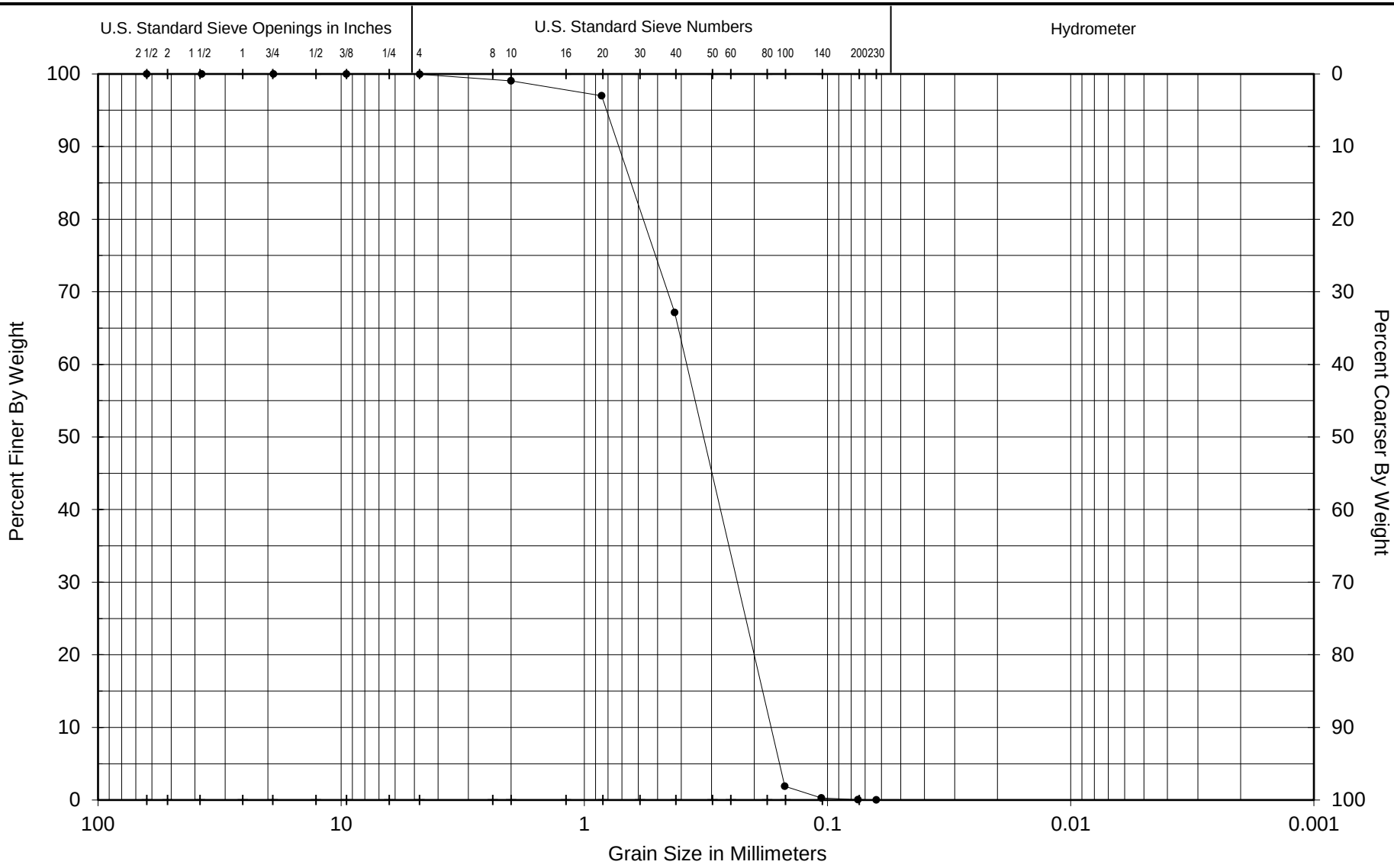
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.95	0.05	
2	10	99.06	0.94	94.05
0.85	20	96.99	3.01	
0.425	40	67.15	32.85	
0.15	100	1.90	98.10	
0.106	140	0.27	99.73	
0.075	200	0.04	99.96	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.06
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.06
% Gravel-Sized Shell	> 2.00 mm	0.89
% Sand	0.063 - 2.00 mm	99.05
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	24.91
% Medium Sand	0.25 - 0.50 mm	40.24
% Fine Sand	0.063 - 0.25 mm	33.90

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	67.15	0.425	1.90	0.150	0.171
D30	30	67.15	0.425	1.90	0.150	0.235
D50	50	67.15	0.425	1.90	0.150	0.323
D60	60	67.15	0.425	1.90	0.150	0.379

Uniformity Coefficient (Cu)	2.221
Coefficient of Curvature (Cc)	0.852



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB009-1

Water Depth (m) 34.58

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB010A-1
Water Depth (m)	35.51

Grain Size Data

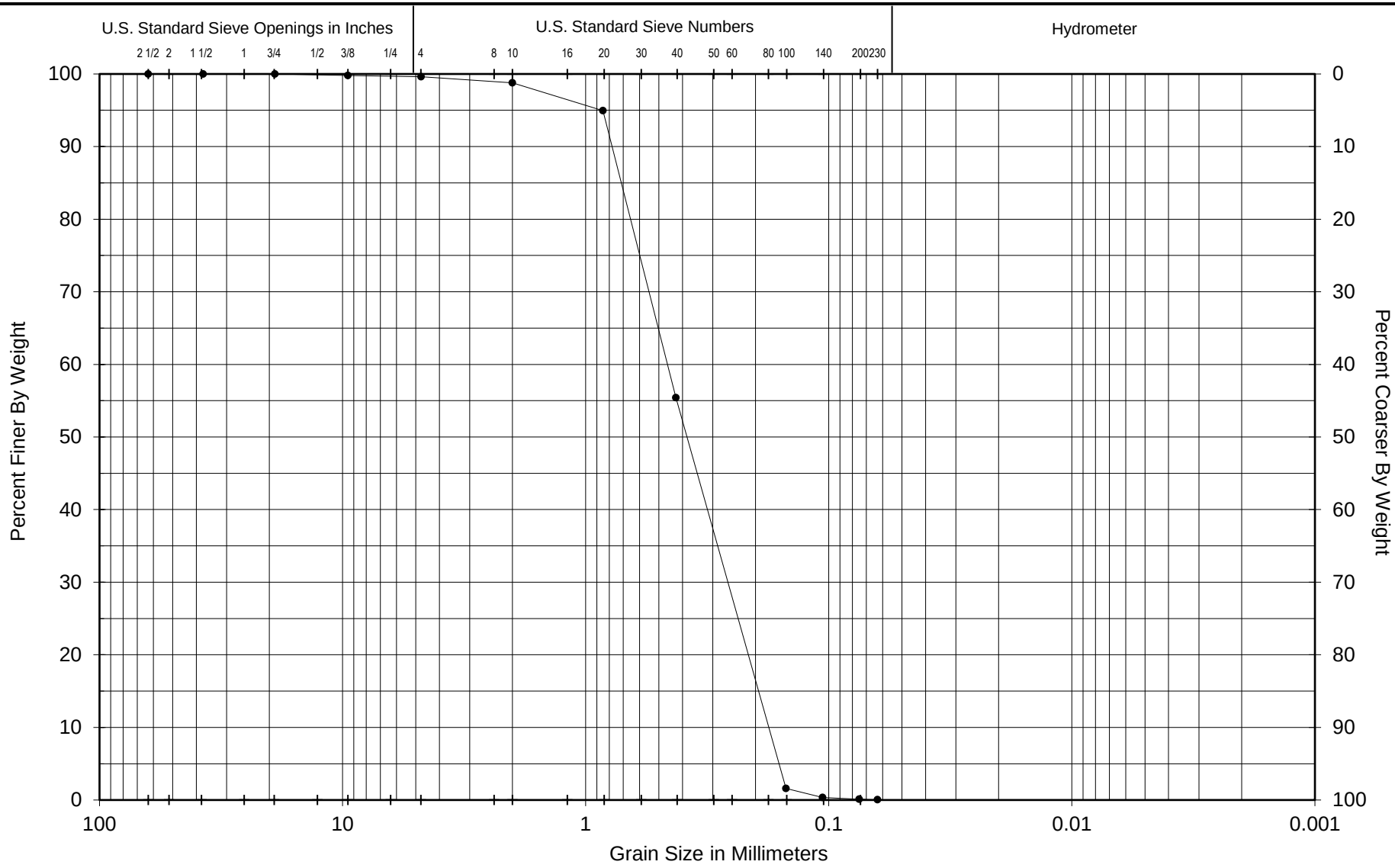
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.80	0.20	
4.75	4	99.63	0.37	
2	10	98.78	1.22	92.19
0.85	20	94.95	5.05	
0.425	40	55.43	44.57	
0.15	100	1.59	98.41	
0.106	140	0.33	99.67	
0.075	200	0.10	99.90	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.78
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.10
% Gravel-Sized Shell	> 2.00 mm	1.13
% Sand	0.063 - 2.00 mm	98.74
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	34.08
% Medium Sand	0.25 - 0.50 mm	36.70
% Fine Sand	0.063 - 0.25 mm	27.96

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	55.43	0.425	1.59	0.150	0.176
D30	30	55.43	0.425	1.59	0.150	0.260
D50	50	55.43	0.425	1.59	0.150	0.383
D60	60	94.95	0.850	55.43	0.425	0.460

Uniformity Coefficient (Cu)	2.609
Coefficient of Curvature (Cc)	0.831



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB010A-1

Water Depth (m) 35.51

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB010B-1
Water Depth (m)	35.51

Grain Size Data

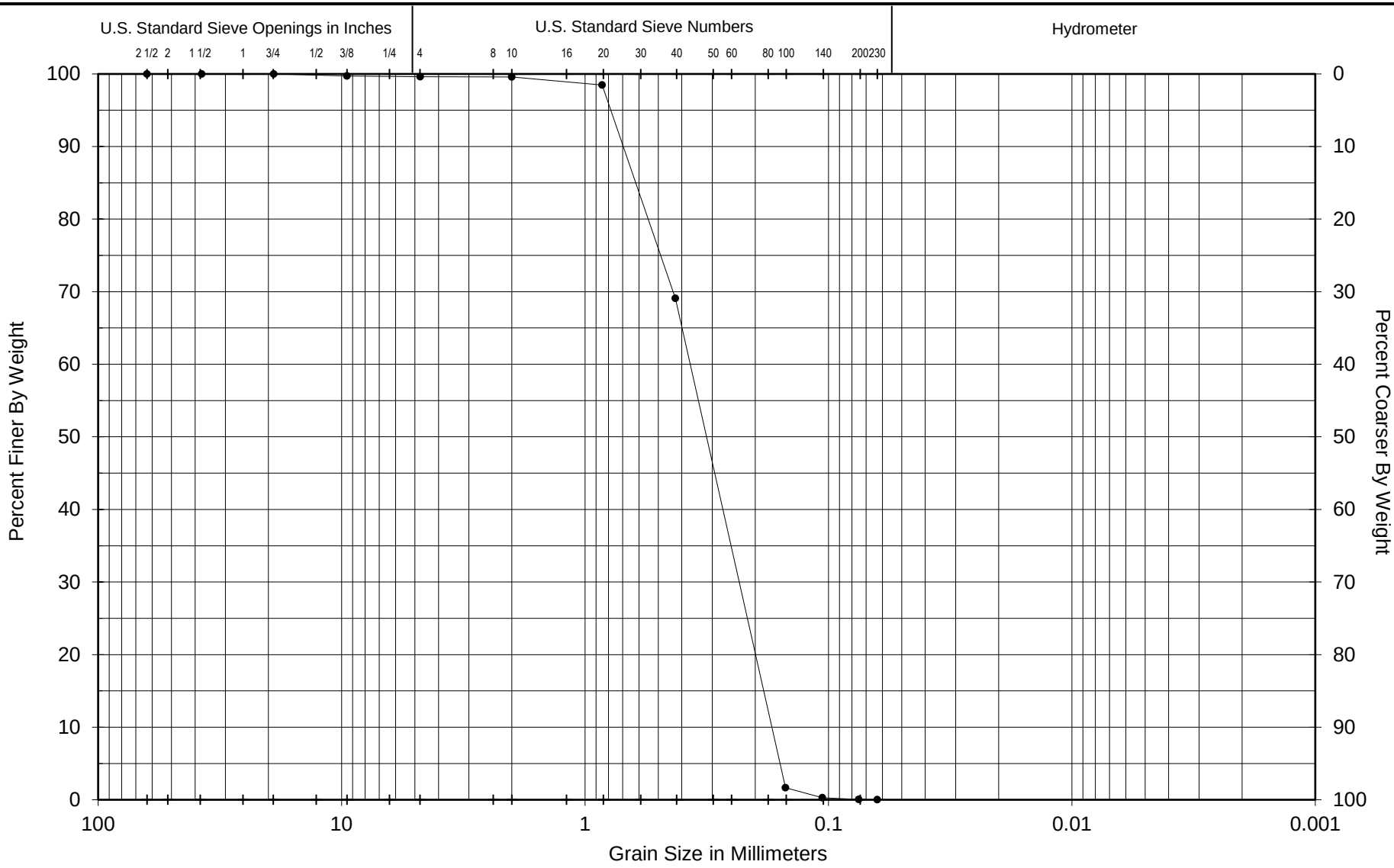
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.72	0.28	
4.75	4	99.61	0.39	
2	10	99.58	0.42	98.10
0.85	20	98.48	1.52	
0.425	40	69.07	30.93	
0.15	100	1.66	98.34	
0.106	140	0.27	99.73	
0.075	200	0.05	99.95	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.58
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.41
% Sand	0.063 - 2.00 mm	99.58
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	23.62
% Medium Sand	0.25 - 0.50 mm	41.24
% Fine Sand	0.063 - 0.25 mm	34.72

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	69.07	0.425	1.66	0.150	0.171
D30	30	69.07	0.425	1.66	0.150	0.232
D50	50	69.07	0.425	1.66	0.150	0.317
D60	60	69.07	0.425	1.66	0.150	0.369

Uniformity Coefficient (Cu)	2.165
Coefficient of Curvature (Cc)	0.857



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB010B-1

Water Depth (m) 35.51

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB010C-1
Water Depth (m)	35.52

Grain Size Data

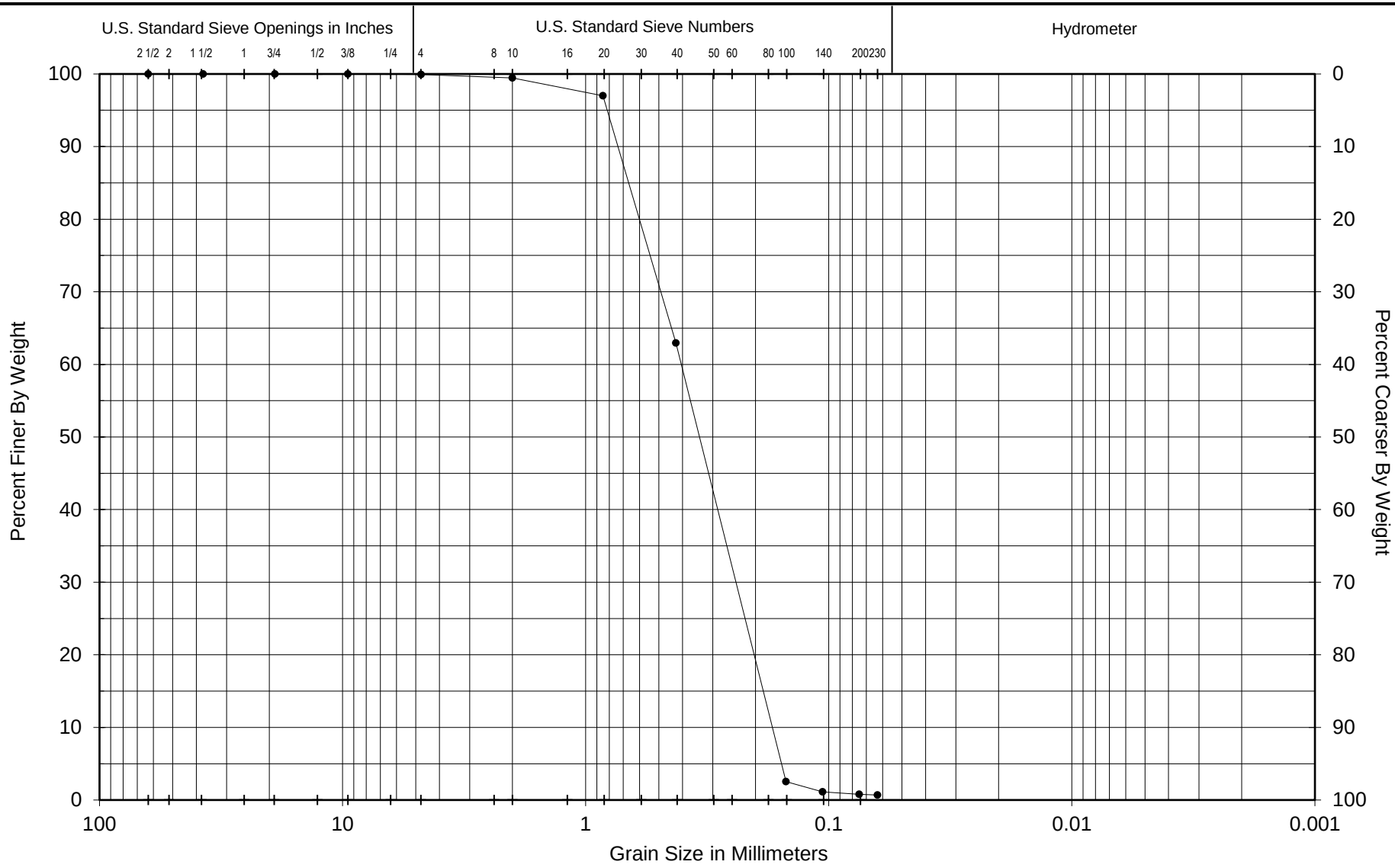
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.91	0.09	
2	10	99.45	0.55	100.00
0.85	20	97.00	3.00	
0.425	40	62.95	37.05	
0.15	100	2.53	97.47	
0.106	140	1.14	98.86	
0.075	200	0.79	99.21	
0.063	230	0.69	99.31	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.45
% Passing #230	0.69
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.55
% Sand	0.063 - 2.00 mm	98.76
% Silt and Clay	< 0.063 mm	0.69
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	28.52
% Medium Sand	0.25 - 0.50 mm	38.76
% Fine Sand	0.063 - 0.25 mm	31.48

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	62.95	0.425	2.53	0.150	0.171
D30	30	62.95	0.425	2.53	0.150	0.241
D50	50	62.95	0.425	2.53	0.150	0.340
D60	60	62.95	0.425	2.53	0.150	0.404

Uniformity Coefficient (Cu)	2.368
Coefficient of Curvature (Cc)	0.842



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB010C-1

Water Depth (m) 35.52

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB011-2
Water Depth (m)	32.21

Grain Size Data

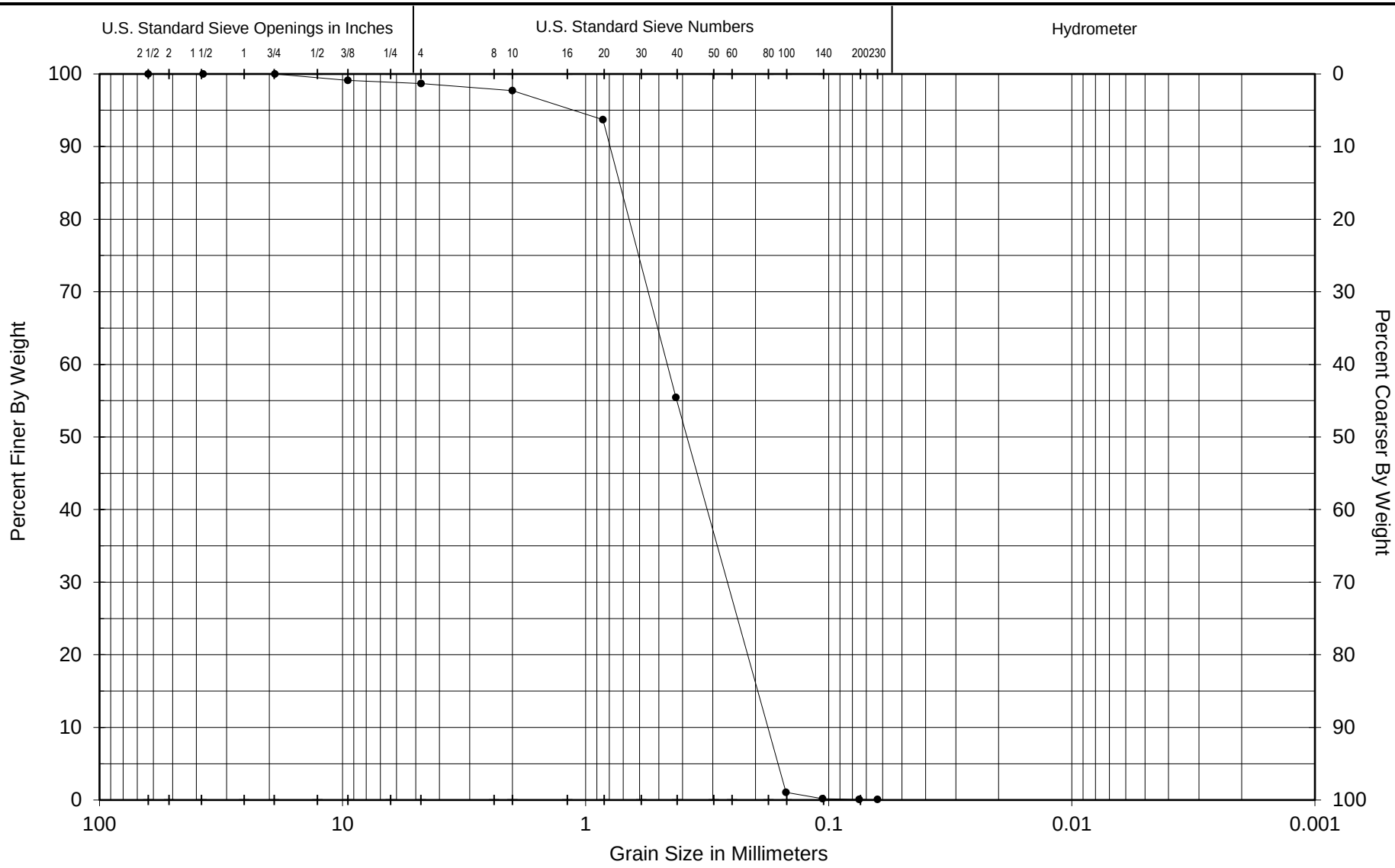
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.13	0.87	
4.75	4	98.67	1.33	
2	10	97.71	2.29	71.72
0.85	20	93.70	6.30	
0.425	40	55.45	44.55	
0.15	100	1.06	98.94	
0.106	140	0.19	99.81	
0.075	200	0.08	99.92	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.71
% Passing #230 0.07
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.65
% Gravel-Sized Shell	> 2.00 mm	1.64
% Sand	0.063 - 2.00 mm	97.64
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	33.29
% Medium Sand	0.25 - 0.50 mm	36.68
% Fine Sand	0.063 - 0.25 mm	27.67

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	55.45	0.425	1.06	0.150	0.178
D30	30	55.45	0.425	1.06	0.150	0.261
D50	50	55.45	0.425	1.06	0.150	0.383
D60	60	93.70	0.850	55.45	0.425	0.462

Uniformity Coefficient (Cu)	2.593
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB011-2

Water Depth (m) 32.21

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB012-1
Water Depth (m)	33.75

Grain Size Data

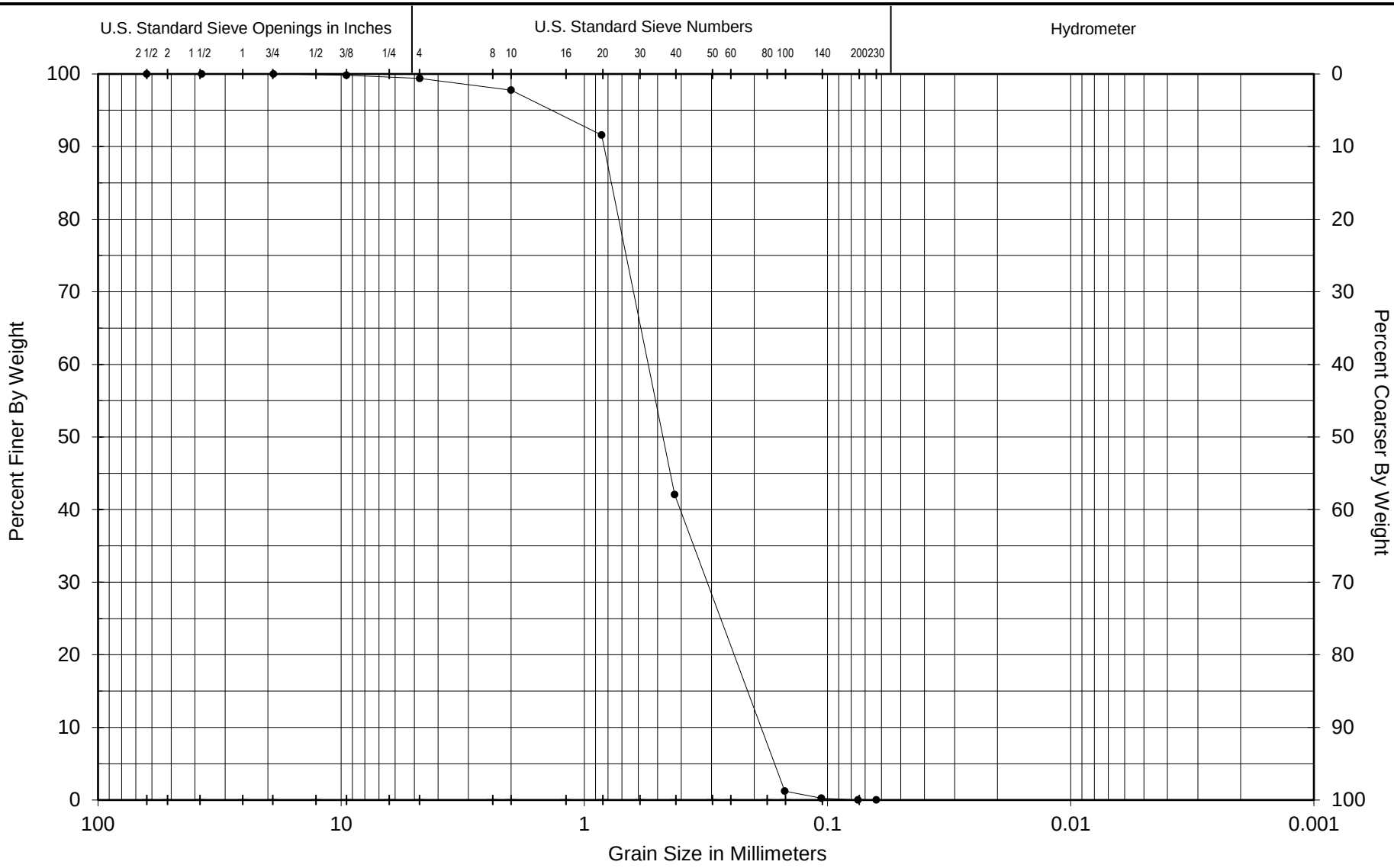
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.83	0.17	
4.75	4	99.38	0.62	
2	10	97.78	2.22	27.16
0.85	20	91.59	8.41	
0.425	40	42.05	57.95	
0.15	100	1.23	98.77	
0.106	140	0.26	99.74	
0.075	200	0.01	99.99	
0.063	230	0.00	100.00	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.78
% Passing #230 0.00
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.61
% Gravel-Sized Shell	> 2.00 mm	0.60
% Sand	0.063 - 2.00 mm	97.78
% Silt and Clay	< 0.063 mm	0.00
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	44.12
% Medium Sand	0.25 - 0.50 mm	32.41
% Fine Sand	0.063 - 0.25 mm	21.25

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	42.05	0.425	1.23	0.150	0.188
D30	30	42.05	0.425	1.23	0.150	0.313
D50	50	91.59	0.850	42.05	0.425	0.475
D60	60	91.59	0.850	42.05	0.425	0.546

Uniformity Coefficient (Cu)	2.912
Coefficient of Curvature (Cc)	0.953



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB012-1

Water Depth (m) 33.75

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB013-2
Water Depth (m)	32.85

Grain Size Data

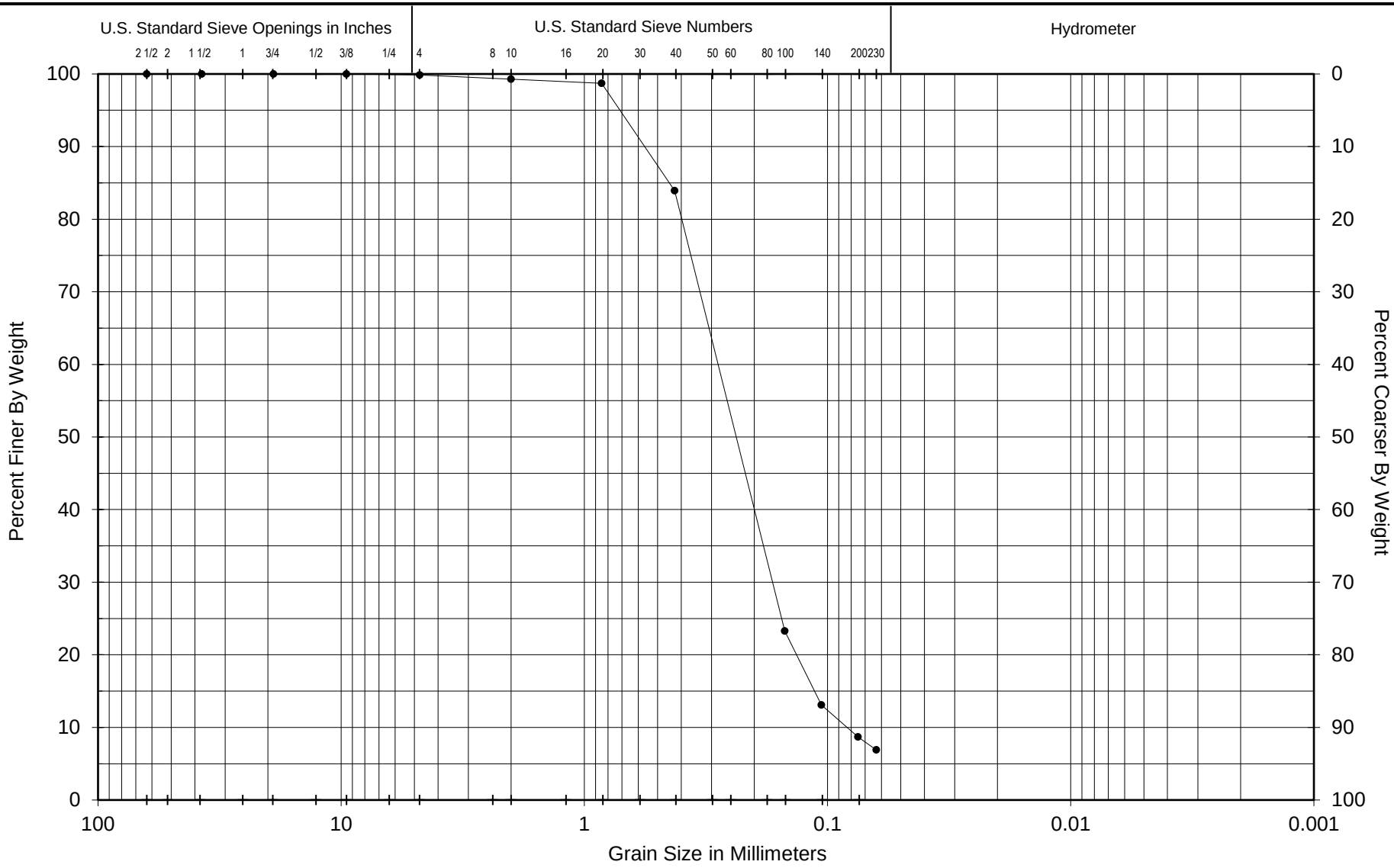
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.87	0.13	
2	10	99.29	0.71	0.00
0.85	20	98.70	1.30	
0.425	40	83.93	16.07	
0.15	100	23.28	76.72	
0.106	140	13.07	86.93	
0.075	200	8.67	91.33	
0.063	230	6.89	93.11	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.29
% Passing #230	6.89
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.71
% Gravel-Sized Shell	> 2.00 mm	0.00
% Sand	0.063 - 2.00 mm	92.40
% Silt and Clay	< 0.063 mm	6.89
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	11.90
% Medium Sand	0.25 - 0.50 mm	34.37
% Fine Sand	0.063 - 0.25 mm	46.14

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.07	0.106	8.67	0.075	0.083
D30	30	83.93	0.425	23.28	0.150	0.168
D50	50	83.93	0.425	23.28	0.150	0.237
D60	60	83.93	0.425	23.28	0.150	0.282

Uniformity Coefficient (Cu)	3.385
Coefficient of Curvature (Cc)	1.208



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB013-2

Water Depth (m) 32.85

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB014A-1
Water Depth (m)	33.23

Grain Size Data

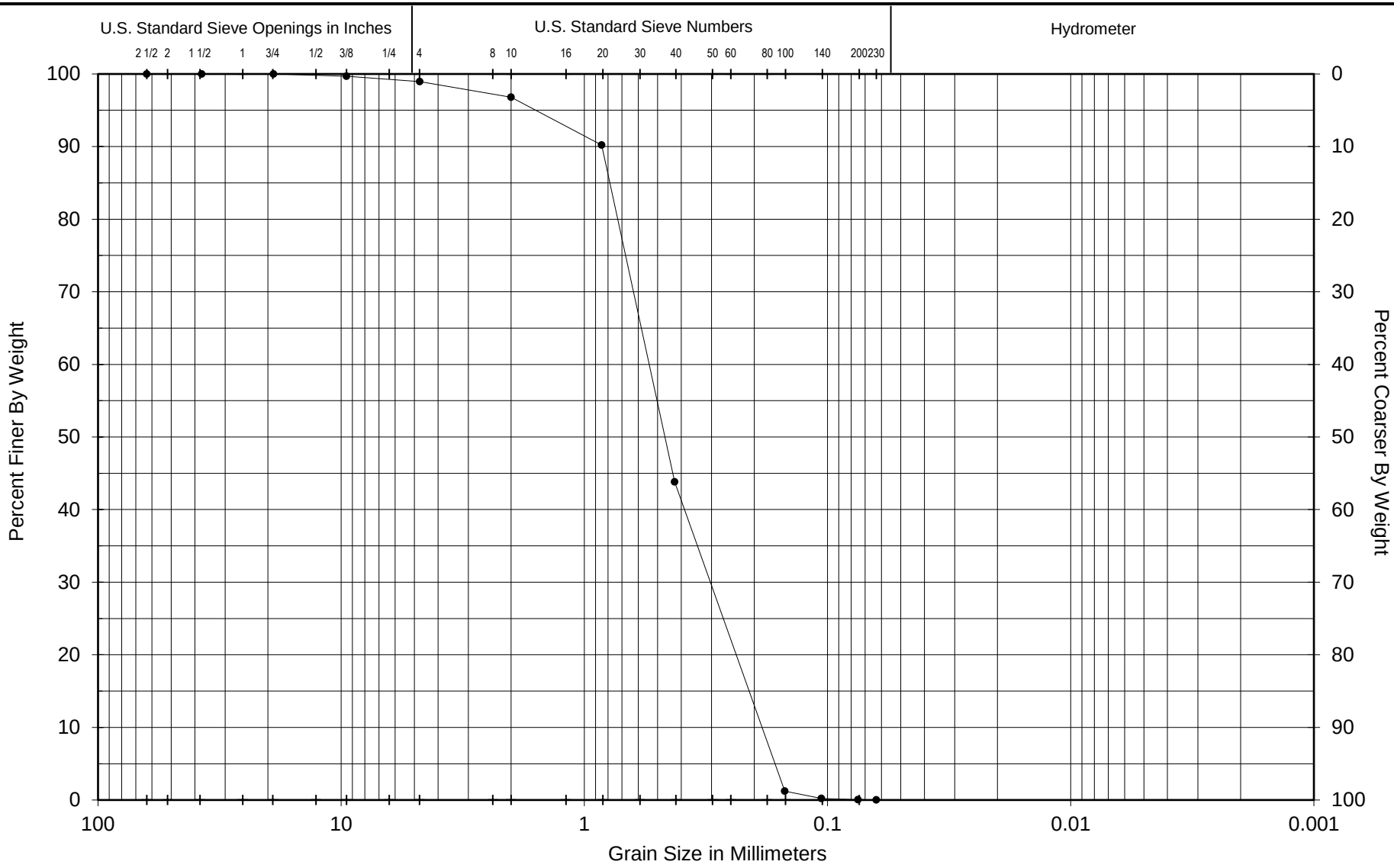
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.70	0.30	
4.75	4	98.96	1.04	
2	10	96.80	3.20	43.87
0.85	20	90.22	9.78	
0.425	40	43.81	56.19	
0.15	100	1.21	98.79	
0.106	140	0.20	99.80	
0.075	200	0.03	99.97	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 96.80
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.79
% Gravel-Sized Shell	> 2.00 mm	1.40
% Sand	0.063 - 2.00 mm	96.79
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	42.12
% Medium Sand	0.25 - 0.50 mm	32.58
% Fine Sand	0.063 - 0.25 mm	22.09

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	43.81	0.425	1.21	0.150	0.186
D30	30	43.81	0.425	1.21	0.150	0.303
D50	50	90.22	0.850	43.81	0.425	0.466
D60	60	90.22	0.850	43.81	0.425	0.541

Uniformity Coefficient (Cu)	2.911
Coefficient of Curvature (Cc)	0.914



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB014A-1

Water Depth (m) 33.23

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB014B-1
Water Depth (m)	33.26

Grain Size Data

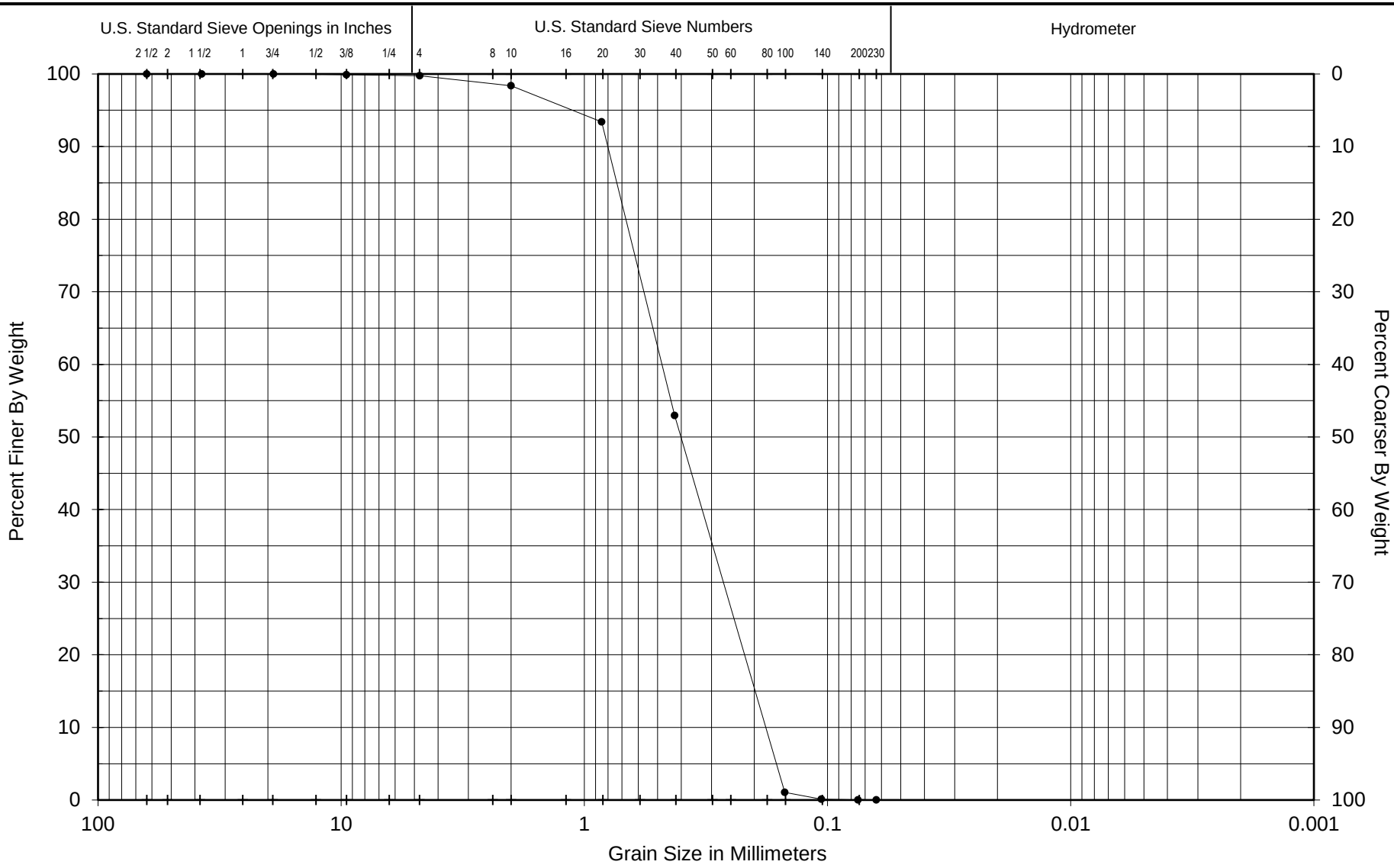
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.90	0.10	
4.75	4	99.75	0.25	
2	10	98.37	1.63	35.29
0.85	20	93.39	6.61	
0.425	40	52.97	47.03	
0.15	100	1.05	98.95	
0.106	140	0.11	99.89	
0.075	200	0.01	99.99	
0.063	230	0.00	100.00	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.37
% Passing #230 0.00
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.06
% Gravel-Sized Shell	> 2.00 mm	0.58
% Sand	0.063 - 2.00 mm	98.36
% Silt and Clay	< 0.063 mm	0.00
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	35.92
% Medium Sand	0.25 - 0.50 mm	35.93
% Fine Sand	0.063 - 0.25 mm	26.51

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	52.97	0.425	1.05	0.150	0.179
D30	30	52.97	0.425	1.05	0.150	0.268
D50	50	52.97	0.425	1.05	0.150	0.400
D60	60	93.39	0.850	52.97	0.425	0.479

Uniformity Coefficient (Cu)	2.671
Coefficient of Curvature (Cc)	0.835



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB014B-1

Water Depth (m) 33.26

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB014C-1
Water Depth (m)	33.24

Grain Size Data

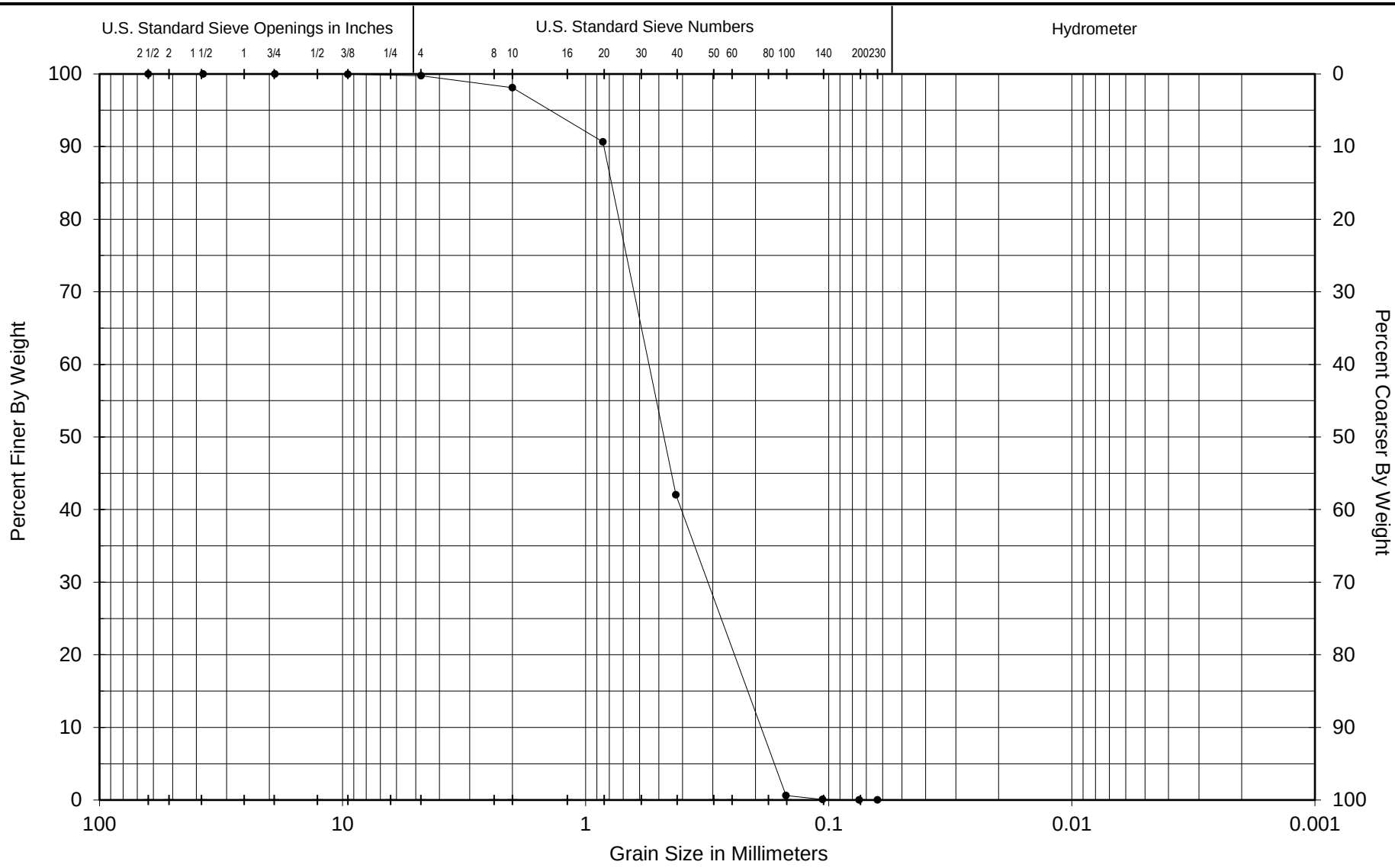
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.96	0.04	
4.75	4	99.75	0.25	
2	10	98.10	1.90	36.13
0.85	20	90.65	9.35	
0.425	40	42.04	57.96	
0.15	100	0.61	99.39	
0.106	140	0.08	99.92	
0.075	200	0.01	99.99	
0.063	230	0.00	100.00	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	98.10
% Passing #230	0.00
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	1.22
% Gravel-Sized Shell	> 2.00 mm	0.69
% Sand	0.063 - 2.00 mm	98.09
% Silt and Clay	< 0.063 mm	0.00
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	44.66
% Medium Sand	0.25 - 0.50 mm	32.51
% Fine Sand	0.063 - 0.25 mm	20.93

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	42.04	0.425	0.61	0.150	0.190
D30	30	42.04	0.425	0.61	0.150	0.314
D50	50	90.65	0.850	42.04	0.425	0.476
D60	60	90.65	0.850	42.04	0.425	0.549

Uniformity Coefficient (Cu)	2.891
Coefficient of Curvature (Cc)	0.946



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB014C-1

Water Depth (m) 33.24

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB015A-1
Water Depth (m)	32.45

Grain Size Data

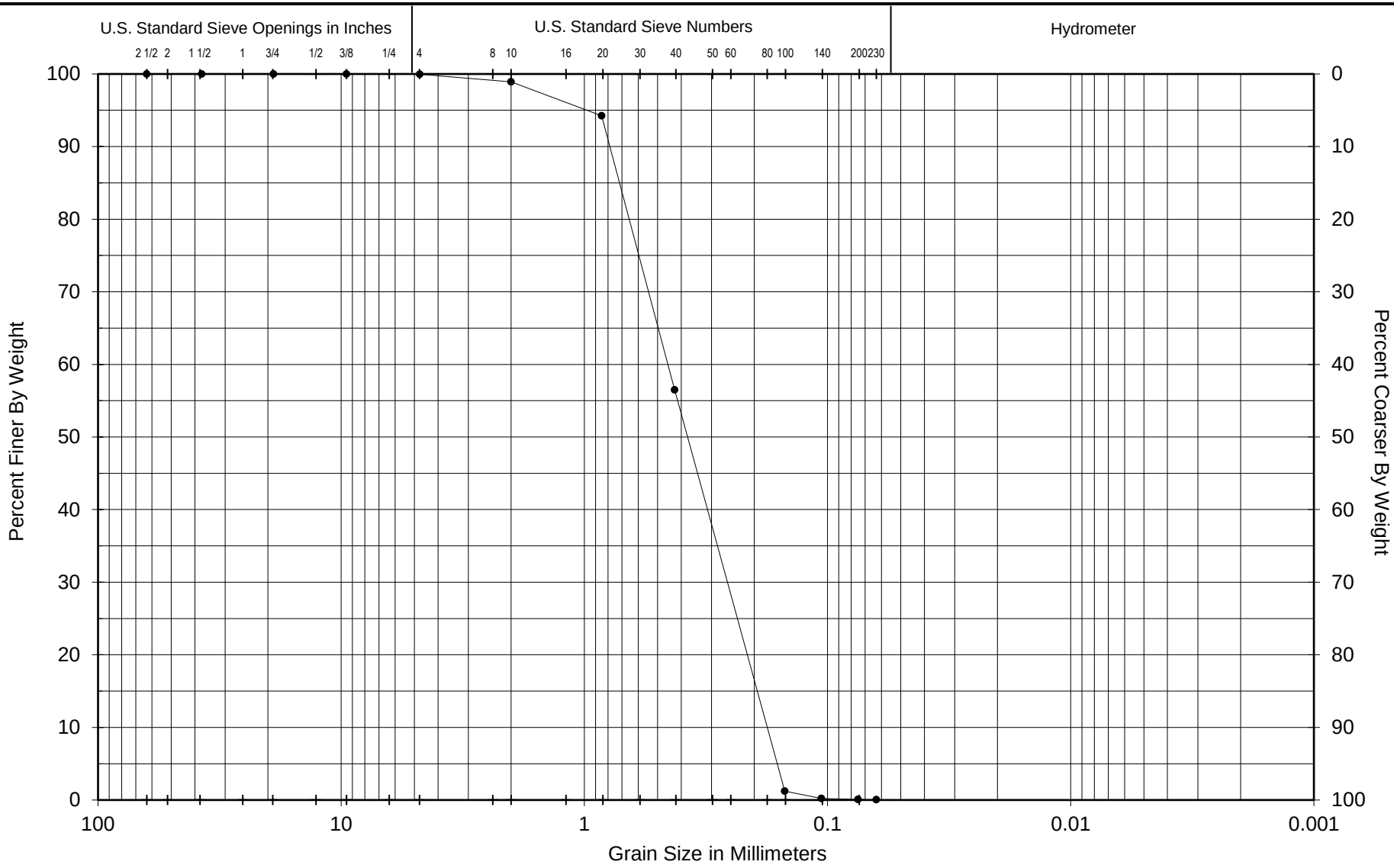
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.96	0.04	
2	10	98.90	1.10	11.97
0.85	20	94.23	5.77	
0.425	40	56.49	43.51	
0.15	100	1.23	98.77	
0.106	140	0.22	99.78	
0.075	200	0.07	99.93	
0.063	230	0.06	99.94	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.90
% Passing #230 0.06
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.96
% Gravel-Sized Shell	> 2.00 mm	0.13
% Sand	0.063 - 2.00 mm	98.85
% Silt and Clay	< 0.063 mm	0.06
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	33.56
% Medium Sand	0.25 - 0.50 mm	37.01
% Fine Sand	0.063 - 0.25 mm	28.28

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	56.49	0.425	1.23	0.150	0.177
D30	30	56.49	0.425	1.23	0.150	0.258
D50	50	56.49	0.425	1.23	0.150	0.376
D60	60	94.23	0.850	56.49	0.425	0.453

Uniformity Coefficient (Cu)	2.561
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB015A-1

Water Depth (m) 32.45

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB015B-1
Water Depth (m)	32.61

Grain Size Data

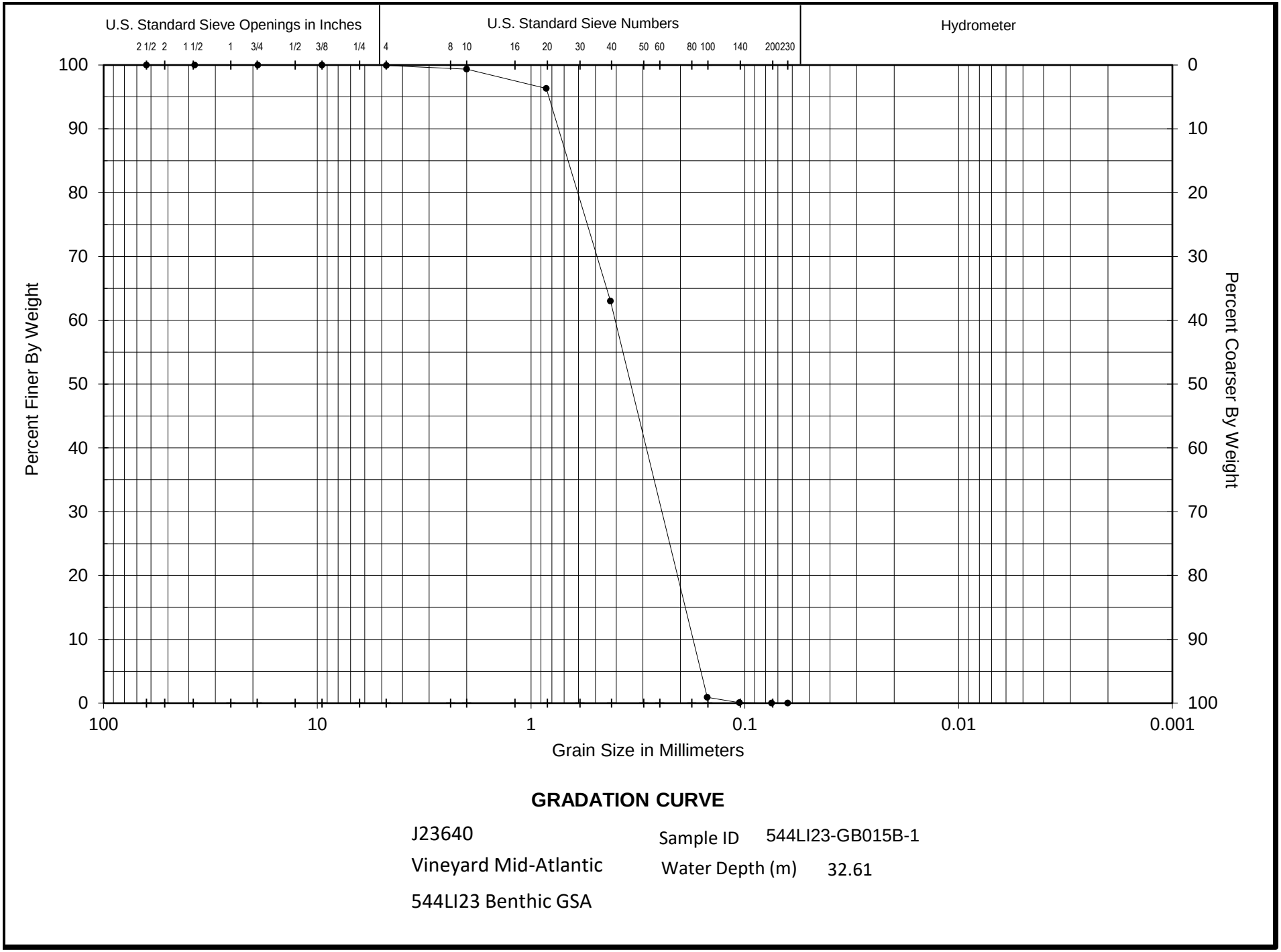
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.93	0.07	
2	10	99.35	0.65	24.21
0.85	20	96.31	3.69	
0.425	40	63.01	36.99	
0.15	100	0.93	99.07	
0.106	140	0.09	99.91	
0.075	200	0.01	99.99	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.35
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.50
% Gravel-Sized Shell	> 2.00 mm	0.16
% Sand	0.063 - 2.00 mm	99.34
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	28.53
% Medium Sand	0.25 - 0.50 mm	39.44
% Fine Sand	0.063 - 0.25 mm	31.37

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	63.01	0.425	0.93	0.150	0.175
D30	30	63.01	0.425	0.93	0.150	0.244
D50	50	63.01	0.425	0.93	0.150	0.342
D60	60	63.01	0.425	0.93	0.150	0.404

Uniformity Coefficient (Cu)	2.314
Coefficient of Curvature (Cc)	0.846



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB015B-1

Water Depth (m) 32.61

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB015C-1
Water Depth (m)	32.24

Grain Size Data

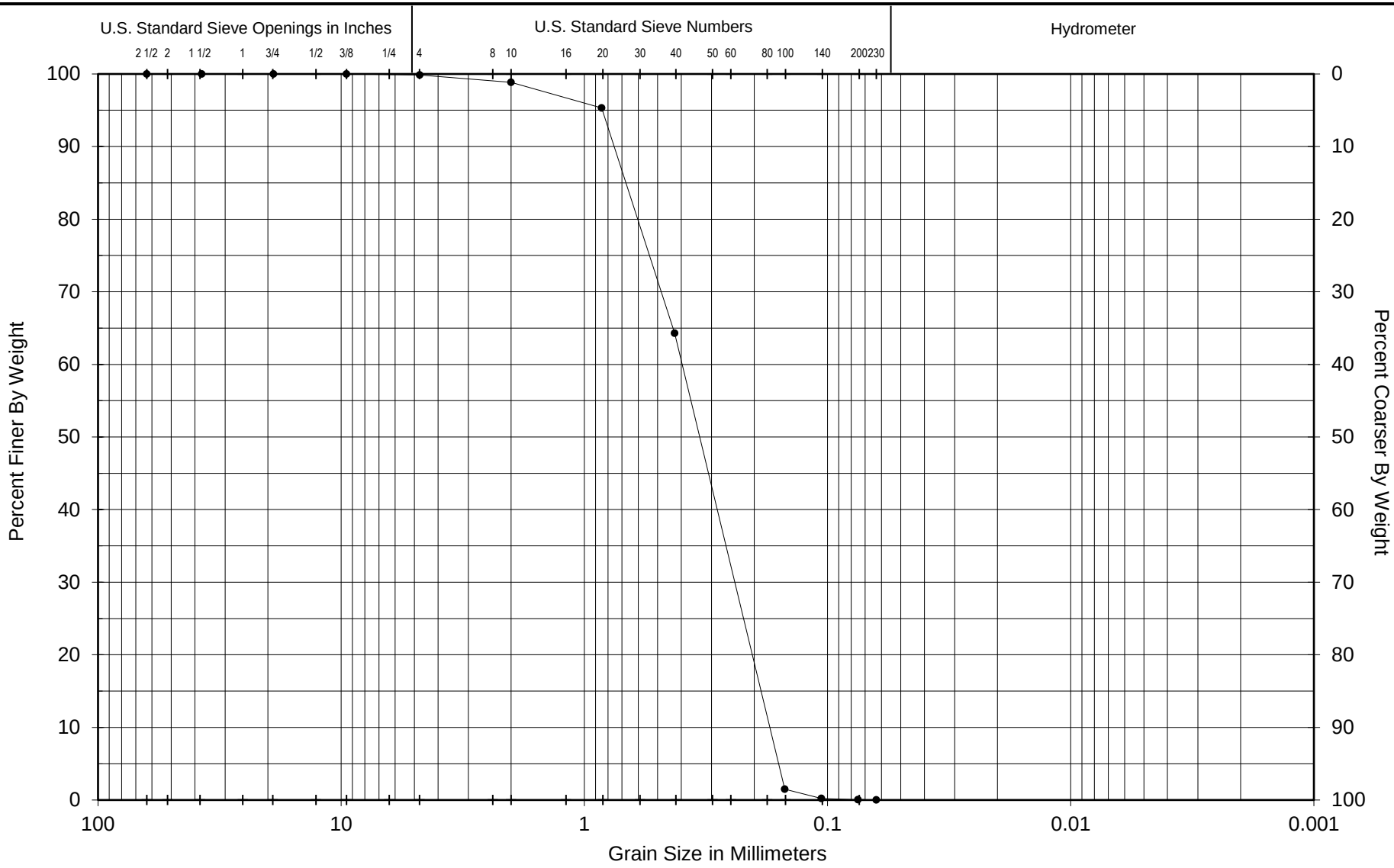
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.84	0.16	
2	10	98.84	1.16	27.21
0.85	20	95.31	4.69	
0.425	40	64.30	35.70	
0.15	100	1.49	98.51	
0.106	140	0.22	99.78	
0.075	200	0.04	99.96	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.84
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.84
% Gravel-Sized Shell	> 2.00 mm	0.31
% Sand	0.063 - 2.00 mm	98.84
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	27.27
% Medium Sand	0.25 - 0.50 mm	39.27
% Fine Sand	0.063 - 0.25 mm	32.29

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	64.30	0.425	1.49	0.150	0.173
D30	30	64.30	0.425	1.49	0.150	0.241
D50	50	64.30	0.425	1.49	0.150	0.335
D60	60	64.30	0.425	1.49	0.150	0.396

Uniformity Coefficient (Cu)	2.291
Coefficient of Curvature (Cc)	0.847



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB015C-1

Water Depth (m) 32.24

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB016-2
Water Depth (m)	28.72

Grain Size Data

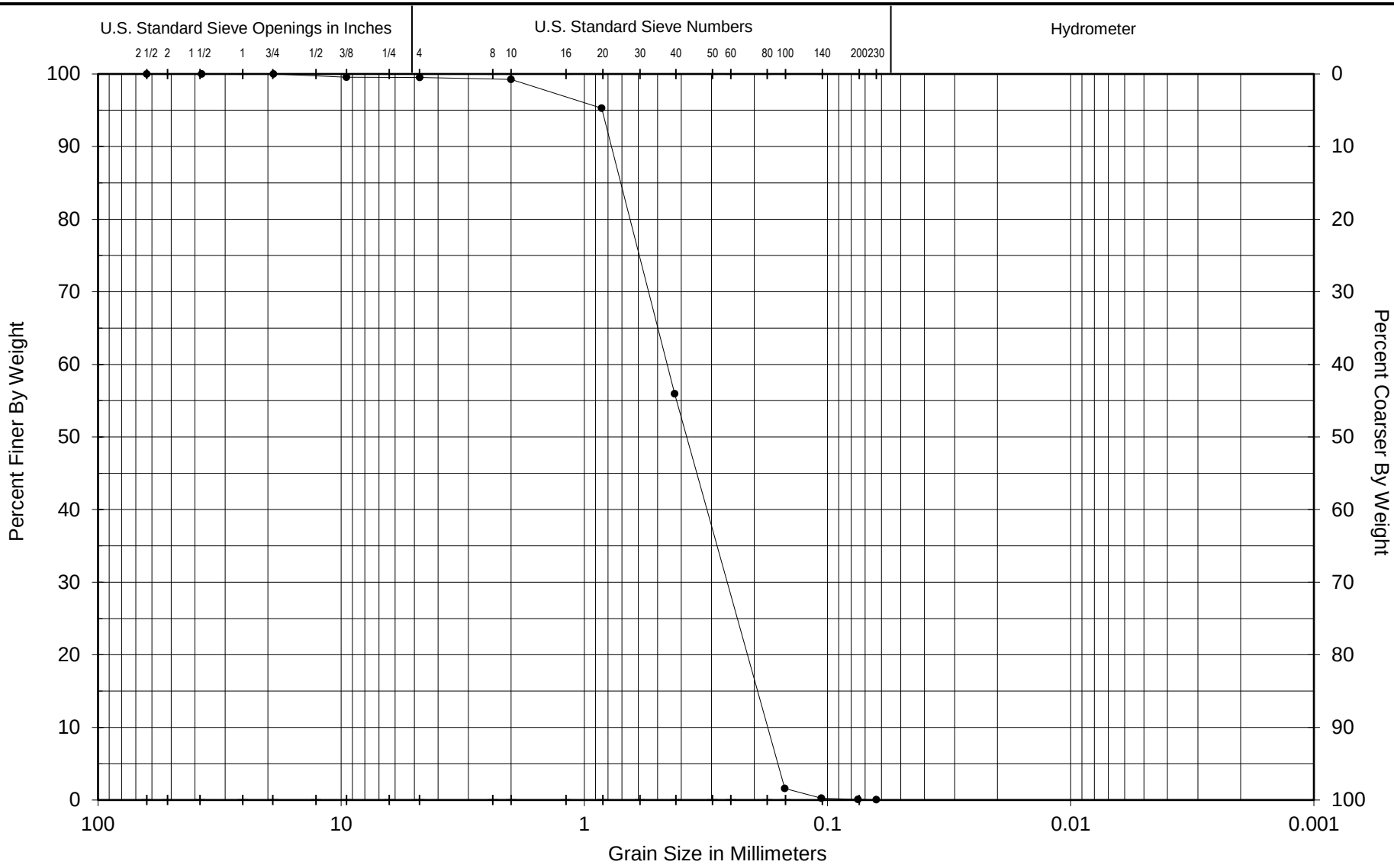
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.55	0.45	
4.75	4	99.51	0.49	
2	10	99.25	0.75	81.85
0.85	20	95.28	4.72	
0.425	40	55.94	44.06	
0.15	100	1.61	98.39	
0.106	140	0.24	99.76	
0.075	200	0.07	99.93	
0.063	230	0.05	99.95	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.25
% Passing #230 0.05
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.14
% Gravel-Sized Shell	> 2.00 mm	0.62
% Sand	0.063 - 2.00 mm	99.20
% Silt and Clay	< 0.063 mm	0.05
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	34.08
% Medium Sand	0.25 - 0.50 mm	36.91
% Fine Sand	0.063 - 0.25 mm	28.21

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	55.94	0.425	1.61	0.150	0.176
D30	30	55.94	0.425	1.61	0.150	0.258
D50	50	55.94	0.425	1.61	0.150	0.379
D60	60	95.28	0.850	55.94	0.425	0.457

Uniformity Coefficient (Cu)	2.591
Coefficient of Curvature (Cc)	0.831



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB016-2

Water Depth (m) 28.72

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB017A-1
Water Depth (m)	34.30

Grain Size Data

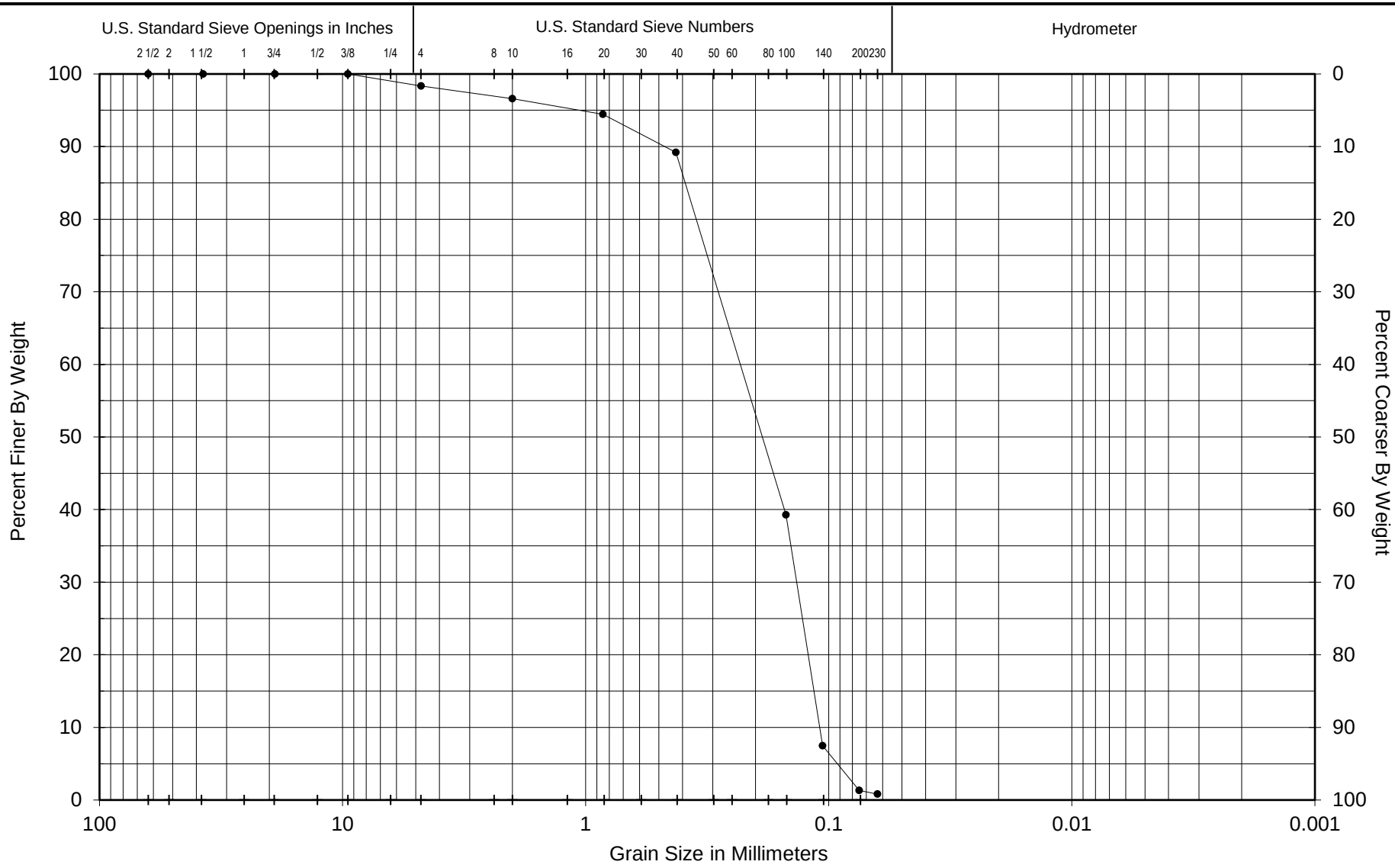
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.33	1.67	
2	10	96.60	3.40	5.51
0.85	20	94.45	5.55	
0.425	40	89.21	10.79	
0.15	100	39.27	60.73	
0.106	140	7.48	92.52	
0.075	200	1.34	98.66	
0.063	230	0.80	99.20	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 96.60
% Passing #230 0.80
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	3.21
% Gravel-Sized Shell	> 2.00 mm	0.19
% Sand	0.063 - 2.00 mm	95.80
% Silt and Clay	< 0.063 mm	0.80
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.16
% Medium Sand	0.25 - 0.50 mm	26.68
% Fine Sand	0.063 - 0.25 mm	62.96

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	39.27	0.150	7.48	0.106	0.109
D30	30	39.27	0.150	7.48	0.106	0.136
D50	50	89.21	0.425	39.27	0.150	0.188
D60	60	89.21	0.425	39.27	0.150	0.231

Uniformity Coefficient (Cu)	2.121
Coefficient of Curvature (Cc)	0.730



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB017A-1

Water Depth (m) 34.30

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB017B-1
Water Depth (m)	33.97

Grain Size Data

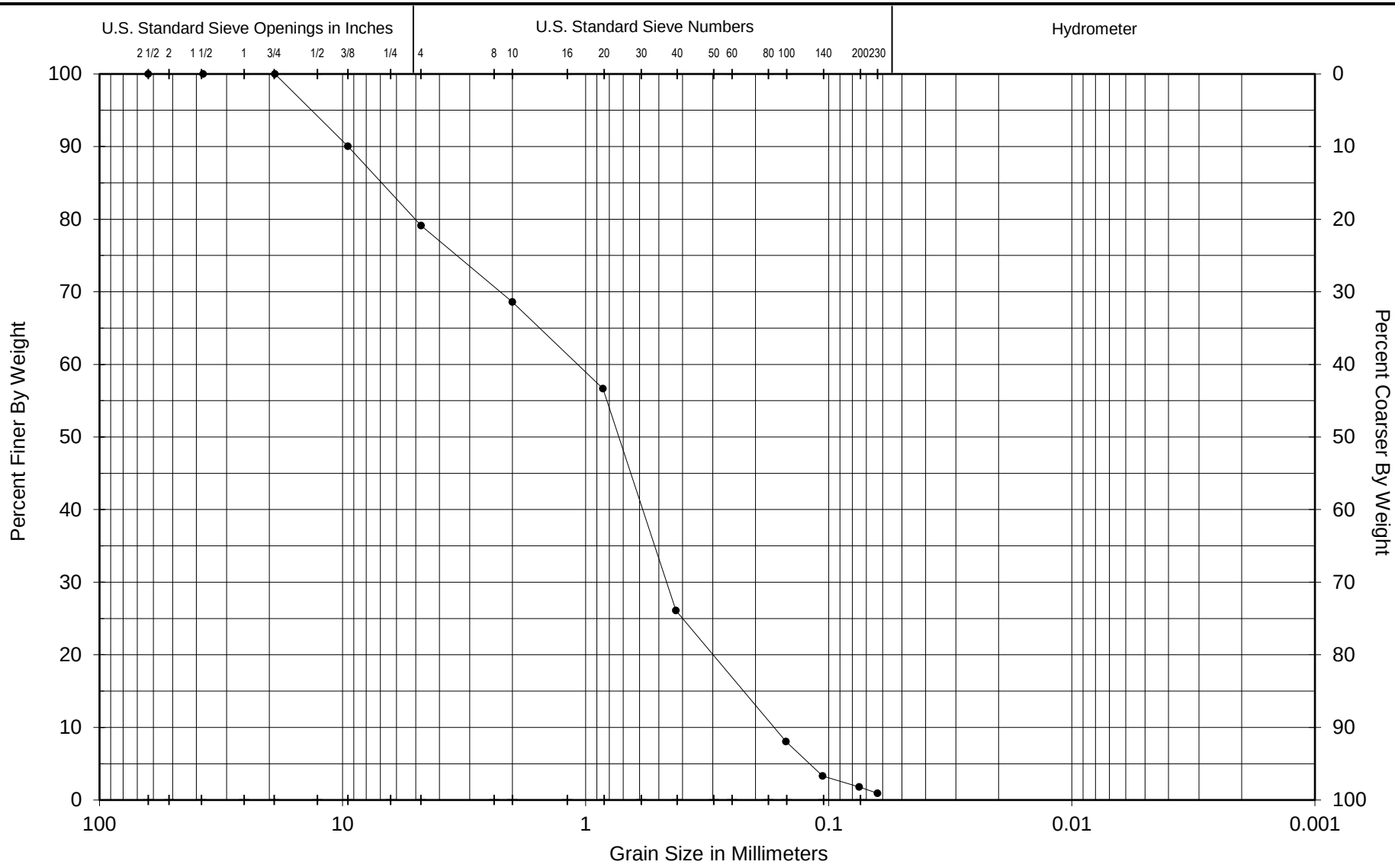
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	90.05	9.95	
4.75	4	79.12	20.88	
2	10	68.59	31.41	3.85
0.85	20	56.65	43.35	
0.425	40	26.10	73.90	
0.15	100	8.05	91.95	
0.106	140	3.31	96.69	
0.075	200	1.80	98.20	
0.063	230	0.92	99.08	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 68.59
% Passing #230 0.92
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	30.20
% Gravel-Sized Shell	> 2.00 mm	1.21
% Sand	0.063 - 2.00 mm	67.66
% Silt and Clay	< 0.063 mm	0.92
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	35.32
% Medium Sand	0.25 - 0.50 mm	16.36
% Fine Sand	0.063 - 0.25 mm	15.98

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	26.10	0.425	8.05	0.150	0.168
D30	30	56.65	0.850	26.10	0.425	0.464
D50	50	56.65	0.850	26.10	0.425	0.731
D60	60	68.59	2.000	56.65	0.850	1.080

Uniformity Coefficient (Cu)	6.436
Coefficient of Curvature (Cc)	1.189



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB017B-1

Water Depth (m) 33.97

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB017C-1
Water Depth (m)	33.62

Grain Size Data

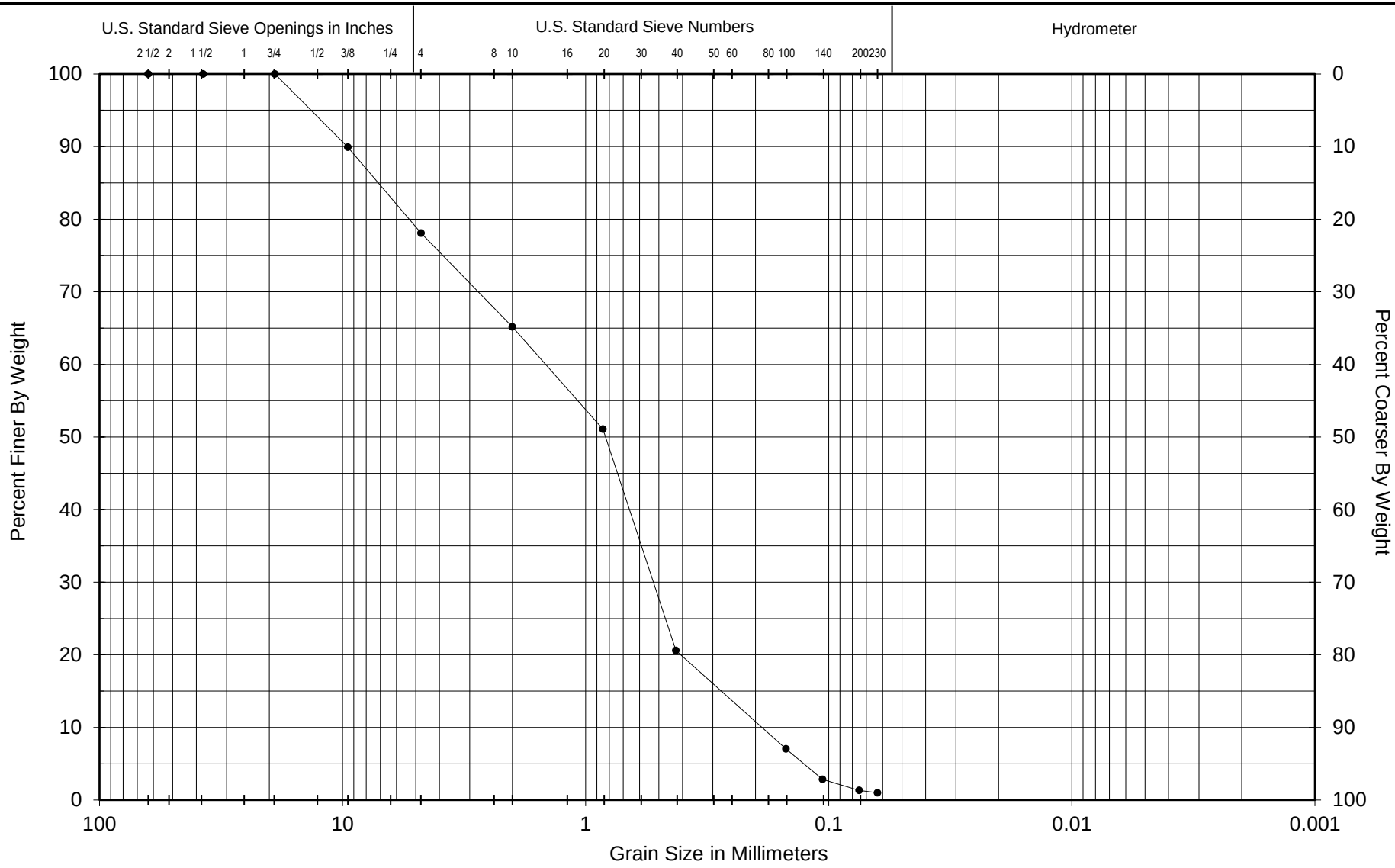
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	89.90	10.10	
4.75	4	78.08	21.92	
2	10	65.16	34.84	0.00
0.85	20	51.09	48.91	
0.425	40	20.58	79.42	
0.15	100	7.04	92.96	
0.106	140	2.82	97.18	
0.075	200	1.34	98.66	
0.063	230	0.99	99.01	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 65.16
% Passing #230 0.99
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	34.84
% Gravel-Sized Shell	> 2.00 mm	0.00
% Sand	0.063 - 2.00 mm	64.16
% Silt and Clay	< 0.063 mm	0.99
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	37.42
% Medium Sand	0.25 - 0.50 mm	14.05
% Fine Sand	0.063 - 0.25 mm	12.69

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	20.58	0.425	7.04	0.150	0.188
D30	30	51.09	0.850	20.58	0.425	0.526
D50	50	51.09	0.850	20.58	0.425	0.829
D60	60	65.16	2.000	51.09	0.850	1.462

Uniformity Coefficient (Cu)	7.760
Coefficient of Curvature (Cc)	1.007



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB017C-1

Water Depth (m) 33.62

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB018-1
Water Depth (m)	28.71

Grain Size Data

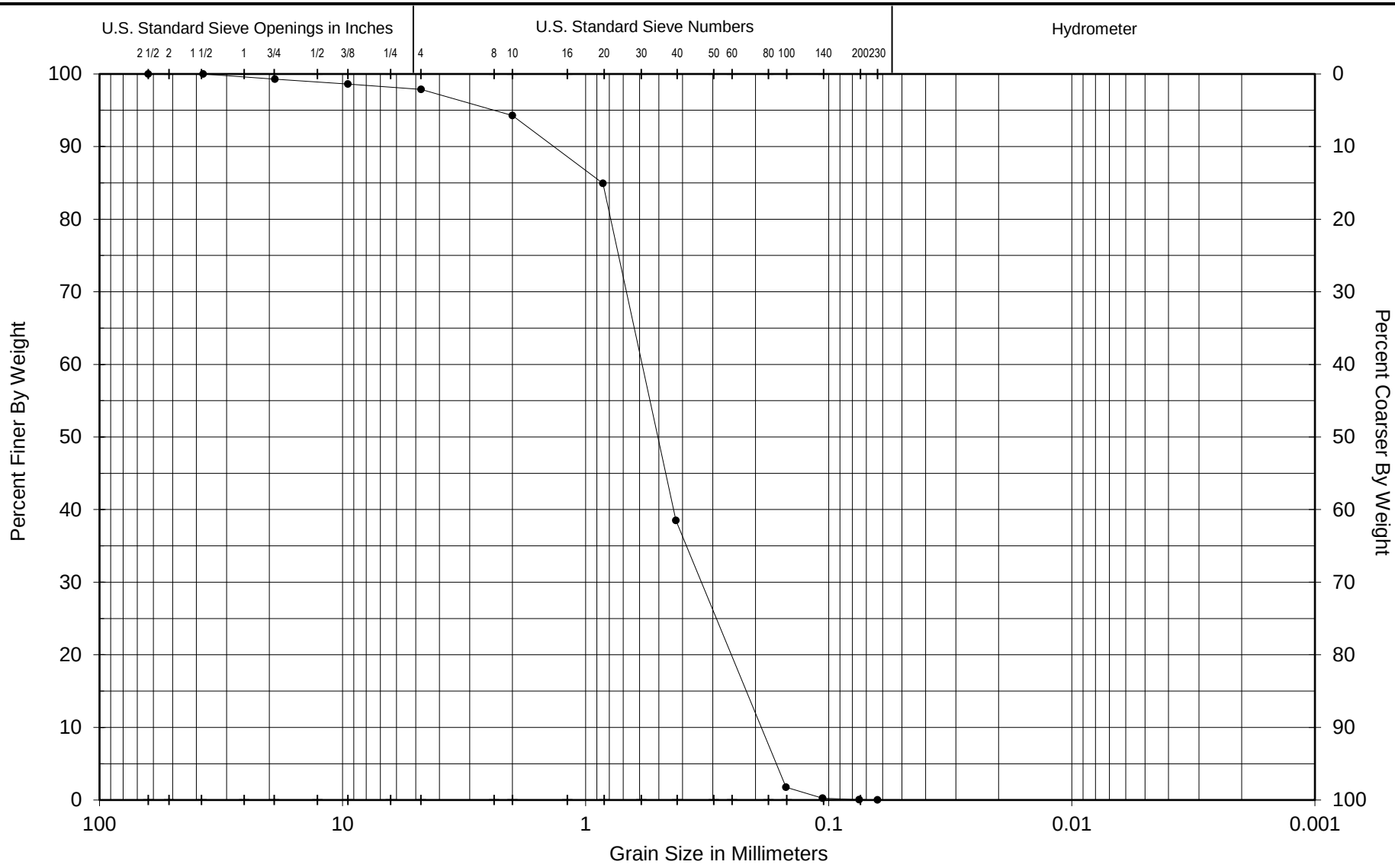
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.28	0.72	
9.5	3/8"	98.62	1.38	
4.75	4	97.86	2.14	
2	10	94.28	5.72	46.09
0.85	20	84.92	15.08	
0.425	40	38.50	61.50	
0.15	100	1.76	98.24	
0.106	140	0.26	99.74	
0.075	200	0.04	99.96	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 94.28
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	3.09
% Gravel-Sized Shell	> 2.00 mm	2.64
% Sand	0.063 - 2.00 mm	94.26
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	44.89
% Medium Sand	0.25 - 0.50 mm	29.60
% Fine Sand	0.063 - 0.25 mm	19.77

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	38.50	0.425	1.76	0.150	0.189
D30	30	38.50	0.425	1.76	0.150	0.334
D50	50	84.92	0.850	38.50	0.425	0.505
D60	60	84.92	0.850	38.50	0.425	0.586

Uniformity Coefficient (Cu)	3.092
Coefficient of Curvature (Cc)	1.005



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB018-1

Water Depth (m) 28.71

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB019A-1
Water Depth (m)	28.28

Grain Size Data

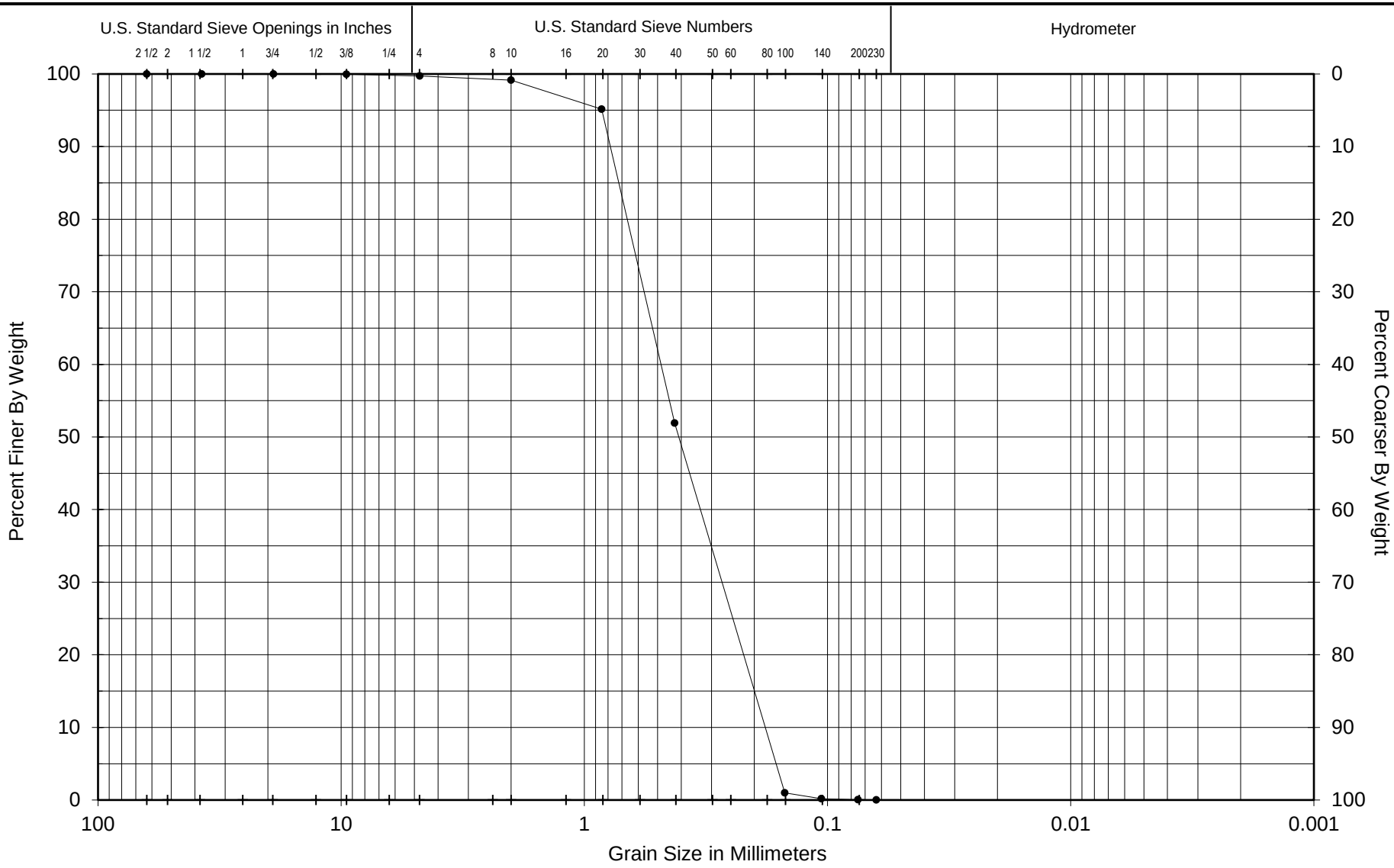
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.95	0.05	
4.75	4	99.71	0.29	
2	10	99.14	0.86	22.64
0.85	20	95.16	4.84	
0.425	40	51.90	48.10	
0.15	100	1.00	99.00	
0.106	140	0.18	99.82	
0.075	200	0.05	99.95	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.14
% Passing #230 0.03
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.67
% Gravel-Sized Shell	> 2.00 mm	0.20
% Sand	0.063 - 2.00 mm	99.11
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	37.09
% Medium Sand	0.25 - 0.50 mm	36.08
% Fine Sand	0.063 - 0.25 mm	25.94

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	51.90	0.425	1.00	0.150	0.180
D30	30	51.90	0.425	1.00	0.150	0.272
D50	50	51.90	0.425	1.00	0.150	0.409
D60	60	95.16	0.850	51.90	0.425	0.484

Uniformity Coefficient (Cu)	2.683
Coefficient of Curvature (Cc)	0.845



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB019A-1

Water Depth (m) 28.28

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB019B-2
Water Depth (m)	28.44

Grain Size Data

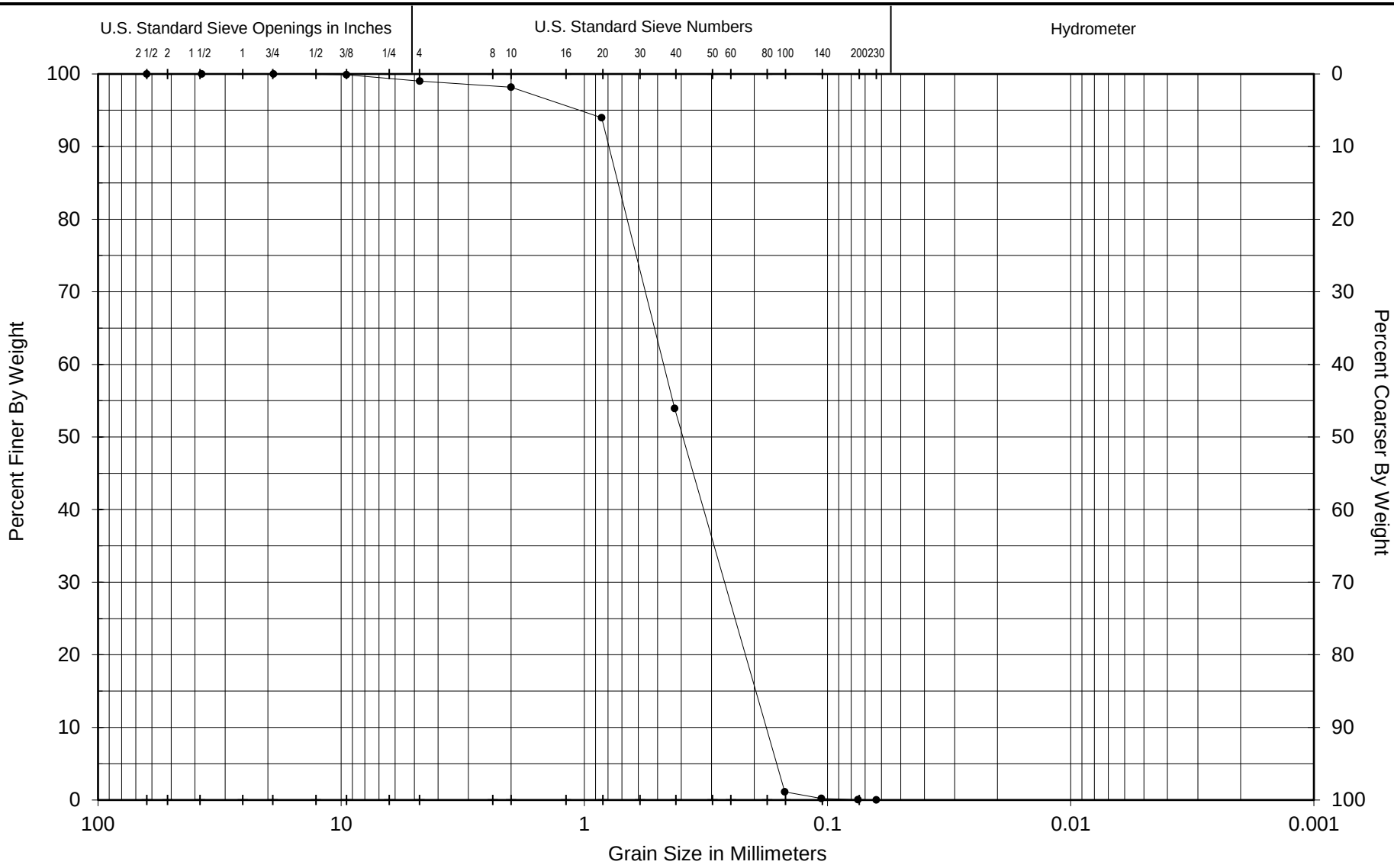
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.89	0.11	
4.75	4	99.01	0.99	
2	10	98.17	1.83	35.88
0.85	20	93.96	6.04	
0.425	40	53.92	46.08	
0.15	100	1.12	98.88	
0.106	140	0.20	99.80	
0.075	200	0.03	99.97	
0.063	230	0.00	100.00	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.17
% Passing #230 0.00
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.17
% Gravel-Sized Shell	> 2.00 mm	0.65
% Sand	0.063 - 2.00 mm	98.17
% Silt and Clay	< 0.063 mm	0.00
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	34.86
% Medium Sand	0.25 - 0.50 mm	36.29
% Fine Sand	0.063 - 0.25 mm	27.02

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	53.92	0.425	1.12	0.150	0.179
D30	30	53.92	0.425	1.12	0.150	0.265
D50	50	53.92	0.425	1.12	0.150	0.393
D60	60	93.96	0.850	53.92	0.425	0.472

Uniformity Coefficient (Cu)	2.642
Coefficient of Curvature (Cc)	0.833



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB019B-2

Water Depth (m) 28.44

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB019C-1
Water Depth (m)	28.01

Grain Size Data

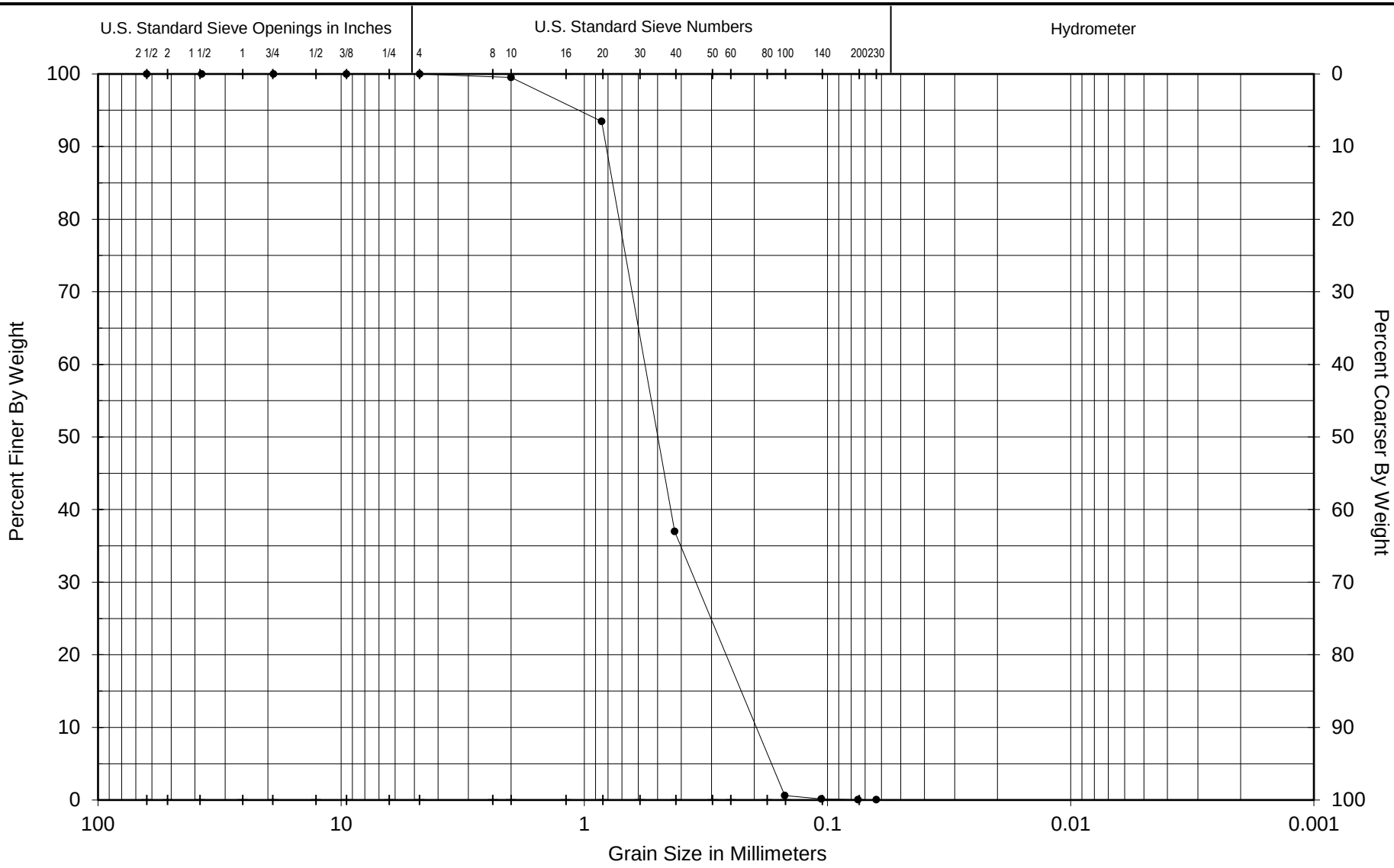
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.99	0.01	
2	10	99.51	0.49	14.47
0.85	20	93.46	6.54	
0.425	40	36.99	63.01	
0.15	100	0.62	99.38	
0.106	140	0.15	99.85	
0.075	200	0.05	99.95	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.51
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.42
% Gravel-Sized Shell	> 2.00 mm	0.07
% Sand	0.063 - 2.00 mm	99.48
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	49.29
% Medium Sand	0.25 - 0.50 mm	31.77
% Fine Sand	0.063 - 0.25 mm	18.42

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	36.99	0.425	0.62	0.150	0.196
D30	30	36.99	0.425	0.62	0.150	0.348
D50	50	93.46	0.850	36.99	0.425	0.499
D60	60	93.46	0.850	36.99	0.425	0.564

Uniformity Coefficient (Cu)	2.873
Coefficient of Curvature (Cc)	1.094



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB019C-1

Water Depth (m) 28.01

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB020-1
Water Depth (m)	30.68

Grain Size Data

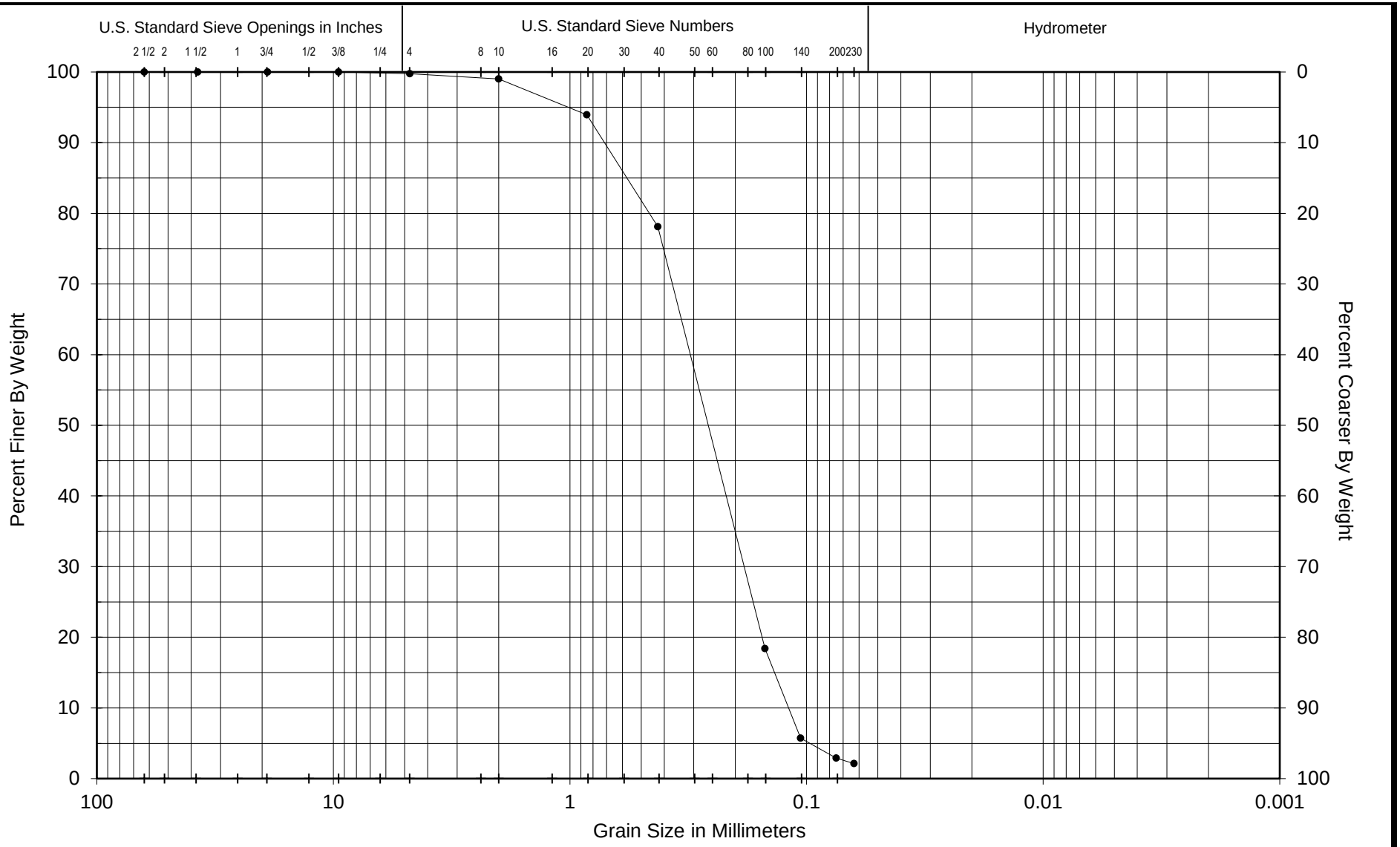
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.74	0.26	
2	10	99.02	0.98	8.96
0.85	20	93.95	6.05	
0.425	40	78.11	21.89	
0.15	100	18.41	81.59	
0.106	140	5.74	94.26	
0.075	200	2.89	97.11	
0.063	230	2.12	97.88	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.02
% Passing #230 2.12
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.90
% Gravel-Sized Shell	> 2.00 mm	0.09
% Sand	0.063 - 2.00 mm	96.90
% Silt and Clay	< 0.063 mm	2.12
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	17.19
% Medium Sand	0.25 - 0.50 mm	34.13
% Fine Sand	0.063 - 0.25 mm	45.57

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	18.41	0.150	5.74	0.106	0.119
D30	30	78.11	0.425	18.41	0.150	0.184
D50	50	78.11	0.425	18.41	0.150	0.260
D60	60	78.11	0.425	18.41	0.150	0.310

Uniformity Coefficient (Cu)	2.601
Coefficient of Curvature (Cc)	0.913



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB020-1

Water Depth (m) 30.68

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB021-2
Water Depth (m)	27.93

Grain Size Data

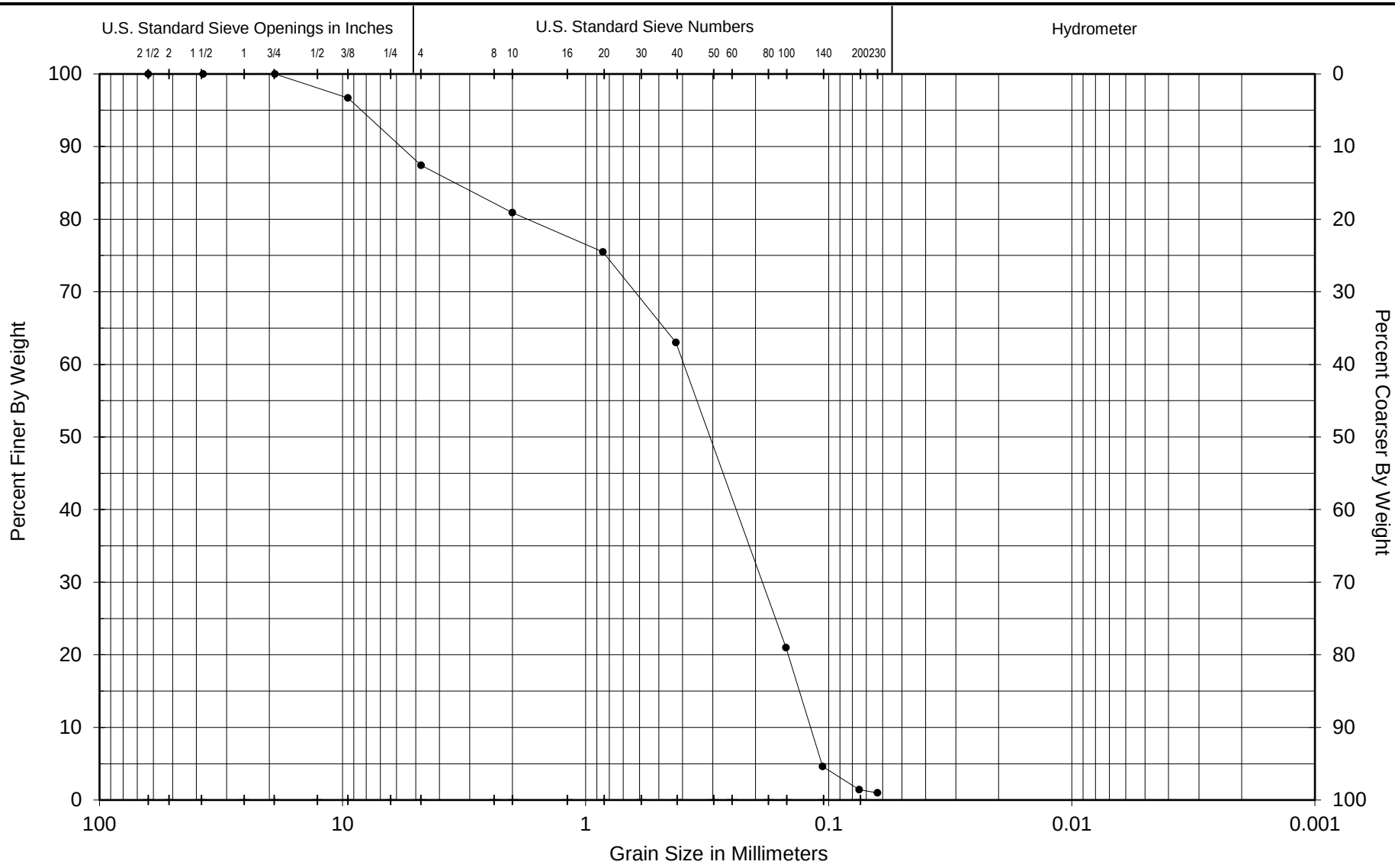
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	96.70	3.30	
4.75	4	87.40	12.60	
2	10	80.89	19.11	1.78
0.85	20	75.49	24.51	
0.425	40	63.01	36.99	
0.15	100	20.97	79.03	
0.106	140	4.63	95.37	
0.075	200	1.42	98.58	
0.063	230	0.98	99.02	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	80.89
% Passing #230	0.98
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	18.77
% Gravel-Sized Shell	> 2.00 mm	0.34
% Sand	0.063 - 2.00 mm	79.91
% Silt and Clay	< 0.063 mm	0.98
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	14.96
% Medium Sand	0.25 - 0.50 mm	24.34
% Fine Sand	0.063 - 0.25 mm	40.61

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	20.97	0.150	4.63	0.106	0.119
D30	30	63.01	0.425	20.97	0.150	0.188
D50	50	63.01	0.425	20.97	0.150	0.308
D60	60	63.01	0.425	20.97	0.150	0.394

Uniformity Coefficient (Cu)	3.320
Coefficient of Curvature (Cc)	0.751



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB021-2

Water Depth (m) 27.93

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB022-1
Water Depth (m)	25.79

Grain Size Data

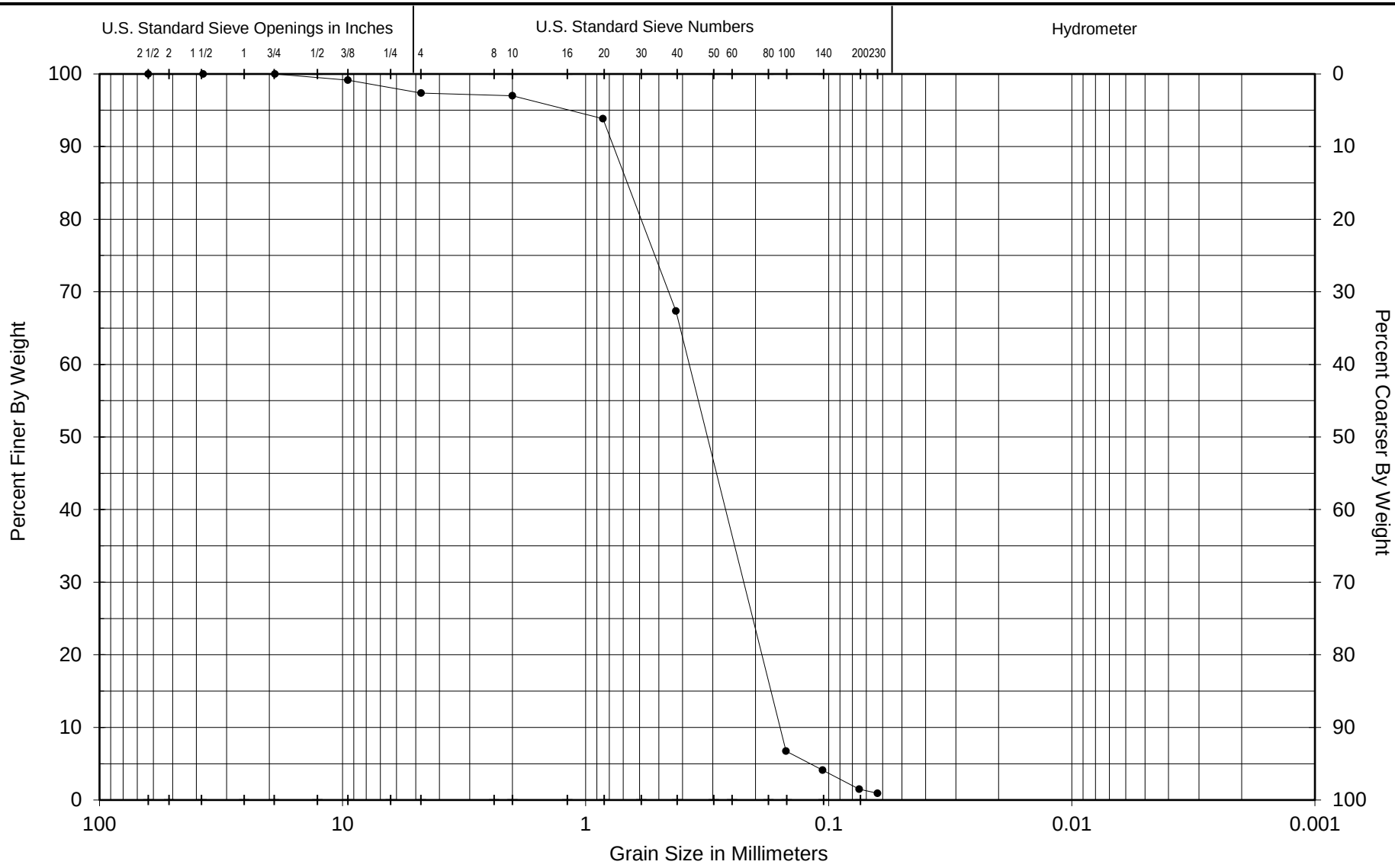
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.14	0.86	
4.75	4	97.38	2.62	
2	10	97.00	3.00	41.47
0.85	20	93.84	6.16	
0.425	40	67.36	32.64	
0.15	100	6.75	93.25	
0.106	140	4.10	95.90	
0.075	200	1.49	98.51	
0.063	230	0.93	99.07	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.00
% Passing #230 0.93
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.76
% Gravel-Sized Shell	> 2.00 mm	1.25
% Sand	0.063 - 2.00 mm	96.07
% Silt and Clay	< 0.063 mm	0.93
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	23.43
% Medium Sand	0.25 - 0.50 mm	37.09
% Fine Sand	0.063 - 0.25 mm	35.55

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	67.36	0.425	6.75	0.150	0.159
D30	30	67.36	0.425	6.75	0.150	0.224
D50	50	67.36	0.425	6.75	0.150	0.315
D60	60	67.36	0.425	6.75	0.150	0.374

Uniformity Coefficient (Cu)	2.361
Coefficient of Curvature (Cc)	0.842



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB022-1

Water Depth (m) 25.79

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB023-1
Water Depth (m)	25.90

Grain Size Data

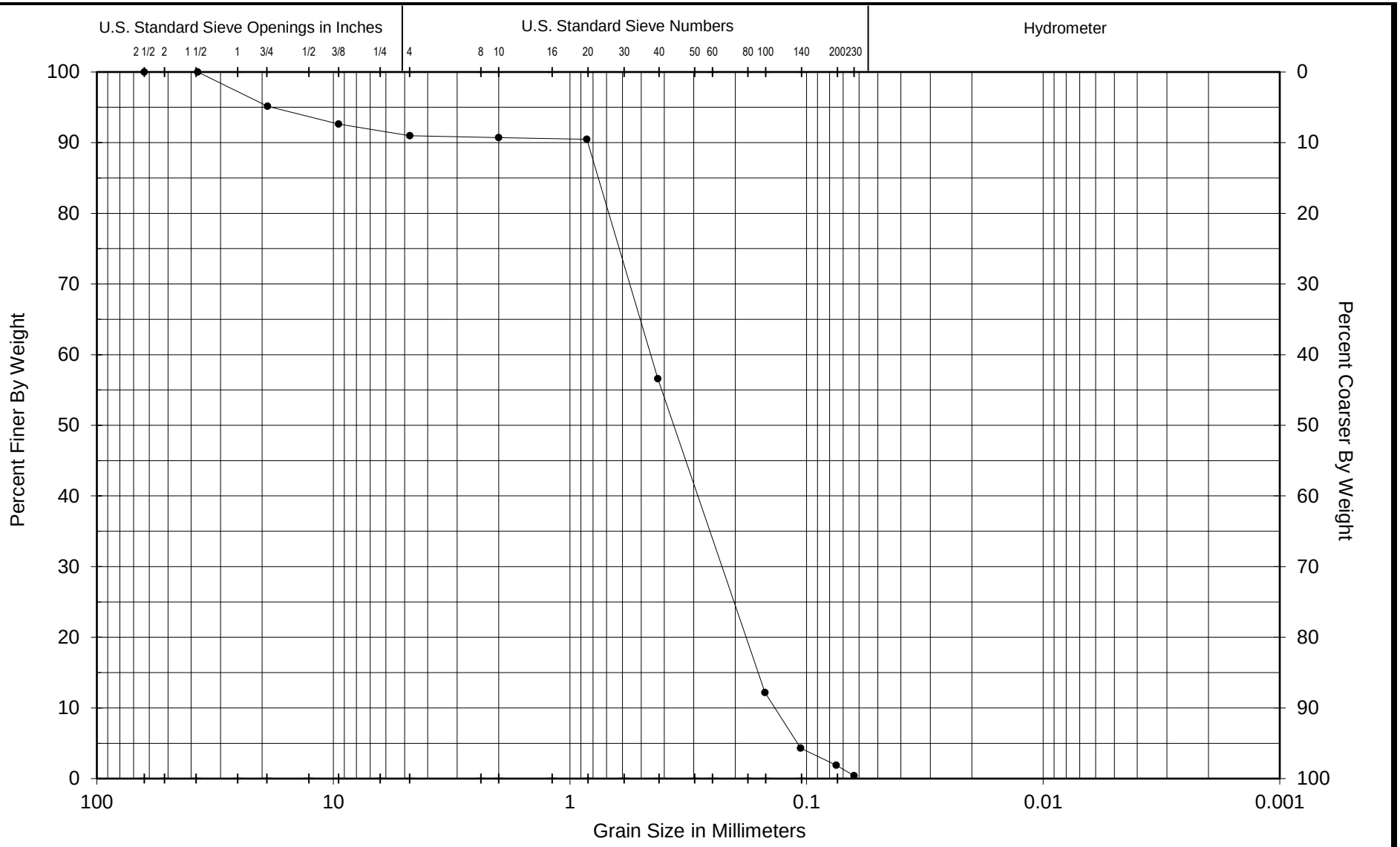
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	95.15	4.85	
9.5	3/8"	92.63	7.37	
4.75	4	90.99	9.01	
2	10	90.70	9.30	11.26
0.85	20	90.46	9.54	
0.425	40	56.58	43.42	
0.15	100	12.18	87.82	
0.106	140	4.31	95.69	
0.075	200	1.90	98.10	
0.063	230	0.40	99.60	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 90.70
% Passing #230 0.40
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	8.25
% Gravel-Sized Shell	> 2.00 mm	1.05
% Sand	0.063 - 2.00 mm	90.31
% Silt and Clay	< 0.063 mm	0.40
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	26.18
% Medium Sand	0.25 - 0.50 mm	30.57
% Fine Sand	0.063 - 0.25 mm	33.56

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	12.18	0.150	4.31	0.106	0.136
D30	30	56.58	0.425	12.18	0.150	0.228
D50	50	56.58	0.425	12.18	0.150	0.364
D60	60	90.46	0.850	56.58	0.425	0.456

Uniformity Coefficient (Cu)	3.346
Coefficient of Curvature (Cc)	0.836



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB023-1

Water Depth (m) 25.90

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB024-1
Water Depth (m)	26.85

Grain Size Data

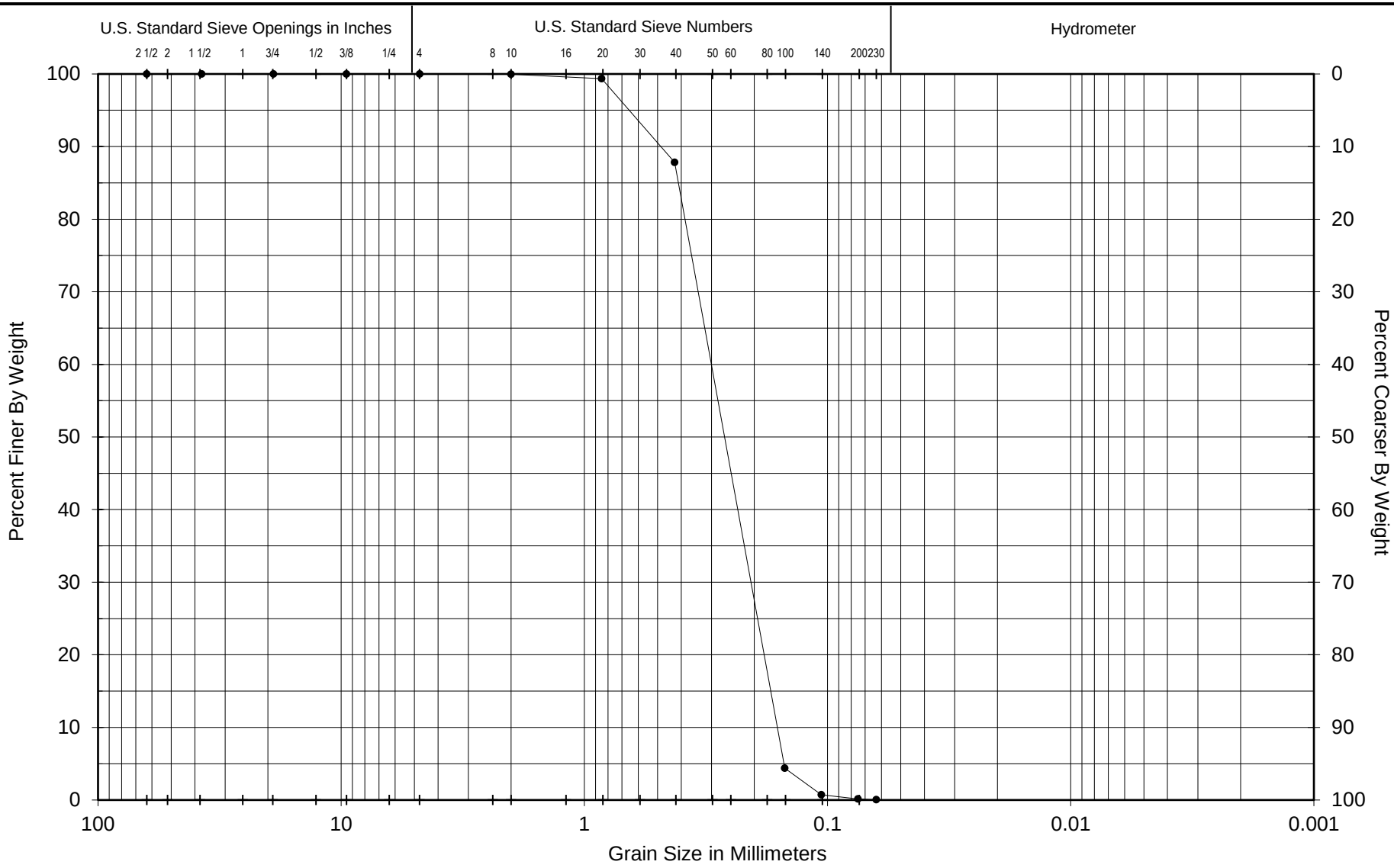
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.94	0.06	60.87
0.85	20	99.37	0.63	
0.425	40	87.81	12.19	
0.15	100	4.38	95.62	
0.106	140	0.73	99.27	
0.075	200	0.15	99.85	
0.063	230	0.05	99.95	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.94
% Passing #230 0.05
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.03
% Sand	0.063 - 2.00 mm	99.90
% Silt and Clay	< 0.063 mm	0.05
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	9.42
% Medium Sand	0.25 - 0.50 mm	45.22
% Fine Sand	0.063 - 0.25 mm	45.25

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	87.81	0.425	4.38	0.150	0.161
D30	30	87.81	0.425	4.38	0.150	0.207
D50	50	87.81	0.425	4.38	0.150	0.265
D60	60	87.81	0.425	4.38	0.150	0.300

Uniformity Coefficient (Cu)	1.867
Coefficient of Curvature (Cc)	0.883



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB024-1

Water Depth (m) 26.85

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB025-1
Water Depth (m)	28.12

Grain Size Data

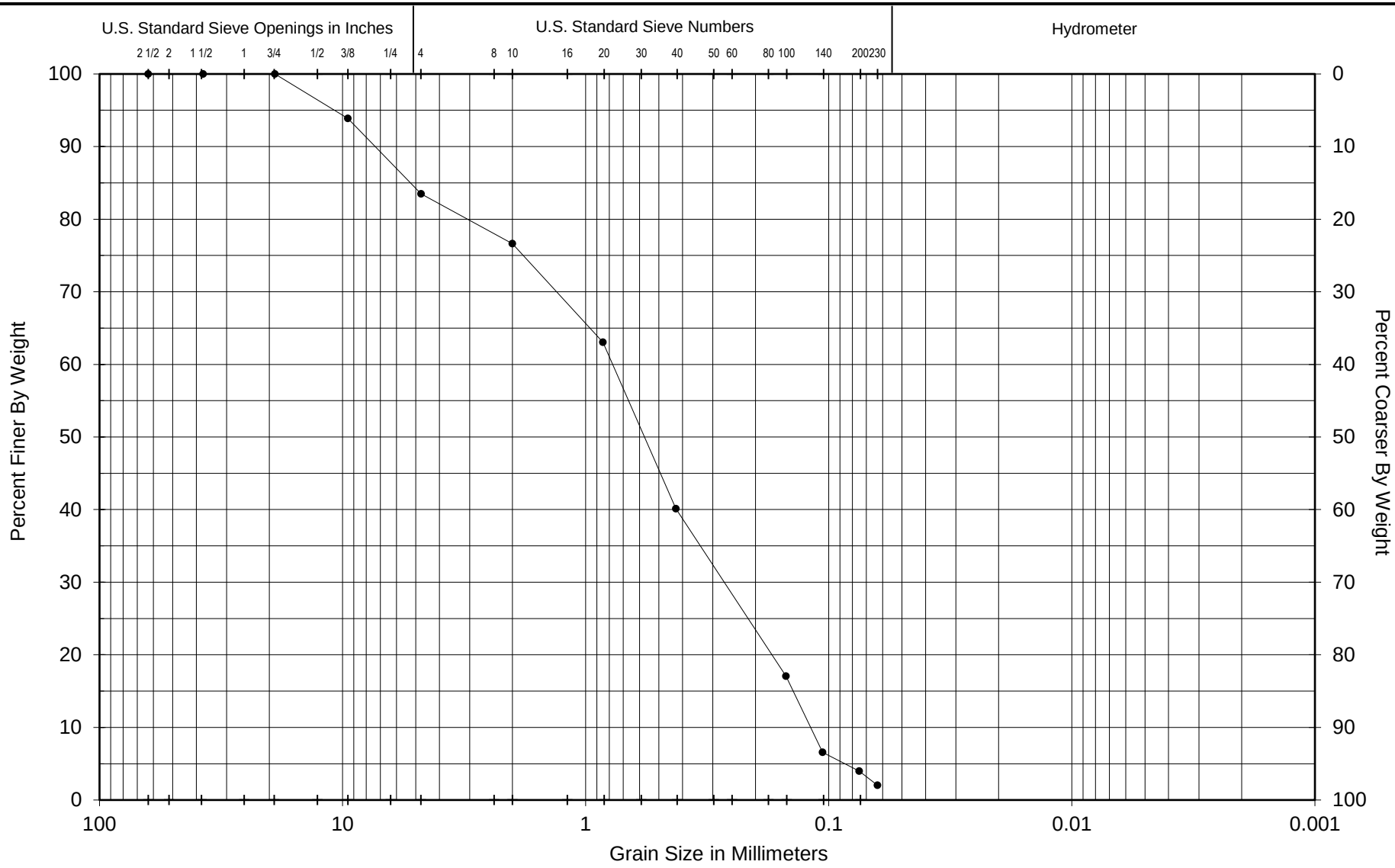
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	93.87	6.13	
4.75	4	83.50	16.50	
2	10	76.64	23.36	0.44
0.85	20	63.05	36.95	
0.425	40	40.11	59.89	
0.15	100	17.05	82.95	
0.106	140	6.55	93.45	
0.075	200	3.97	96.03	
0.063	230	2.03	97.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	76.64
% Passing #230	2.03
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	23.26
% Gravel-Sized Shell	> 2.00 mm	0.10
% Sand	0.063 - 2.00 mm	74.61
% Silt and Clay	< 0.063 mm	2.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	31.15
% Medium Sand	0.25 - 0.50 mm	17.13
% Fine Sand	0.063 - 0.25 mm	26.33

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	17.05	0.150	6.55	0.106	0.119
D30	30	40.11	0.425	17.05	0.150	0.269
D50	50	63.05	0.850	40.11	0.425	0.573
D60	60	63.05	0.850	40.11	0.425	0.775

Uniformity Coefficient (Cu)	6.524
Coefficient of Curvature (Cc)	0.787



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB025-1

Water Depth (m) 28.12

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB026A-1
Water Depth (m)	21.33

Grain Size Data

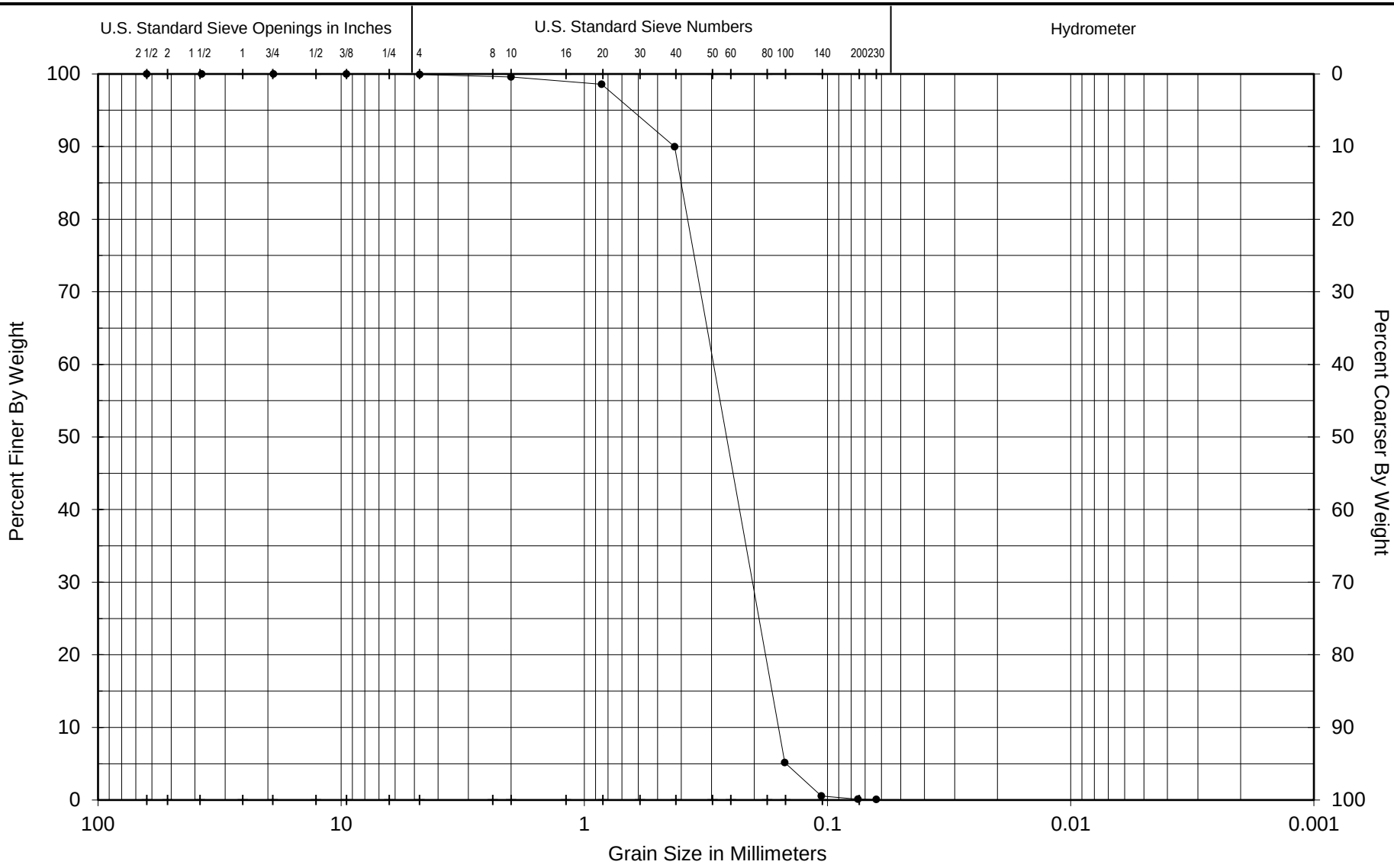
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.91	0.09	
2	10	99.57	0.43	97.74
0.85	20	98.59	1.41	
0.425	40	89.96	10.04	
0.15	100	5.17	94.83	
0.106	140	0.56	99.44	
0.075	200	0.11	99.89	
0.063	230	0.08	99.92	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.57
% Passing #230 0.08
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.42
% Sand	0.063 - 2.00 mm	99.49
% Silt and Clay	< 0.063 mm	0.08
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	7.59
% Medium Sand	0.25 - 0.50 mm	45.23
% Fine Sand	0.063 - 0.25 mm	46.68

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	89.96	0.425	5.17	0.150	0.159
D30	30	89.96	0.425	5.17	0.150	0.203
D50	50	89.96	0.425	5.17	0.150	0.260
D60	60	89.96	0.425	5.17	0.150	0.294

Uniformity Coefficient (Cu)	1.848
Coefficient of Curvature (Cc)	0.884



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB026A-1

Water Depth (m) 21.33

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB026B-1
Water Depth (m)	21.41

Grain Size Data

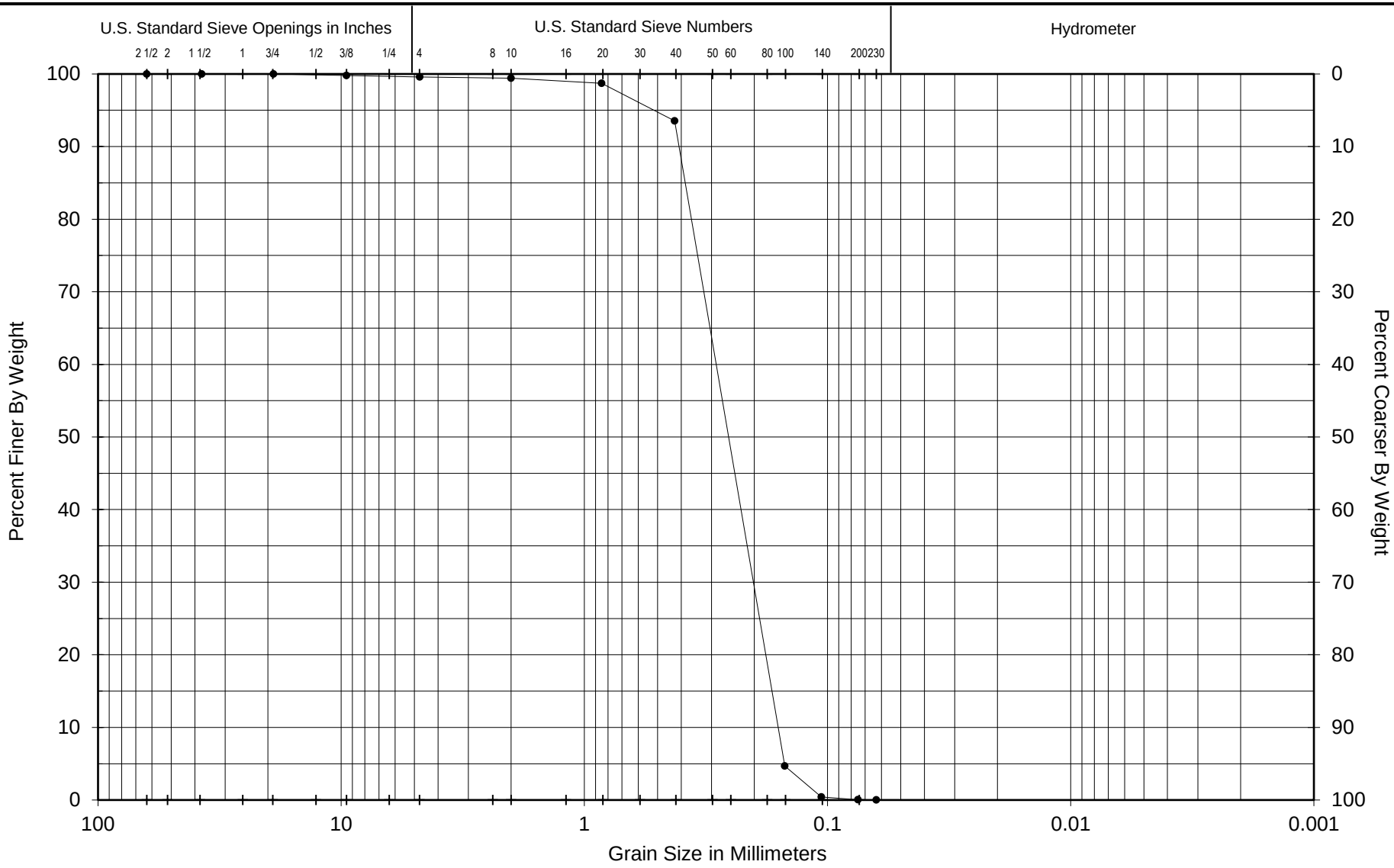
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.80	0.20	
4.75	4	99.60	0.40	
2	10	99.40	0.60	97.92
0.85	20	98.72	1.28	
0.425	40	93.54	6.46	
0.15	100	4.68	95.32	
0.106	140	0.41	99.59	
0.075	200	0.03	99.97	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.40
% Passing #230	0.02
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.59
% Sand	0.063 - 2.00 mm	99.38
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	4.65
% Medium Sand	0.25 - 0.50 mm	46.49
% Fine Sand	0.063 - 0.25 mm	48.25

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	93.54	0.425	4.68	0.150	0.160
D30	30	93.54	0.425	4.68	0.150	0.202
D50	50	93.54	0.425	4.68	0.150	0.255
D60	60	93.54	0.425	4.68	0.150	0.287

Uniformity Coefficient (Cu)	1.797
Coefficient of Curvature (Cc)	0.889



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB026B-1

Water Depth (m) 21.41

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB026C-1
Water Depth (m)	21.44

Grain Size Data

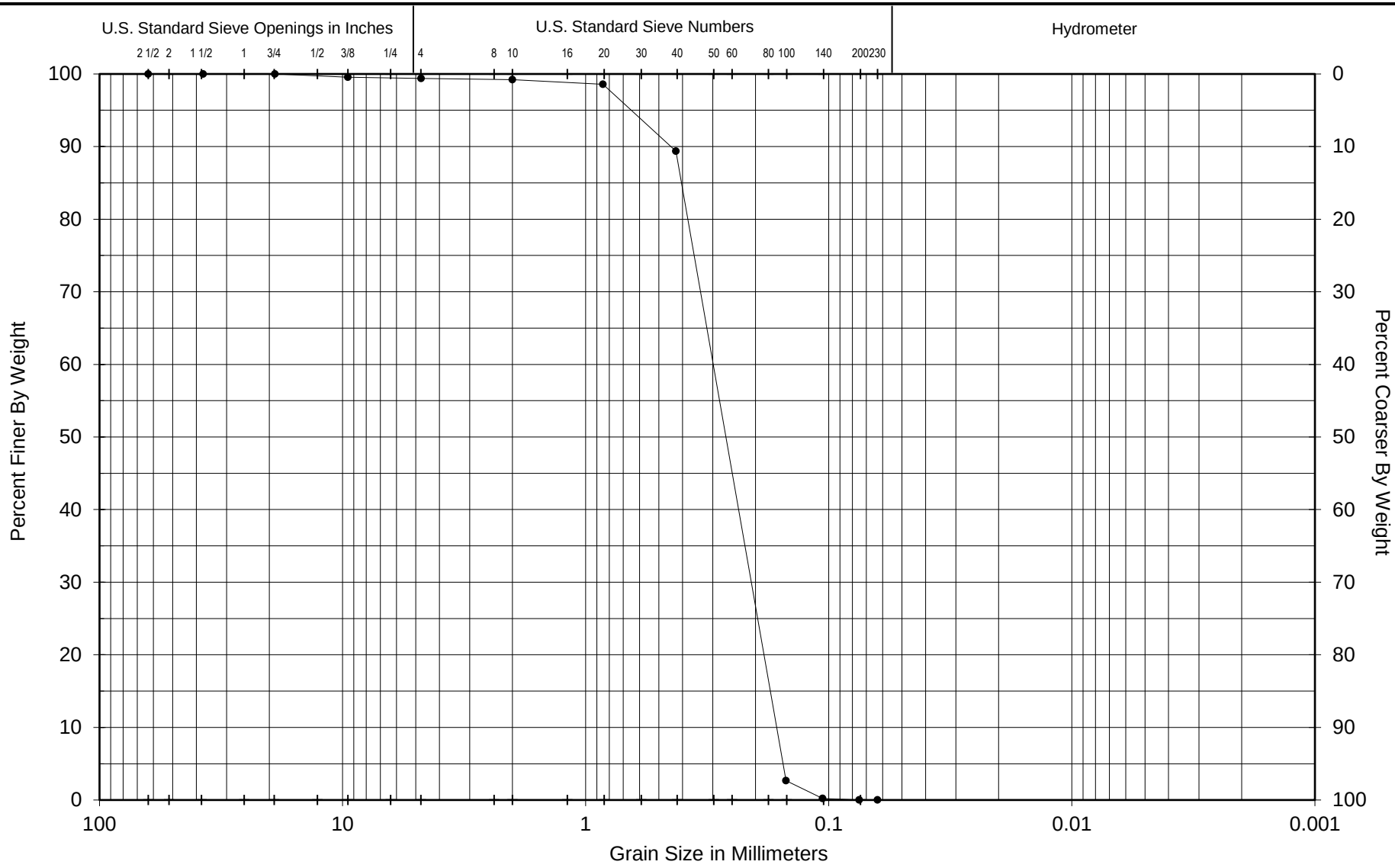
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.55	0.45	
4.75	4	99.37	0.63	
2	10	99.21	0.79	100.00
0.85	20	98.57	1.43	
0.425	40	89.38	10.62	
0.15	100	2.68	97.32	
0.106	140	0.22	99.78	
0.075	200	0.02	99.98	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.21
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.79
% Sand	0.063 - 2.00 mm	99.19
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	7.67
% Medium Sand	0.25 - 0.50 mm	46.33
% Fine Sand	0.063 - 0.25 mm	45.19

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	89.38	0.425	2.68	0.150	0.164
D30	30	89.38	0.425	2.68	0.150	0.208
D50	50	89.38	0.425	2.68	0.150	0.265
D60	60	89.38	0.425	2.68	0.150	0.299

Uniformity Coefficient (Cu)	1.823
Coefficient of Curvature (Cc)	0.887



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB026C-1

Water Depth (m) 21.44

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB027A-1
Water Depth (m)	23.27

Grain Size Data

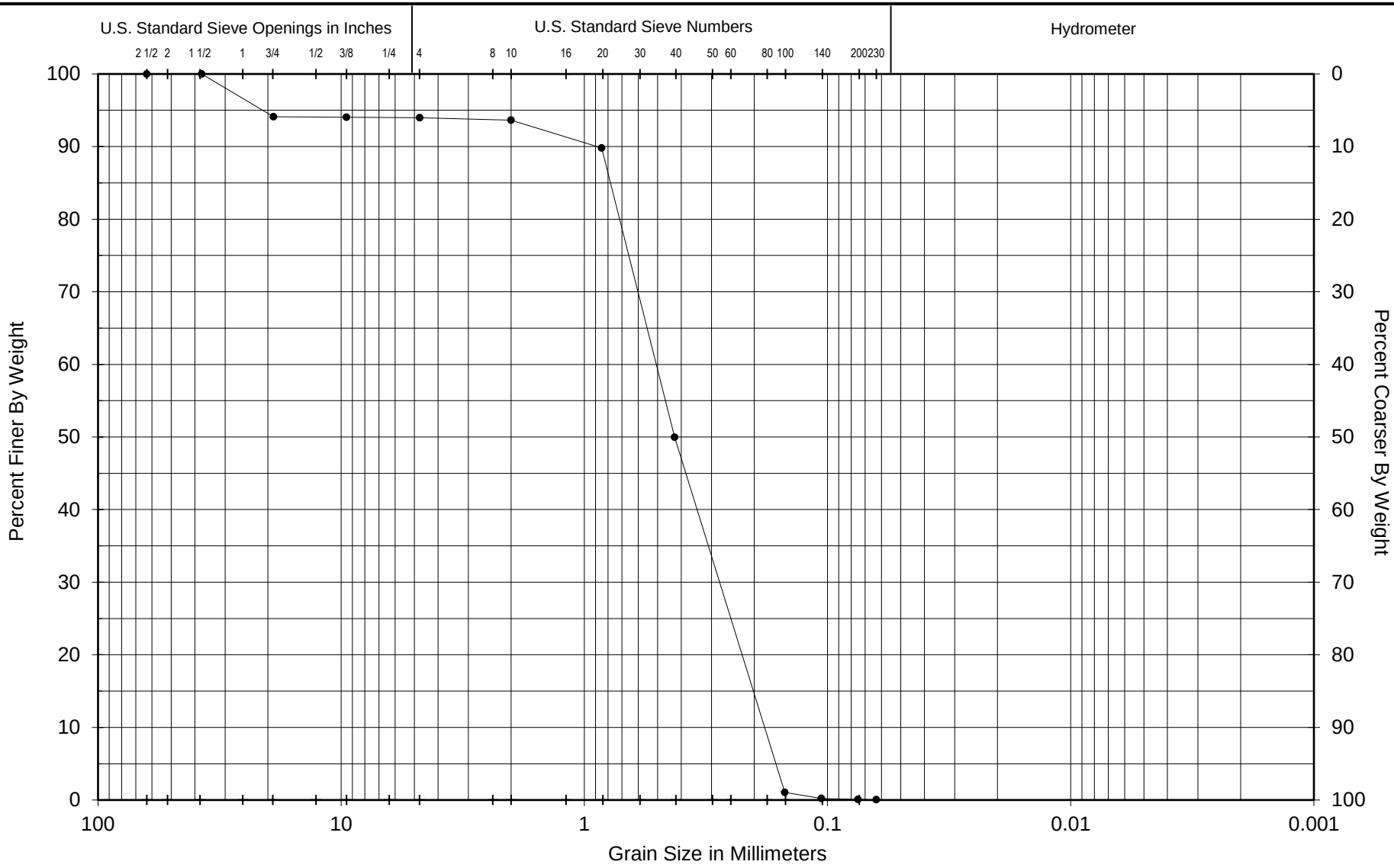
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	94.11	5.89	
9.5	3/8"	94.04	5.96	
4.75	4	93.98	6.02	
2	10	93.64	6.36	97.63
0.85	20	89.79	10.21	
0.425	40	49.96	50.04	
0.15	100	1.06	98.94	
0.106	140	0.22	99.78	
0.075	200	0.07	99.93	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 93.64
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.15
% Gravel-Sized Shell	> 2.00 mm	6.21
% Sand	0.063 - 2.00 mm	93.60
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	34.34
% Medium Sand	0.25 - 0.50 mm	34.26
% Fine Sand	0.063 - 0.25 mm	25.00

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	49.96	0.425	1.06	0.150	0.181
D30	30	49.96	0.425	1.06	0.150	0.278
D50	50	89.79	0.850	49.96	0.425	0.425
D60	60	89.79	0.850	49.96	0.425	0.506

Uniformity Coefficient (Cu)	2.789
Coefficient of Curvature (Cc)	0.840



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB027A-1

Water Depth (m) 23.27

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB027B-1
Water Depth (m)	23.06

Grain Size Data

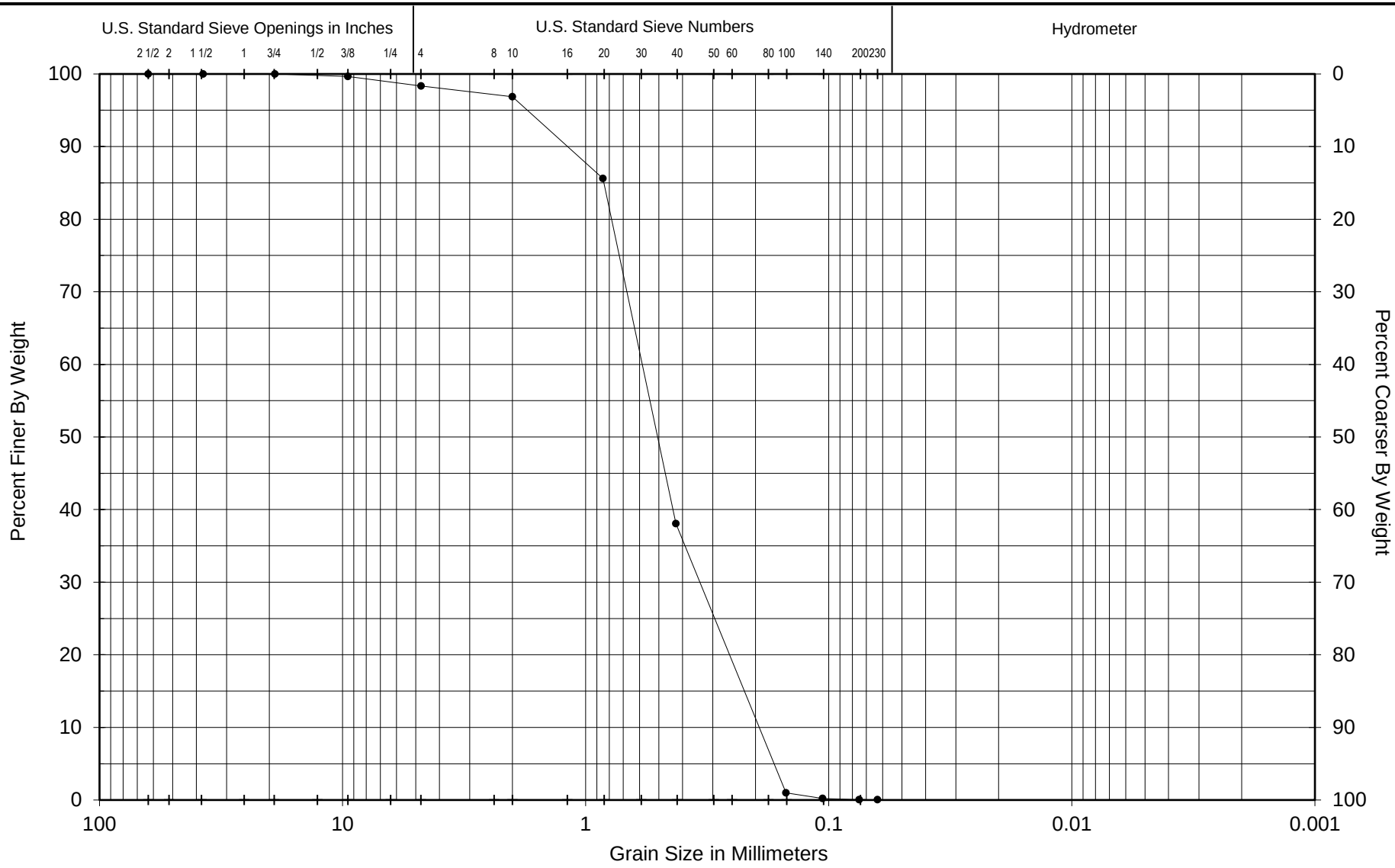
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.66	0.34	
4.75	4	98.35	1.65	
2	10	96.86	3.14	44.86
0.85	20	85.59	14.41	
0.425	40	38.08	61.92	
0.15	100	0.98	99.02	
0.106	140	0.22	99.78	
0.075	200	0.05	99.95	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	96.86
% Passing #230	0.03
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	1.73
% Gravel-Sized Shell	> 2.00 mm	1.41
% Sand	0.063 - 2.00 mm	96.83
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	47.64
% Medium Sand	0.25 - 0.50 mm	30.04
% Fine Sand	0.063 - 0.25 mm	19.14

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	38.08	0.425	0.98	0.150	0.193
D30	30	38.08	0.425	0.98	0.150	0.339
D50	50	85.59	0.850	38.08	0.425	0.506
D60	60	85.59	0.850	38.08	0.425	0.585

Uniformity Coefficient (Cu)	3.028
Coefficient of Curvature (Cc)	1.015



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB027B-1

Water Depth (m) 23.06

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB027C-1
Water Depth (m)	21.33

Grain Size Data

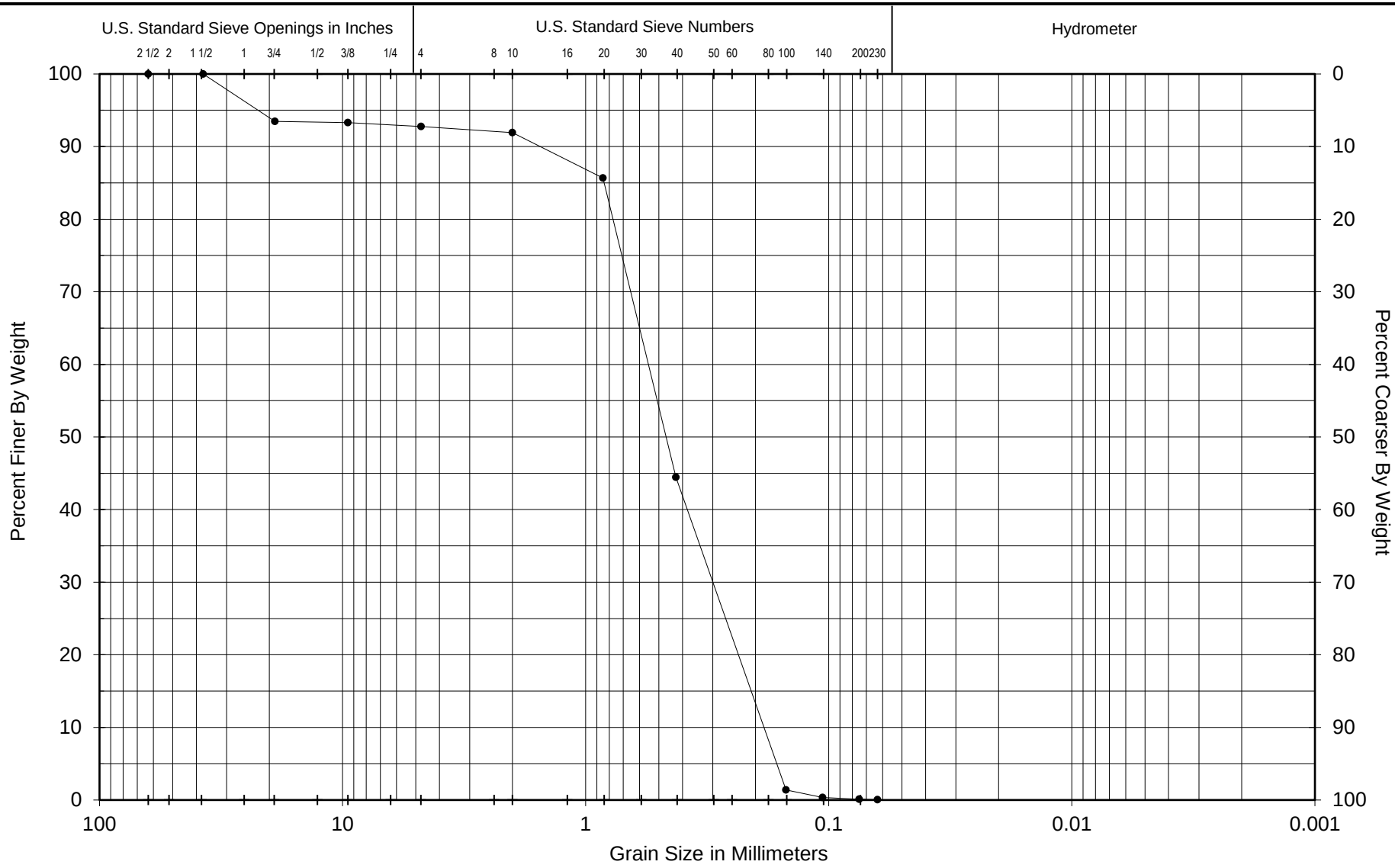
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	93.46	6.54	
9.5	3/8"	93.31	6.69	
4.75	4	92.75	7.25	
2	10	91.91	8.09	94.91
0.85	20	85.66	14.34	
0.425	40	44.44	55.56	
0.15	100	1.39	98.61	
0.106	140	0.34	99.66	
0.075	200	0.10	99.90	
0.063	230	0.06	99.94	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 91.91
% Passing #230 0.06
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.41
% Gravel-Sized Shell	> 2.00 mm	7.68
% Sand	0.063 - 2.00 mm	91.85
% Silt and Clay	< 0.063 mm	0.06
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	37.80
% Medium Sand	0.25 - 0.50 mm	31.60
% Fine Sand	0.063 - 0.25 mm	22.45

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	44.44	0.425	1.39	0.150	0.185
D30	30	44.44	0.425	1.39	0.150	0.300
D50	50	85.66	0.850	44.44	0.425	0.467
D60	60	85.66	0.850	44.44	0.425	0.552

Uniformity Coefficient (Cu)	2.988
Coefficient of Curvature (Cc)	0.881



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB027C-1

Water Depth (m) 21.33

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB028A-1
Water Depth (m)	20.55

Grain Size Data

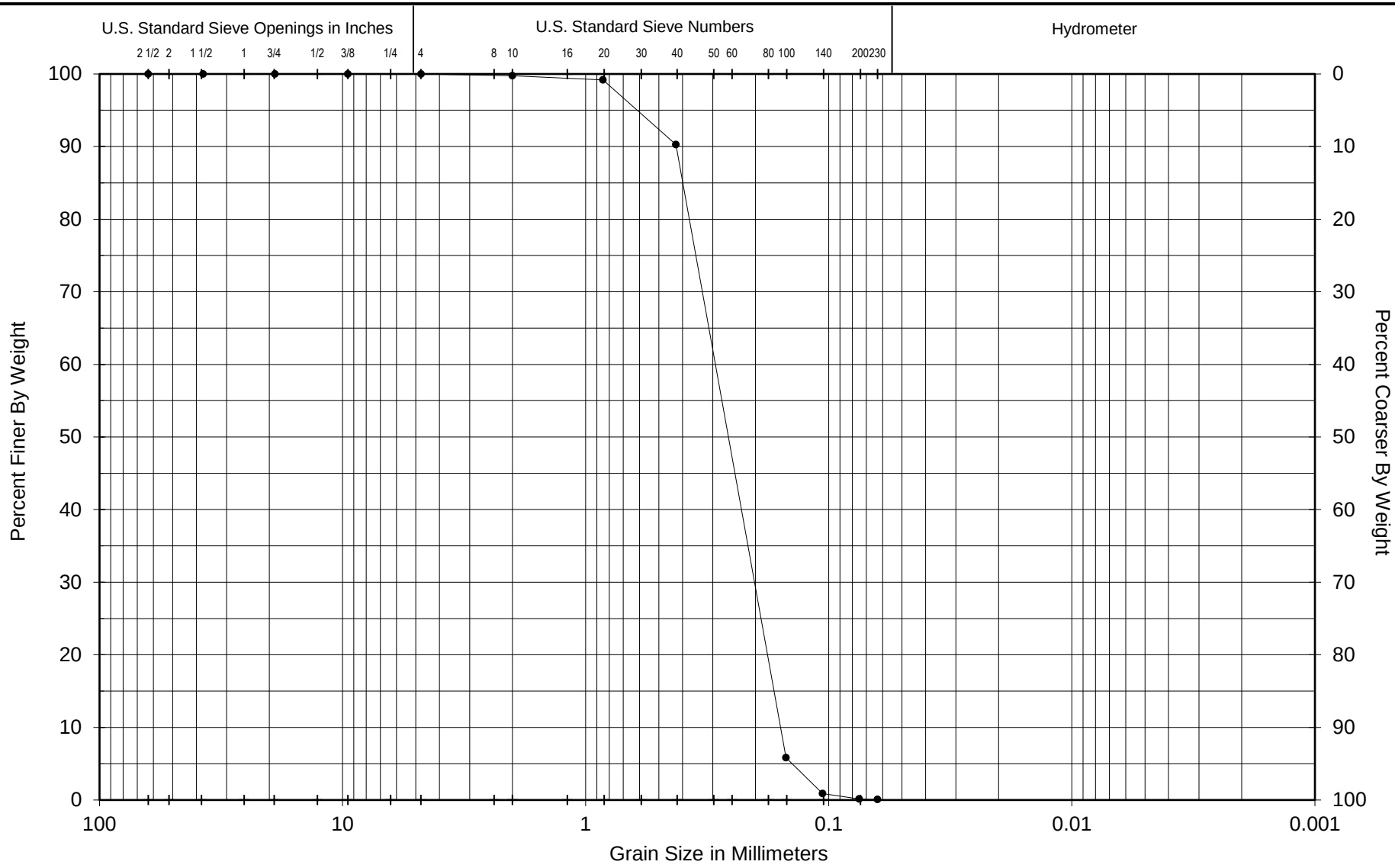
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.99	0.01	
2	10	99.76	0.24	98.18
0.85	20	99.18	0.82	
0.425	40	90.29	9.71	
0.15	100	5.81	94.19	
0.106	140	0.89	99.11	
0.075	200	0.16	99.84	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.76
% Passing #230 0.07
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.24
% Sand	0.063 - 2.00 mm	99.69
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	7.38
% Medium Sand	0.25 - 0.50 mm	45.13
% Fine Sand	0.063 - 0.25 mm	47.18

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	90.29	0.425	5.81	0.150	0.158
D30	30	90.29	0.425	5.81	0.150	0.202
D50	50	90.29	0.425	5.81	0.150	0.259
D60	60	90.29	0.425	5.81	0.150	0.293

Uniformity Coefficient (Cu)	1.852
Coefficient of Curvature (Cc)	0.884



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB028A-1

Water Depth (m) 20.55

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB028B-1
Water Depth (m)	20.09

Grain Size Data

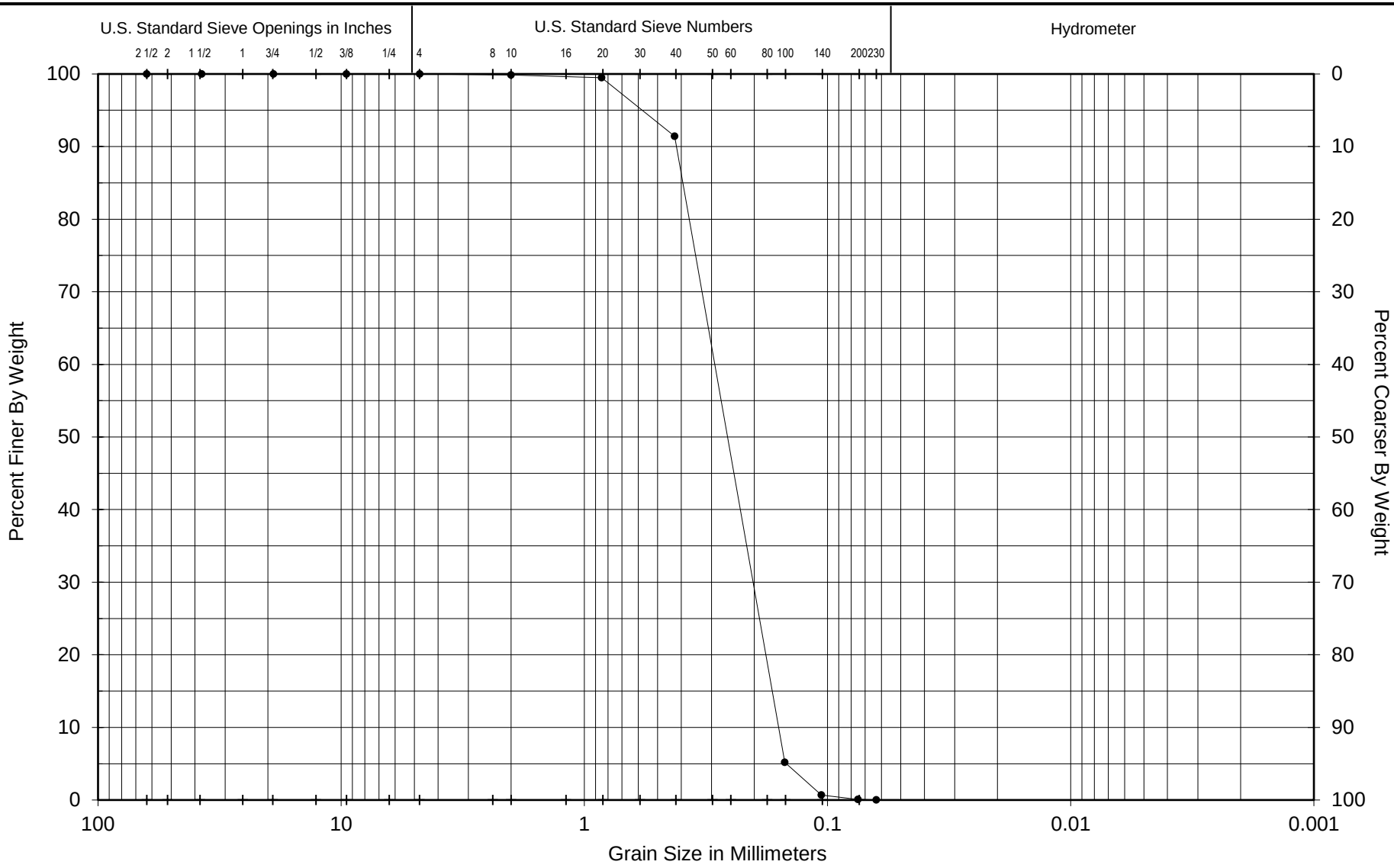
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.99	0.01	
2	10	99.86	0.14	100.00
0.85	20	99.50	0.50	
0.425	40	91.42	8.58	
0.15	100	5.18	94.82	
0.106	140	0.67	99.33	
0.075	200	0.09	99.91	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.86
% Passing #230 0.03
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.14
% Sand	0.063 - 2.00 mm	99.84
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.54
% Medium Sand	0.25 - 0.50 mm	45.83
% Fine Sand	0.063 - 0.25 mm	47.46

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	91.42	0.425	5.18	0.150	0.159
D30	30	91.42	0.425	5.18	0.150	0.202
D50	50	91.42	0.425	5.18	0.150	0.258
D60	60	91.42	0.425	5.18	0.150	0.291

Uniformity Coefficient (Cu)	1.829
Coefficient of Curvature (Cc)	0.886



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB028B-1

Water Depth (m) 20.09

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB028C-1
Water Depth (m)	20.35

Grain Size Data

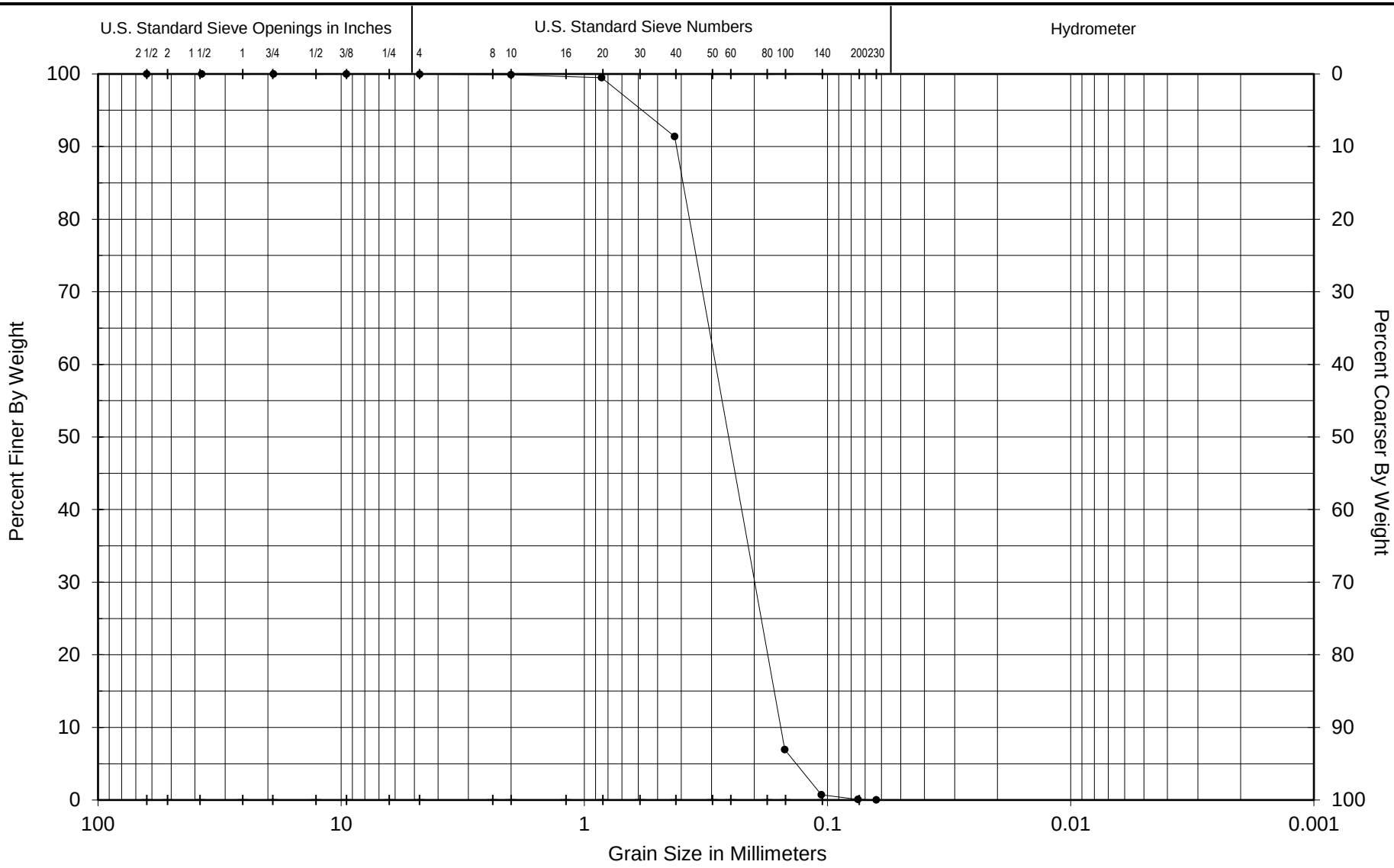
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.88	0.12	100.00
0.85	20	99.50	0.50	
0.425	40	91.39	8.61	
0.15	100	6.94	93.06	
0.106	140	0.70	99.30	
0.075	200	0.09	99.91	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.88
% Passing #230 0.03
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.12
% Sand	0.063 - 2.00 mm	99.86
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.59
% Medium Sand	0.25 - 0.50 mm	44.93
% Fine Sand	0.063 - 0.25 mm	48.34

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	91.39	0.425	6.94	0.150	0.156
D30	30	91.39	0.425	6.94	0.150	0.199
D50	50	91.39	0.425	6.94	0.150	0.255
D60	60	91.39	0.425	6.94	0.150	0.289

Uniformity Coefficient (Cu)	1.853
Coefficient of Curvature (Cc)	0.884



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB028C-1

Water Depth (m) 20.35

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB029-5
Water Depth (m)	17.92

Grain Size Data

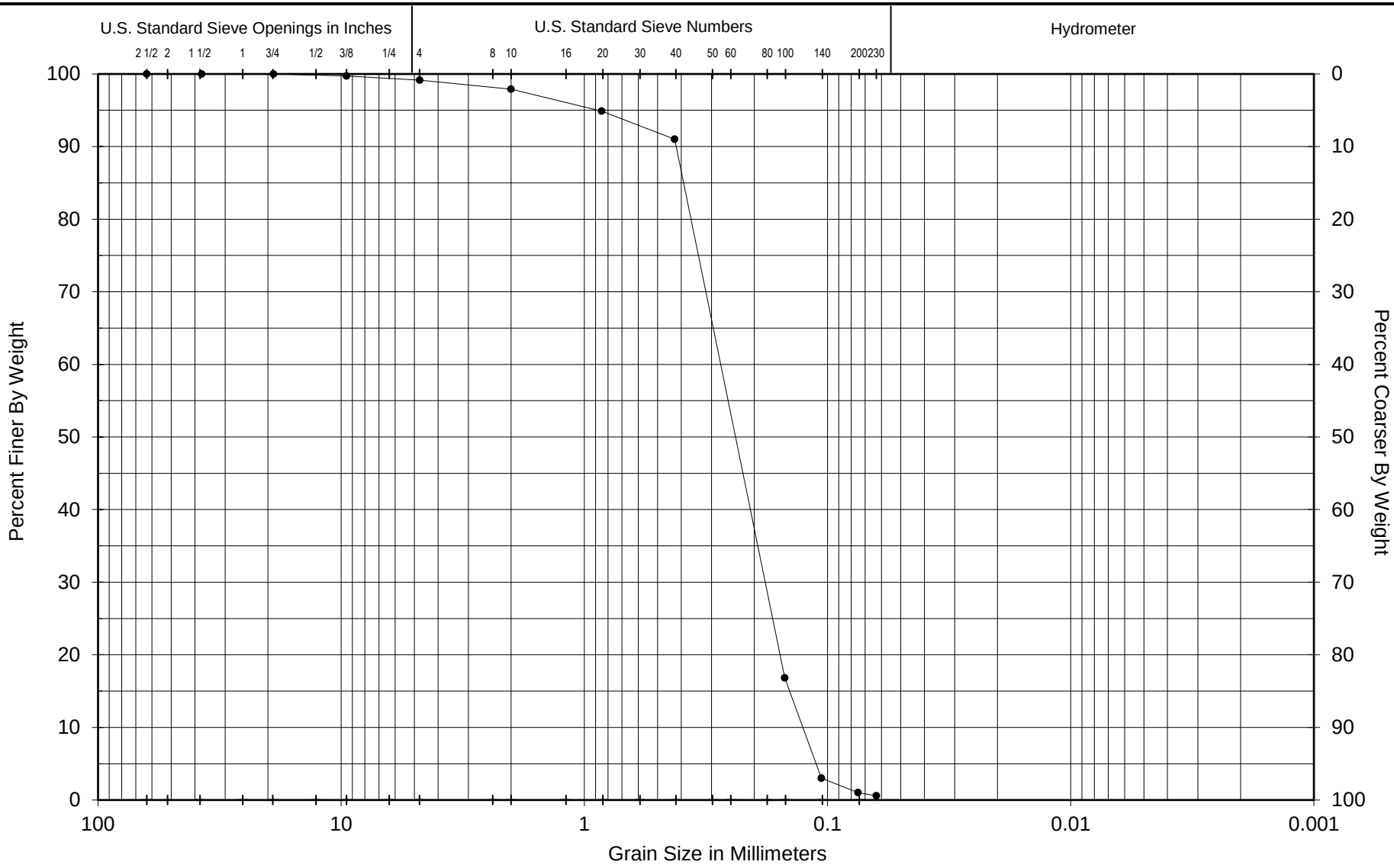
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.73	0.27	
4.75	4	99.15	0.85	
2	10	97.90	2.10	22.15
0.85	20	94.89	5.11	
0.425	40	91.00	9.00	
0.15	100	16.81	83.19	
0.106	140	2.99	97.01	
0.075	200	1.03	98.97	
0.063	230	0.58	99.42	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.90
% Passing #230 0.58
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.64
% Gravel-Sized Shell	> 2.00 mm	0.47
% Sand	0.063 - 2.00 mm	97.32
% Silt and Clay	< 0.063 mm	0.58
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	5.99
% Medium Sand	0.25 - 0.50 mm	38.71
% Fine Sand	0.063 - 0.25 mm	52.62

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	16.81	0.150	2.99	0.106	0.126
D30	30	91.00	0.425	16.81	0.150	0.181
D50	50	91.00	0.425	16.81	0.150	0.239
D60	60	91.00	0.425	16.81	0.150	0.275

Uniformity Coefficient (Cu)	2.176
Coefficient of Curvature (Cc)	0.937



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB029-5

Water Depth (m) 17.92

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB030A-1
Water Depth (m)	19.97

Grain Size Data

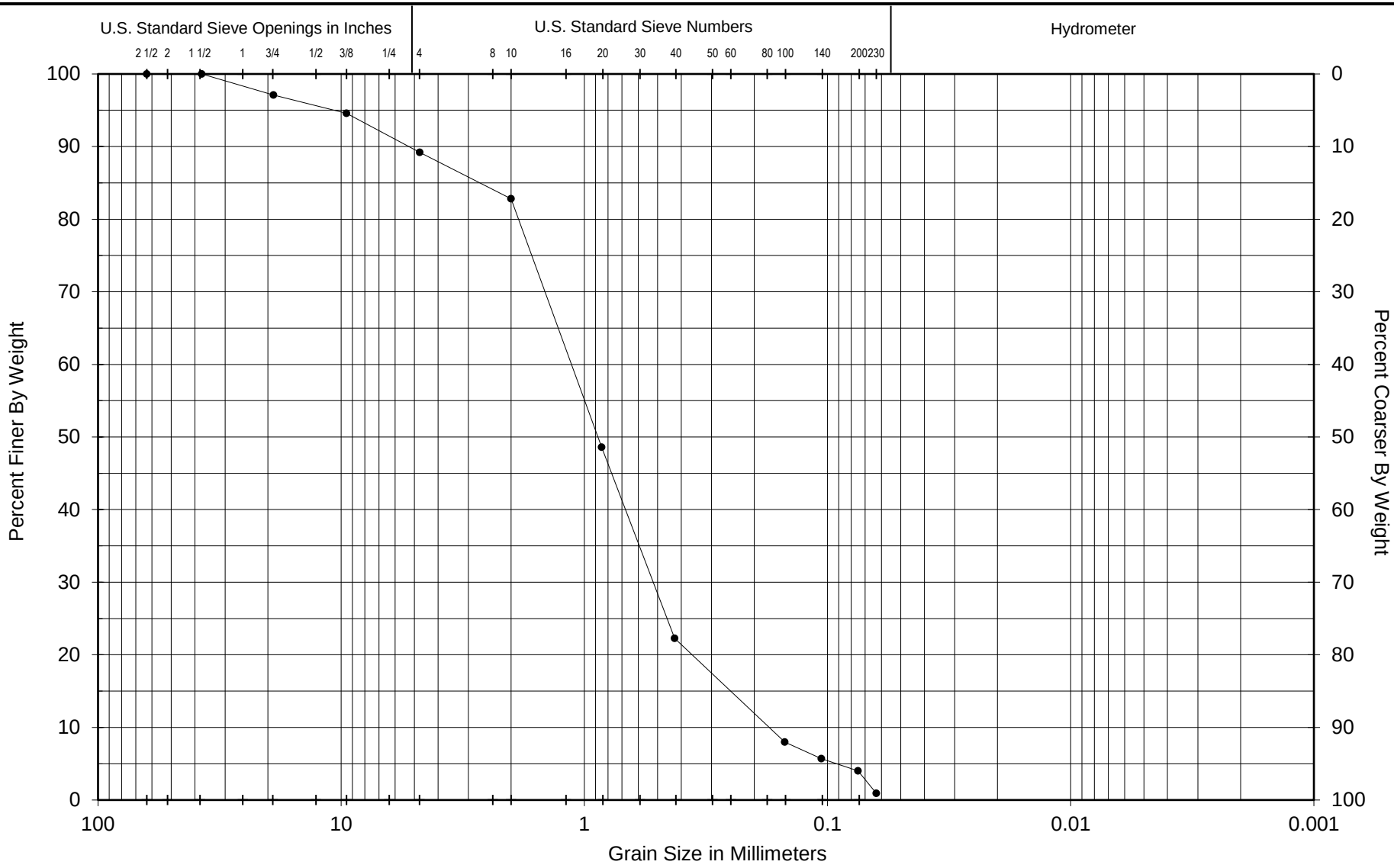
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	97.10	2.90	
9.5	3/8"	94.57	5.43	
4.75	4	89.20	10.80	
2	10	82.80	17.20	7.59
0.85	20	48.58	51.42	
0.425	40	22.26	77.74	
0.15	100	7.97	92.03	
0.106	140	5.68	94.32	
0.075	200	4.00	96.00	
0.063	230	0.92	99.08	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 82.80
% Passing #230 0.92
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	15.89
% Gravel-Sized Shell	> 2.00 mm	1.31
% Sand	0.063 - 2.00 mm	81.89
% Silt and Clay	< 0.063 mm	0.92
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	54.37
% Medium Sand	0.25 - 0.50 mm	13.45
% Fine Sand	0.063 - 0.25 mm	14.06

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	22.26	0.425	7.97	0.150	0.174
D30	30	48.58	0.850	22.26	0.425	0.521
D50	50	82.80	2.000	48.58	0.850	0.881
D60	60	82.80	2.000	48.58	0.850	1.131

Uniformity Coefficient (Cu)	6.501
Coefficient of Curvature (Cc)	1.380



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB030A-1

Water Depth (m) 19.97

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB030B-1
Water Depth (m)	20.31

Grain Size Data

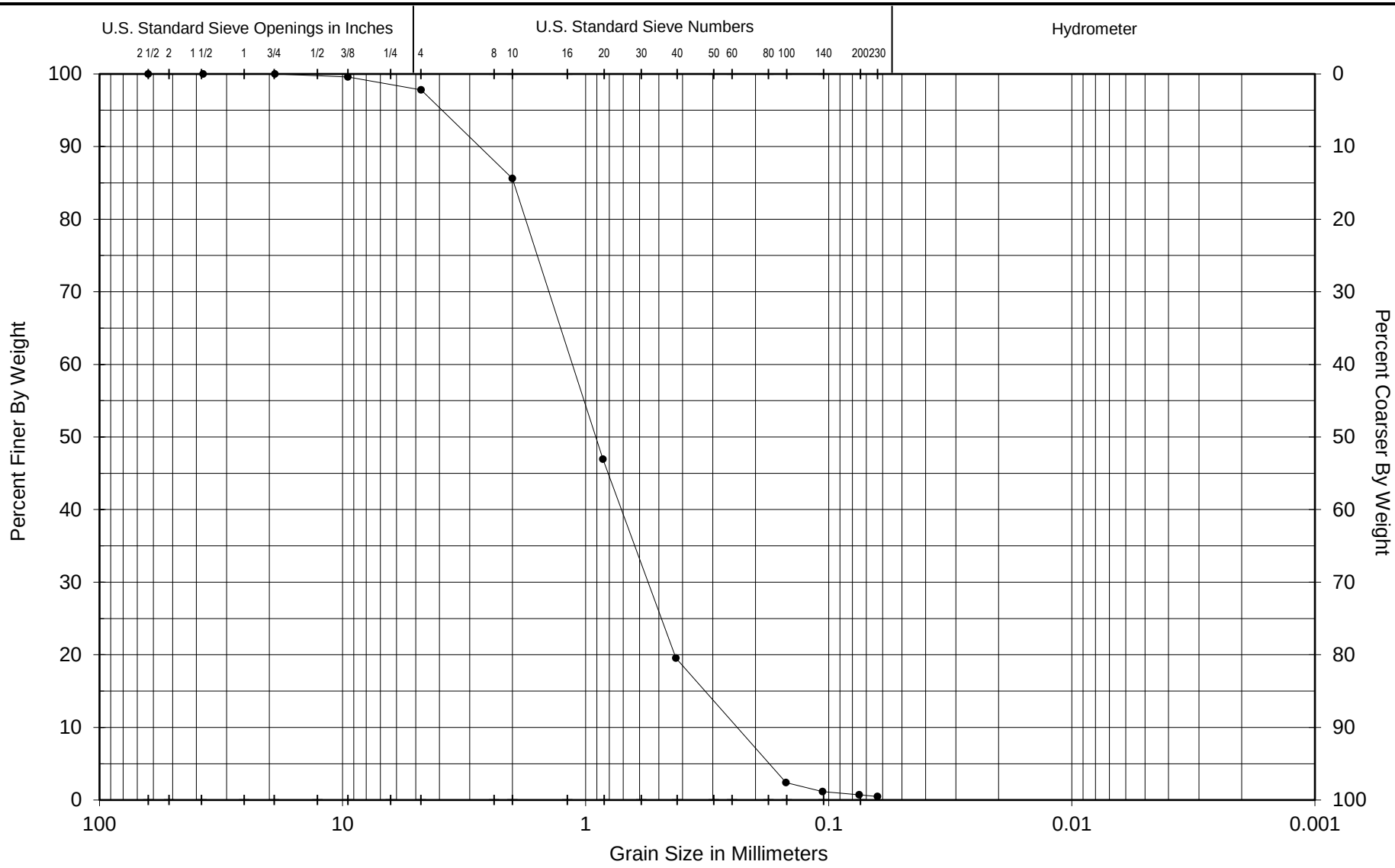
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.57	0.43	
4.75	4	97.82	2.18	
2	10	85.62	14.38	5.59
0.85	20	46.96	53.04	
0.425	40	19.56	80.44	
0.15	100	2.39	97.61	
0.106	140	1.14	98.86	
0.075	200	0.72	99.28	
0.063	230	0.47	99.53	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 85.62
% Passing #230 0.47
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	13.58
% Gravel-Sized Shell	> 2.00 mm	0.80
% Sand	0.063 - 2.00 mm	85.14
% Silt and Clay	< 0.063 mm	0.47
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	59.63
% Medium Sand	0.25 - 0.50 mm	15.17
% Fine Sand	0.063 - 0.25 mm	10.33

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	19.56	0.425	2.39	0.150	0.238
D30	30	46.96	0.850	19.56	0.425	0.553
D50	50	85.62	2.000	46.96	0.850	0.909
D60	60	85.62	2.000	46.96	0.850	1.134

Uniformity Coefficient (Cu)	4.766
Coefficient of Curvature (Cc)	1.135



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB030B-1

Water Depth (m) 20.31

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB030C-1
Water Depth (m)	19.49

Grain Size Data

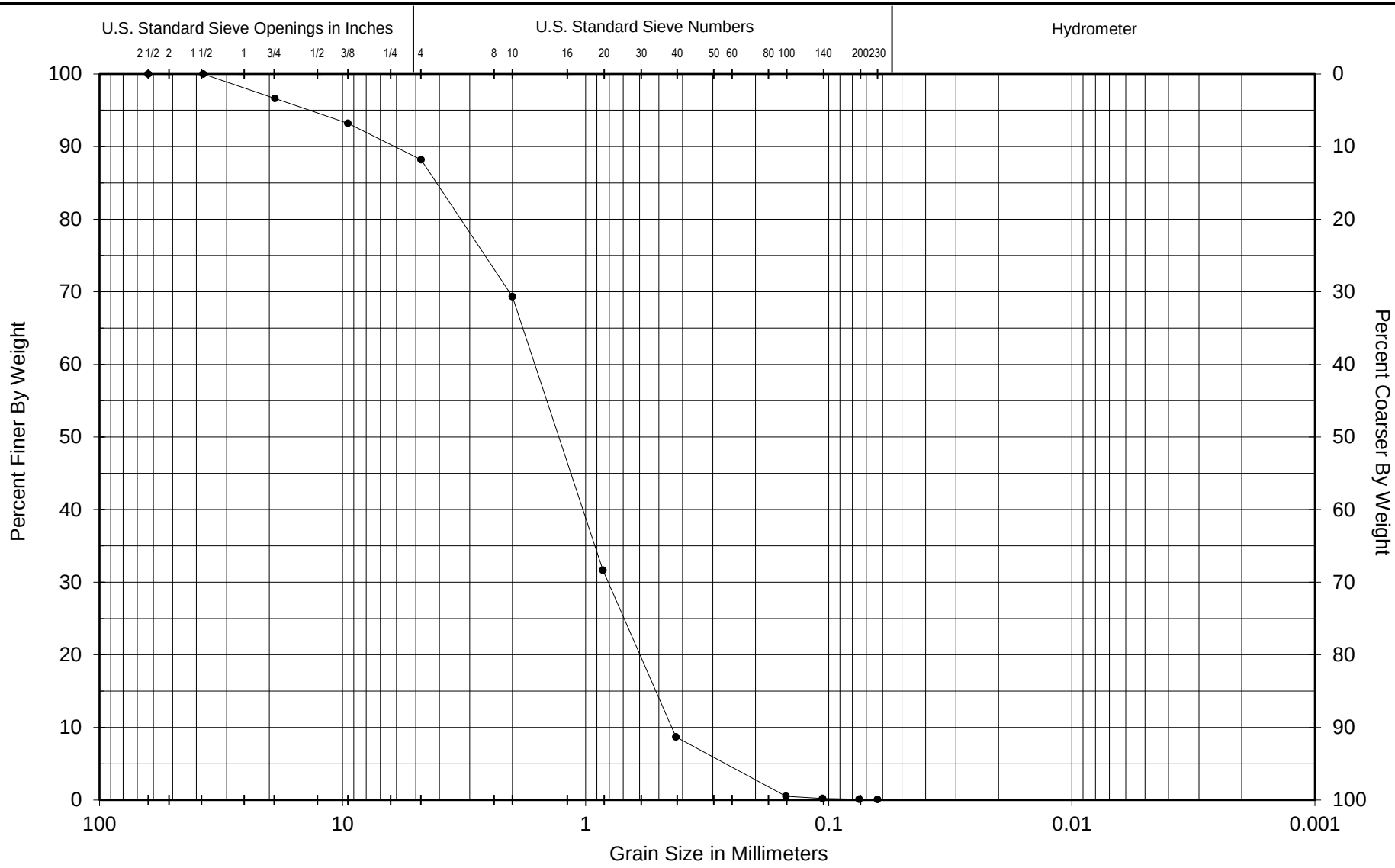
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	96.63	3.37	
9.5	3/8"	93.19	6.81	
4.75	4	88.20	11.80	
2	10	69.35	30.65	21.40
0.85	20	31.63	68.37	
0.425	40	8.70	91.30	
0.15	100	0.50	99.50	
0.106	140	0.20	99.80	
0.075	200	0.11	99.89	
0.063	230	0.09	99.91	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 69.35
% Passing #230 0.09
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	24.09
% Gravel-Sized Shell	> 2.00 mm	6.56
% Sand	0.063 - 2.00 mm	69.26
% Silt and Clay	< 0.063 mm	0.09
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	55.27
% Medium Sand	0.25 - 0.50 mm	9.56
% Fine Sand	0.063 - 0.25 mm	4.43

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	31.63	0.850	8.70	0.425	0.442
D30	30	31.63	0.850	8.70	0.425	0.809
D50	50	69.35	2.000	31.63	0.850	1.289
D60	60	69.35	2.000	31.63	0.850	1.618

Uniformity Coefficient (Cu)	3.660
Coefficient of Curvature (Cc)	0.915



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB030C-1

Water Depth (m) 19.49

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB031-2
Water Depth (m)	20.11

Grain Size Data

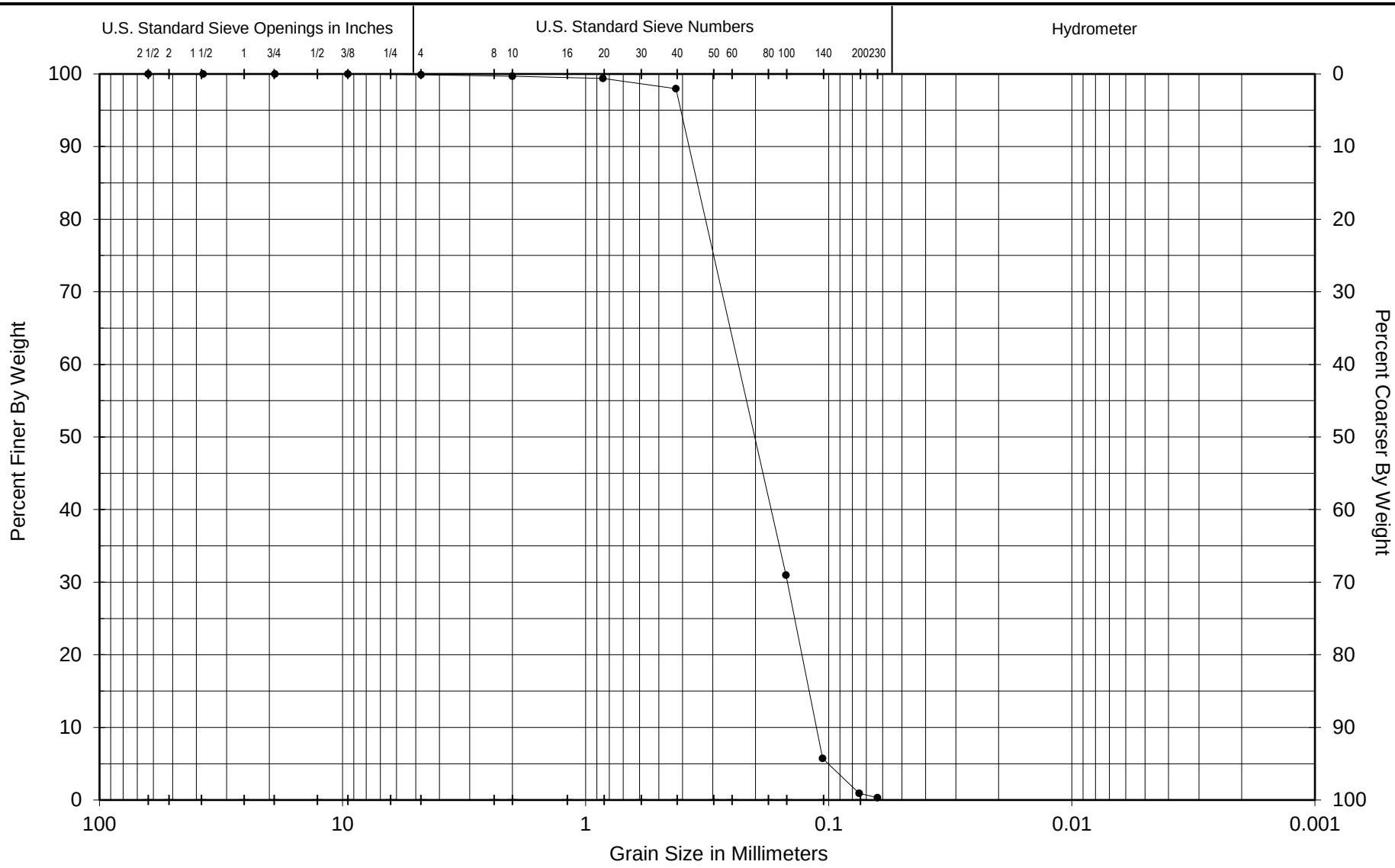
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.89	0.11	
2	10	99.70	0.30	98.18
0.85	20	99.38	0.62	
0.425	40	97.98	2.02	
0.15	100	30.97	69.03	
0.106	140	5.73	94.27	
0.075	200	0.93	99.07	
0.063	230	0.32	99.68	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.70
% Passing #230	0.32
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.29
% Sand	0.063 - 2.00 mm	99.38
% Silt and Clay	< 0.063 mm	0.32
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	1.39
% Medium Sand	0.25 - 0.50 mm	34.47
% Fine Sand	0.063 - 0.25 mm	63.52

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	30.97	0.150	5.73	0.106	0.112
D30	30	30.97	0.150	5.73	0.106	0.148
D50	50	97.98	0.425	30.97	0.150	0.202
D60	60	97.98	0.425	30.97	0.150	0.236

Uniformity Coefficient (Cu)	2.095
Coefficient of Curvature (Cc)	0.828



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB031-2

Water Depth (m) 20.11

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB032-1
Water Depth (m)	16.93

Grain Size Data

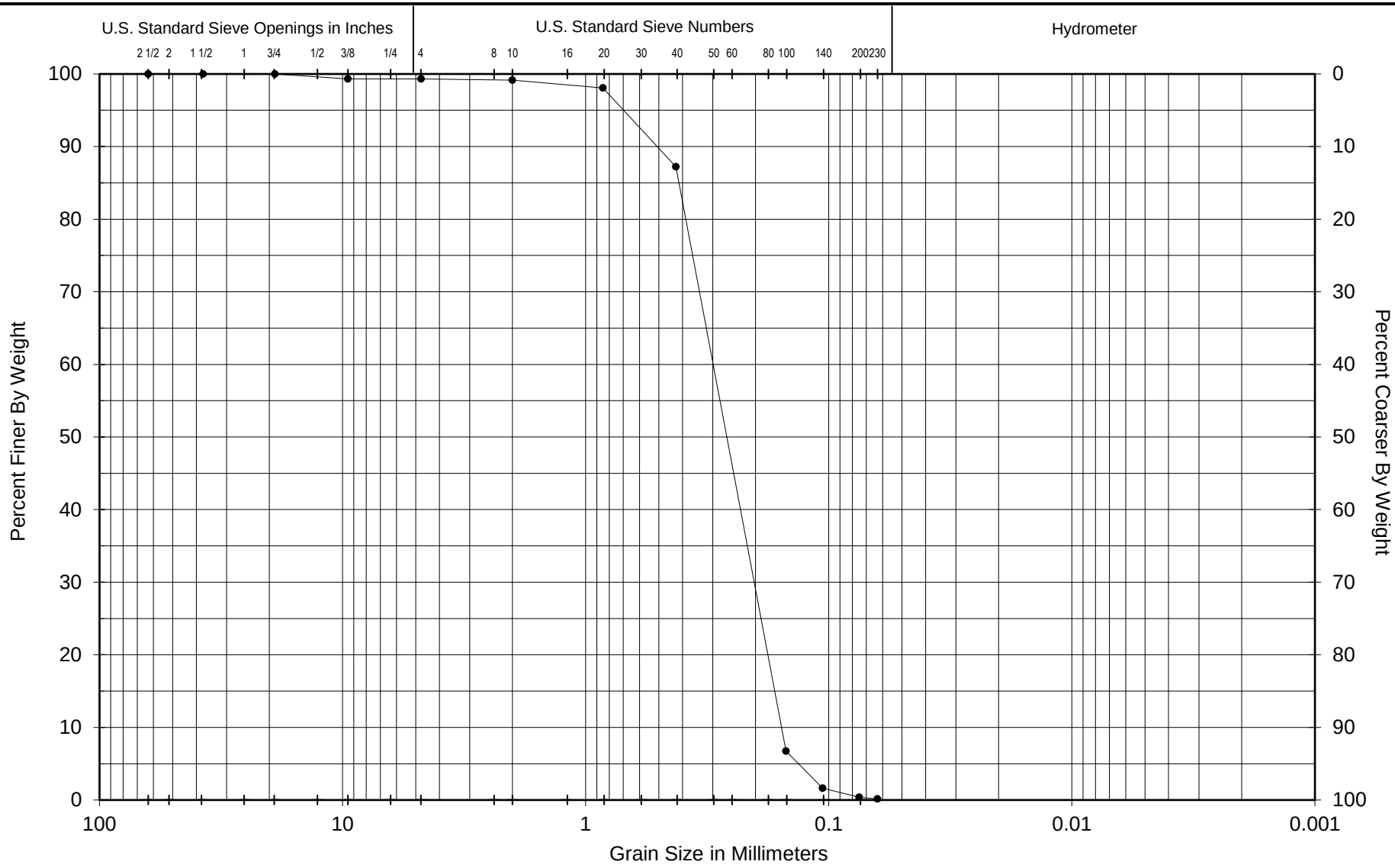
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.31	0.69	
4.75	4	99.31	0.69	
2	10	99.16	0.84	93.14
0.85	20	98.06	1.94	
0.425	40	87.20	12.80	
0.15	100	6.74	93.26	
0.106	140	1.64	98.36	
0.075	200	0.39	99.61	
0.063	230	0.14	99.86	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.16
% Passing #230	0.14
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.06
% Gravel-Sized Shell	> 2.00 mm	0.78
% Sand	0.063 - 2.00 mm	99.02
% Silt and Clay	< 0.063 mm	0.14
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	9.41
% Medium Sand	0.25 - 0.50 mm	43.54
% Fine Sand	0.063 - 0.25 mm	46.06

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	87.20	0.425	6.74	0.150	0.156
D30	30	87.20	0.425	6.74	0.150	0.203
D50	50	87.20	0.425	6.74	0.150	0.263
D60	60	87.20	0.425	6.74	0.150	0.299

Uniformity Coefficient (Cu)	1.910
Coefficient of Curvature (Cc)	0.879



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB032-1

Water Depth (m) 16.93

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB033-3
Water Depth (m)	16.80

Grain Size Data

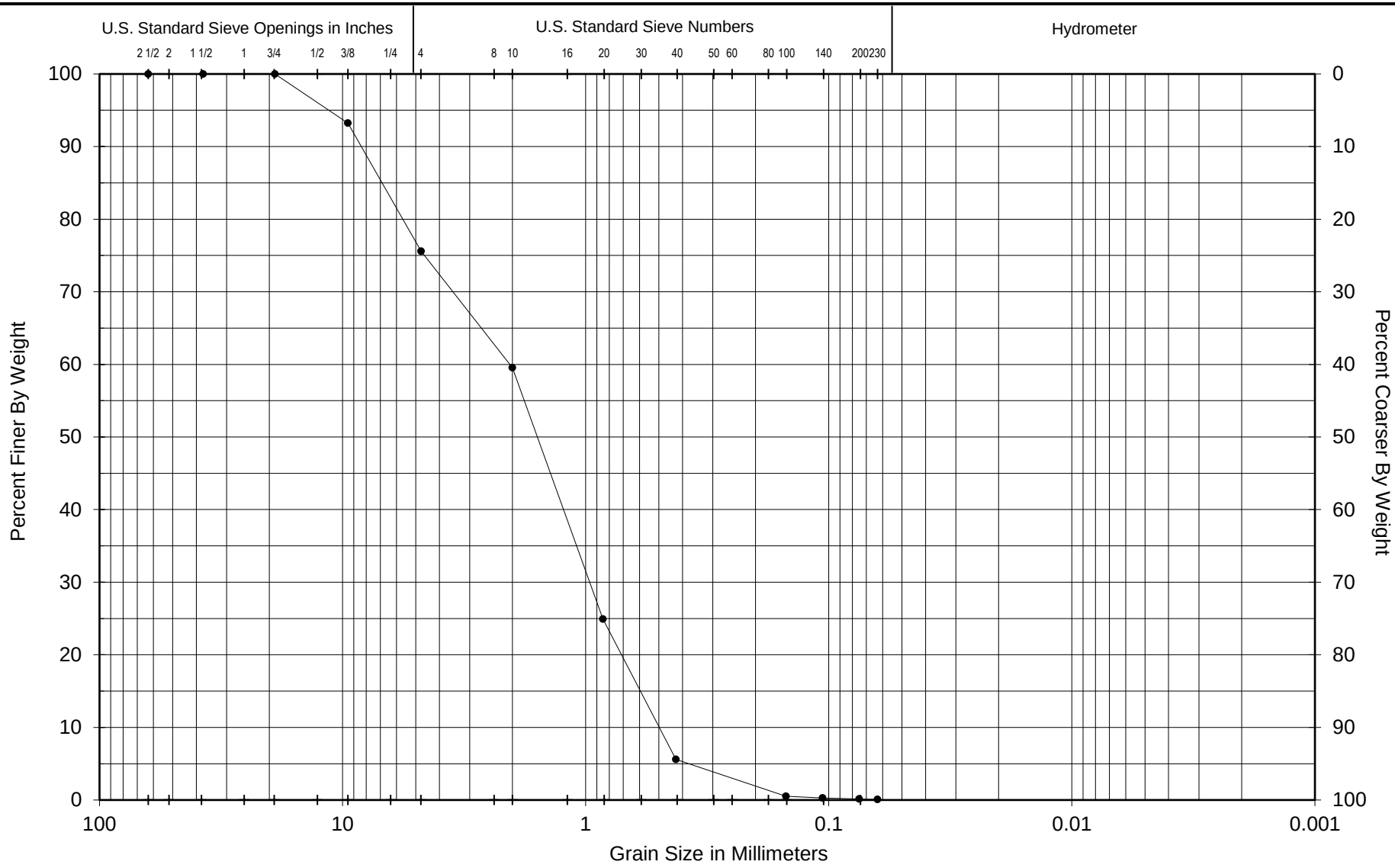
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	93.24	6.76	
4.75	4	75.58	24.42	
2	10	59.54	40.46	2.93
0.85	20	24.92	75.08	
0.425	40	5.59	94.41	
0.15	100	0.51	99.49	
0.106	140	0.28	99.72	
0.075	200	0.14	99.86	
0.063	230	0.08	99.92	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	59.54
% Passing #230	0.08
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	39.28
% Gravel-Sized Shell	> 2.00 mm	1.18
% Sand	0.063 - 2.00 mm	59.46
% Silt and Clay	< 0.063 mm	0.08
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	49.41
% Medium Sand	0.25 - 0.50 mm	7.12
% Fine Sand	0.063 - 0.25 mm	2.92

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	24.92	0.850	5.59	0.425	0.498
D30	30	59.54	2.000	24.92	0.850	0.964
D50	50	59.54	2.000	24.92	0.850	1.580
D60	60	75.58	4.750	59.54	2.000	2.051

Uniformity Coefficient (Cu)	4.119
Coefficient of Curvature (Cc)	0.910



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB033-3

Water Depth (m) 16.80

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB034A-1
Water Depth (m)	14.26

Grain Size Data

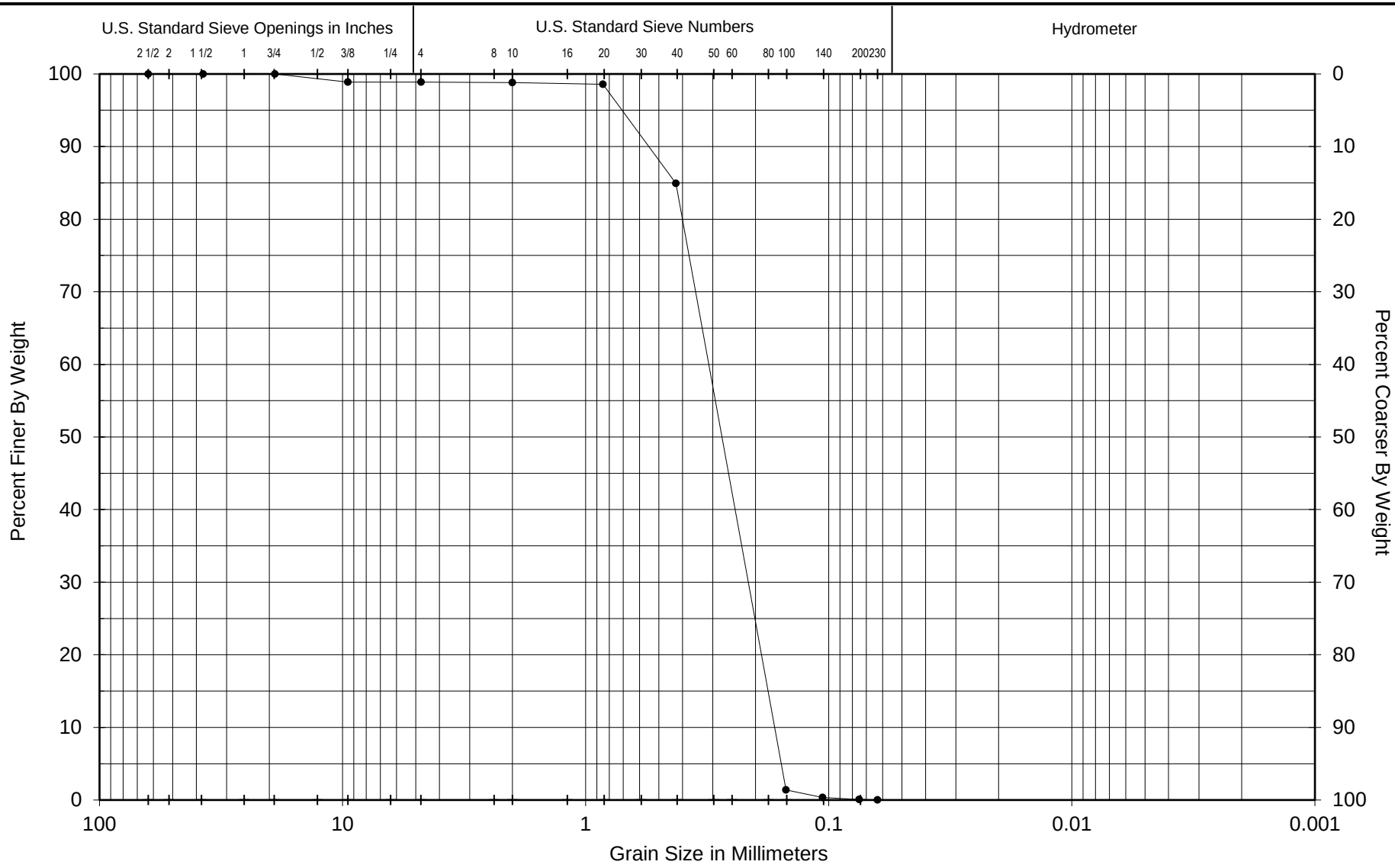
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	98.89	1.11	
4.75	4	98.89	1.11	
2	10	98.82	1.18	98.16
0.85	20	98.57	1.43	
0.425	40	84.92	15.08	
0.15	100	1.38	98.62	
0.106	140	0.36	99.64	
0.075	200	0.07	99.93	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.82
% Passing #230 0.02
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	1.16
% Sand	0.063 - 2.00 mm	98.80
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	10.69
% Medium Sand	0.25 - 0.50 mm	45.77
% Fine Sand	0.063 - 0.25 mm	42.34

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	84.92	0.425	1.38	0.150	0.167
D30	30	84.92	0.425	1.38	0.150	0.214
D50	50	84.92	0.425	1.38	0.150	0.275
D60	60	84.92	0.425	1.38	0.150	0.312

Uniformity Coefficient (Cu)	1.865
Coefficient of Curvature (Cc)	0.883



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB034A-1

Water Depth (m) 14.26

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB034B-1
Water Depth (m)	12.89

Grain Size Data

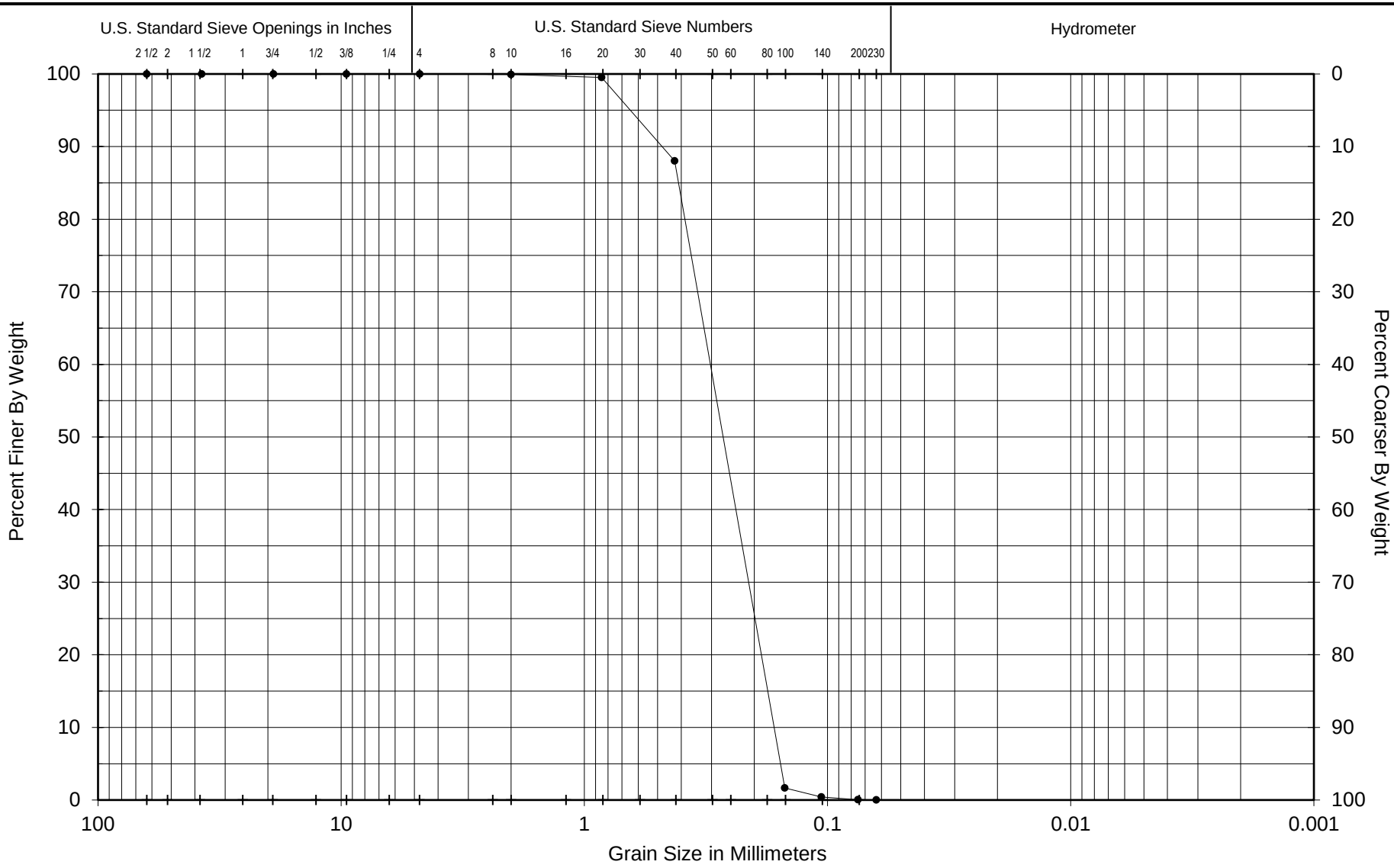
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.99	0.01	
2	10	99.92	0.08	69.23
0.85	20	99.52	0.48	
0.425	40	88.03	11.97	
0.15	100	1.65	98.35	
0.106	140	0.42	99.58	
0.075	200	0.04	99.96	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.92
% Passing #230 0.02
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.06
% Sand	0.063 - 2.00 mm	99.90
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	9.19
% Medium Sand	0.25 - 0.50 mm	46.71
% Fine Sand	0.063 - 0.25 mm	44.00

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	88.03	0.425	1.65	0.150	0.166
D30	30	88.03	0.425	1.65	0.150	0.211
D50	50	88.03	0.425	1.65	0.150	0.269
D60	60	88.03	0.425	1.65	0.150	0.303

Uniformity Coefficient (Cu)	1.827
Coefficient of Curvature (Cc)	0.886



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB034B-1

Water Depth (m) 12.89

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB034C-1
Water Depth (m)	13.52

Grain Size Data

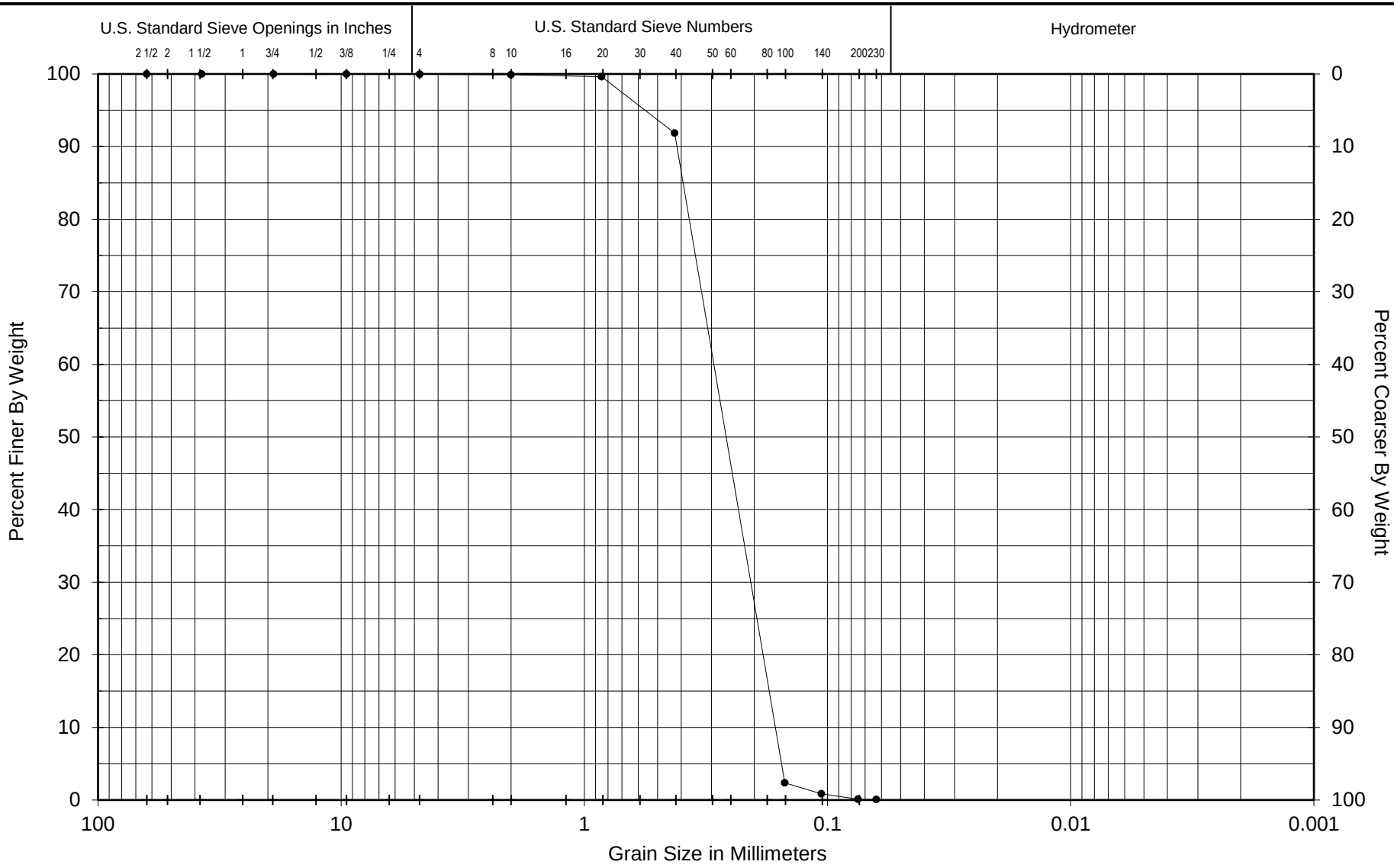
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.94	0.06	
2	10	99.90	0.10	75.61
0.85	20	99.62	0.38	
0.425	40	91.87	8.13	
0.15	100	2.35	97.65	
0.106	140	0.86	99.14	
0.075	200	0.12	99.88	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.90
% Passing #230 0.07
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.08
% Sand	0.063 - 2.00 mm	99.83
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.21
% Medium Sand	0.25 - 0.50 mm	47.43
% Fine Sand	0.063 - 0.25 mm	46.19

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	91.87	0.425	2.35	0.150	0.164
D30	30	91.87	0.425	2.35	0.150	0.207
D50	50	91.87	0.425	2.35	0.150	0.261
D60	60	91.87	0.425	2.35	0.150	0.293

Uniformity Coefficient (Cu)	1.789
Coefficient of Curvature (Cc)	0.890



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB034C-1

Water Depth (m) 13.52

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB035-1
Water Depth (m)	15.06

Grain Size Data

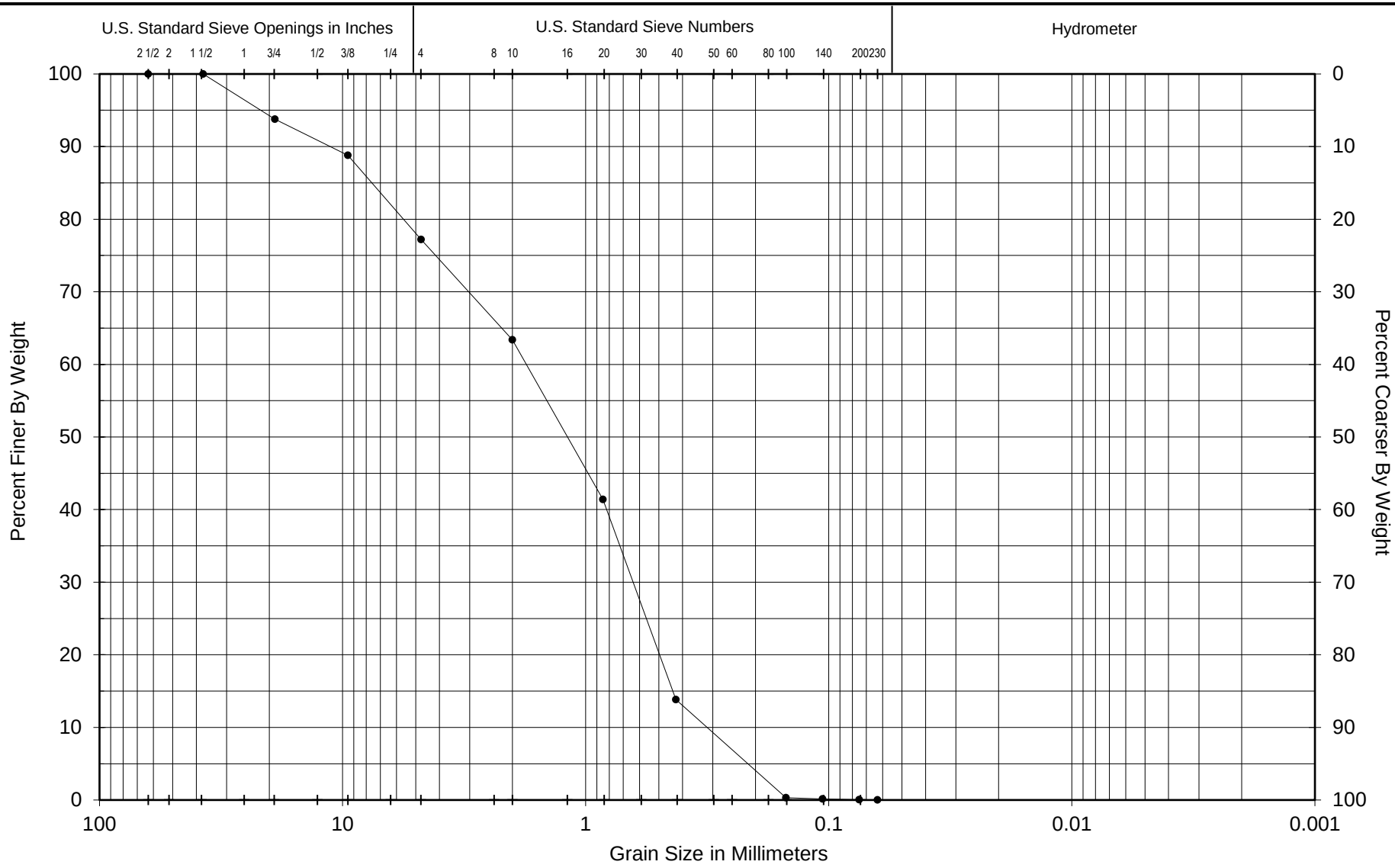
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	93.78	6.22	
9.5	3/8"	88.80	11.20	
4.75	4	77.21	22.79	
2	10	63.38	36.62	1.62
0.85	20	41.41	58.59	
0.425	40	13.83	86.17	
0.15	100	0.31	99.69	
0.106	140	0.16	99.84	
0.075	200	0.04	99.96	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 63.38
% Passing #230 0.02
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	36.02
% Gravel-Sized Shell	> 2.00 mm	0.59
% Sand	0.063 - 2.00 mm	63.36
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	43.08
% Medium Sand	0.25 - 0.50 mm	13.35
% Fine Sand	0.063 - 0.25 mm	6.93

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.83	0.425	0.31	0.150	0.316
D30	30	41.41	0.850	13.83	0.425	0.638
D50	50	63.38	2.000	41.41	0.850	1.188
D60	60	63.38	2.000	41.41	0.850	1.753

Uniformity Coefficient (Cu)	5.543
Coefficient of Curvature (Cc)	0.734



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB035-1

Water Depth (m) 15.06

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB036-1
Water Depth (m)	14.14

Grain Size Data

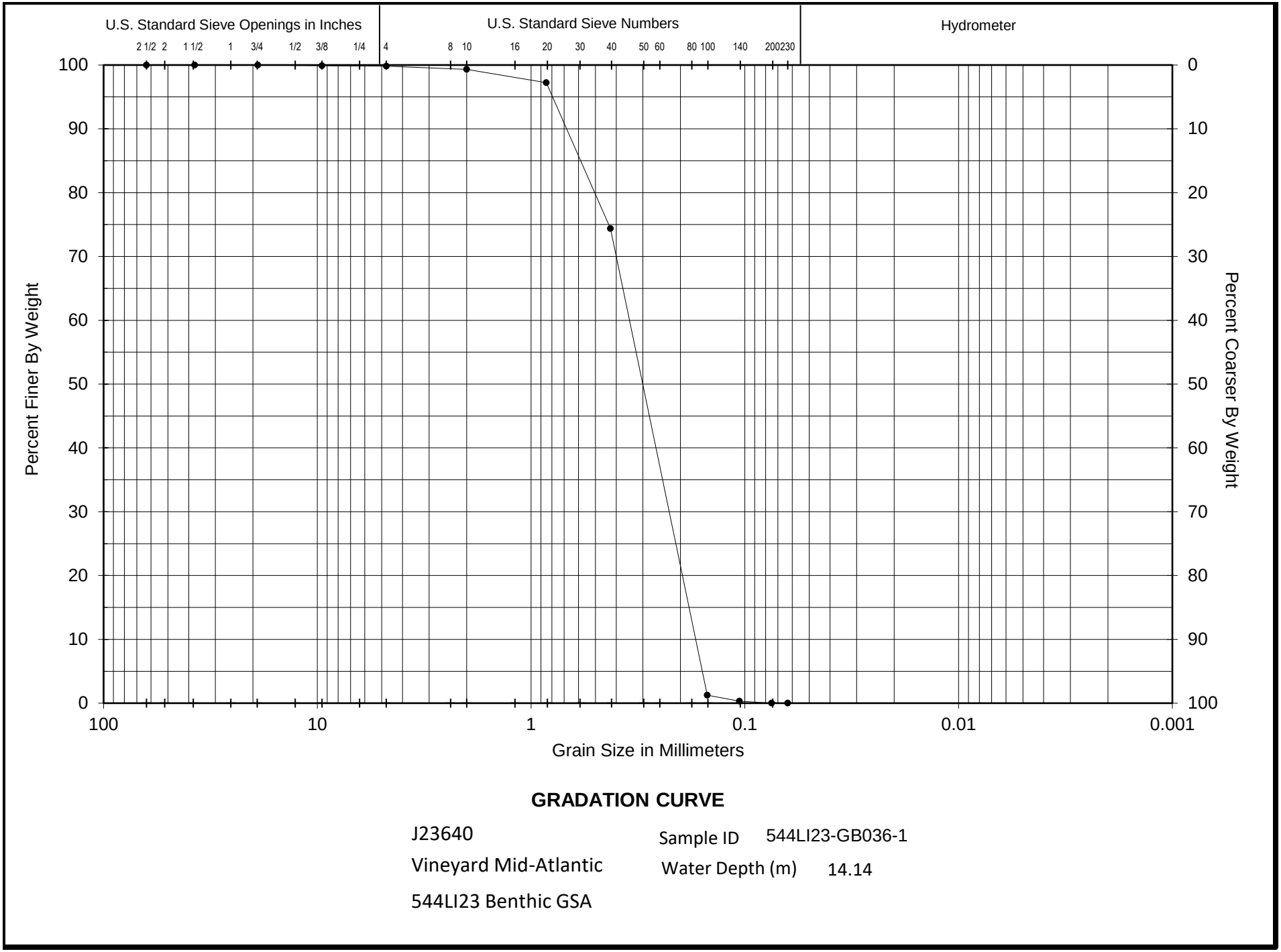
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.90	0.10	
4.75	4	99.81	0.19	
2	10	99.33	0.67	71.38
0.85	20	97.23	2.77	
0.425	40	74.38	25.62	
0.15	100	1.24	98.76	
0.106	140	0.33	99.67	
0.075	200	0.02	99.98	
0.063	230	0.00	100.00	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.33
% Passing #230 0.00
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.19
% Gravel-Sized Shell	> 2.00 mm	0.48
% Sand	0.063 - 2.00 mm	99.33
% Silt and Clay	< 0.063 mm	0.00
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	19.59
% Medium Sand	0.25 - 0.50 mm	42.62
% Fine Sand	0.063 - 0.25 mm	37.11

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	74.38	0.425	1.24	0.150	0.170
D30	30	74.38	0.425	1.24	0.150	0.226
D50	50	74.38	0.425	1.24	0.150	0.300
D60	60	74.38	0.425	1.24	0.150	0.346

Uniformity Coefficient (Cu)	2.038
Coefficient of Curvature (Cc)	0.867



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB036-1

Water Depth (m) 14.14

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB037A-1
Water Depth (m)	15.64

Grain Size Data

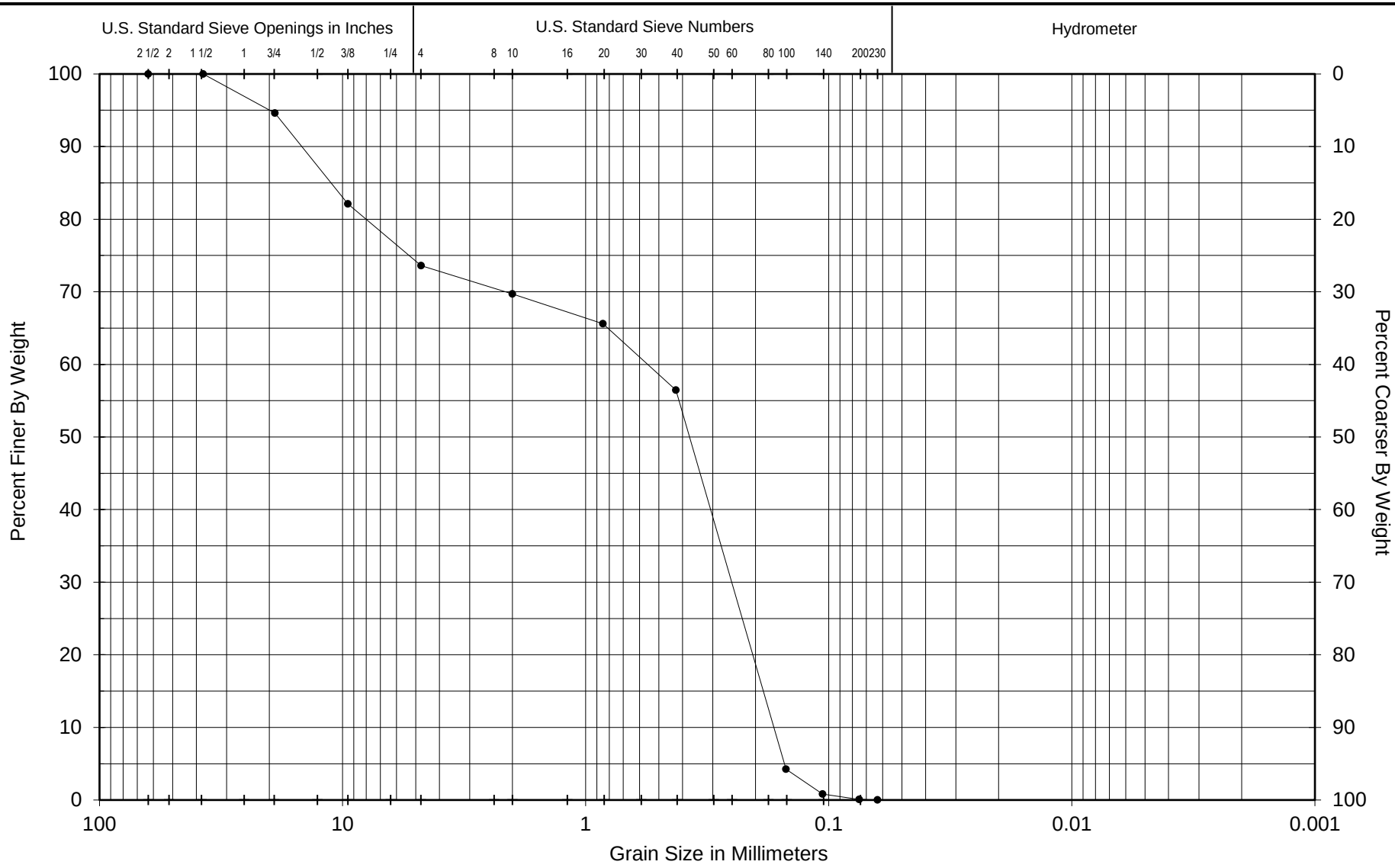
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	94.61	5.39	
9.5	3/8"	82.10	17.90	
4.75	4	73.59	26.41	
2	10	69.69	30.31	4.66
0.85	20	65.60	34.40	
0.425	40	56.44	43.56	
0.15	100	4.24	95.76	
0.106	140	0.80	99.20	
0.075	200	0.09	99.91	
0.063	230	0.01	99.99	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 69.69
% Passing #230 0.01
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	28.89
% Gravel-Sized Shell	> 2.00 mm	1.41
% Sand	0.063 - 2.00 mm	69.68
% Silt and Clay	< 0.063 mm	0.01
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	11.11
% Medium Sand	0.25 - 0.50 mm	28.75
% Fine Sand	0.063 - 0.25 mm	29.83

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	56.44	0.425	4.24	0.150	0.168
D30	30	56.44	0.425	4.24	0.150	0.251
D50	50	56.44	0.425	4.24	0.150	0.374
D60	60	65.60	0.850	56.44	0.425	0.556

Uniformity Coefficient (Cu)	3.306
Coefficient of Curvature (Cc)	0.672



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB037A-1

Water Depth (m) 15.64

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB037B-2
Water Depth (m)	15.27

Grain Size Data

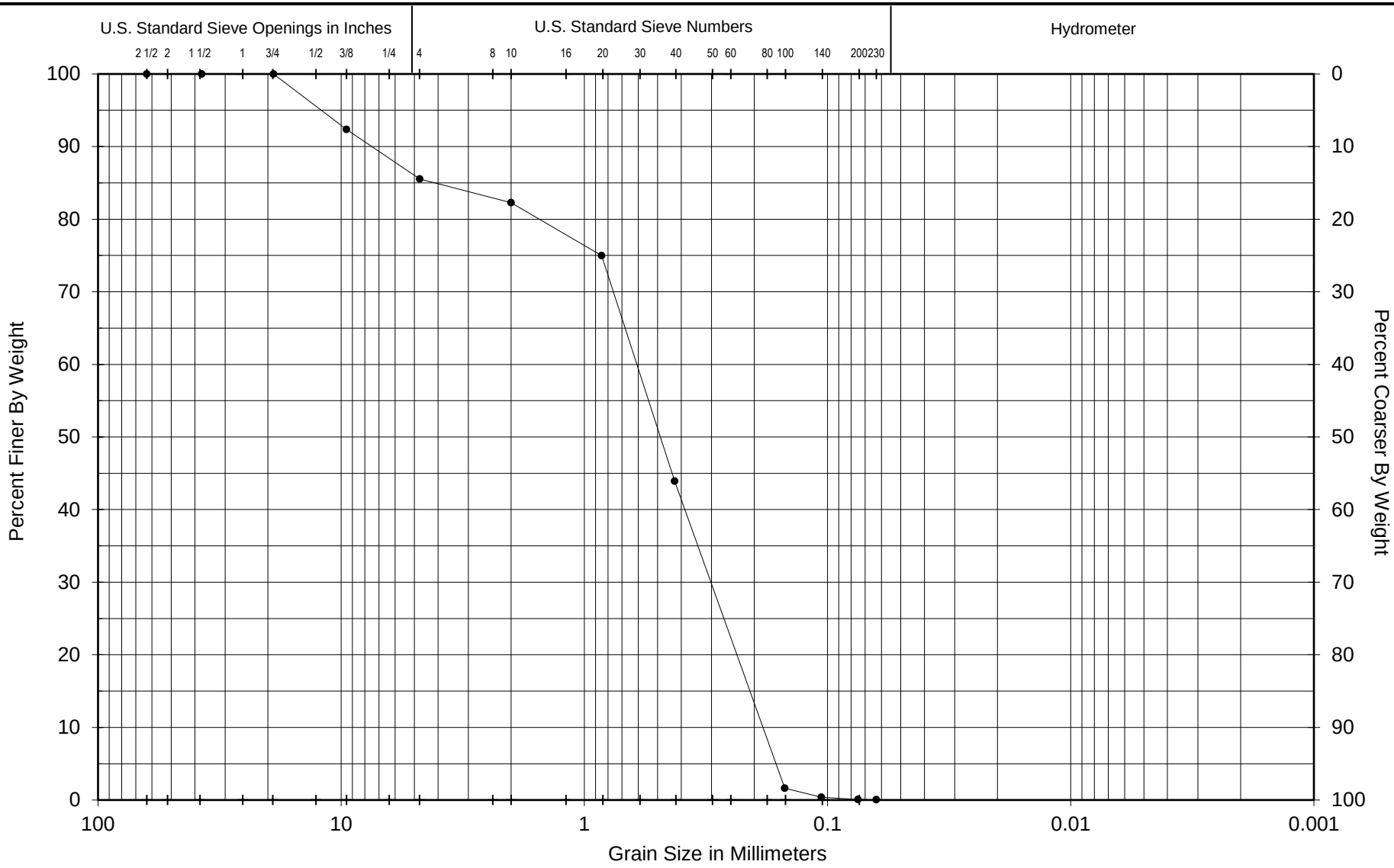
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	92.37	7.63	
4.75	4	85.55	14.45	
2	10	82.26	17.74	4.60
0.85	20	74.98	25.02	
0.425	40	43.90	56.10	
0.15	100	1.63	98.37	
0.106	140	0.39	99.61	
0.075	200	0.07	99.93	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	82.26
% Passing #230	0.04
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	16.93
% Gravel-Sized Shell	> 2.00 mm	0.82
% Sand	0.063 - 2.00 mm	82.22
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	31.07
% Medium Sand	0.25 - 0.50 mm	28.82
% Fine Sand	0.063 - 0.25 mm	22.32

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	43.90	0.425	1.63	0.150	0.184
D30	30	43.90	0.425	1.63	0.150	0.302
D50	50	74.98	0.850	43.90	0.425	0.487
D60	60	74.98	0.850	43.90	0.425	0.609

Uniformity Coefficient (Cu)	3.301
Coefficient of Curvature (Cc)	0.812



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB037B-2

Water Depth (m) 15.27

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB037C-1
Water Depth (m)	15.81

Grain Size Data

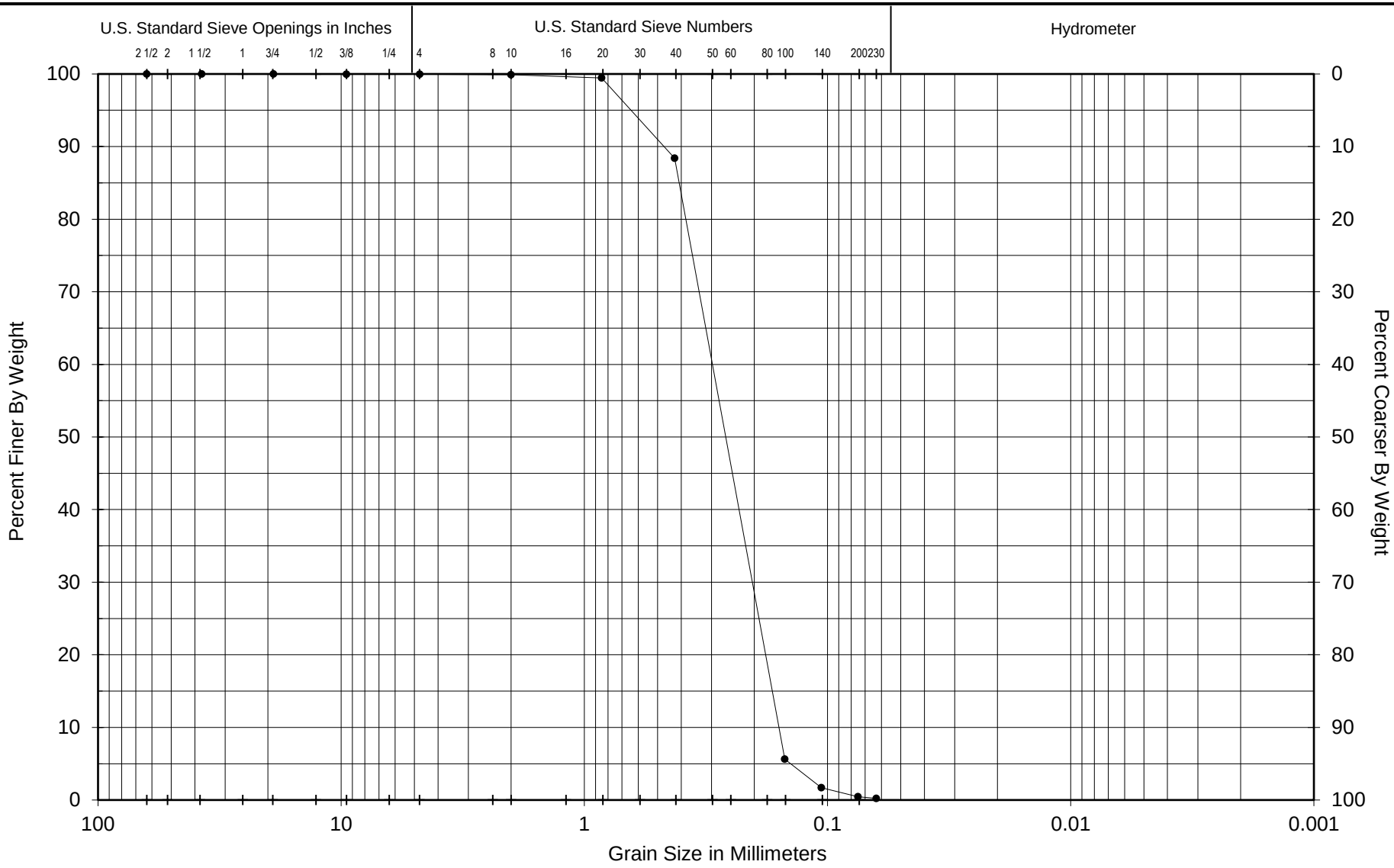
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.95	0.05	
4.75	4	99.95	0.05	
2	10	99.90	0.10	58.33
0.85	20	99.45	0.55	
0.425	40	88.40	11.60	
0.15	100	5.62	94.38	
0.106	140	1.70	98.30	
0.075	200	0.44	99.56	
0.063	230	0.23	99.77	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.90
% Passing #230 0.23
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.04
% Gravel-Sized Shell	> 2.00 mm	0.06
% Sand	0.063 - 2.00 mm	99.68
% Silt and Clay	< 0.063 mm	0.23
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	8.91
% Medium Sand	0.25 - 0.50 mm	44.77
% Fine Sand	0.063 - 0.25 mm	46.00

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	88.40	0.425	5.62	0.150	0.158
D30	30	88.40	0.425	5.62	0.150	0.204
D50	50	88.40	0.425	5.62	0.150	0.262
D60	60	88.40	0.425	5.62	0.150	0.297

Uniformity Coefficient (Cu)	1.876
Coefficient of Curvature (Cc)	0.882



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB037C-1

Water Depth (m) 15.81

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB038A-1
Water Depth (m)	15.08

Grain Size Data

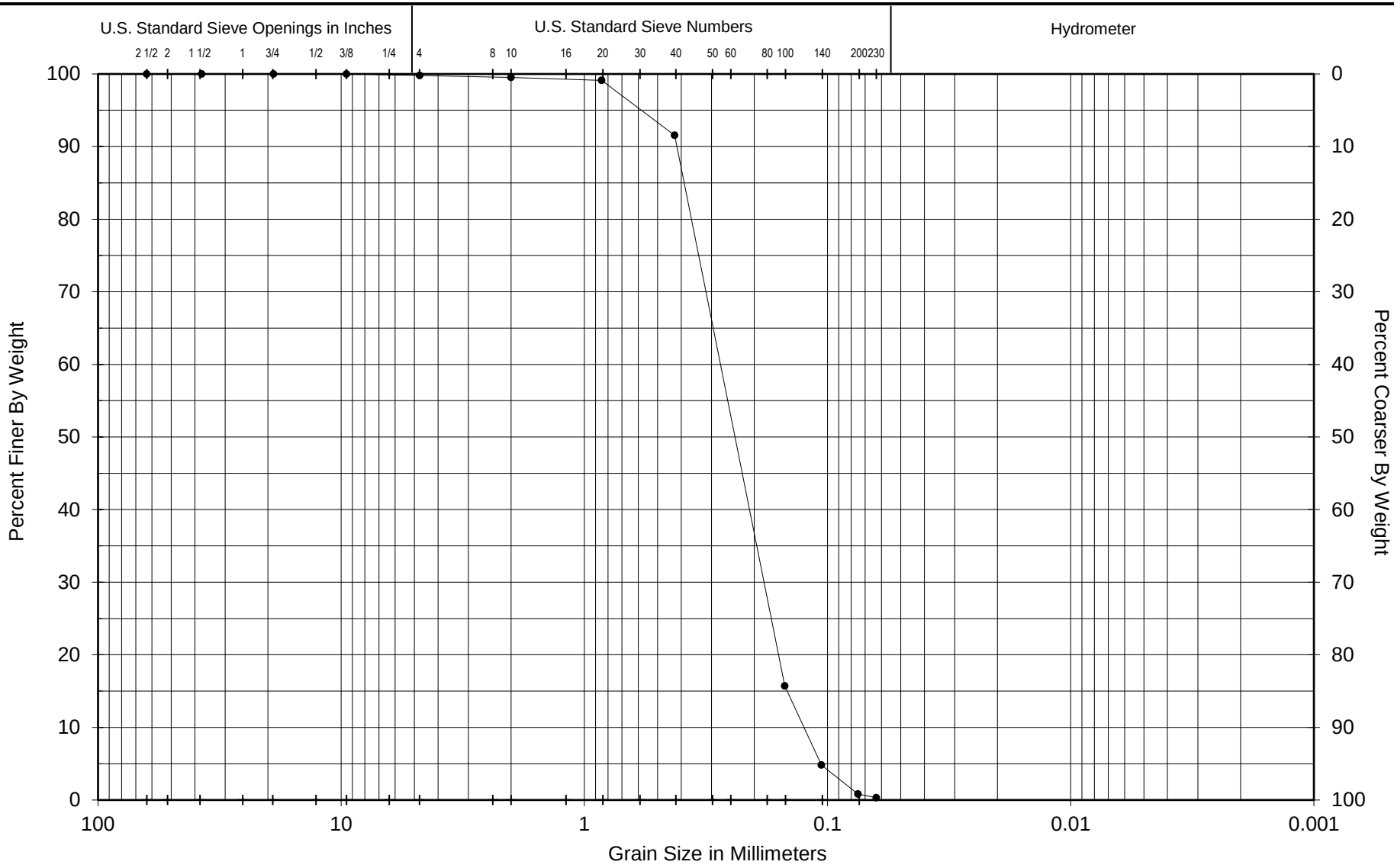
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.78	0.22	
2	10	99.51	0.49	36.61
0.85	20	99.13	0.87	
0.425	40	91.54	8.46	
0.15	100	15.70	84.30	
0.106	140	4.81	95.19	
0.075	200	0.82	99.18	
0.063	230	0.32	99.68	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.51
% Passing #230 0.32
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.31
% Gravel-Sized Shell	> 2.00 mm	0.18
% Sand	0.063 - 2.00 mm	99.19
% Silt and Clay	< 0.063 mm	0.32
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.19
% Medium Sand	0.25 - 0.50 mm	40.42
% Fine Sand	0.063 - 0.25 mm	52.58

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	15.70	0.150	4.81	0.106	0.125
D30	30	91.54	0.425	15.70	0.150	0.183
D50	50	91.54	0.425	15.70	0.150	0.240
D60	60	91.54	0.425	15.70	0.150	0.276

Uniformity Coefficient (Cu)	2.204
Coefficient of Curvature (Cc)	0.967



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB038A-1

Water Depth (m) 15.08

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB038B-2
Water Depth (m)	14.76

Grain Size Data

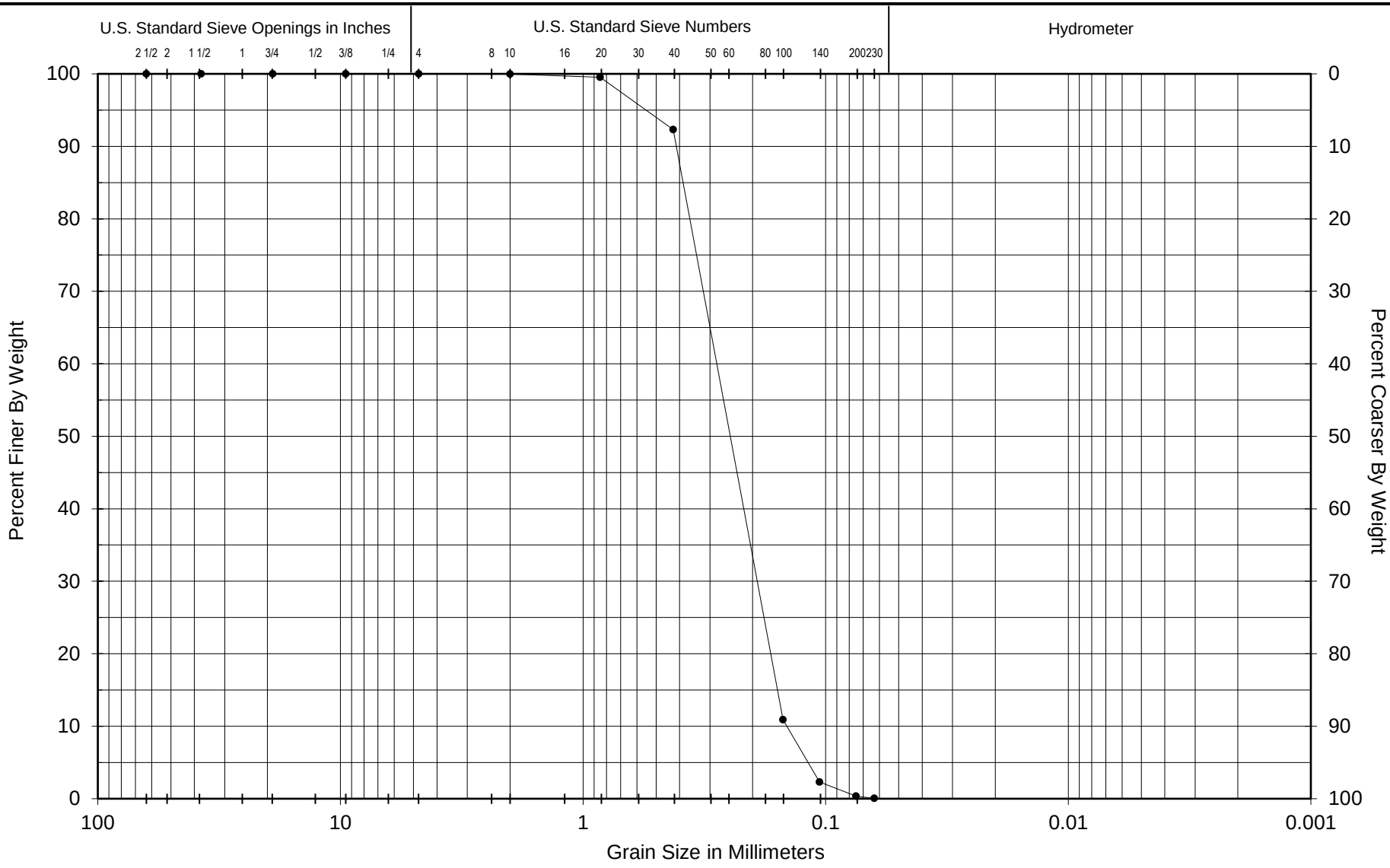
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.98	0.02	100.00
0.85	20	99.52	0.48	
0.425	40	92.32	7.68	
0.15	100	10.91	89.09	
0.106	140	2.32	97.68	
0.075	200	0.36	99.64	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.98
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.02
% Sand	0.063 - 2.00 mm	99.94
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	5.97
% Medium Sand	0.25 - 0.50 mm	43.16
% Fine Sand	0.063 - 0.25 mm	50.80

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	10.91	0.150	2.32	0.106	0.145
D30	30	92.32	0.425	10.91	0.150	0.191
D50	50	92.32	0.425	10.91	0.150	0.247
D60	60	92.32	0.425	10.91	0.150	0.281

Uniformity Coefficient (Cu)	1.944
Coefficient of Curvature (Cc)	0.902



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB038B-2

Water Depth (m) 14.76

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB038C-2
Water Depth (m)	14.76

Grain Size Data

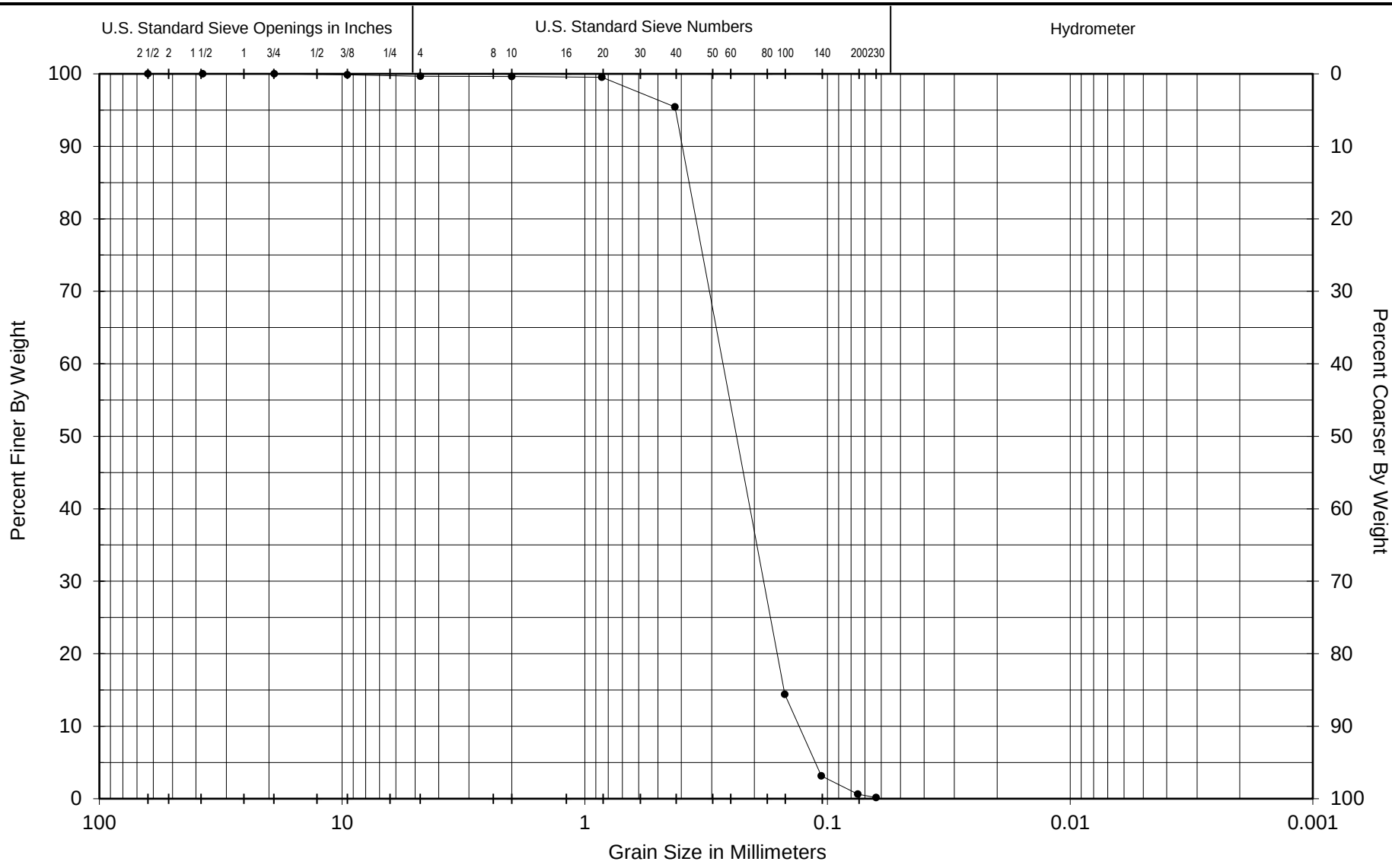
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.85	0.15	
4.75	4	99.67	0.33	
2	10	99.62	0.38	100.00
0.85	20	99.52	0.48	
0.425	40	95.43	4.57	
0.15	100	14.40	85.60	
0.106	140	3.15	96.85	
0.075	200	0.61	99.39	
0.063	230	0.15	99.85	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.62
% Passing #230 0.15
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.38
% Sand	0.063 - 2.00 mm	99.47
% Silt and Clay	< 0.063 mm	0.15
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.24
% Medium Sand	0.25 - 0.50 mm	42.24
% Fine Sand	0.063 - 0.25 mm	53.99

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	14.40	0.150	3.15	0.106	0.131
D30	30	95.43	0.425	14.40	0.150	0.183
D50	50	95.43	0.425	14.40	0.150	0.237
D60	60	95.43	0.425	14.40	0.150	0.270

Uniformity Coefficient (Cu)	2.059
Coefficient of Curvature (Cc)	0.952



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB038C-2

Water Depth (m) 14.76

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB039-3
Water Depth (m)	15.51

Grain Size Data

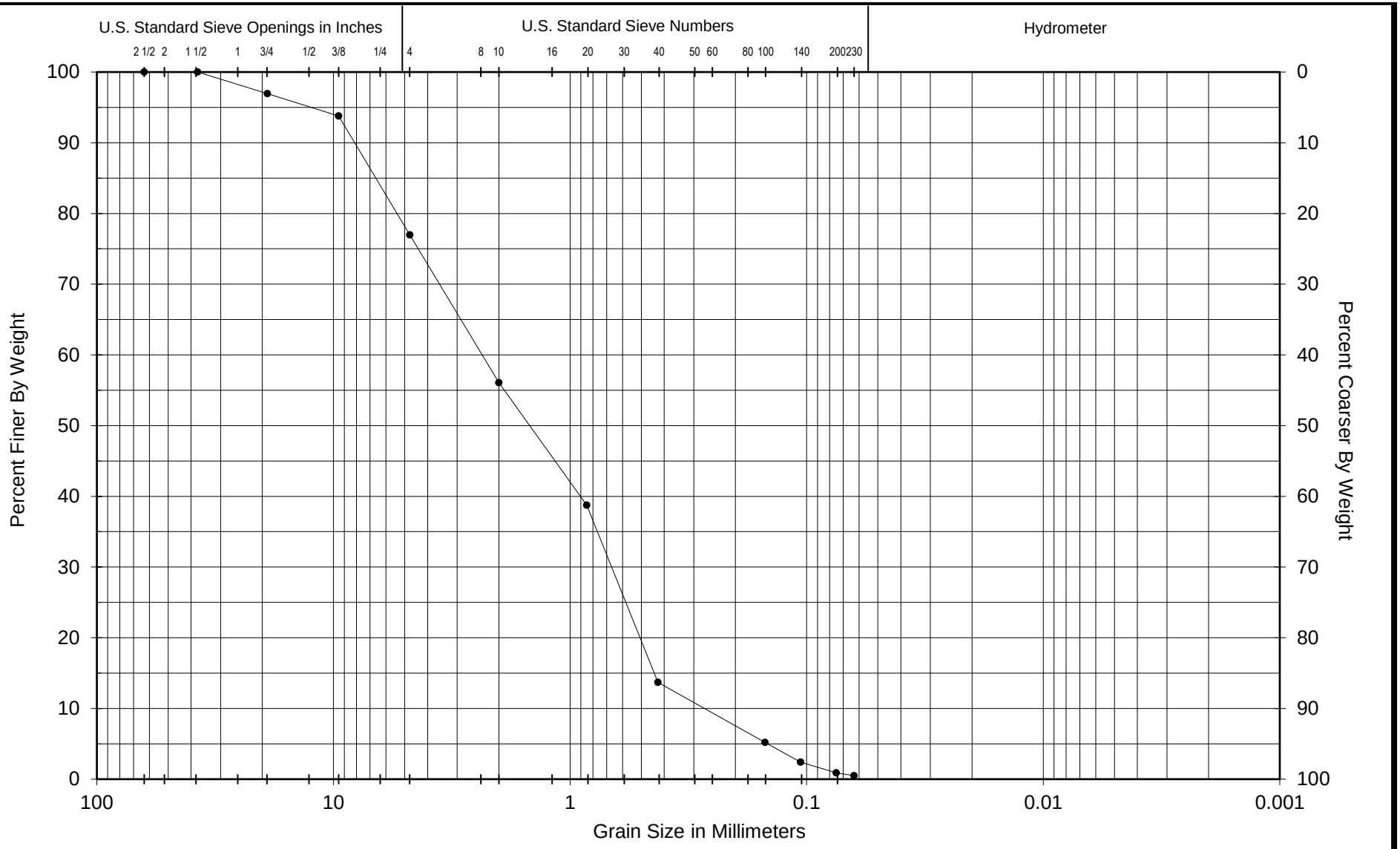
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	96.93	3.07	
9.5	3/8"	93.79	6.21	
4.75	4	76.97	23.03	
2	10	56.07	43.93	0.23
0.85	20	38.74	61.26	
0.425	40	13.68	86.32	
0.15	100	5.20	94.80	
0.106	140	2.41	97.59	
0.075	200	0.88	99.12	
0.063	230	0.49	99.51	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 56.07
% Passing #230 0.49
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	43.83
% Gravel-Sized Shell	> 2.00 mm	0.10
% Sand	0.063 - 2.00 mm	55.58
% Silt and Clay	< 0.063 mm	0.49
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	36.52
% Medium Sand	0.25 - 0.50 mm	10.20
% Fine Sand	0.063 - 0.25 mm	8.87

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.68	0.425	5.20	0.150	0.270
D30	30	38.74	0.850	13.68	0.425	0.667
D50	50	56.07	2.000	38.74	0.850	1.482
D60	60	76.97	4.750	56.07	2.000	2.353

Uniformity Coefficient (Cu)	8.703
Coefficient of Curvature (Cc)	0.700



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB039-3

Water Depth (m) 15.51

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB040A-2
Water Depth (m)	17.42

Grain Size Data

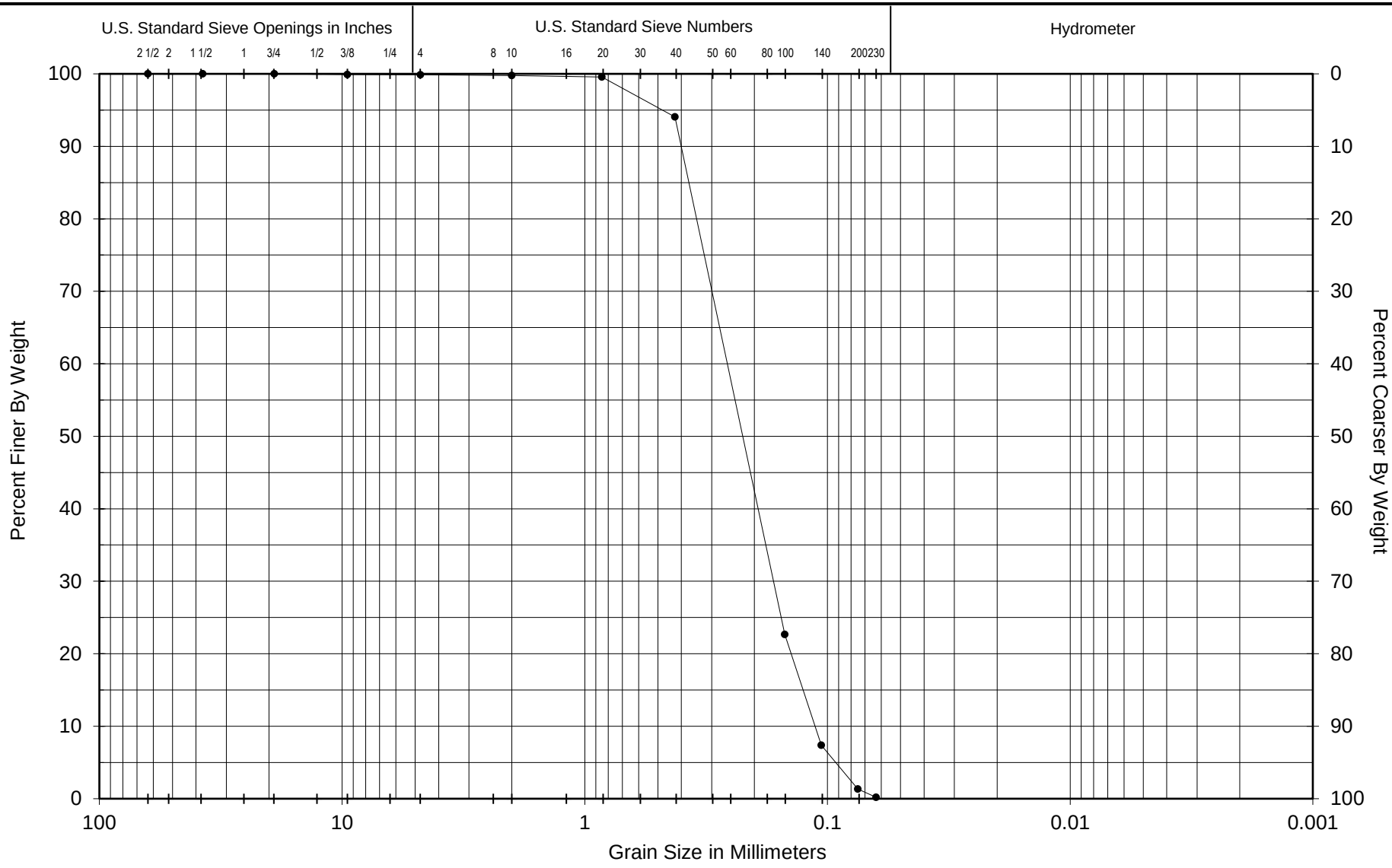
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.89	0.11	
4.75	4	99.88	0.12	
2	10	99.76	0.24	83.84
0.85	20	99.56	0.44	
0.425	40	94.04	5.96	
0.15	100	22.65	77.35	
0.106	140	7.37	92.63	
0.075	200	1.34	98.66	
0.063	230	0.19	99.81	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.76
% Passing #230 0.19
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.04
% Gravel-Sized Shell	> 2.00 mm	0.20
% Sand	0.063 - 2.00 mm	99.56
% Silt and Clay	< 0.063 mm	0.19
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	4.42
% Medium Sand	0.25 - 0.50 mm	37.67
% Fine Sand	0.063 - 0.25 mm	57.48

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	22.65	0.150	7.37	0.106	0.113
D30	30	94.04	0.425	22.65	0.150	0.167
D50	50	94.04	0.425	22.65	0.150	0.224
D60	60	94.04	0.425	22.65	0.150	0.259

Uniformity Coefficient (Cu)	2.299
Coefficient of Curvature (Cc)	0.958



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB040A-2

Water Depth (m) 17.42

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB040B-3
Water Depth (m)	17.42

Grain Size Data

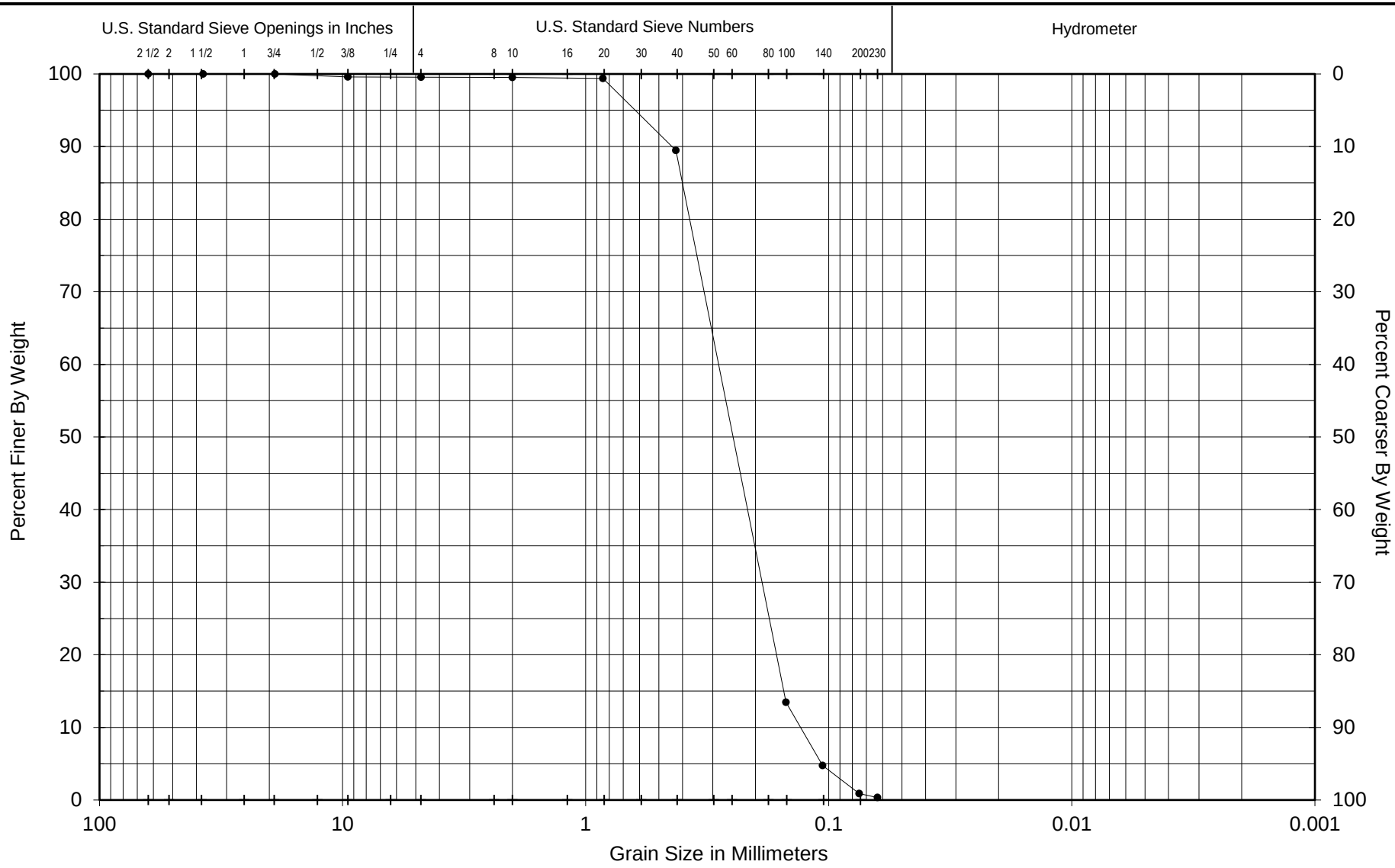
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.59	0.41	
4.75	4	99.57	0.43	
2	10	99.51	0.49	93.23
0.85	20	99.38	0.62	
0.425	40	89.45	10.55	
0.15	100	13.46	86.54	
0.106	140	4.76	95.24	
0.075	200	0.87	99.13	
0.063	230	0.33	99.67	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.51
% Passing #230 0.33
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.46
% Sand	0.063 - 2.00 mm	99.17
% Silt and Clay	< 0.063 mm	0.33
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	7.72
% Medium Sand	0.25 - 0.50 mm	41.05
% Fine Sand	0.063 - 0.25 mm	50.40

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.46	0.150	4.76	0.106	0.131
D30	30	89.45	0.425	13.46	0.150	0.188
D50	50	89.45	0.425	13.46	0.150	0.248
D60	60	89.45	0.425	13.46	0.150	0.284

Uniformity Coefficient (Cu)	2.172
Coefficient of Curvature (Cc)	0.955



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB040B-3

Water Depth (m) 17.42

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB040C-1
Water Depth (m)	17.3585

Grain Size Data

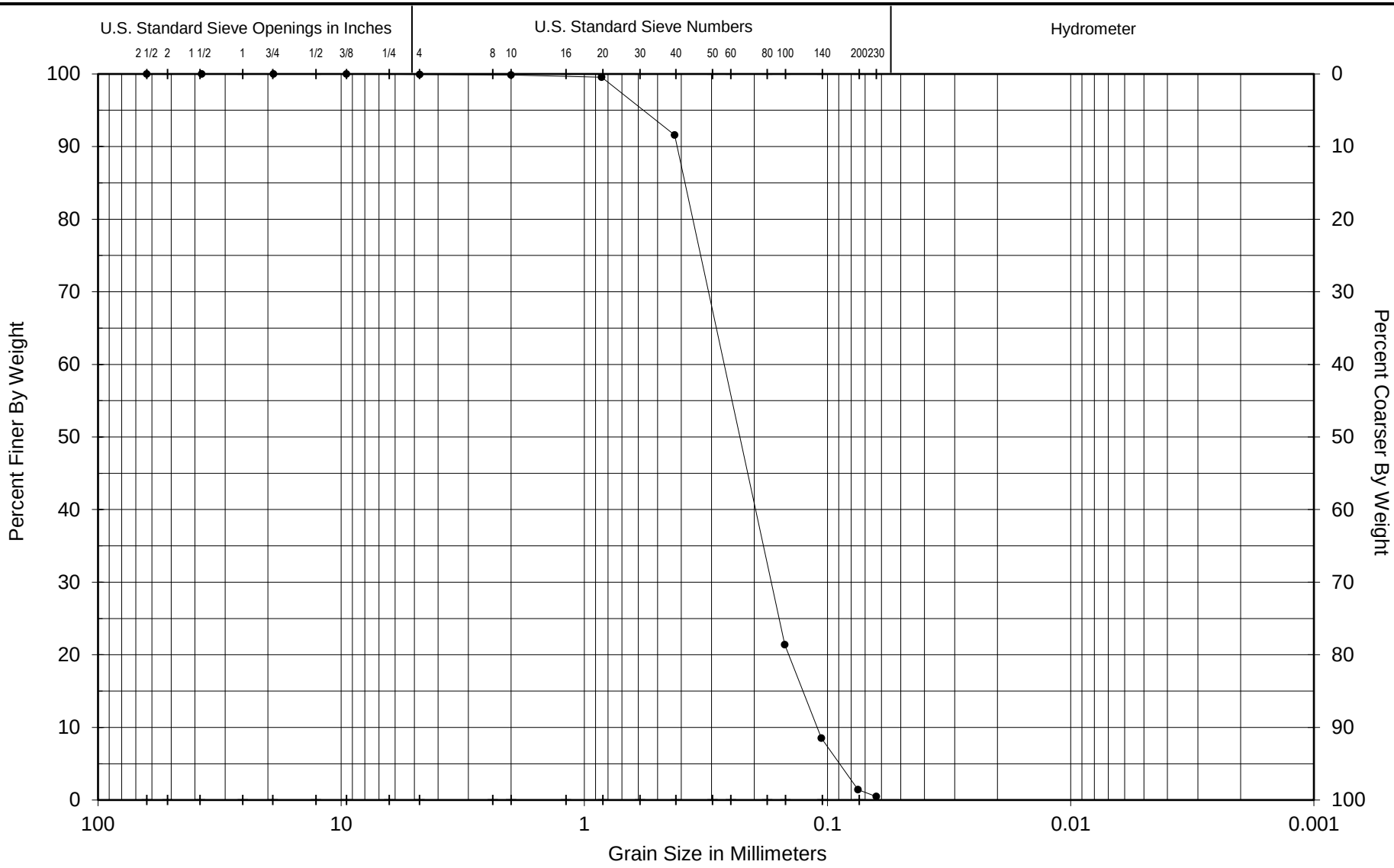
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.93	0.07	
2	10	99.87	0.13	9.23
0.85	20	99.57	0.43	
0.425	40	91.58	8.42	
0.15	100	21.38	78.62	
0.106	140	8.52	91.48	
0.075	200	1.43	98.57	
0.063	230	0.47	99.53	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.87
% Passing #230 0.47
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.12
% Gravel-Sized Shell	> 2.00 mm	0.01
% Sand	0.063 - 2.00 mm	99.40
% Silt and Clay	< 0.063 mm	0.47
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	6.41
% Medium Sand	0.25 - 0.50 mm	37.64
% Fine Sand	0.063 - 0.25 mm	55.34

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	21.38	0.150	8.52	0.106	0.110
D30	30	91.58	0.425	21.38	0.150	0.170
D50	50	91.58	0.425	21.38	0.150	0.229
D60	60	91.58	0.425	21.38	0.150	0.266

Uniformity Coefficient (Cu)	2.411
Coefficient of Curvature (Cc)	0.990



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB040C-1

Water Depth (m) 17.36

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB041-2
Water Depth (m)	14.87

Grain Size Data

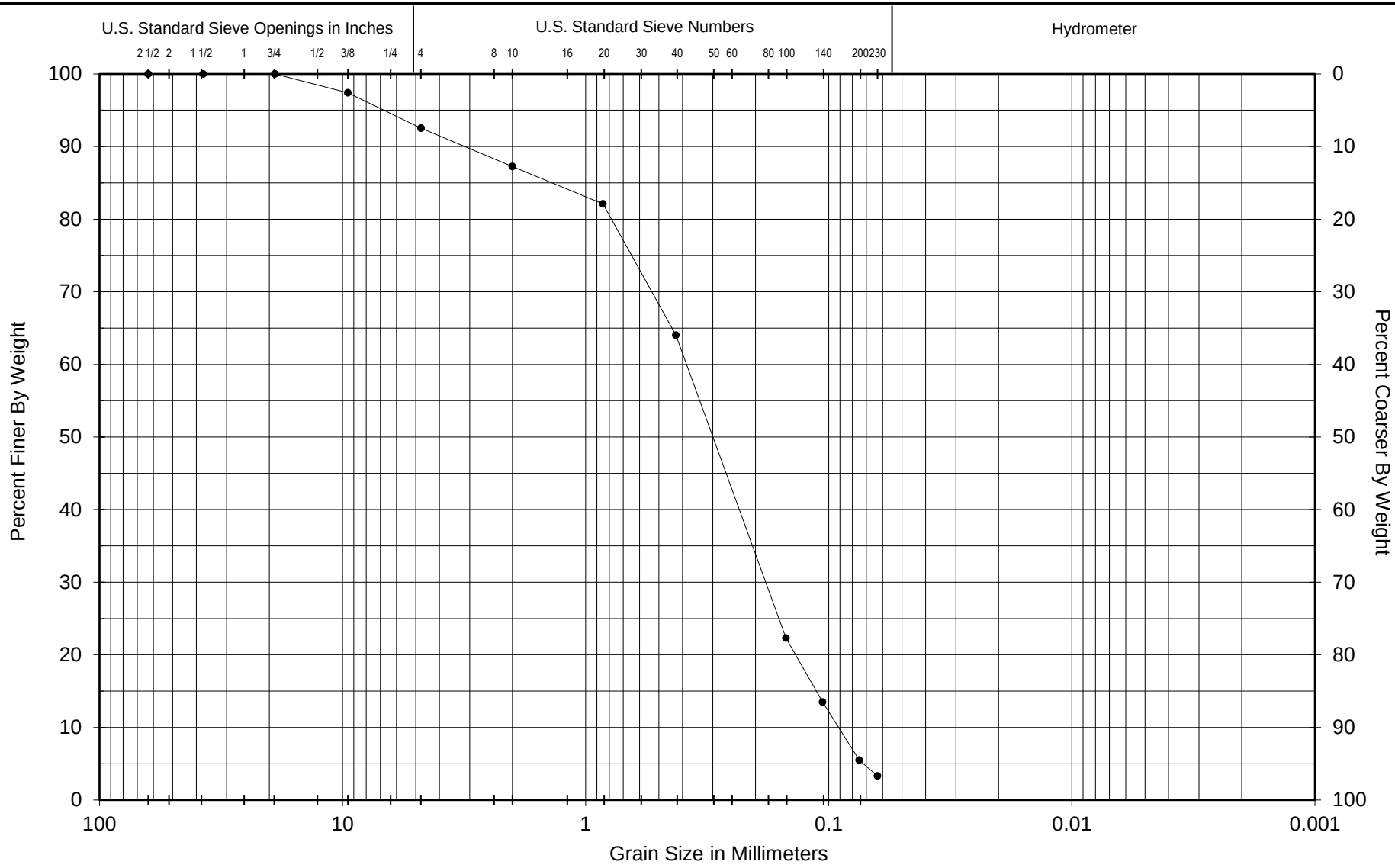
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	97.40	2.60	
4.75	4	92.51	7.49	
2	10	87.25	12.75	1.90
0.85	20	82.09	17.91	
0.425	40	64.03	35.97	
0.15	100	22.30	77.70	
0.106	140	13.50	86.50	
0.075	200	5.50	94.50	
0.063	230	3.30	96.70	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 87.25
% Passing #230 3.30
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	12.51
% Gravel-Sized Shell	> 2.00 mm	0.24
% Sand	0.063 - 2.00 mm	83.95
% Silt and Clay	< 0.063 mm	3.30
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	18.99
% Medium Sand	0.25 - 0.50 mm	25.50
% Fine Sand	0.063 - 0.25 mm	39.46

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.50	0.106	5.50	0.075	0.091
D30	30	64.03	0.425	22.30	0.150	0.182
D50	50	64.03	0.425	22.30	0.150	0.299
D60	60	64.03	0.425	22.30	0.150	0.384

Uniformity Coefficient (Cu)	4.219
Coefficient of Curvature (Cc)	0.944



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB041-2

Water Depth (m) 14.87

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB042A-2
Water Depth (m)	14.65

Grain Size Data

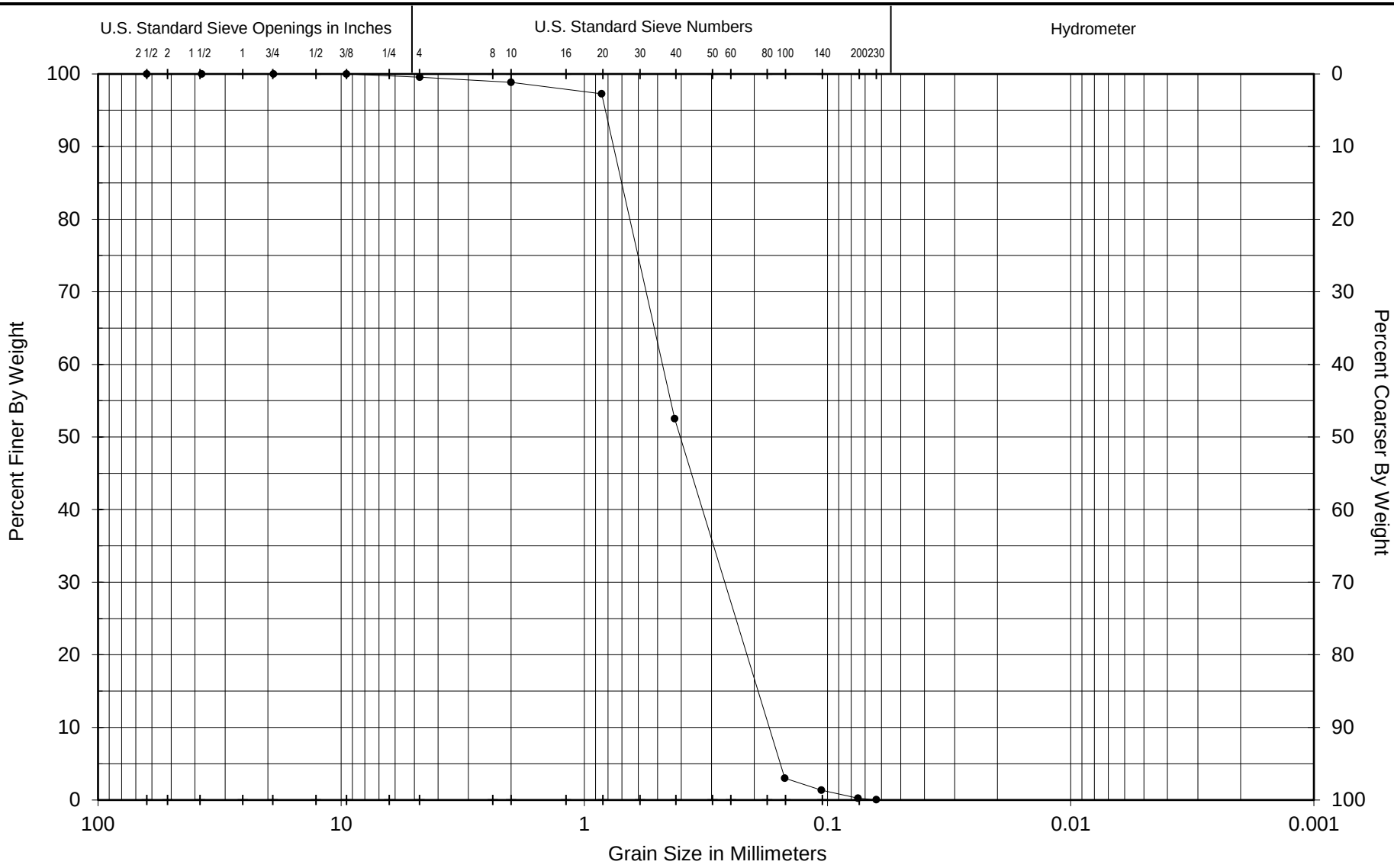
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.55	0.45	
2	10	98.85	1.15	4.36
0.85	20	97.26	2.74	
0.425	40	52.51	47.49	
0.15	100	2.99	97.01	
0.106	140	1.35	98.65	
0.075	200	0.26	99.74	
0.063	230	0.03	99.97	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.85
% Passing #230 0.03
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.10
% Gravel-Sized Shell	> 2.00 mm	0.05
% Sand	0.063 - 2.00 mm	98.82
% Silt and Clay	< 0.063 mm	0.03
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	35.85
% Medium Sand	0.25 - 0.50 mm	35.73
% Fine Sand	0.063 - 0.25 mm	27.25

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	52.51	0.425	2.99	0.150	0.174
D30	30	52.51	0.425	2.99	0.150	0.265
D50	50	52.51	0.425	2.99	0.150	0.403
D60	60	97.26	0.850	52.51	0.425	0.477

Uniformity Coefficient (Cu)	2.745
Coefficient of Curvature (Cc)	0.845



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB042A-2

Water Depth (m) 14.65

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB042B-2
Water Depth (m)	14.65

Grain Size Data

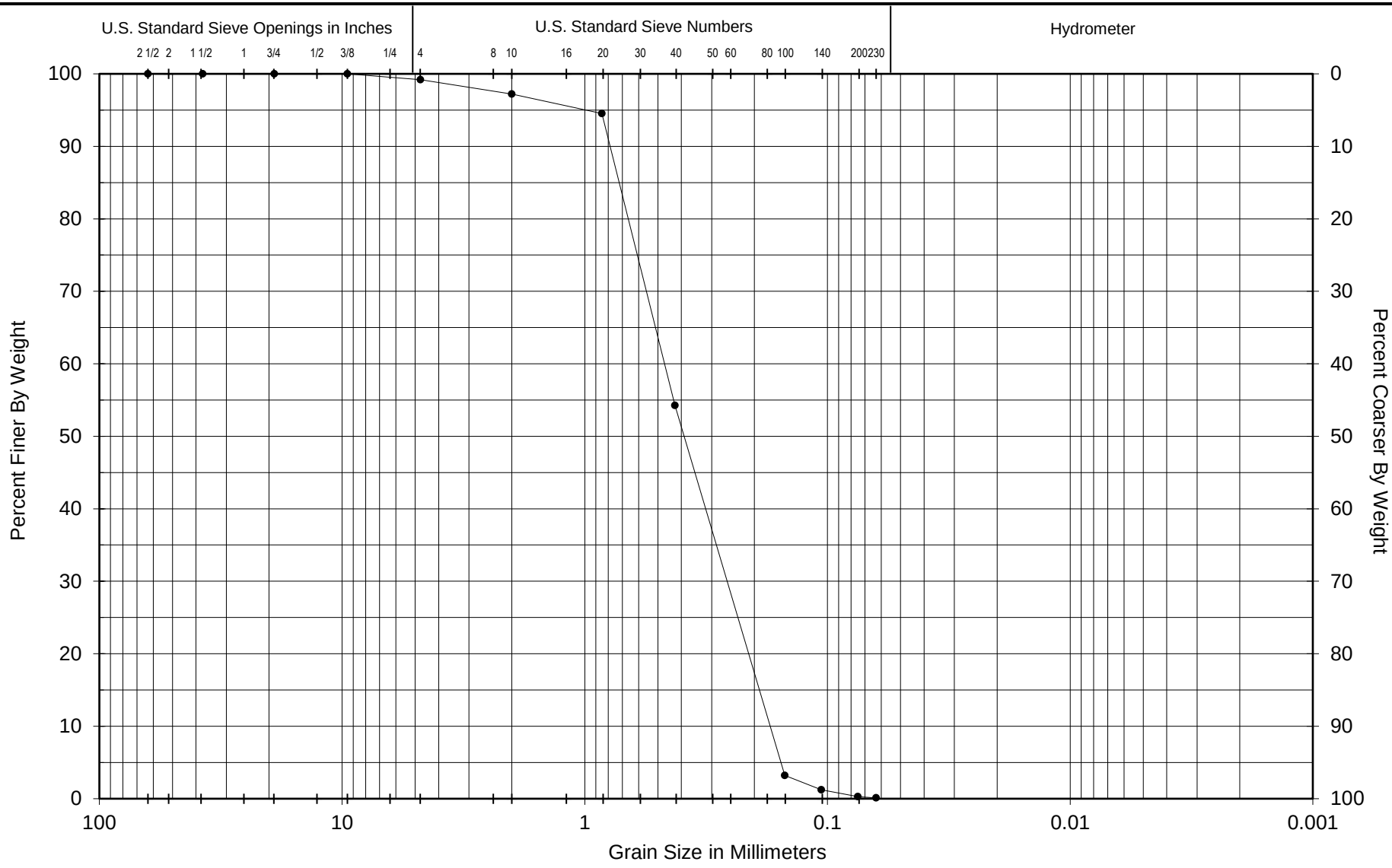
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.18	0.82	
2	10	97.22	2.78	11.33
0.85	20	94.53	5.47	
0.425	40	54.26	45.74	
0.15	100	3.22	96.78	
0.106	140	1.24	98.76	
0.075	200	0.29	99.71	
0.063	230	0.10	99.90	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	97.22
% Passing #230	0.10
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	2.47
% Gravel-Sized Shell	> 2.00 mm	0.32
% Sand	0.063 - 2.00 mm	97.11
% Silt and Clay	< 0.063 mm	0.10
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	33.51
% Medium Sand	0.25 - 0.50 mm	35.45
% Fine Sand	0.063 - 0.25 mm	28.15

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	54.26	0.425	3.22	0.150	0.172
D30	30	54.26	0.425	3.22	0.150	0.259
D50	50	54.26	0.425	3.22	0.150	0.390
D60	60	94.53	0.850	54.26	0.425	0.469

Uniformity Coefficient (Cu)	2.723
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB042B-2

Water Depth (m) 14.65

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB042C-2
Water Depth (m)	14.97

Grain Size Data

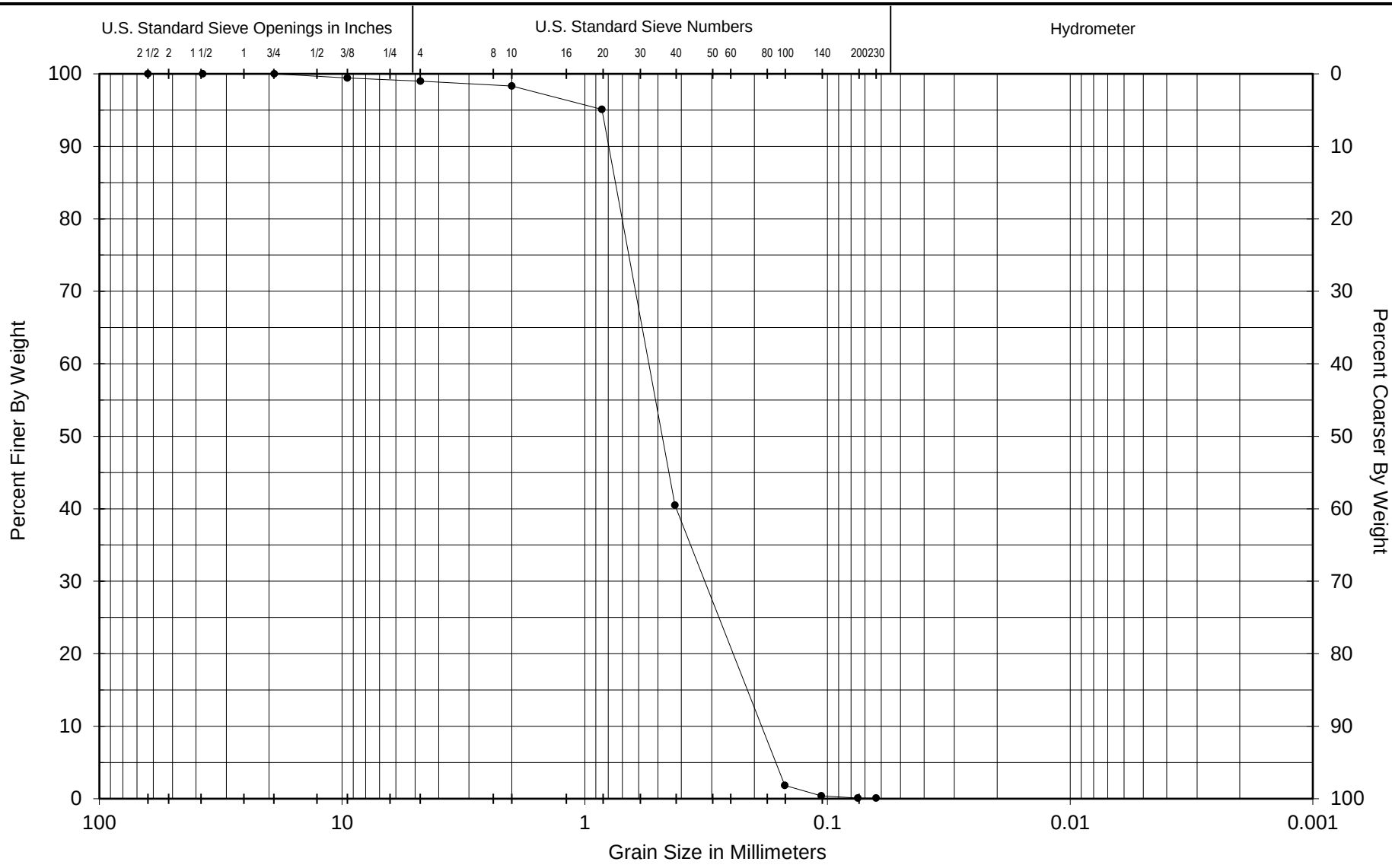
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.43	0.57	
4.75	4	99.00	1.00	
2	10	98.32	1.68	45.84
0.85	20	95.10	4.90	
0.425	40	40.48	59.52	
0.15	100	1.82	98.18	
0.106	140	0.37	99.63	
0.075	200	0.08	99.92	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	98.32
% Passing #230	0.07
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.91
% Gravel-Sized Shell	> 2.00 mm	0.77
% Sand	0.063 - 2.00 mm	98.24
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	45.03
% Medium Sand	0.25 - 0.50 mm	32.50
% Fine Sand	0.063 - 0.25 mm	20.71

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	40.48	0.425	1.82	0.150	0.187
D30	30	40.48	0.425	1.82	0.150	0.320
D50	50	95.10	0.850	40.48	0.425	0.480
D60	60	95.10	0.850	40.48	0.425	0.544

Uniformity Coefficient (Cu)	2.912
Coefficient of Curvature (Cc)	1.009



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB042C-2

Water Depth (m) 14.97

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB043-2
Water Depth (m)	15.16

Grain Size Data

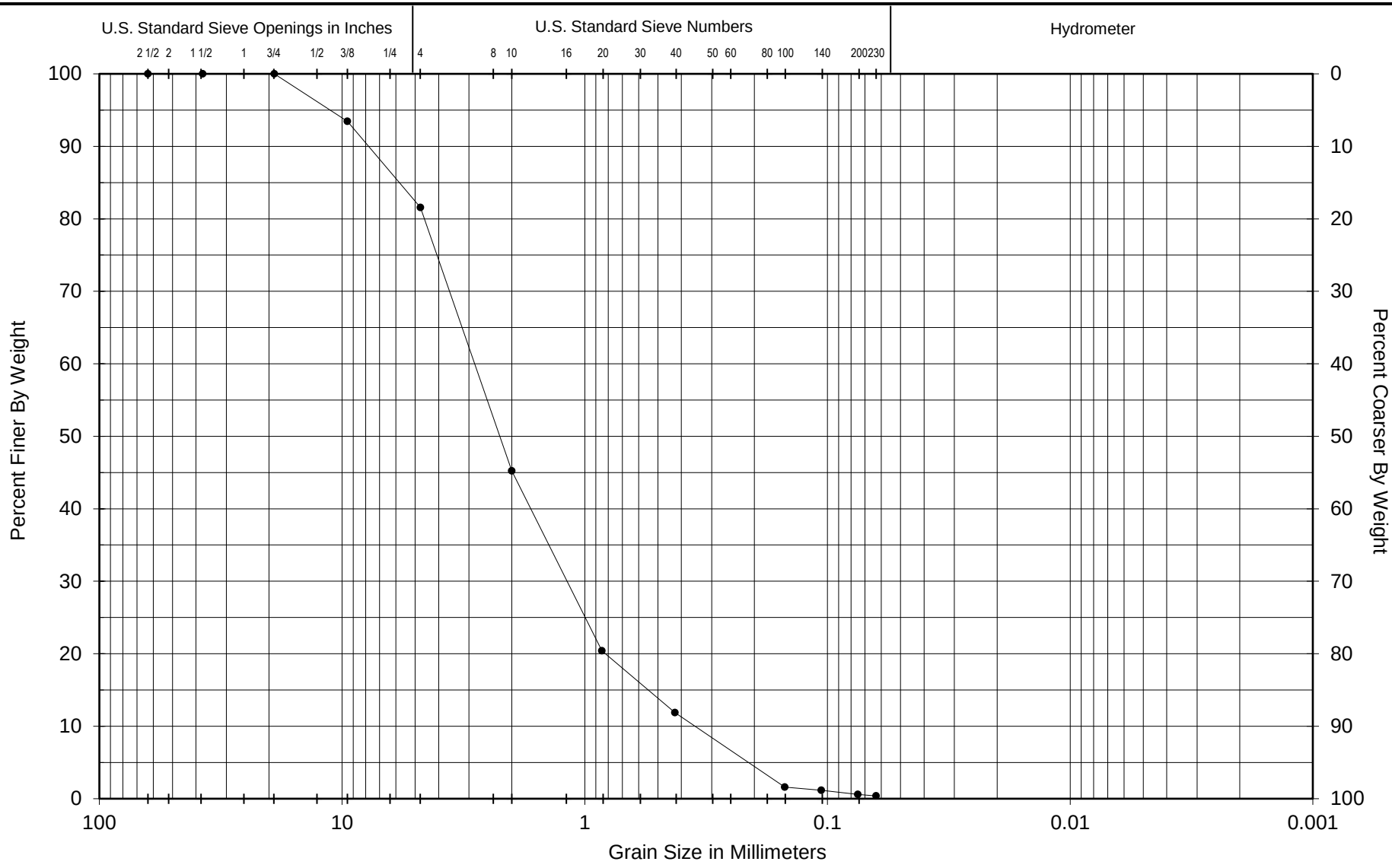
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	93.47	6.53	
4.75	4	81.56	18.44	
2	10	45.22	54.78	0.40
0.85	20	20.39	79.61	
0.425	40	11.88	88.12	
0.15	100	1.60	98.40	
0.106	140	1.18	98.82	
0.075	200	0.59	99.41	
0.063	230	0.38	99.62	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	45.22
% Passing #230	0.38
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	54.56
% Gravel-Sized Shell	> 2.00 mm	0.22
% Sand	0.063 - 2.00 mm	44.84
% Silt and Clay	< 0.063 mm	0.38
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	31.35
% Medium Sand	0.25 - 0.50 mm	7.23
% Fine Sand	0.063 - 0.25 mm	6.27

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	11.88	0.425	1.60	0.150	0.351
D30	30	45.22	2.000	20.39	0.850	1.184
D50	50	81.56	4.750	45.22	2.000	2.241
D60	60	81.56	4.750	45.22	2.000	2.843

Uniformity Coefficient (Cu)	8.095
Coefficient of Curvature (Cc)	1.403



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB043-2

Water Depth (m) 15.16

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB044-6
Water Depth (m)	13.60

Grain Size Data

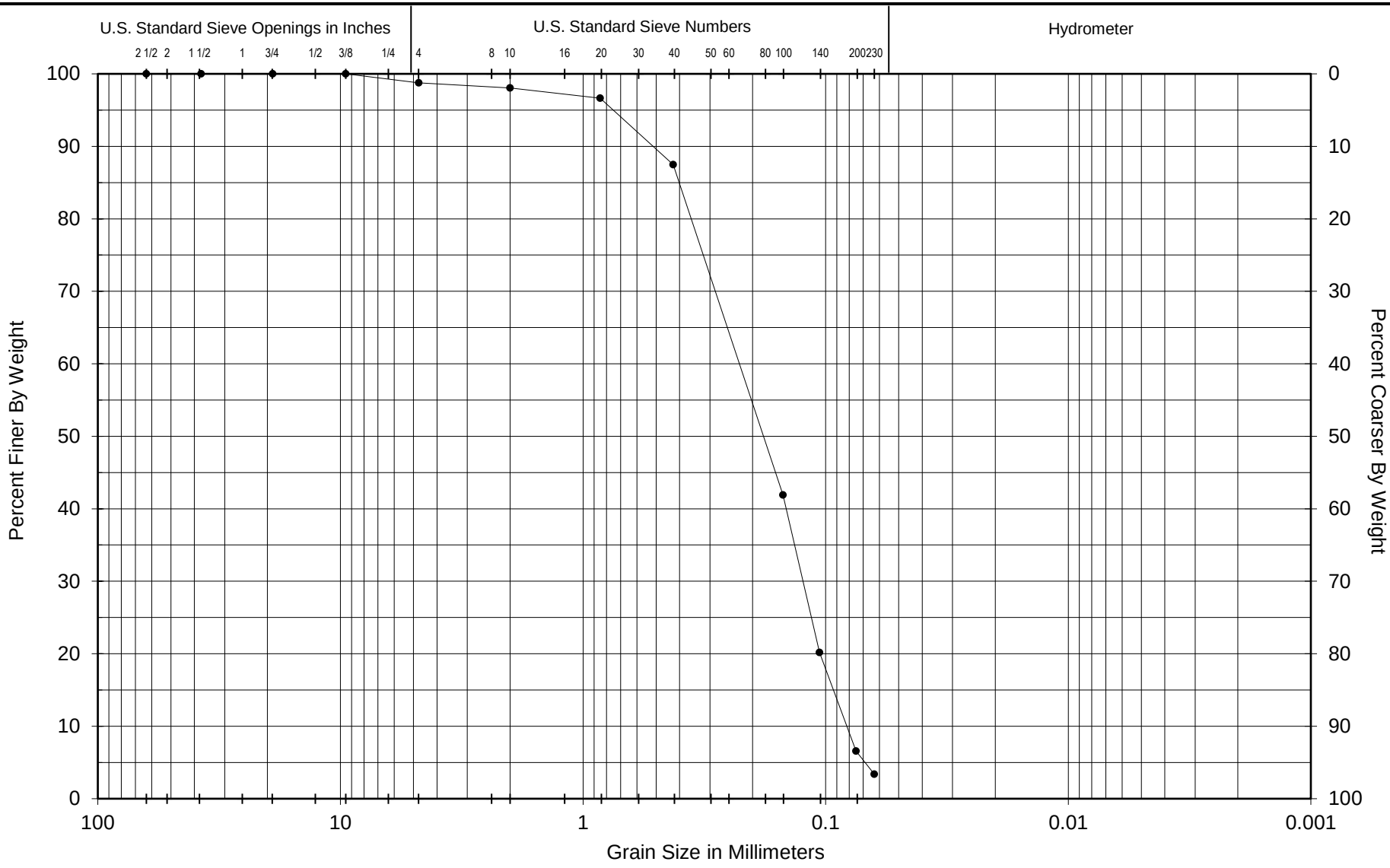
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.77	1.23	
2	10	98.06	1.94	15.54
0.85	20	96.64	3.36	
0.425	40	87.46	12.54	
0.15	100	41.91	58.09	
0.106	140	20.18	79.82	
0.075	200	6.56	93.44	
0.063	230	3.38	96.62	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.06
% Passing #230 3.38
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.64
% Gravel-Sized Shell	> 2.00 mm	0.30
% Sand	0.063 - 2.00 mm	94.67
% Silt and Clay	< 0.063 mm	3.38
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	8.45
% Medium Sand	0.25 - 0.50 mm	25.36
% Fine Sand	0.063 - 0.25 mm	60.87

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	20.18	0.106	6.56	0.075	0.082
D30	30	41.91	0.150	20.18	0.106	0.124
D50	50	87.46	0.425	41.91	0.150	0.180
D60	60	87.46	0.425	41.91	0.150	0.227

Uniformity Coefficient (Cu)	2.772
Coefficient of Curvature (Cc)	0.828



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB044-6

Water Depth (m) 13.60

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB045-1
Water Depth (m)	9.51

Grain Size Data

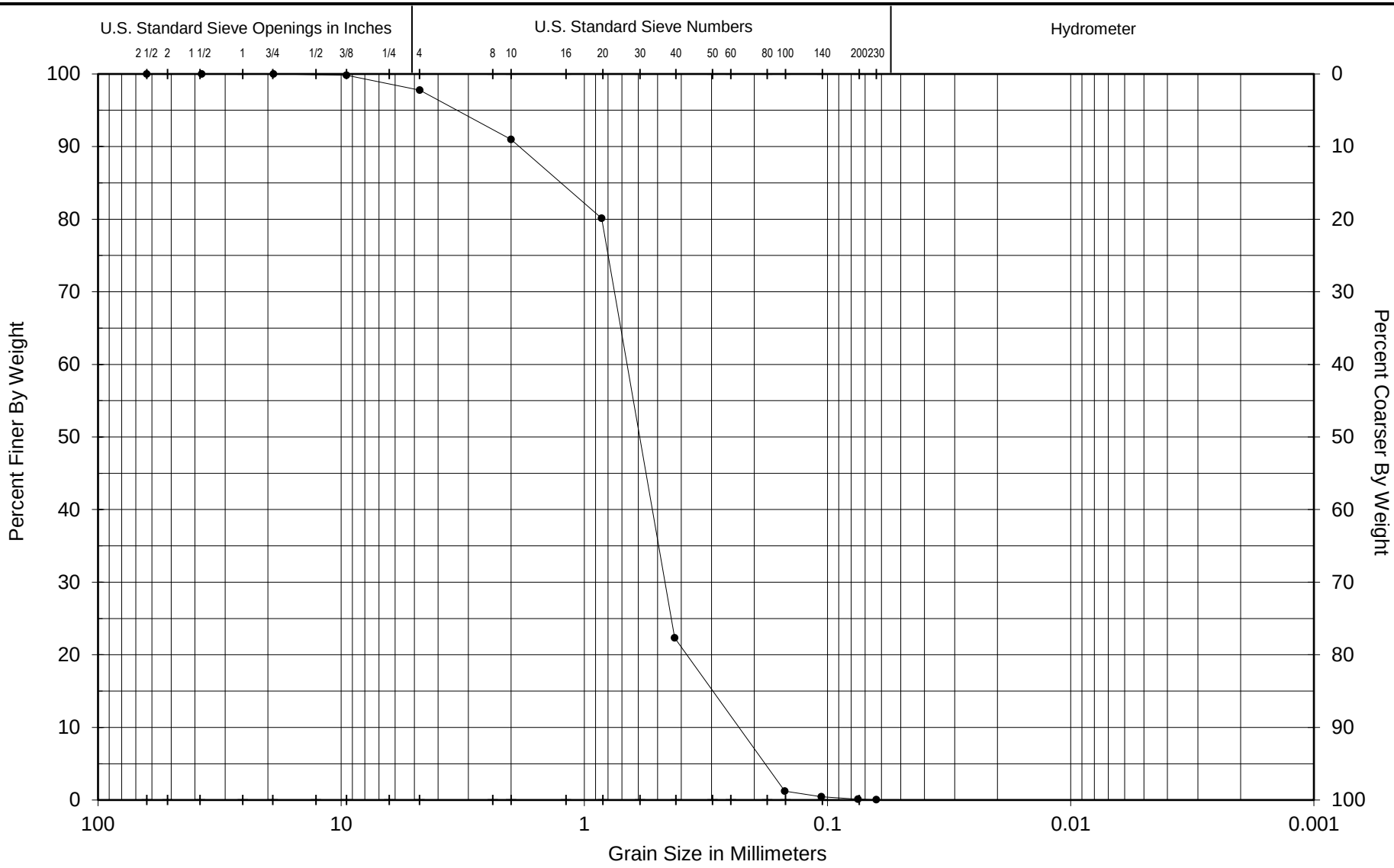
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.83	0.17	
4.75	4	97.77	2.23	
2	10	90.99	9.01	7.60
0.85	20	80.13	19.87	
0.425	40	22.32	77.68	
0.15	100	1.23	98.77	
0.106	140	0.44	99.56	
0.075	200	0.10	99.90	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 90.99
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	8.33
% Gravel-Sized Shell	> 2.00 mm	0.69
% Sand	0.063 - 2.00 mm	90.94
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	55.11
% Medium Sand	0.25 - 0.50 mm	24.30
% Fine Sand	0.063 - 0.25 mm	11.53

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	22.32	0.425	1.23	0.150	0.231
D30	30	80.13	0.850	22.32	0.425	0.466
D50	50	80.13	0.850	22.32	0.425	0.592
D60	60	80.13	0.850	22.32	0.425	0.668

Uniformity Coefficient (Cu)	2.887
Coefficient of Curvature (Cc)	1.406



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB045-1

Water Depth (m) 9.51

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB046-1
Water Depth (m)	13.94

Grain Size Data

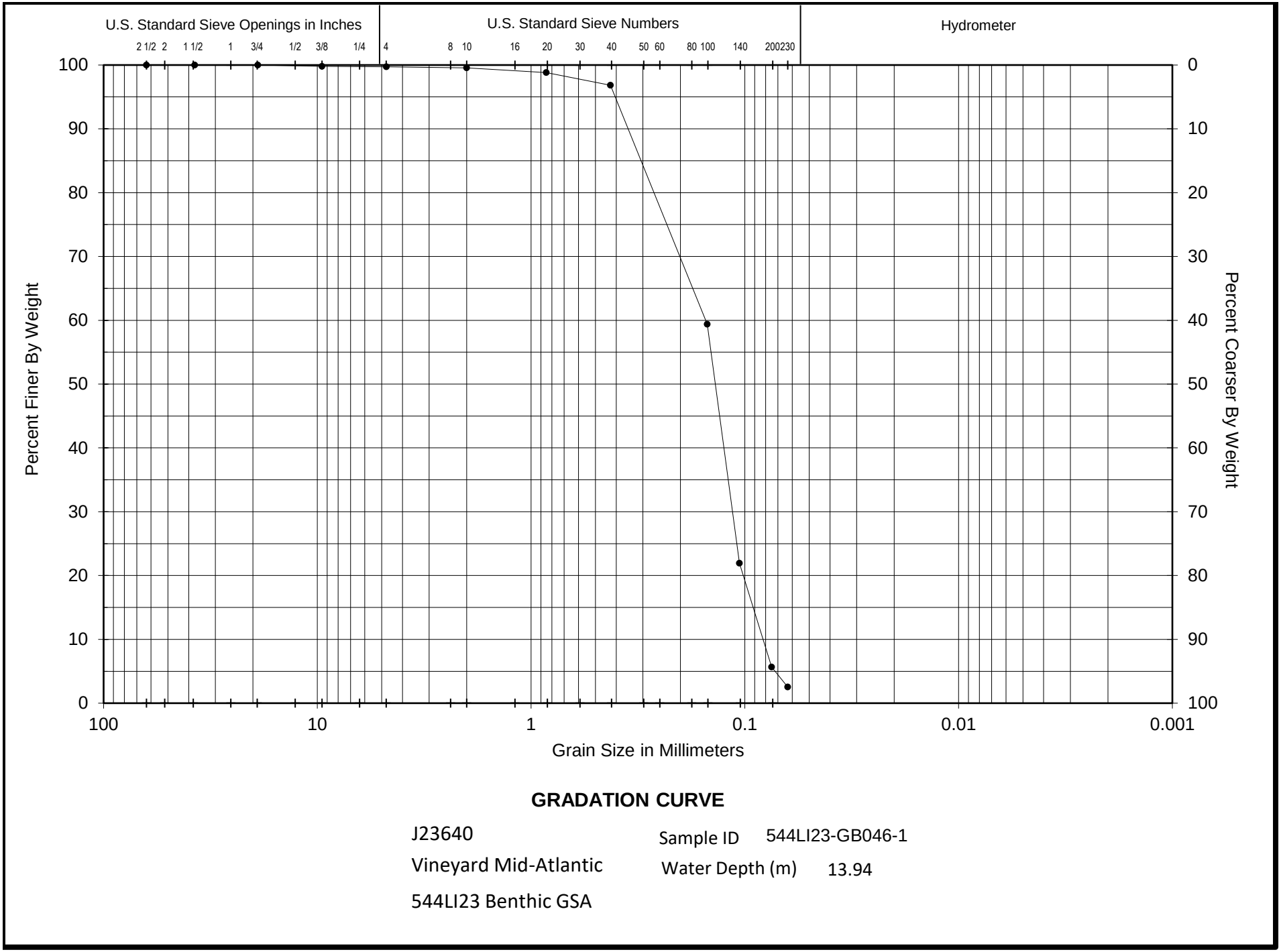
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.80	0.20	
4.75	4	99.73	0.27	
2	10	99.57	0.43	87.63
0.85	20	98.81	1.19	
0.425	40	96.81	3.19	
0.15	100	59.39	40.61	
0.106	140	21.95	78.05	
0.075	200	5.66	94.34	
0.063	230	2.53	97.47	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.57
% Passing #230 2.53
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.05
% Gravel-Sized Shell	> 2.00 mm	0.38
% Sand	0.063 - 2.00 mm	97.03
% Silt and Clay	< 0.063 mm	2.53
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	2.29
% Medium Sand	0.25 - 0.50 mm	19.54
% Fine Sand	0.063 - 0.25 mm	75.21

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	21.95	0.106	5.66	0.075	0.082
D30	30	59.39	0.150	21.95	0.106	0.114
D50	50	59.39	0.150	21.95	0.106	0.137
D60	60	96.81	0.425	59.39	0.150	0.153

Uniformity Coefficient (Cu)	1.855
Coefficient of Curvature (Cc)	1.040



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB046-1

Water Depth (m) 13.94

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB047A-2
Water Depth (m)	11.88

Grain Size Data

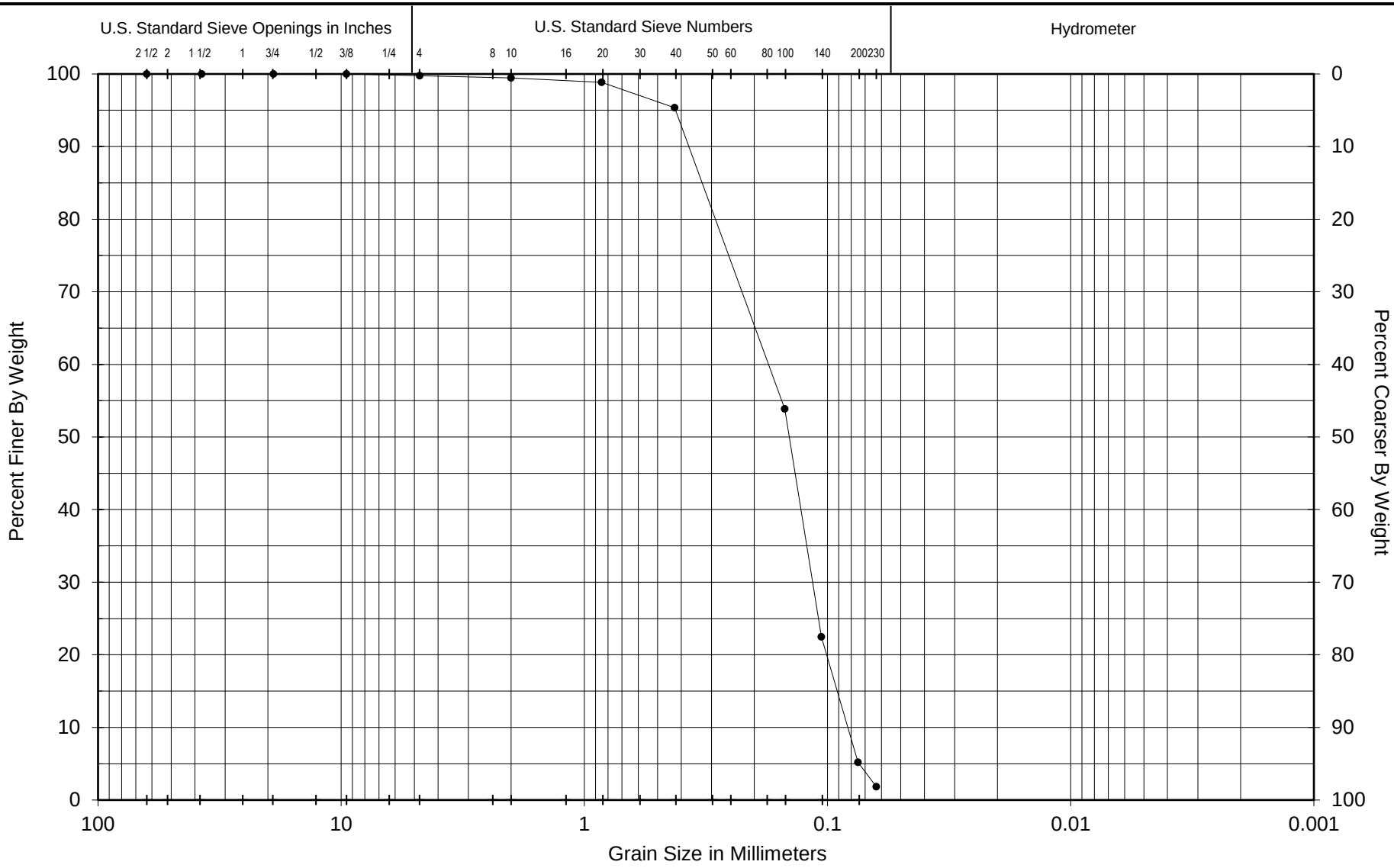
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.75	0.25	
2	10	99.47	0.53	96.30
0.85	20	98.84	1.16	
0.425	40	95.36	4.64	
0.15	100	53.86	46.14	
0.106	140	22.46	77.54	
0.075	200	5.20	94.80	
0.063	230	1.83	98.17	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.47
% Passing #230 1.83
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.51
% Sand	0.063 - 2.00 mm	97.64
% Silt and Clay	< 0.063 mm	1.83
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.30
% Medium Sand	0.25 - 0.50 mm	21.96
% Fine Sand	0.063 - 0.25 mm	72.39

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	22.46	0.106	5.20	0.075	0.083
D30	30	53.86	0.150	22.46	0.106	0.115
D50	50	53.86	0.150	22.46	0.106	0.144
D60	60	95.36	0.425	53.86	0.150	0.175

Uniformity Coefficient (Cu)	2.119
Coefficient of Curvature (Cc)	0.919



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB047A-2

Water Depth (m) 11.88

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB047B-3
Water Depth (m)	12.05

Grain Size Data

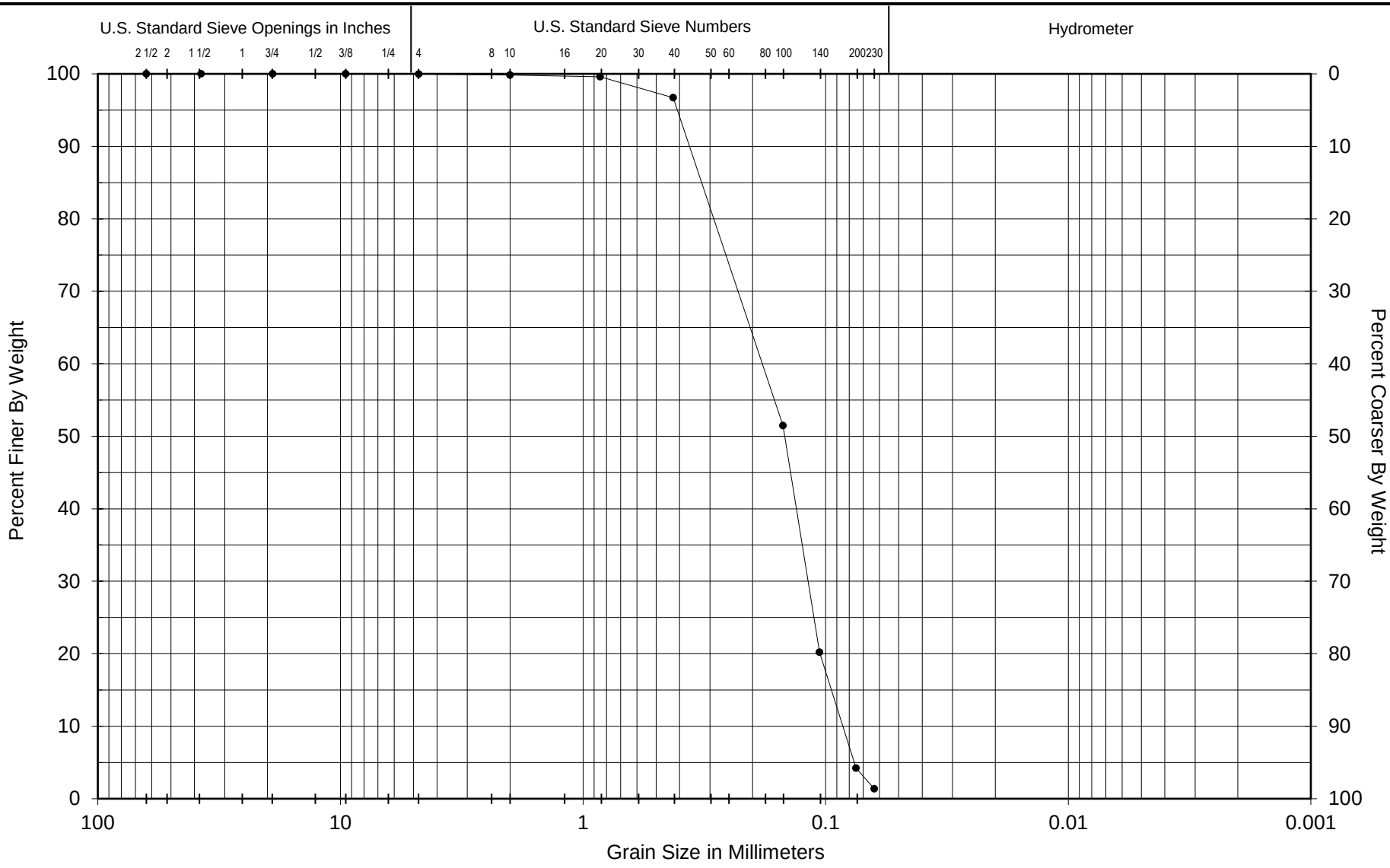
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.85	0.15	90.32
0.85	20	99.58	0.42	
0.425	40	96.71	3.29	
0.15	100	51.46	48.54	
0.106	140	20.20	79.80	
0.075	200	4.20	95.80	
0.063	230	1.37	98.63	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.85
% Passing #230 1.37
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.14
% Sand	0.063 - 2.00 mm	98.48
% Silt and Clay	< 0.063 mm	1.37
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	2.46
% Medium Sand	0.25 - 0.50 mm	23.73
% Fine Sand	0.063 - 0.25 mm	72.29

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	20.20	0.106	4.20	0.075	0.085
D30	30	51.46	0.150	20.20	0.106	0.118
D50	50	51.46	0.150	20.20	0.106	0.148
D60	60	96.71	0.425	51.46	0.150	0.183

Uniformity Coefficient (Cu)	2.148
Coefficient of Curvature (Cc)	0.900



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB047B-3

Water Depth (m) 12.05

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB047C-2
Water Depth (m)	13.03

Grain Size Data

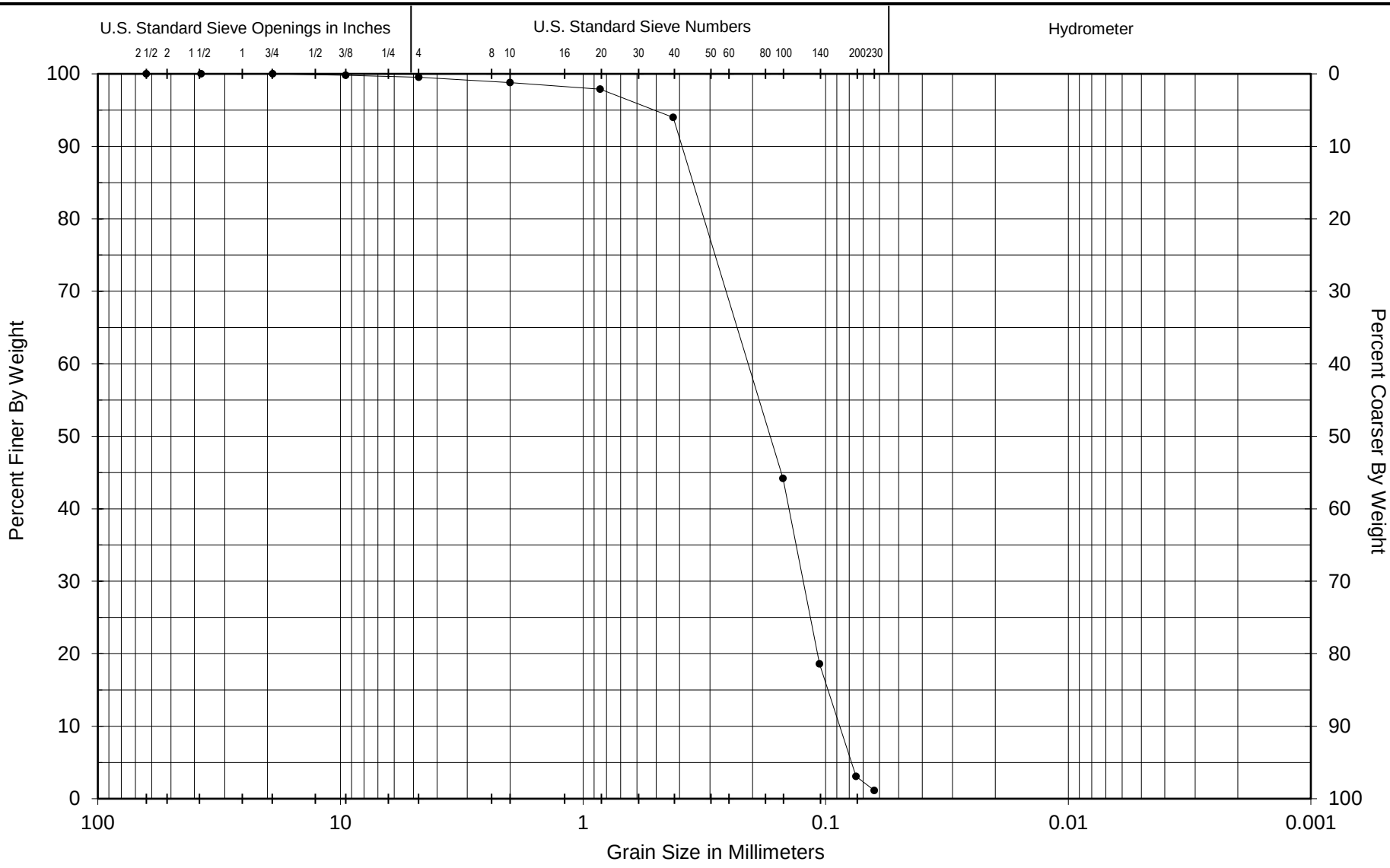
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.81	0.19	
4.75	4	99.53	0.47	
2	10	98.79	1.21	85.87
0.85	20	97.87	2.13	
0.425	40	93.97	6.03	
0.15	100	44.17	55.83	
0.106	140	18.59	81.41	
0.075	200	3.06	96.94	
0.063	230	1.14	98.86	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.79
% Passing #230 1.14
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.17
% Gravel-Sized Shell	> 2.00 mm	1.04
% Sand	0.063 - 2.00 mm	97.65
% Silt and Clay	< 0.063 mm	1.14
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.90
% Medium Sand	0.25 - 0.50 mm	26.29
% Fine Sand	0.063 - 0.25 mm	67.46

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	18.59	0.106	3.06	0.075	0.088
D30	30	44.17	0.150	18.59	0.106	0.124
D50	50	93.97	0.425	44.17	0.150	0.169
D60	60	93.97	0.425	44.17	0.150	0.209

Uniformity Coefficient (Cu)	2.386
Coefficient of Curvature (Cc)	0.838



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB047C-2

Water Depth (m) 13.03

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB048A-2
Water Depth (m)	10.30

Grain Size Data

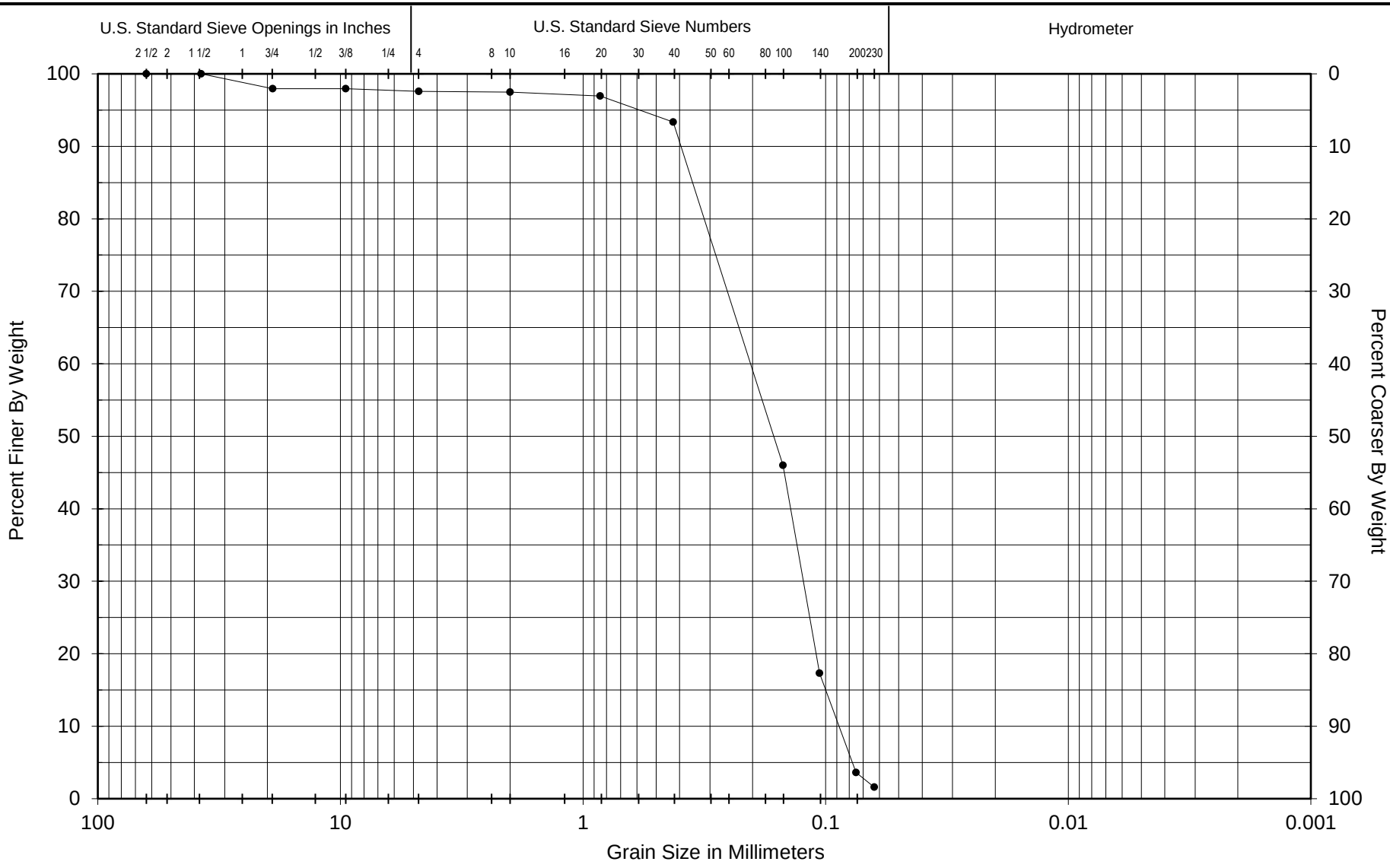
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	97.96	2.04	
9.5	3/8"	97.96	2.04	
4.75	4	97.58	2.42	
2	10	97.47	2.53	97.85
0.85	20	96.96	3.04	
0.425	40	93.36	6.64	
0.15	100	45.99	54.01	
0.106	140	17.32	82.68	
0.075	200	3.60	96.40	
0.063	230	1.58	98.42	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.47
% Passing #230 1.58
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.05
% Gravel-Sized Shell	> 2.00 mm	2.48
% Sand	0.063 - 2.00 mm	95.89
% Silt and Clay	< 0.063 mm	1.58
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.27
% Medium Sand	0.25 - 0.50 mm	24.98
% Fine Sand	0.063 - 0.25 mm	67.64

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	17.32	0.106	3.60	0.075	0.088
D30	30	45.99	0.150	17.32	0.106	0.124
D50	50	93.36	0.425	45.99	0.150	0.164
D60	60	93.36	0.425	45.99	0.150	0.204

Uniformity Coefficient (Cu)	2.316
Coefficient of Curvature (Cc)	0.849



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB048A-2

Water Depth (m) 10.30

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB048B-2
Water Depth (m)	10.12

Grain Size Data

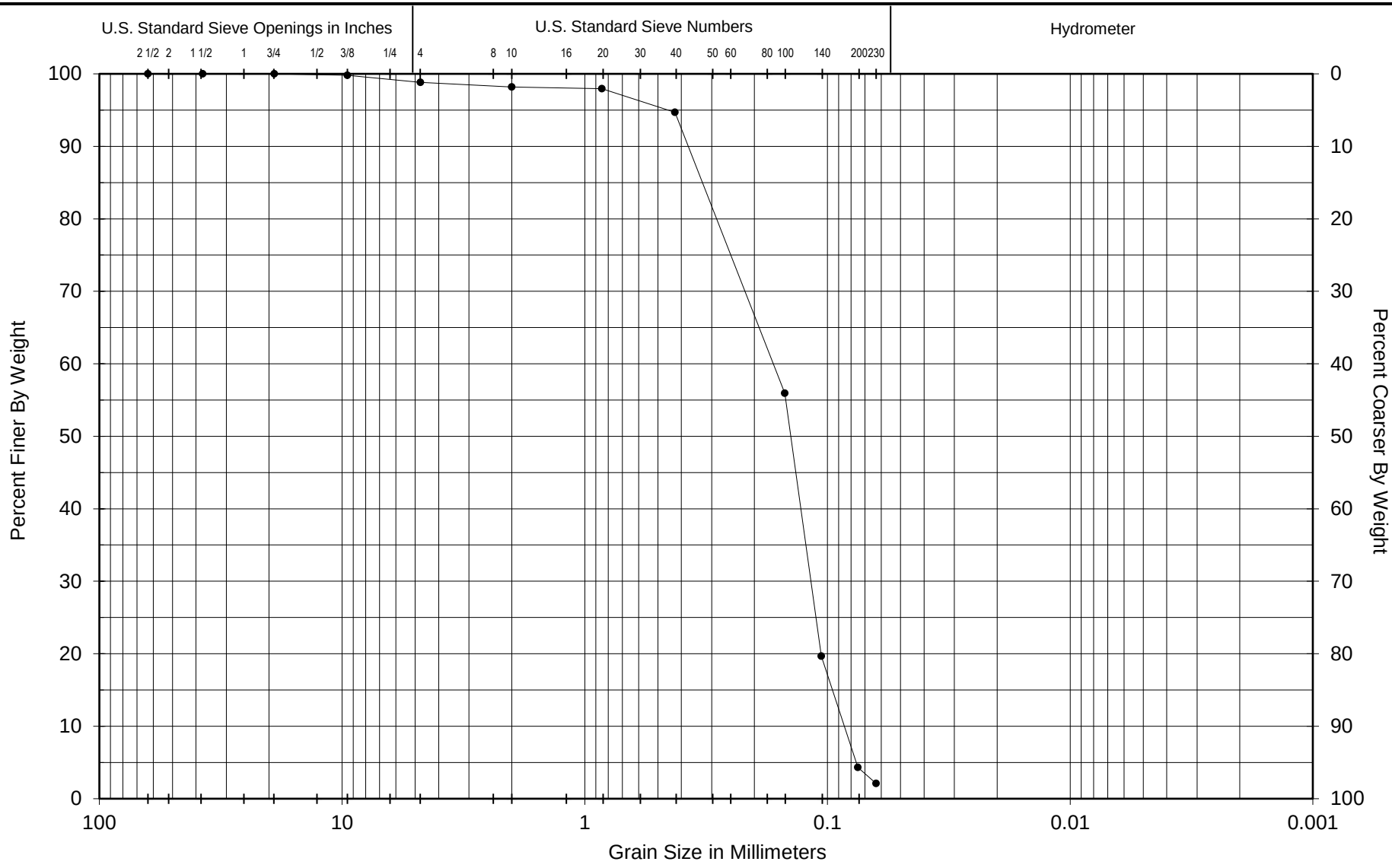
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.78	0.22	
4.75	4	98.84	1.16	
2	10	98.19	1.81	23.79
0.85	20	97.94	2.06	
0.425	40	94.71	5.29	
0.15	100	55.93	44.07	
0.106	140	19.68	80.32	
0.075	200	4.32	95.68	
0.063	230	2.10	97.90	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 98.19
% Passing #230 2.10
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.38
% Gravel-Sized Shell	> 2.00 mm	0.43
% Sand	0.063 - 2.00 mm	96.10
% Silt and Clay	< 0.063 mm	2.10
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	2.73
% Medium Sand	0.25 - 0.50 mm	20.52
% Fine Sand	0.063 - 0.25 mm	72.85

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	19.68	0.106	4.32	0.075	0.085
D30	30	55.93	0.150	19.68	0.106	0.117
D50	50	55.93	0.150	19.68	0.106	0.142
D60	60	94.71	0.425	55.93	0.150	0.167

Uniformity Coefficient (Cu)	1.963
Coefficient of Curvature (Cc)	0.960



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB048B-2

Water Depth (m) 10.12

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB048C-2
Water Depth (m)	10.17

Grain Size Data

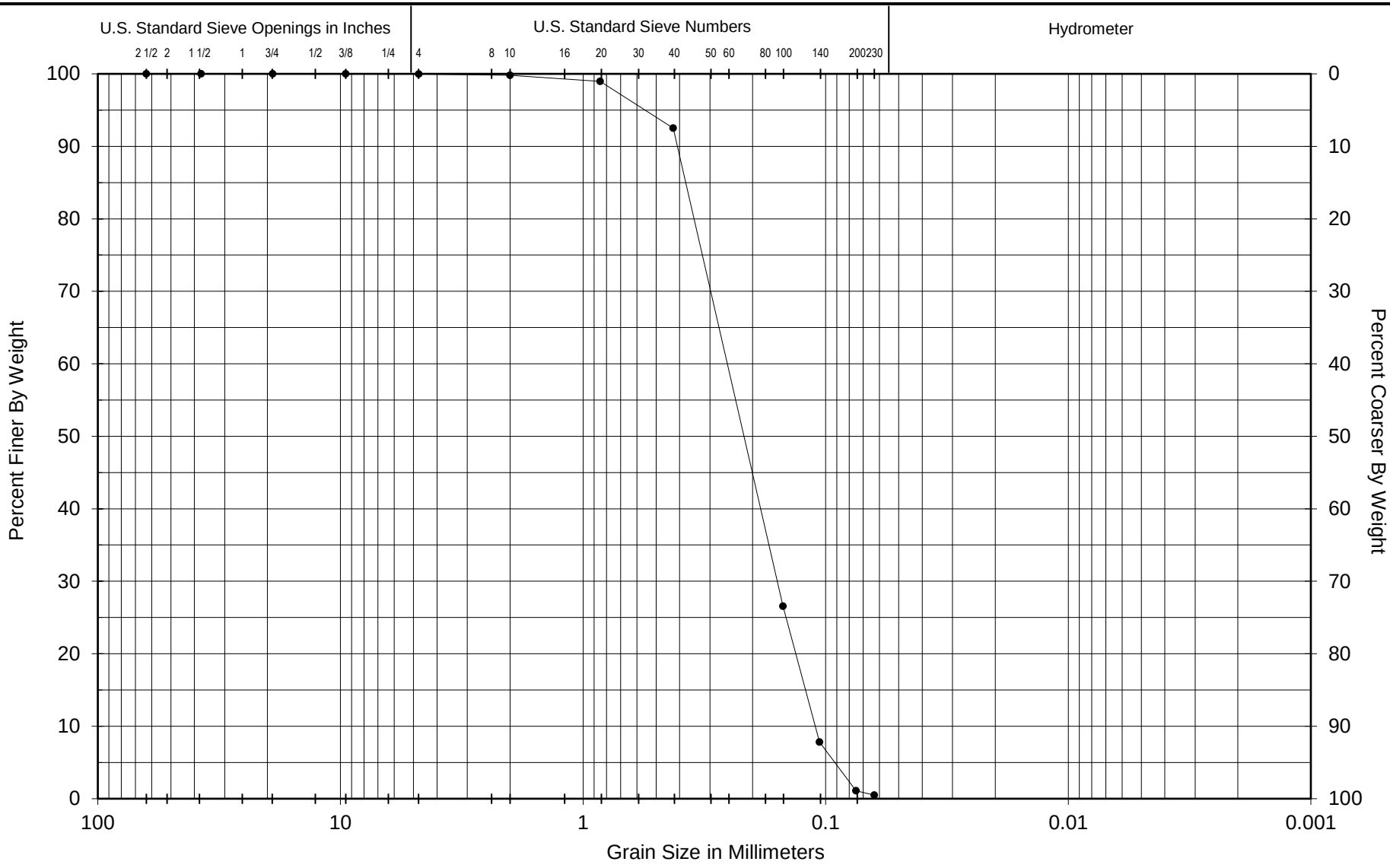
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.97	0.03	
2	10	99.80	0.20	64.29
0.85	20	98.95	1.05	
0.425	40	92.51	7.49	
0.15	100	26.56	73.44	
0.106	140	7.82	92.18	
0.075	200	1.10	98.90	
0.063	230	0.49	99.51	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.80
% Passing #230 0.49
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.07
% Gravel-Sized Shell	> 2.00 mm	0.13
% Sand	0.063 - 2.00 mm	99.31
% Silt and Clay	< 0.063 mm	0.49
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	5.78
% Medium Sand	0.25 - 0.50 mm	35.11
% Fine Sand	0.063 - 0.25 mm	58.42

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	26.56	0.150	7.82	0.106	0.110
D30	30	92.51	0.425	26.56	0.150	0.158
D50	50	92.51	0.425	26.56	0.150	0.217
D60	60	92.51	0.425	26.56	0.150	0.254

Uniformity Coefficient (Cu)	2.304
Coefficient of Curvature (Cc)	0.893



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB048C-2

Water Depth (m) 10.17

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB049-1
Water Depth (m)	5.51

Grain Size Data

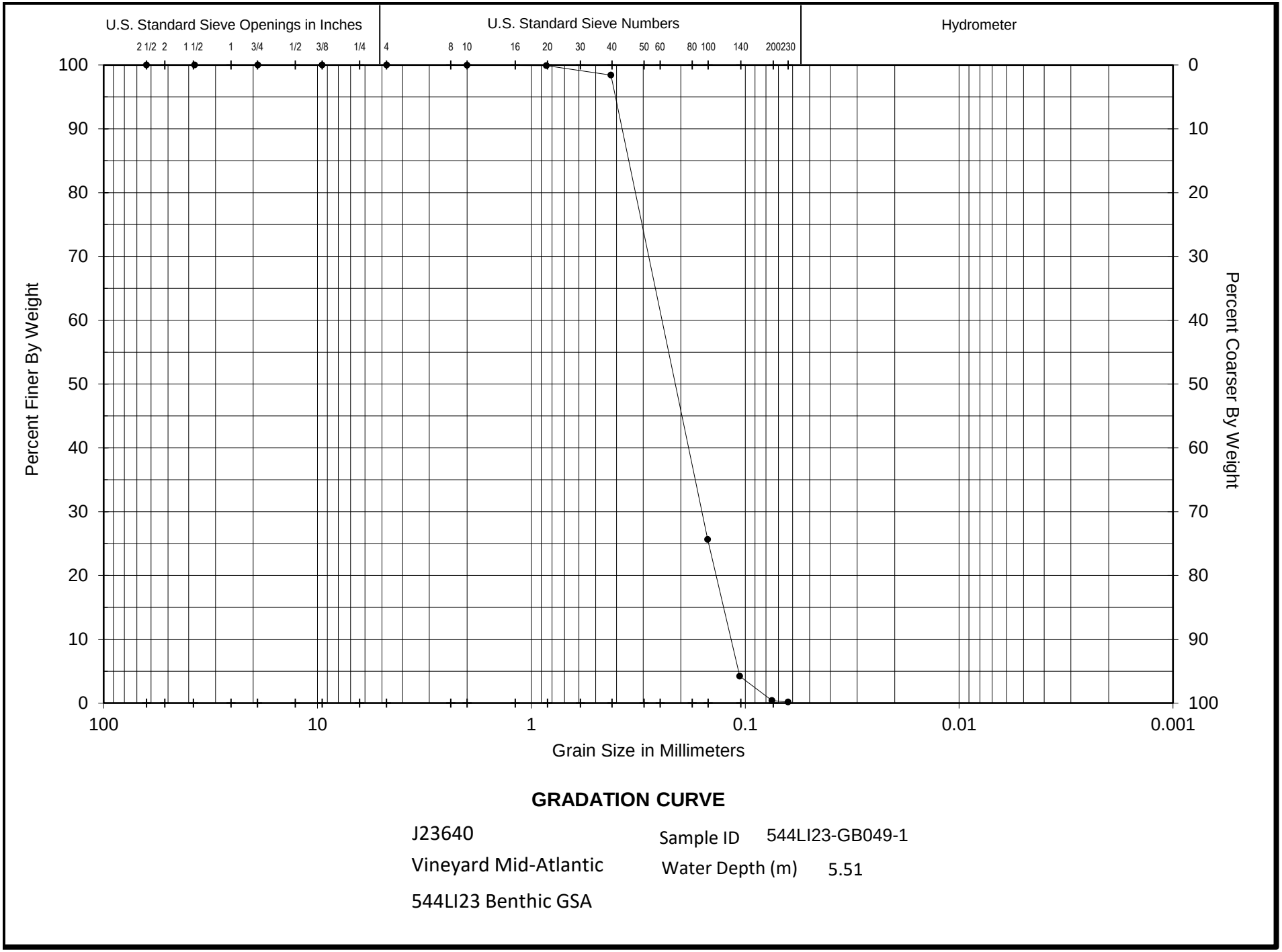
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.98	0.02	100.00
0.85	20	99.90	0.10	
0.425	40	98.42	1.58	
0.15	100	25.64	74.36	
0.106	140	4.22	95.78	
0.075	200	0.42	99.58	
0.063	230	0.17	99.83	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.98
% Passing #230 0.17
% Pass 2μ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.02
% Sand	0.063 - 2.00 mm	99.81
% Silt and Clay	< 0.063 mm	0.17
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	1.22
% Medium Sand	0.25 - 0.50 mm	37.43
% Fine Sand	0.063 - 0.25 mm	61.17

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(\text{Next Larger \%Finer})}$ (mm)	Next Smaller %Finer	$D_{(\text{Next Smaller \%Finer})}$ (mm)	Grain Size (mm)
D10	10	25.64	0.150	4.22	0.106	0.116
D30	30	98.42	0.425	25.64	0.150	0.160
D50	50	98.42	0.425	25.64	0.150	0.213
D60	60	98.42	0.425	25.64	0.150	0.245

Uniformity Coefficient (Cu)	2.107
Coefficient of Curvature (Cc)	0.893



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB049-1

Water Depth (m) 5.51

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB050A-2
Water Depth (m)	16.35

Grain Size Data

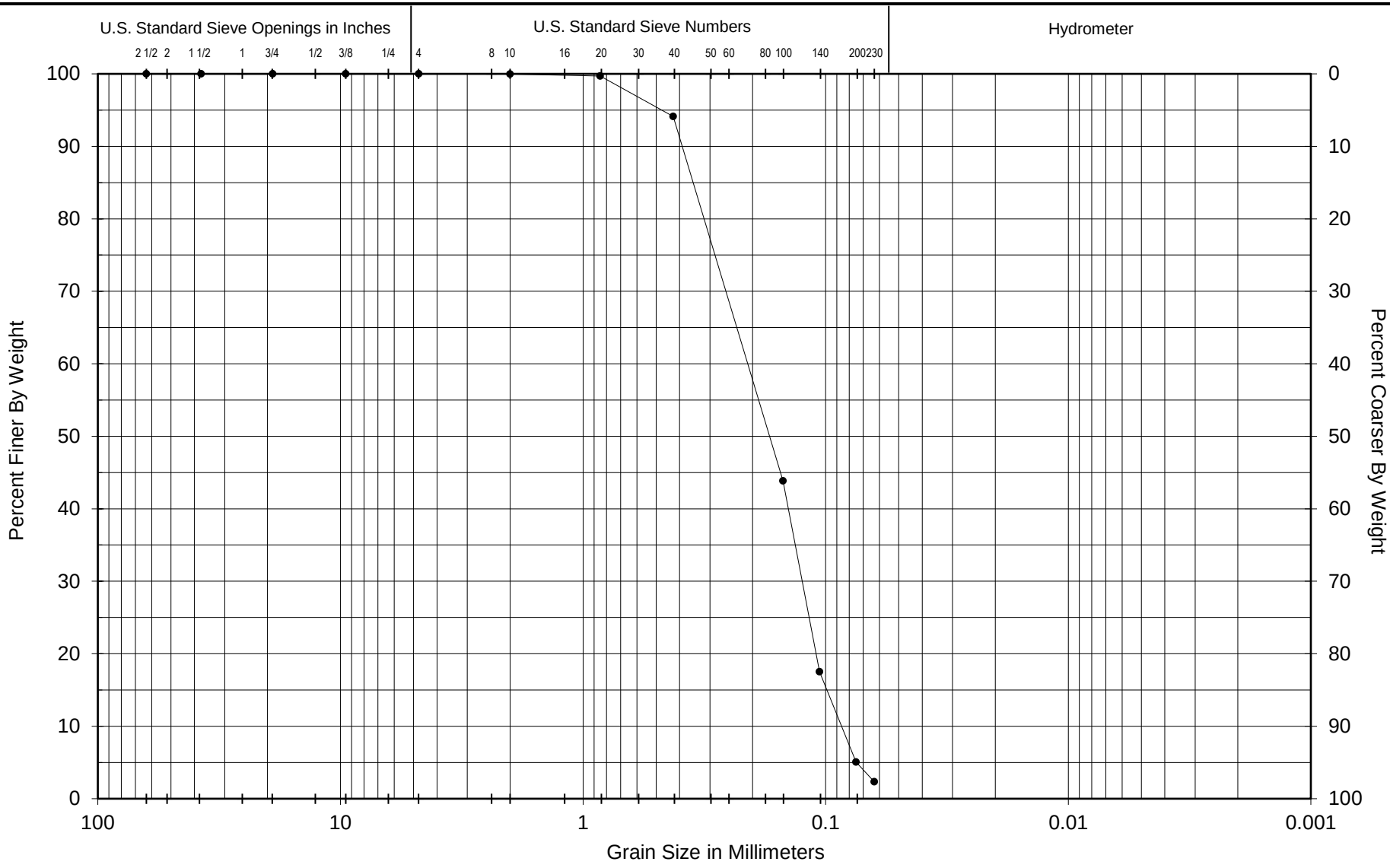
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	100.00	0.00	
2	10	99.96	0.04	66.67
0.85	20	99.70	0.30	
0.425	40	94.12	5.88	
0.15	100	43.84	56.16	
0.106	140	17.51	82.49	
0.075	200	5.04	94.96	
0.063	230	2.32	97.68	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.96
% Passing #230 2.32
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.03
% Sand	0.063 - 2.00 mm	97.63
% Silt and Clay	< 0.063 mm	2.32
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	4.52
% Medium Sand	0.25 - 0.50 mm	26.92
% Fine Sand	0.063 - 0.25 mm	66.18

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	17.51	0.106	5.04	0.075	0.086
D30	30	43.84	0.150	17.51	0.106	0.125
D50	50	94.12	0.425	43.84	0.150	0.170
D60	60	94.12	0.425	43.84	0.150	0.210

Uniformity Coefficient (Cu)	2.436
Coefficient of Curvature (Cc)	0.866



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB050A-2

Water Depth (m) 16.35

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB050B-2
Water Depth (m)	16.57

Grain Size Data

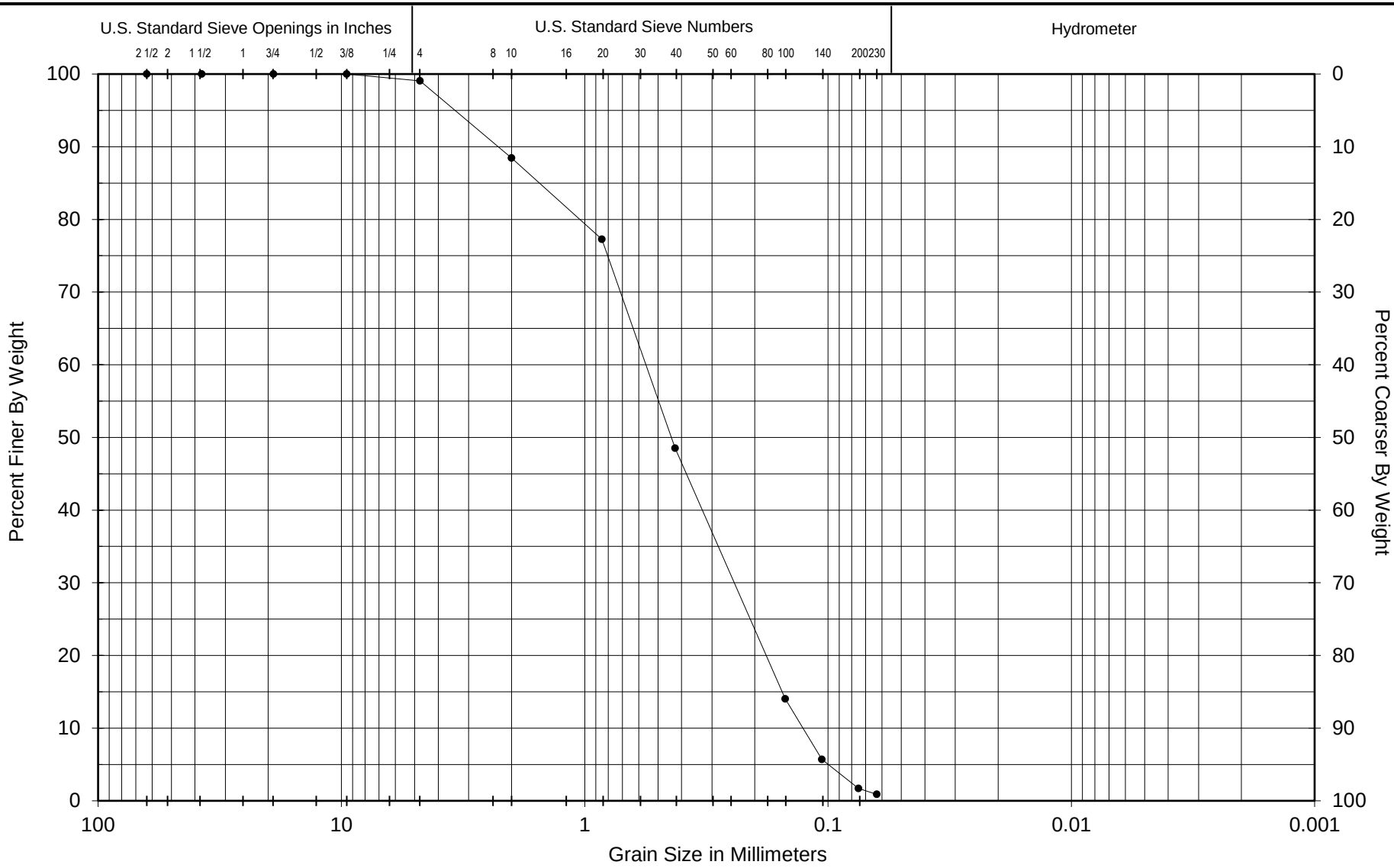
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.05	0.95	
2	10	88.46	11.54	3.46
0.85	20	77.25	22.75	
0.425	40	48.51	51.49	
0.15	100	14.02	85.98	
0.106	140	5.68	94.32	
0.075	200	1.69	98.31	
0.063	230	0.89	99.11	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 88.46
% Passing #230 0.89
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	11.14
% Gravel-Sized Shell	> 2.00 mm	0.40
% Sand	0.063 - 2.00 mm	87.57
% Silt and Clay	< 0.063 mm	0.89
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	33.21
% Medium Sand	0.25 - 0.50 mm	24.31
% Fine Sand	0.063 - 0.25 mm	30.05

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	14.02	0.150	5.68	0.106	0.127
D30	30	48.51	0.425	14.02	0.150	0.243
D50	50	77.25	0.850	48.51	0.425	0.441
D60	60	77.25	0.850	48.51	0.425	0.561

Uniformity Coefficient (Cu)	4.419
Coefficient of Curvature (Cc)	0.830



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB050B-2

Water Depth (m) 16.57

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB050C-2
Water Depth (m)	16.68

Grain Size Data

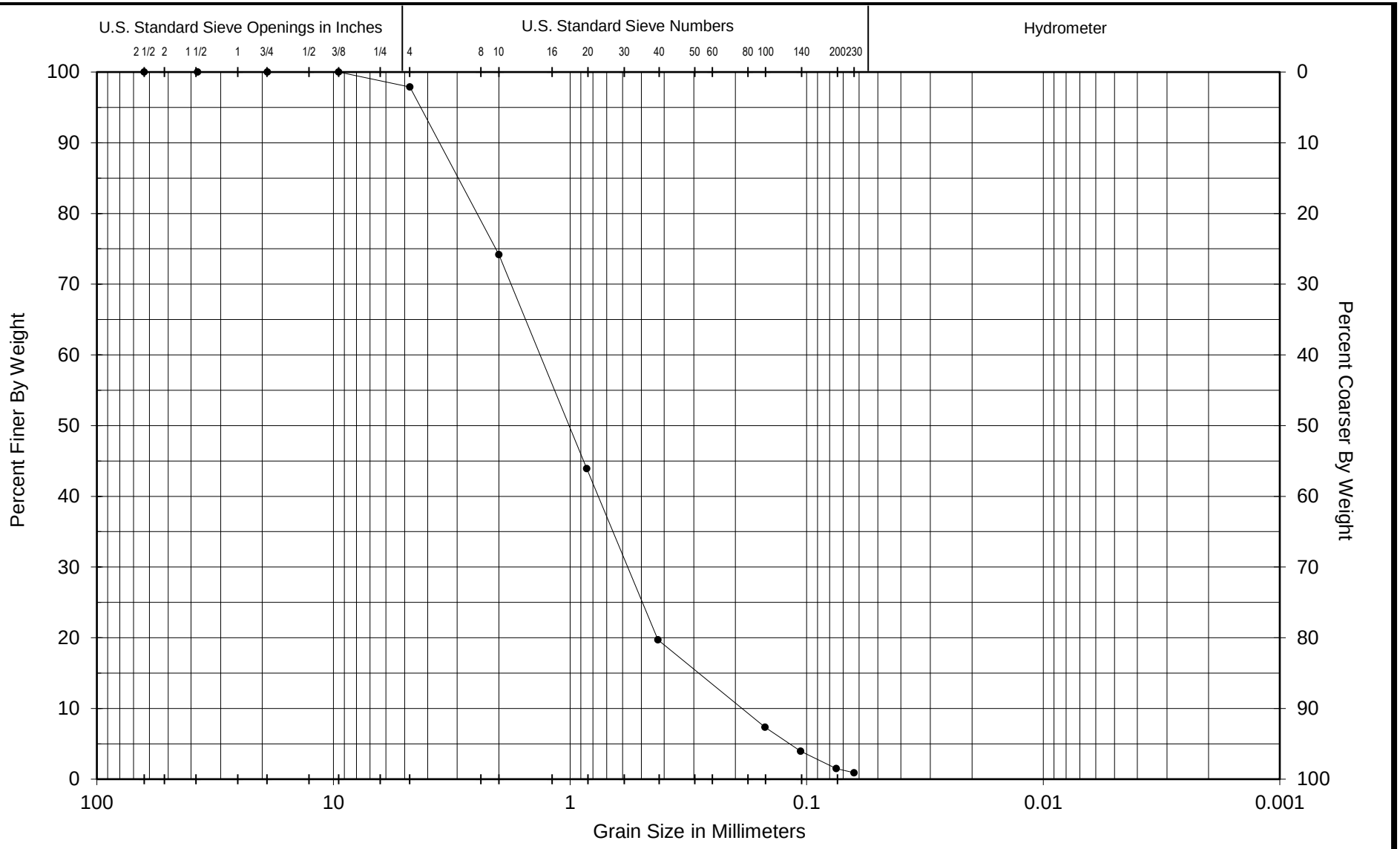
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	97.90	2.10	
2	10	74.17	25.83	1.36
0.85	20	43.93	56.07	
0.425	40	19.69	80.31	
0.15	100	7.33	92.67	
0.106	140	3.96	96.04	
0.075	200	1.48	98.52	
0.063	230	0.91	99.09	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 74.17
% Passing #230 0.91
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	25.48
% Gravel-Sized Shell	> 2.00 mm	0.35
% Sand	0.063 - 2.00 mm	73.26
% Silt and Clay	< 0.063 mm	0.91
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	48.80
% Medium Sand	0.25 - 0.50 mm	11.98
% Fine Sand	0.063 - 0.25 mm	12.48

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	19.69	0.425	7.33	0.150	0.188
D30	30	43.93	0.850	19.69	0.425	0.571
D50	50	74.17	2.000	43.93	0.850	1.009
D60	60	74.17	2.000	43.93	0.850	1.339

Uniformity Coefficient (Cu)	7.131
Coefficient of Curvature (Cc)	1.295



GRADATION CURVE

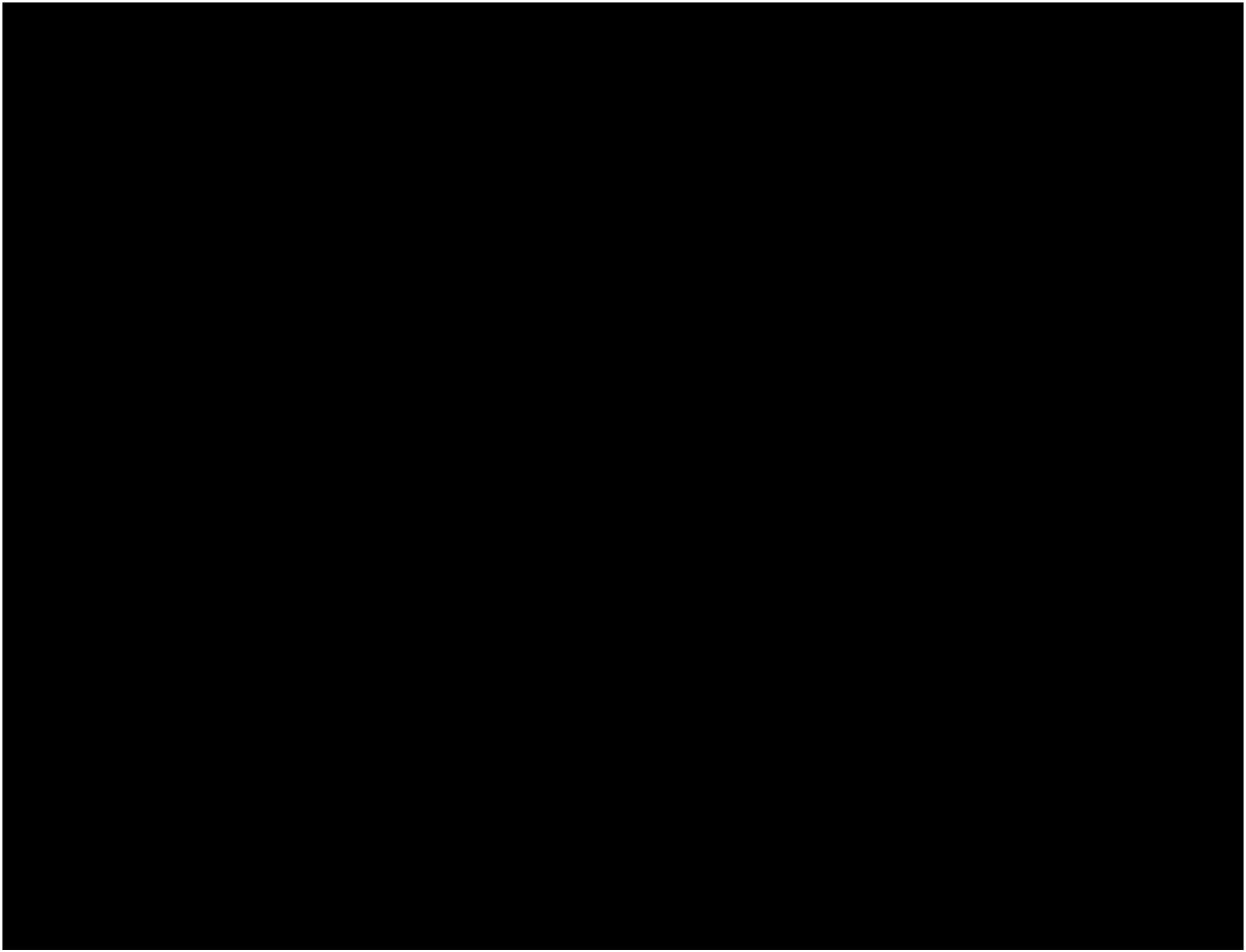
J23640

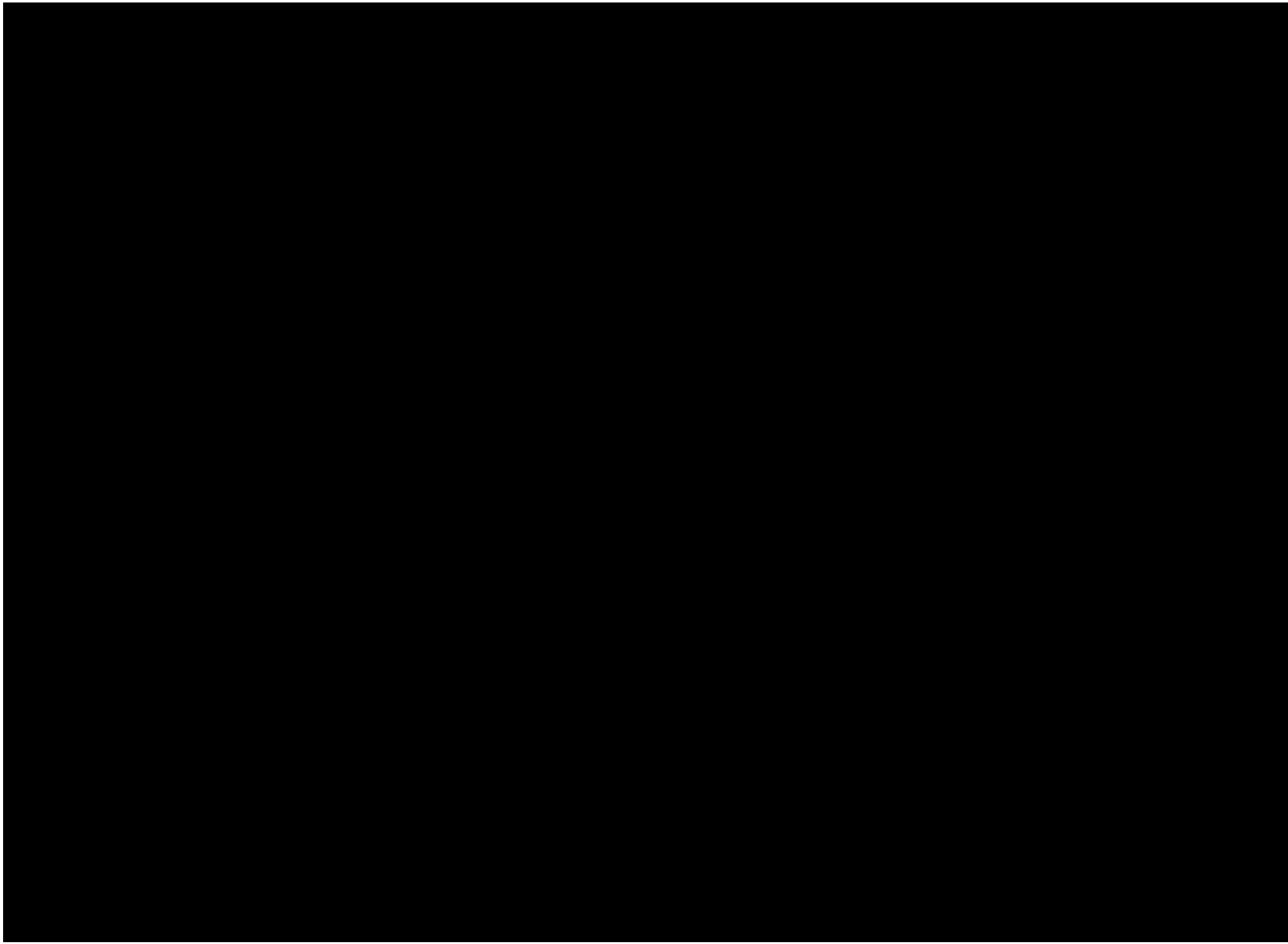
Vineyard Mid-Atlantic

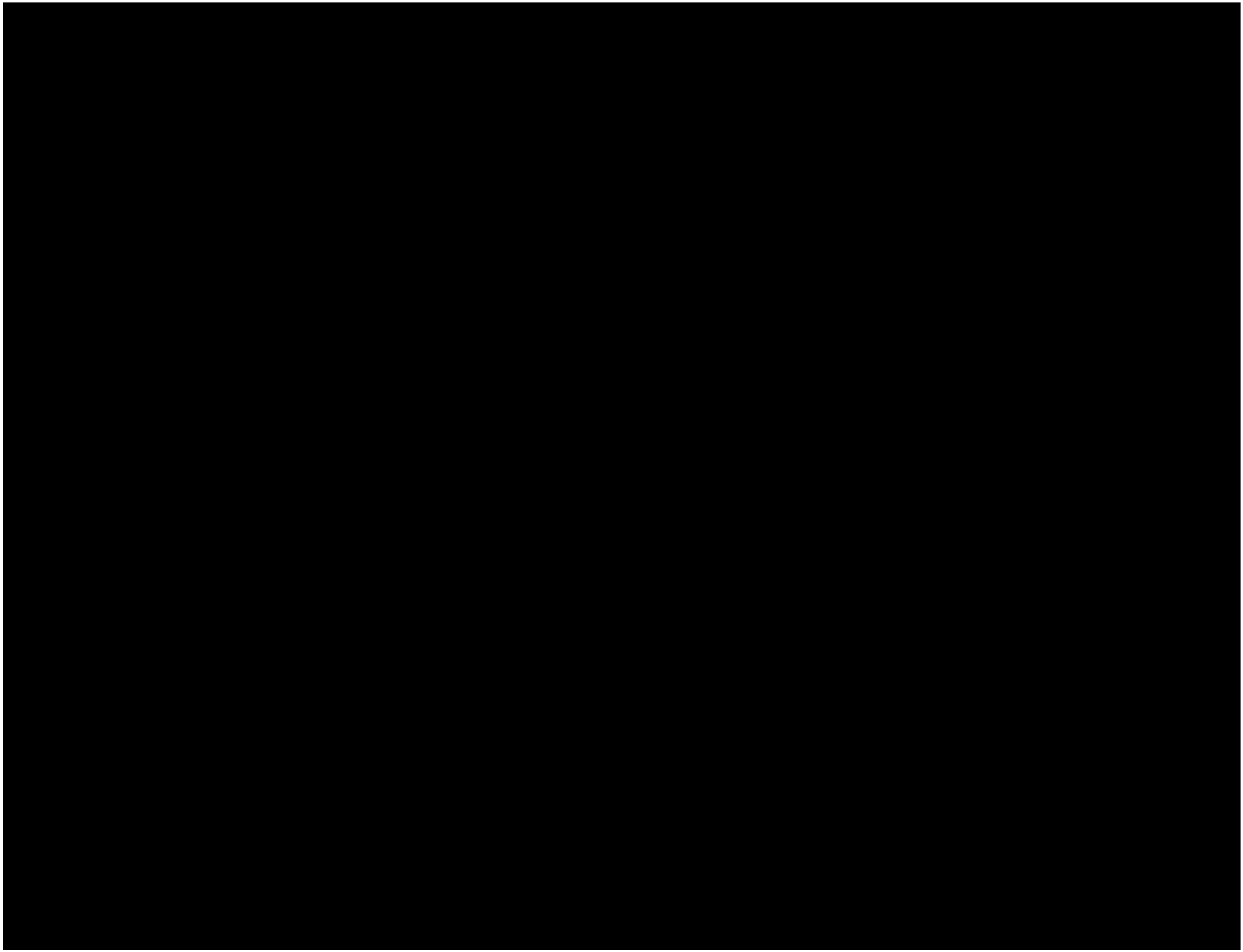
544LI23 Benthic GSA

Sample ID 544LI23-GB050C-2

Water Depth (m) 16.68







GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB053A-1
Water Depth (m)	17.87

Grain Size Data

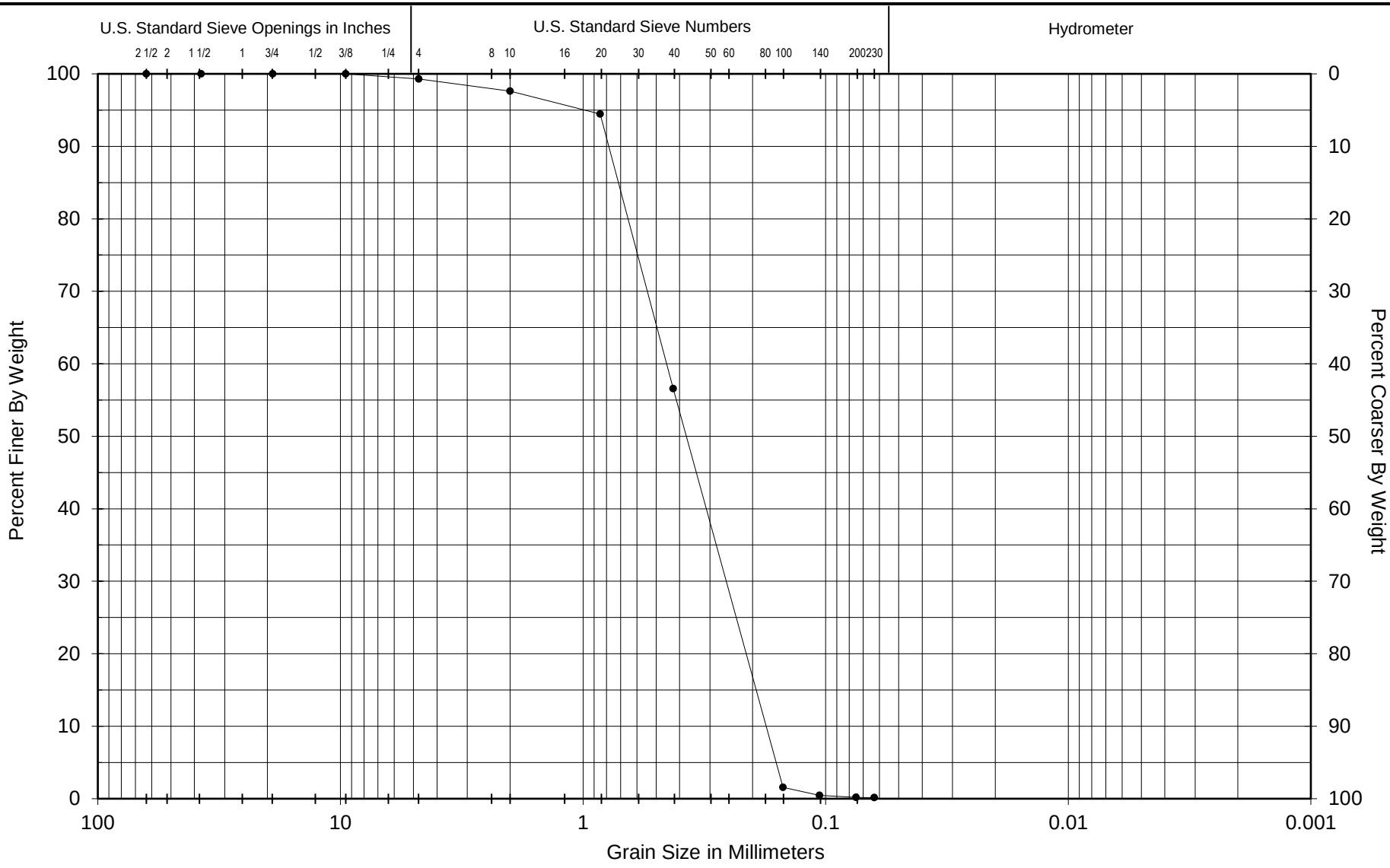
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.28	0.72	
2	10	97.62	2.38	40.80
0.85	20	94.46	5.54	
0.425	40	56.56	43.44	
0.15	100	1.55	98.45	
0.106	140	0.47	99.53	
0.075	200	0.19	99.81	
0.063	230	0.14	99.86	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	97.62
% Passing #230	0.14
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	1.41
% Gravel-Sized Shell	> 2.00 mm	0.97
% Sand	0.063 - 2.00 mm	97.48
% Silt and Clay	< 0.063 mm	0.14
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	32.18
% Medium Sand	0.25 - 0.50 mm	36.91
% Fine Sand	0.063 - 0.25 mm	28.40

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	56.56	0.425	1.55	0.150	0.176
D30	30	56.56	0.425	1.55	0.150	0.257
D50	50	56.56	0.425	1.55	0.150	0.375
D60	60	94.46	0.850	56.56	0.425	0.453

Uniformity Coefficient (Cu)	2.571
Coefficient of Curvature (Cc)	0.829



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB053A-1

Water Depth (m) 17.87

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB053B-2
Water Depth (m)	17.96

Grain Size Data

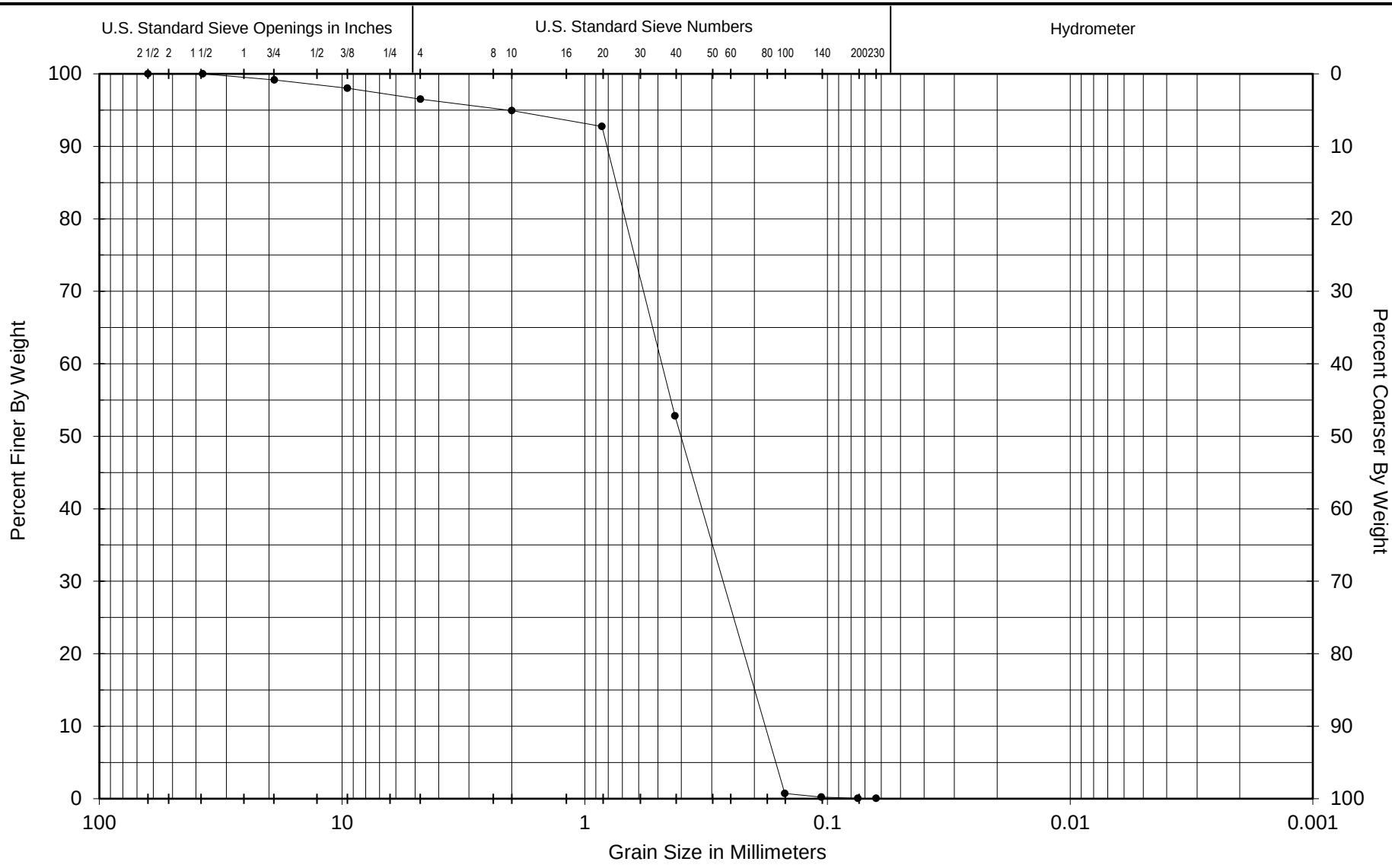
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	99.17	0.83	
9.5	3/8"	98.01	1.99	
4.75	4	96.52	3.48	
2	10	94.94	5.06	91.17
0.85	20	92.75	7.25	
0.425	40	52.83	47.17	
0.15	100	0.72	99.28	
0.106	140	0.21	99.79	
0.075	200	0.07	99.93	
0.063	230	0.04	99.96	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 94.94
% Passing #230 0.04
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.45
% Gravel-Sized Shell	> 2.00 mm	4.61
% Sand	0.063 - 2.00 mm	94.90
% Silt and Clay	< 0.063 mm	0.04
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	32.75
% Medium Sand	0.25 - 0.50 mm	35.91
% Fine Sand	0.063 - 0.25 mm	26.24

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	52.83	0.425	0.72	0.150	0.181
D30	30	52.83	0.425	0.72	0.150	0.269
D50	50	52.83	0.425	0.72	0.150	0.402
D60	60	92.75	0.850	52.83	0.425	0.481

Uniformity Coefficient (Cu)	2.666
Coefficient of Curvature (Cc)	0.834



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB053B-2

Water Depth (m) 17.96

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB053C-2
Water Depth (m)	17.95

Grain Size Data

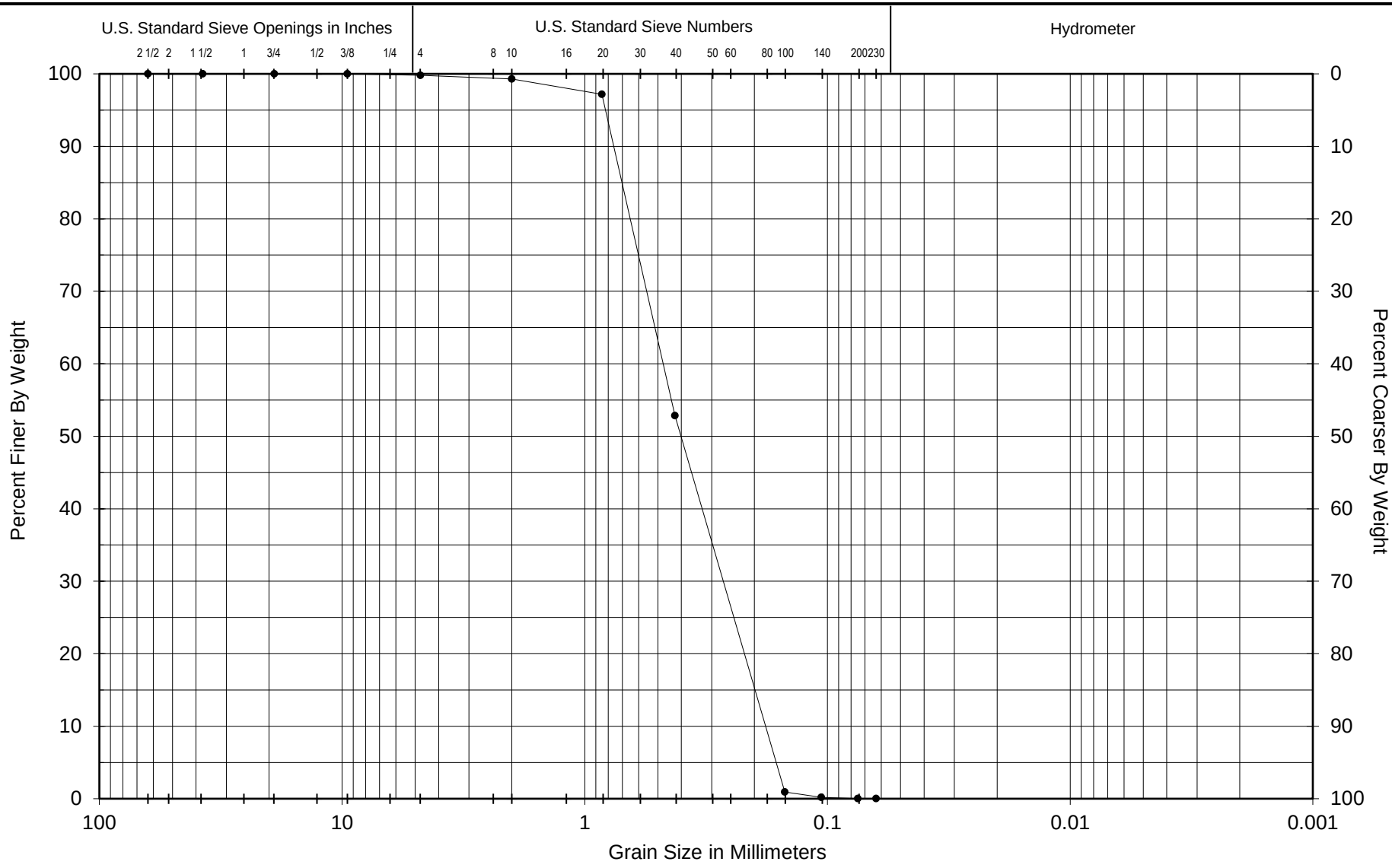
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.80	0.20	
2	10	99.30	0.70	45.96
0.85	20	97.16	2.84	
0.425	40	52.84	47.16	
0.15	100	0.93	99.07	
0.106	140	0.20	99.80	
0.075	200	0.03	99.97	
0.063	230	0.02	99.98	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.30
% Passing #230 0.02
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.38
% Gravel-Sized Shell	> 2.00 mm	0.32
% Sand	0.063 - 2.00 mm	99.29
% Silt and Clay	< 0.063 mm	0.02
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	36.07
% Medium Sand	0.25 - 0.50 mm	36.84
% Fine Sand	0.063 - 0.25 mm	26.37

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	52.84	0.425	0.93	0.150	0.180
D30	30	52.84	0.425	0.93	0.150	0.269
D50	50	52.84	0.425	0.93	0.150	0.401
D60	60	97.16	0.850	52.84	0.425	0.475

Uniformity Coefficient (Cu)	2.642
Coefficient of Curvature (Cc)	0.845



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB053C-2

Water Depth (m) 17.95

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB054-1
Water Depth (m)	19.42

Grain Size Data

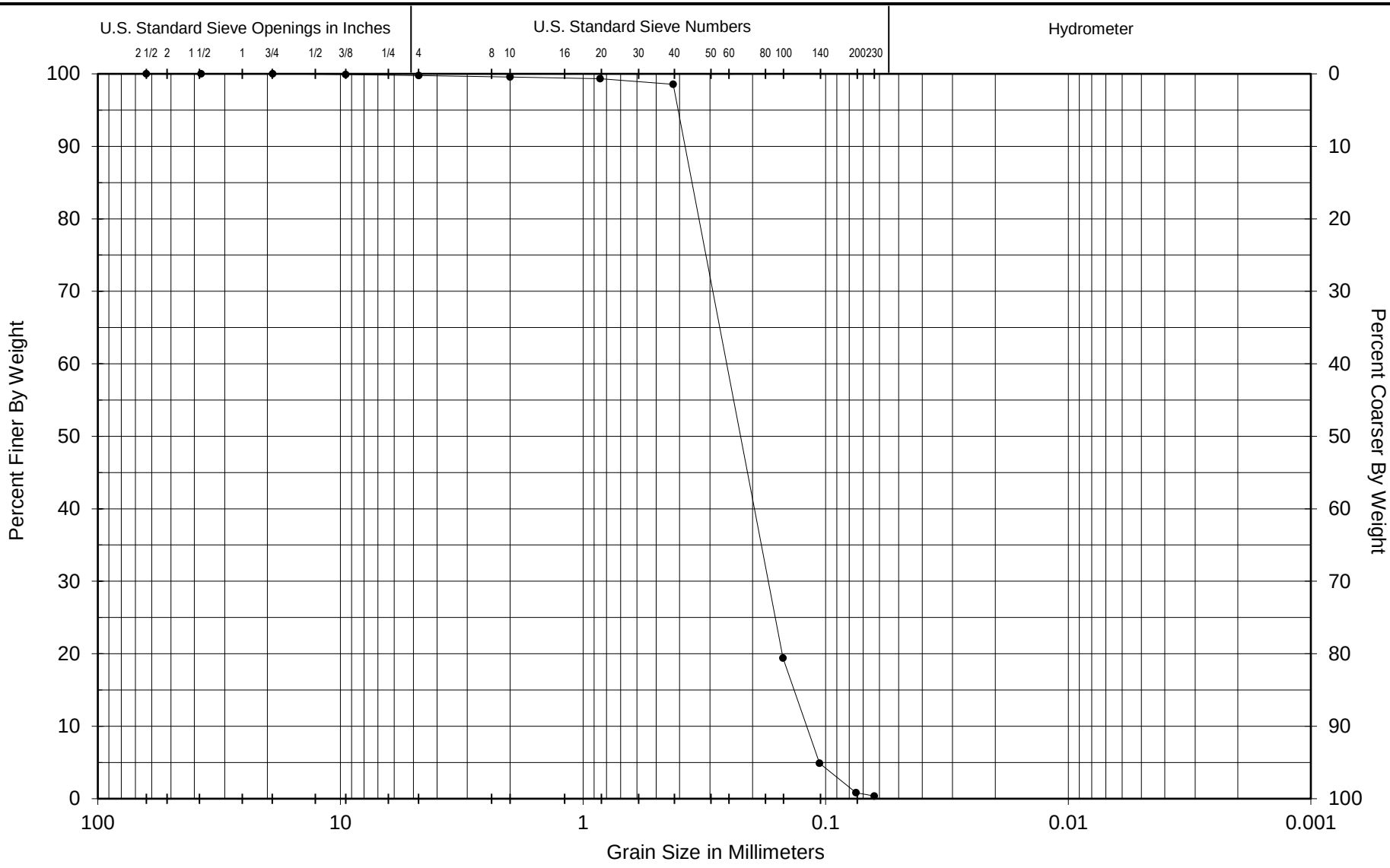
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.91	0.09	
4.75	4	99.76	0.24	
2	10	99.57	0.43	100.00
0.85	20	99.33	0.67	
0.425	40	98.56	1.44	
0.15	100	19.39	80.61	
0.106	140	4.90	95.10	
0.075	200	0.82	99.18	
0.063	230	0.37	99.63	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.57
% Passing #230 0.37
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.43
% Sand	0.063 - 2.00 mm	99.20
% Silt and Clay	< 0.063 mm	0.37
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	0.83
% Medium Sand	0.25 - 0.50 mm	40.52
% Fine Sand	0.063 - 0.25 mm	57.85

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	19.39	0.150	4.90	0.106	0.120
D30	30	98.56	0.425	19.39	0.150	0.172
D50	50	98.56	0.425	19.39	0.150	0.224
D60	60	98.56	0.425	19.39	0.150	0.256

Uniformity Coefficient (Cu)	2.137
Coefficient of Curvature (Cc)	0.970



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB054-1

Water Depth (m) 19.42

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB055A-2
Water Depth (m)	19.78

Grain Size Data

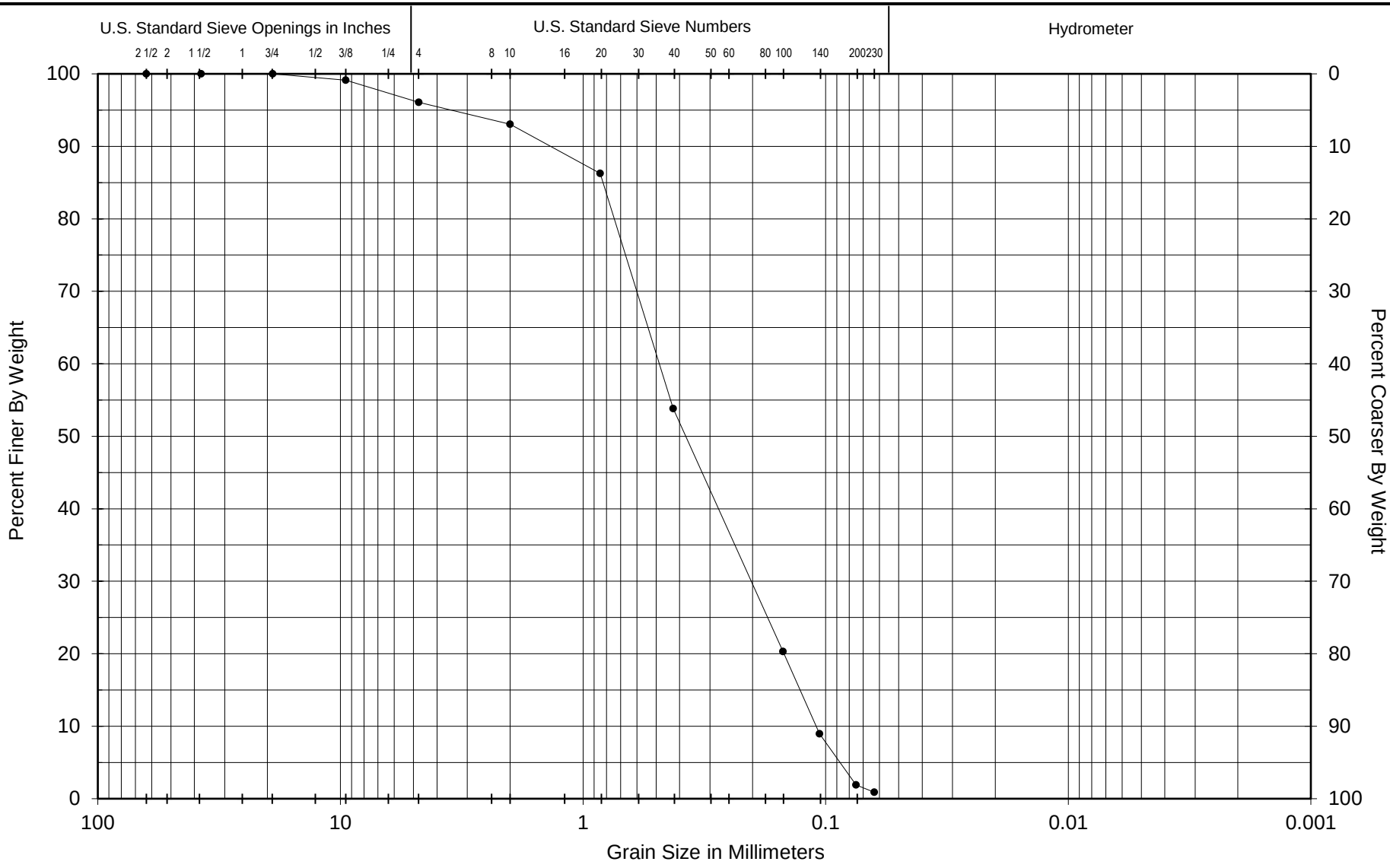
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.14	0.86	
4.75	4	96.07	3.93	
2	10	93.06	6.94	26.19
0.85	20	86.26	13.74	
0.425	40	53.84	46.16	
0.15	100	20.30	79.70	
0.106	140	8.96	91.04	
0.075	200	1.90	98.10	
0.063	230	0.89	99.11	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	93.06
% Passing #230	0.89
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	5.13
% Gravel-Sized Shell	> 2.00 mm	1.82
% Sand	0.063 - 2.00 mm	92.17
% Silt and Clay	< 0.063 mm	0.89
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	31.62
% Medium Sand	0.25 - 0.50 mm	24.69
% Fine Sand	0.063 - 0.25 mm	35.87

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	20.30	0.150	8.96	0.106	0.109
D30	30	53.84	0.425	20.30	0.150	0.203
D50	50	53.84	0.425	20.30	0.150	0.377
D60	60	86.26	0.850	53.84	0.425	0.485

Uniformity Coefficient (Cu)	4.430
Coefficient of Curvature (Cc)	0.774



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB055A-2

Water Depth (m) 19.78

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB055B-1
Water Depth (m)	19.93

Grain Size Data

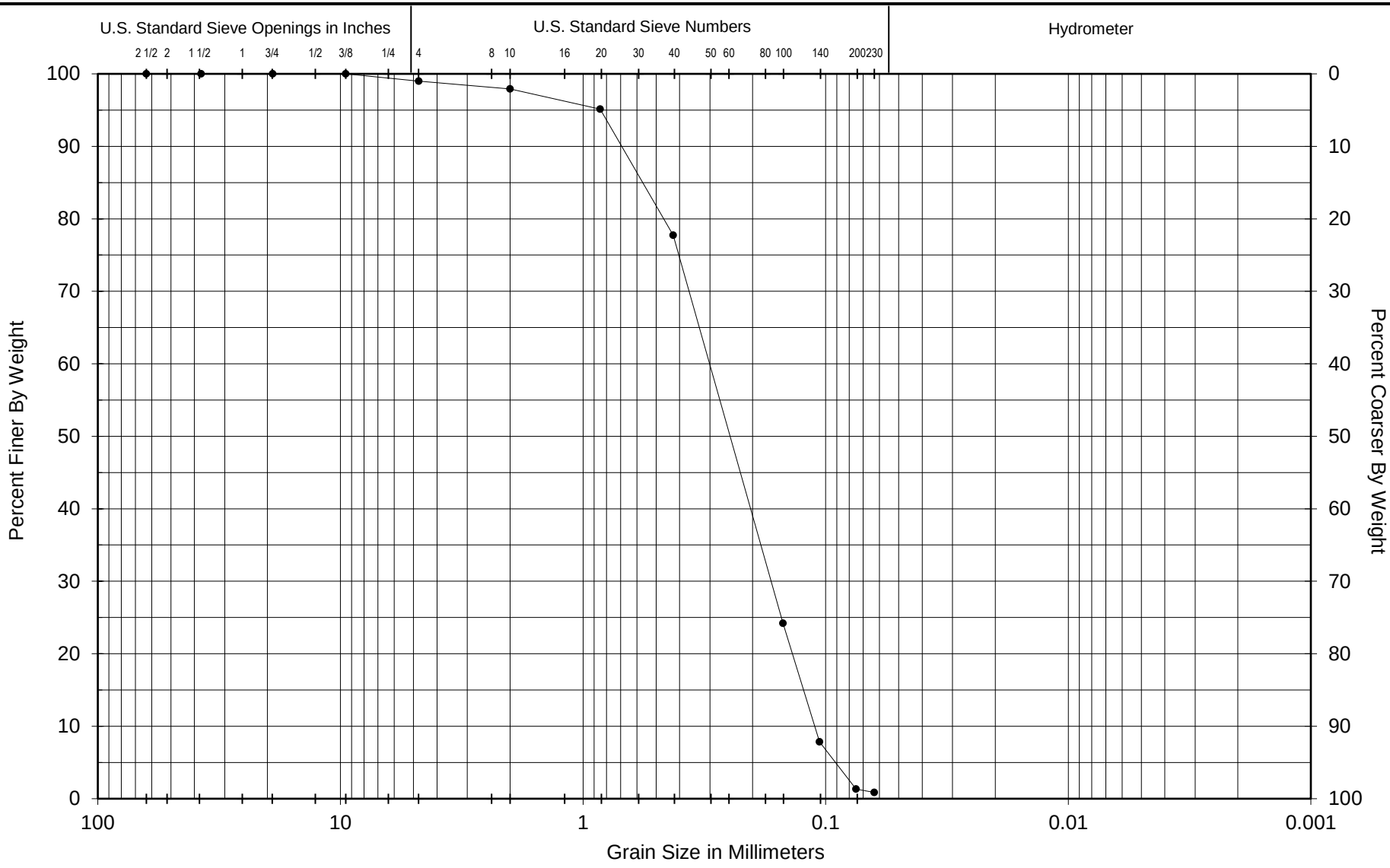
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	98.99	1.01	
2	10	97.91	2.09	12.29
0.85	20	95.13	4.87	
0.425	40	77.72	22.28	
0.15	100	24.19	75.81	
0.106	140	7.85	92.15	
0.075	200	1.34	98.66	
0.063	230	0.86	99.14	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 97.91
% Passing #230 0.86
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	1.83
% Gravel-Sized Shell	> 2.00 mm	0.26
% Sand	0.063 - 2.00 mm	97.05
% Silt and Clay	< 0.063 mm	0.86
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	16.11
% Medium Sand	0.25 - 0.50 mm	31.36
% Fine Sand	0.063 - 0.25 mm	49.59

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	24.19	0.150	7.85	0.106	0.111
D30	30	77.72	0.425	24.19	0.150	0.168
D50	50	77.72	0.425	24.19	0.150	0.248
D60	60	77.72	0.425	24.19	0.150	0.301

Uniformity Coefficient (Cu)	2.713
Coefficient of Curvature (Cc)	0.844



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB055B-1

Water Depth (m) 19.93

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB055C-2
Water Depth (m)	19.37

Grain Size Data

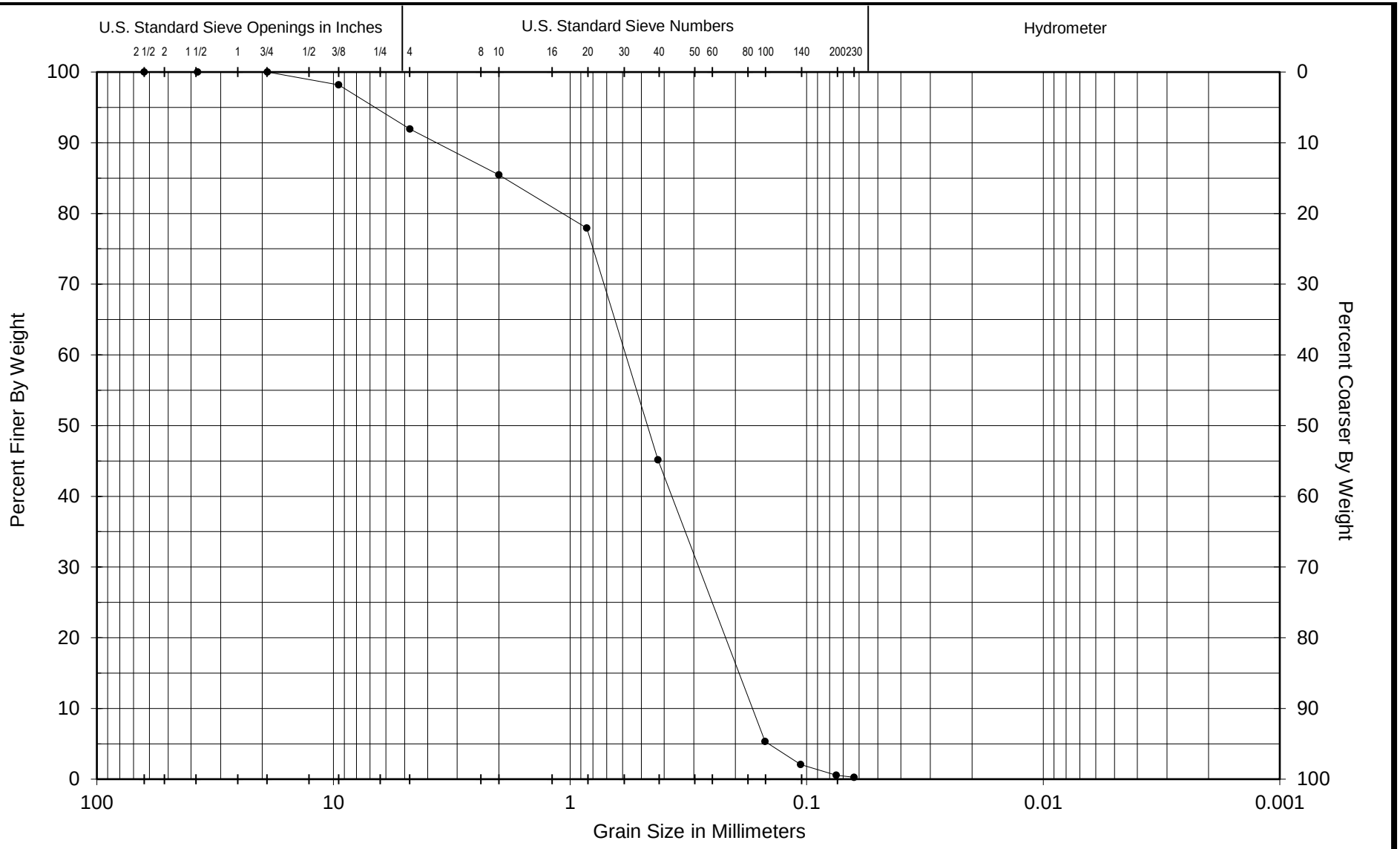
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	98.19	1.81	
4.75	4	91.95	8.05	
2	10	85.46	14.54	12.21
0.85	20	77.93	22.07	
0.425	40	45.16	54.84	
0.15	100	5.31	94.69	
0.106	140	2.08	97.92	
0.075	200	0.57	99.43	
0.063	230	0.26	99.74	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	85.46
% Passing #230	0.26
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	12.76
% Gravel-Sized Shell	> 2.00 mm	1.78
% Sand	0.063 - 2.00 mm	85.20
% Silt and Clay	< 0.063 mm	0.26
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	32.62
% Medium Sand	0.25 - 0.50 mm	27.99
% Fine Sand	0.063 - 0.25 mm	24.59

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	45.16	0.425	5.31	0.150	0.170
D30	30	45.16	0.425	5.31	0.150	0.286
D50	50	77.93	0.850	45.16	0.425	0.471
D60	60	77.93	0.850	45.16	0.425	0.582

Uniformity Coefficient (Cu)	3.431
Coefficient of Curvature (Cc)	0.829



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB055C-2

Water Depth (m) 19.37

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB056-1
Water Depth (m)	18.39

Grain Size Data

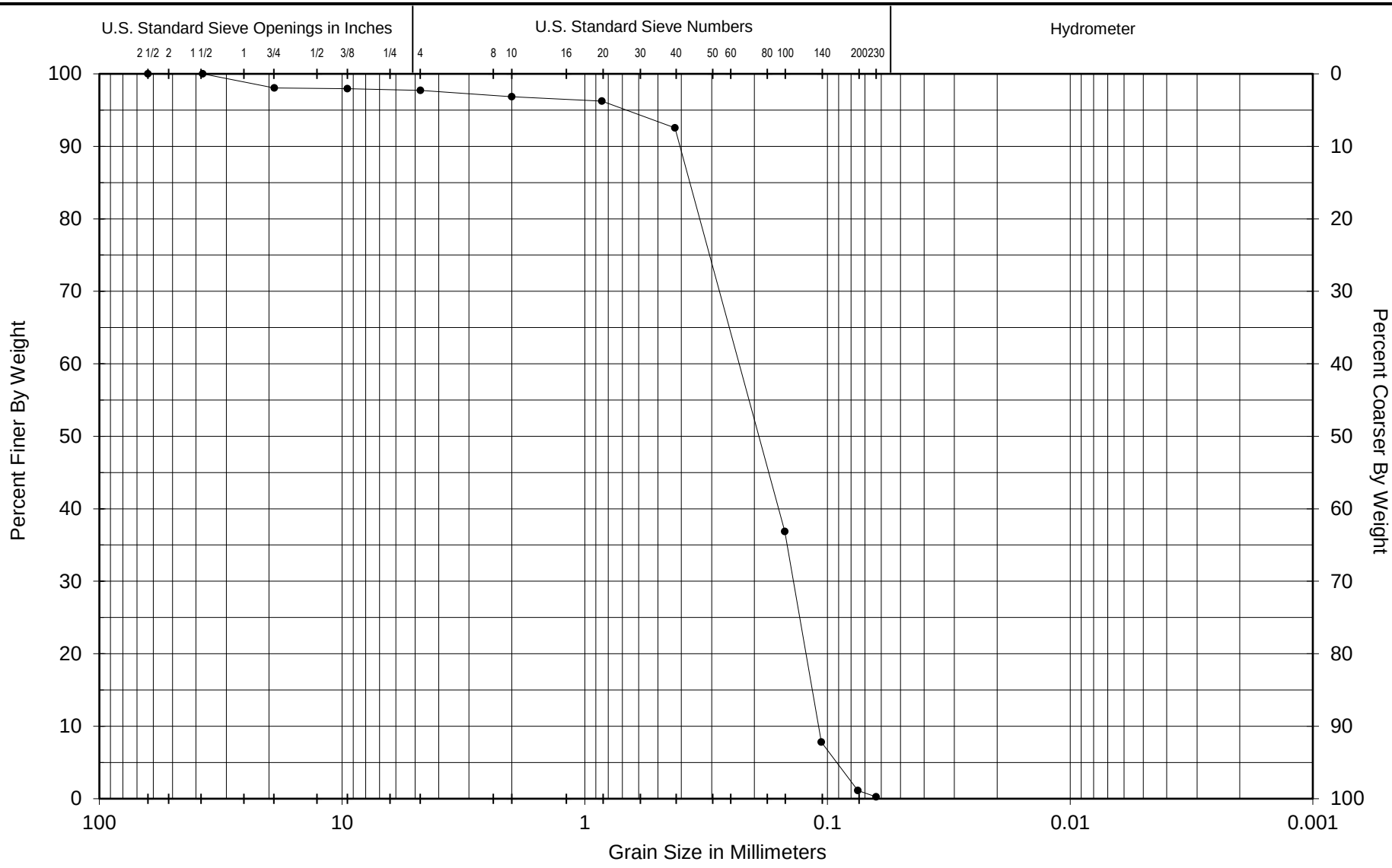
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	98.05	1.95	
9.5	3/8"	97.96	2.04	
4.75	4	97.72	2.28	
2	10	96.84	3.16	100.00
0.85	20	96.24	3.76	
0.425	40	92.54	7.46	
0.15	100	36.86	63.14	
0.106	140	7.79	92.21	
0.075	200	1.14	98.86	
0.063	230	0.25	99.75	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 96.84
% Passing #230 0.25
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	3.16
% Sand	0.063 - 2.00 mm	96.59
% Silt and Clay	< 0.063 mm	0.25
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.43
% Medium Sand	0.25 - 0.50 mm	29.24
% Fine Sand	0.063 - 0.25 mm	63.92

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	36.86	0.150	7.79	0.106	0.109
D30	30	36.86	0.150	7.79	0.106	0.138
D50	50	92.54	0.425	36.86	0.150	0.192
D60	60	92.54	0.425	36.86	0.150	0.231

Uniformity Coefficient (Cu)	2.125
Coefficient of Curvature (Cc)	0.759



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB056-1

Water Depth (m) 18.39

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB057-1
Water Depth (m)	15.86

Grain Size Data

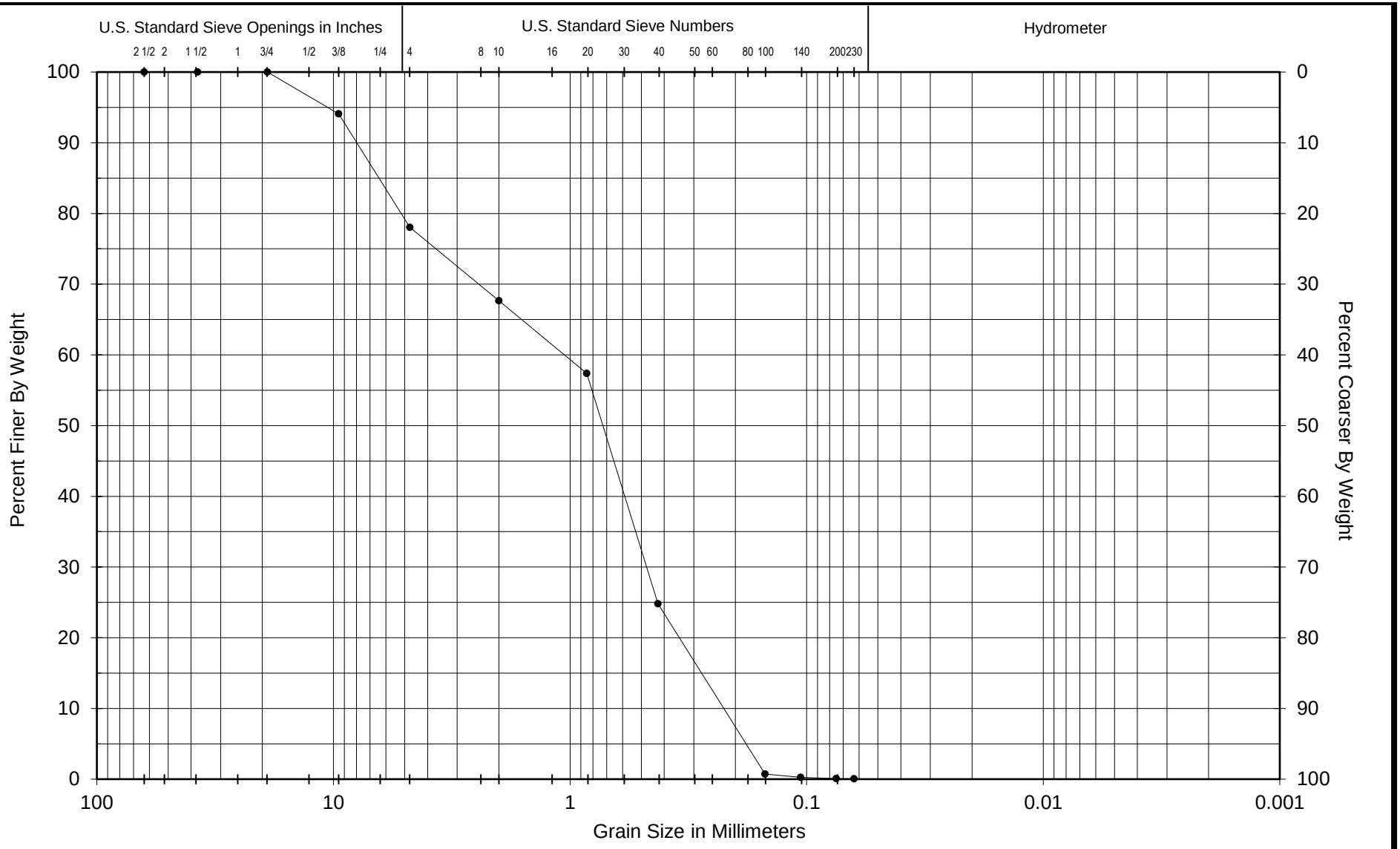
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	94.10	5.90	
4.75	4	78.05	21.95	
2	10	67.66	32.34	13.31
0.85	20	57.39	42.61	
0.425	40	24.81	75.19	
0.15	100	0.73	99.27	
0.106	140	0.26	99.74	
0.075	200	0.09	99.91	
0.063	230	0.05	99.95	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 67.66
% Passing #230 0.05
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	28.03
% Gravel-Sized Shell	> 2.00 mm	4.30
% Sand	0.063 - 2.00 mm	67.62
% Silt and Clay	< 0.063 mm	0.05
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	35.21
% Medium Sand	0.25 - 0.50 mm	19.91
% Fine Sand	0.063 - 0.25 mm	12.49

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	24.81	0.425	0.73	0.150	0.224
D30	30	57.39	0.850	24.81	0.425	0.475
D50	50	57.39	0.850	24.81	0.425	0.726
D60	60	67.66	2.000	57.39	0.850	1.056

Uniformity Coefficient (Cu)	4.716
Coefficient of Curvature (Cc)	0.952



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB057-1

Water Depth (m) 15.86

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB058-1
Water Depth (m)	17.47

Grain Size Data

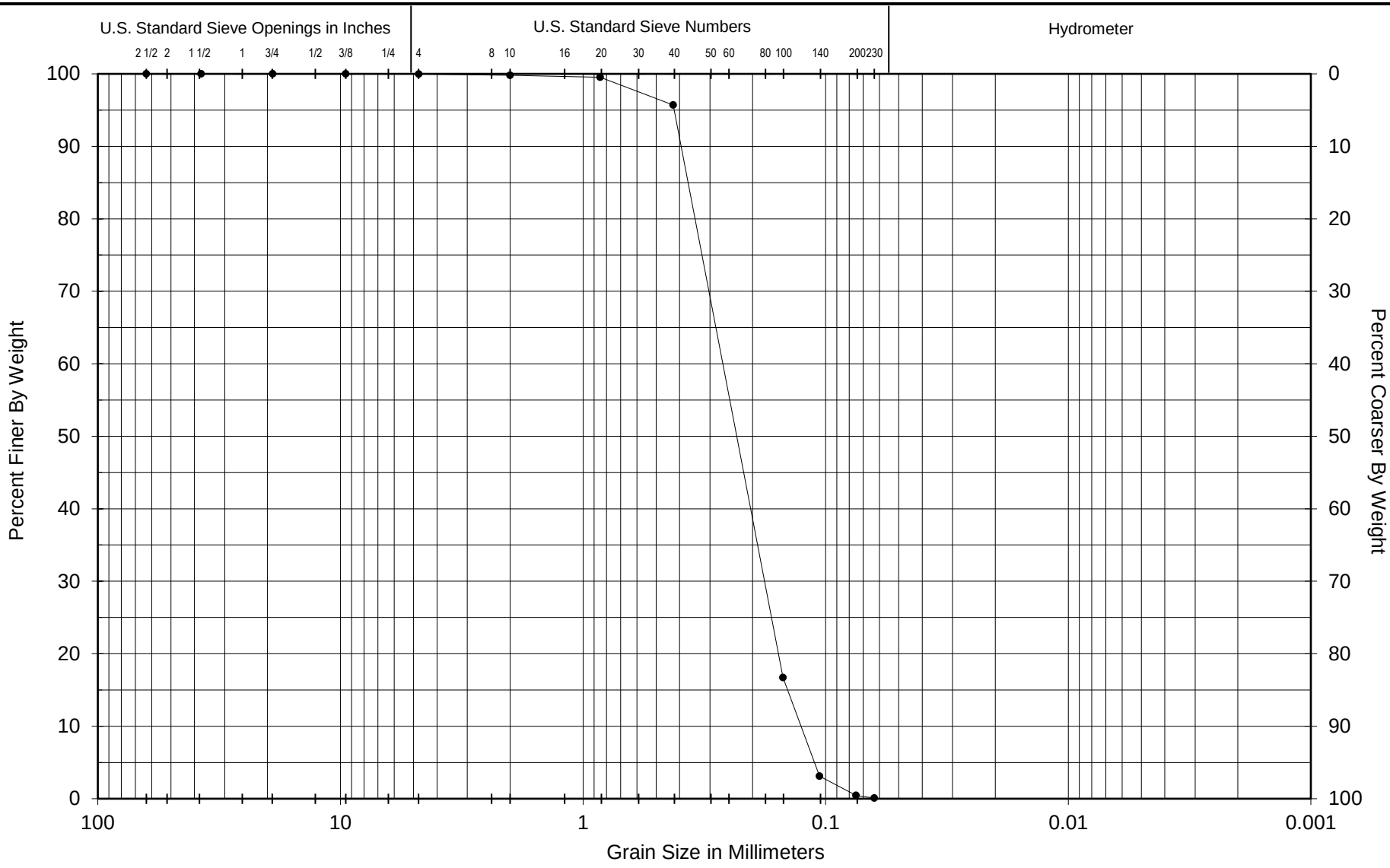
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.98	0.02	
2	10	99.80	0.20	95.29
0.85	20	99.52	0.48	
0.425	40	95.71	4.29	
0.15	100	16.72	83.28	
0.106	140	3.11	96.89	
0.075	200	0.46	99.54	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.80
% Passing #230	0.07
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.01
% Gravel-Sized Shell	> 2.00 mm	0.19
% Sand	0.063 - 2.00 mm	99.73
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.19
% Medium Sand	0.25 - 0.50 mm	41.14
% Fine Sand	0.063 - 0.25 mm	55.39

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	16.72	0.150	3.11	0.106	0.126
D30	30	95.71	0.425	16.72	0.150	0.179
D50	50	95.71	0.425	16.72	0.150	0.233
D60	60	95.71	0.425	16.72	0.150	0.265

Uniformity Coefficient (Cu)	2.100
Coefficient of Curvature (Cc)	0.952



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB058-1

Water Depth (m) 17.47

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB059A-1
Water Depth (m)	14.31

Grain Size Data

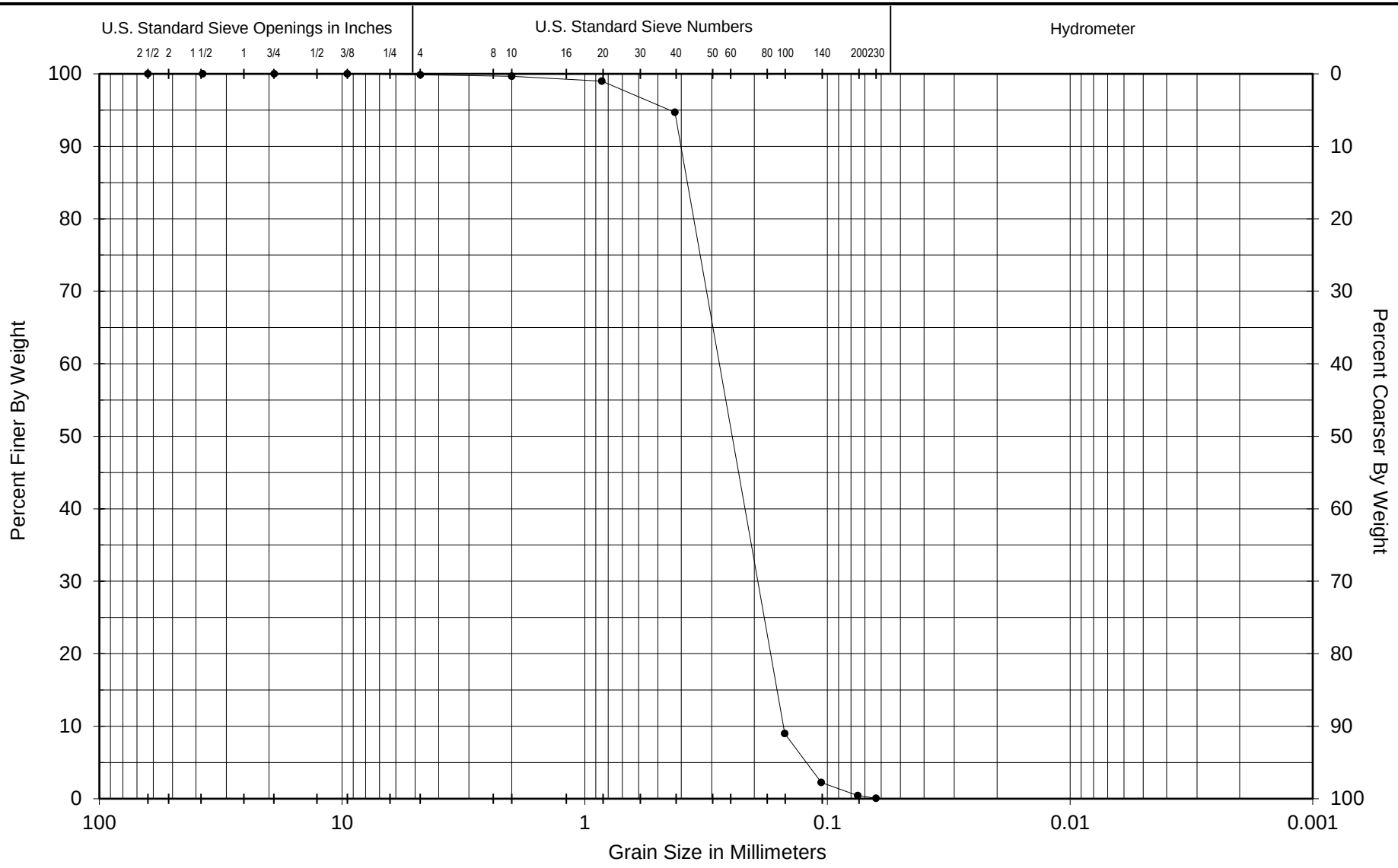
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.86	0.14	
2	10	99.65	0.35	93.79
0.85	20	98.99	1.01	
0.425	40	94.68	5.32	
0.15	100	8.99	91.01	
0.106	140	2.23	97.77	
0.075	200	0.41	99.59	
0.063	230	0.07	99.93	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.65
% Passing #230 0.07
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.02
% Gravel-Sized Shell	> 2.00 mm	0.33
% Sand	0.063 - 2.00 mm	99.58
% Silt and Clay	< 0.063 mm	0.07
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	3.96
% Medium Sand	0.25 - 0.50 mm	44.67
% Fine Sand	0.063 - 0.25 mm	50.95

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	94.68	0.425	8.99	0.150	0.152
D30	30	94.68	0.425	8.99	0.150	0.194
D50	50	94.68	0.425	8.99	0.150	0.247
D60	60	94.68	0.425	8.99	0.150	0.279

Uniformity Coefficient (Cu)	1.836
Coefficient of Curvature (Cc)	0.886



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB059A-1

Water Depth (m) 14.31

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB059B-1
Water Depth (m)	14.25

Grain Size Data

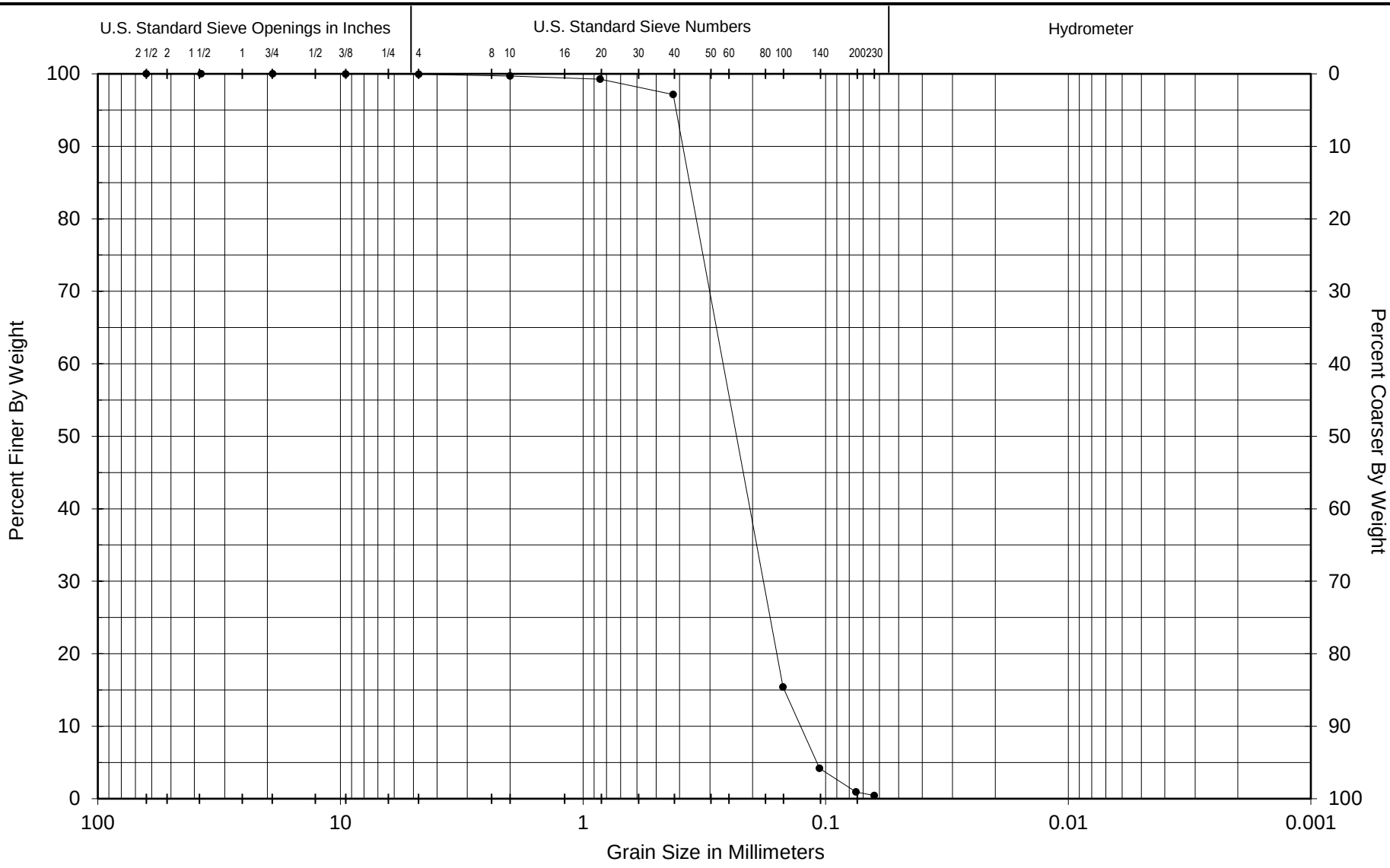
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.96	0.04	
4.75	4	99.92	0.08	
2	10	99.70	0.30	81.16
0.85	20	99.27	0.73	
0.425	40	97.15	2.85	
0.15	100	15.41	84.59	
0.106	140	4.20	95.80	
0.075	200	0.93	99.07	
0.063	230	0.43	99.57	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10	99.70
% Passing #230	0.43
% Pass 2µ	N/A

Particle Size		
% Gravel	> 2.00 mm	0.06
% Gravel-Sized Shell	> 2.00 mm	0.25
% Sand	0.063 - 2.00 mm	99.26
% Silt and Clay	< 0.063 mm	0.43
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	2.05
% Medium Sand	0.25 - 0.50 mm	42.14
% Fine Sand	0.063 - 0.25 mm	55.07

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	15.41	0.150	4.20	0.106	0.127
D30	30	97.15	0.425	15.41	0.150	0.181
D50	50	97.15	0.425	15.41	0.150	0.233
D60	60	97.15	0.425	15.41	0.150	0.265

Uniformity Coefficient (Cu)	2.087
Coefficient of Curvature (Cc)	0.972



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB059B-1

Water Depth (m) 14.25

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB059C-1
Water Depth (m)	14.34

Grain Size Data

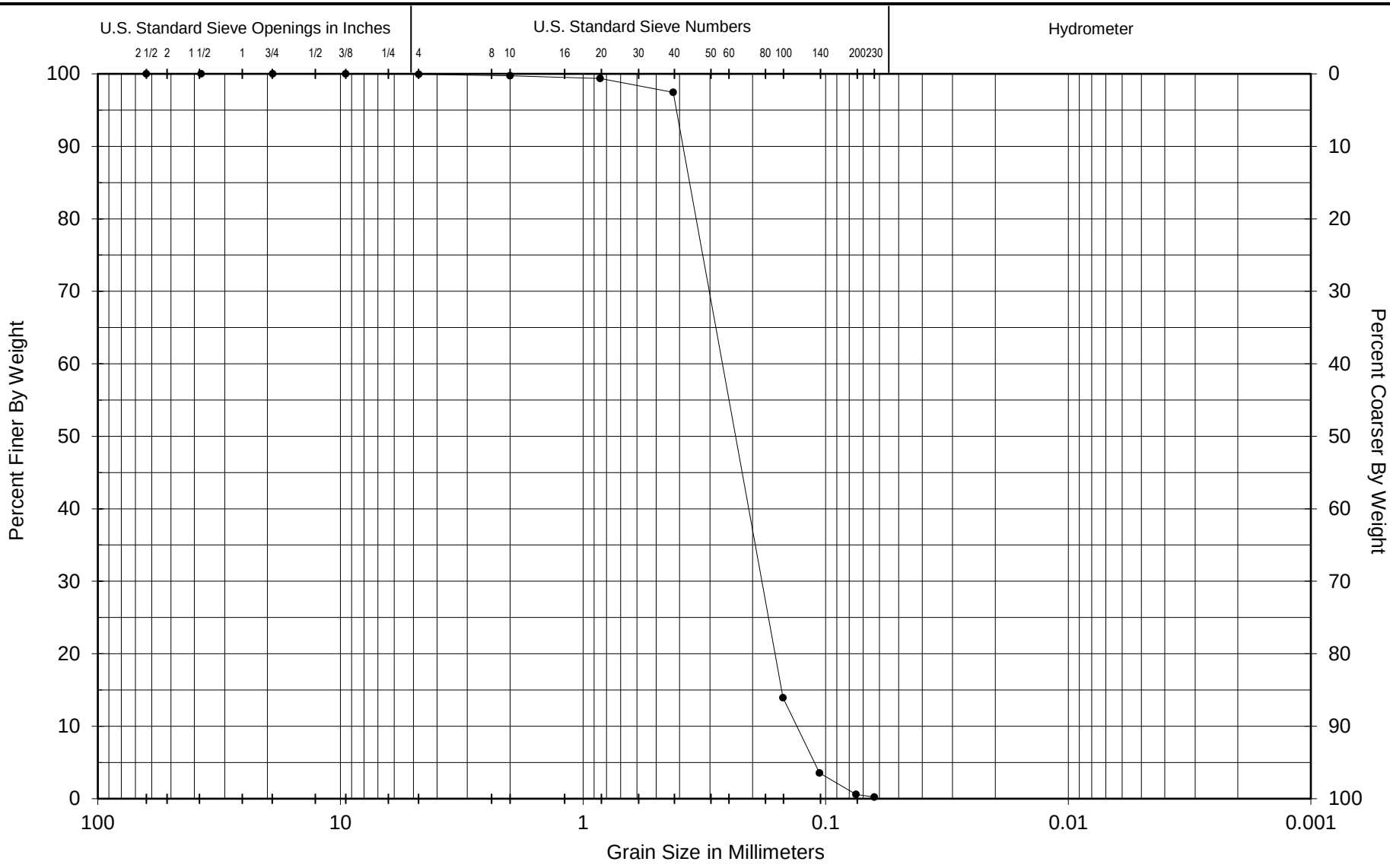
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.93	0.07	
2	10	99.72	0.28	89.76
0.85	20	99.38	0.62	
0.425	40	97.44	2.56	
0.15	100	13.91	86.09	
0.106	140	3.55	96.45	
0.075	200	0.60	99.40	
0.063	230	0.22	99.78	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.72
% Passing #230 0.22
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.03
% Gravel-Sized Shell	> 2.00 mm	0.25
% Sand	0.063 - 2.00 mm	99.50
% Silt and Clay	< 0.063 mm	0.22
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	1.83
% Medium Sand	0.25 - 0.50 mm	43.01
% Fine Sand	0.063 - 0.25 mm	54.66

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	13.91	0.150	3.55	0.106	0.132
D30	30	97.44	0.425	13.91	0.150	0.183
D50	50	97.44	0.425	13.91	0.150	0.235
D60	60	97.44	0.425	13.91	0.150	0.266

Uniformity Coefficient (Cu)	2.025
Coefficient of Curvature (Cc)	0.958



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB059C-1

Water Depth (m) 14.34

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB060-1
Water Depth (m)	11.23

Grain Size Data

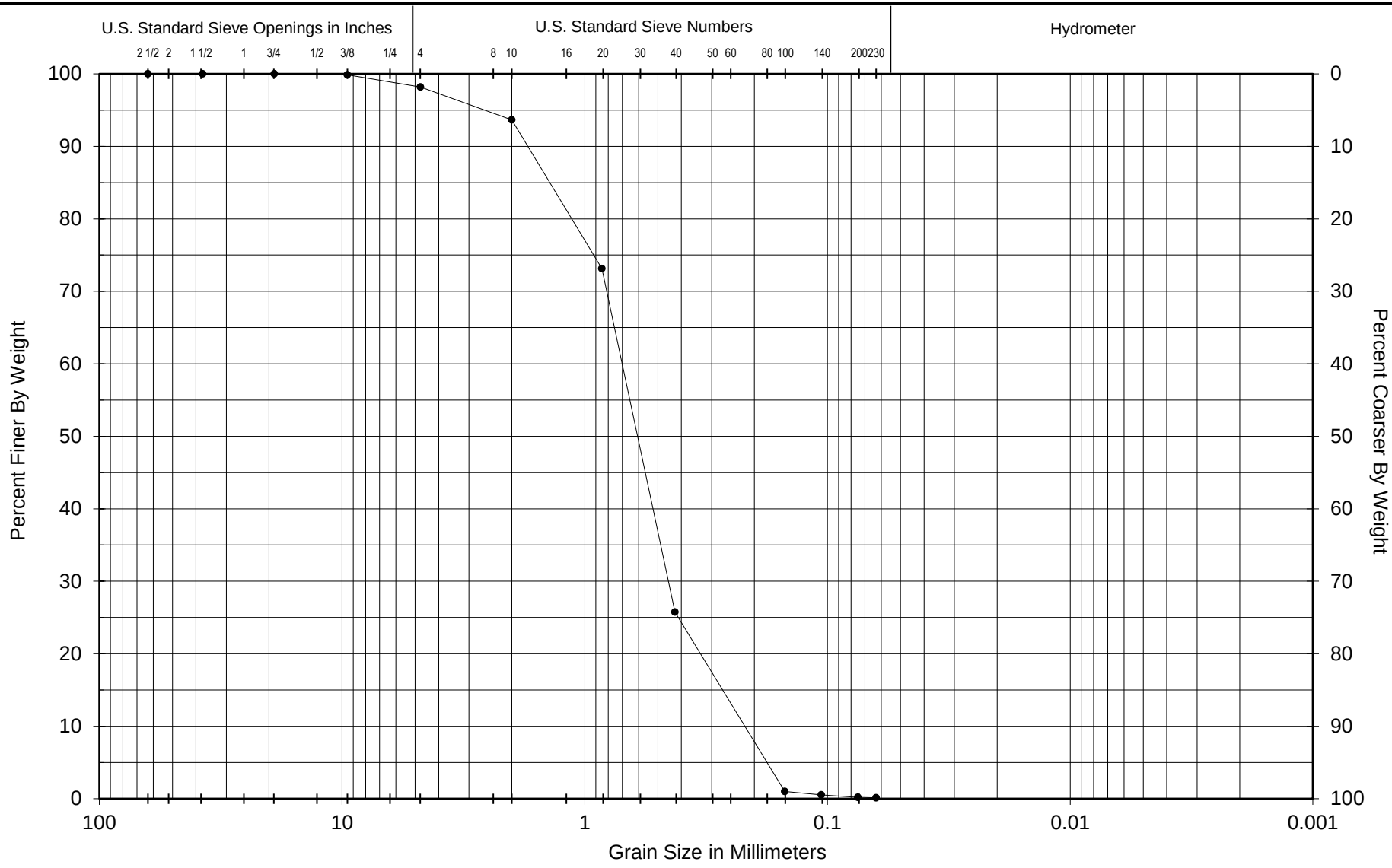
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	99.86	0.14	
4.75	4	98.20	1.80	
2	10	93.66	6.34	30.06
0.85	20	73.12	26.88	
0.425	40	25.76	74.24	
0.15	100	0.98	99.02	
0.106	140	0.53	99.47	
0.075	200	0.19	99.81	
0.063	230	0.13	99.87	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 93.66
% Passing #230 0.13
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	4.43
% Gravel-Sized Shell	> 2.00 mm	1.91
% Sand	0.063 - 2.00 mm	93.53
% Silt and Clay	< 0.063 mm	0.13
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	56.80
% Medium Sand	0.25 - 0.50 mm	23.73
% Fine Sand	0.063 - 0.25 mm	13.00

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	25.76	0.425	0.98	0.150	0.219
D30	30	73.12	0.850	25.76	0.425	0.452
D50	50	73.12	0.850	25.76	0.425	0.606
D60	60	73.12	0.850	25.76	0.425	0.702

Uniformity Coefficient (Cu)	3.201
Coefficient of Curvature (Cc)	1.330



GRADATION CURVE

J23640

Vineyard Mid-Atlantic

544LI23 Benthic GSA

Sample ID 544LI23-GB060-1

Water Depth (m) 11.23

GRAIN SIZE DATA RESULTS

Job Number	J23640
Client	Vineyard Mid-Atlantic
Job Description	544LI23 Benthic GSA
Sample ID	544LI23-GB061-3
Water Depth (m)	10.23

Grain Size Data

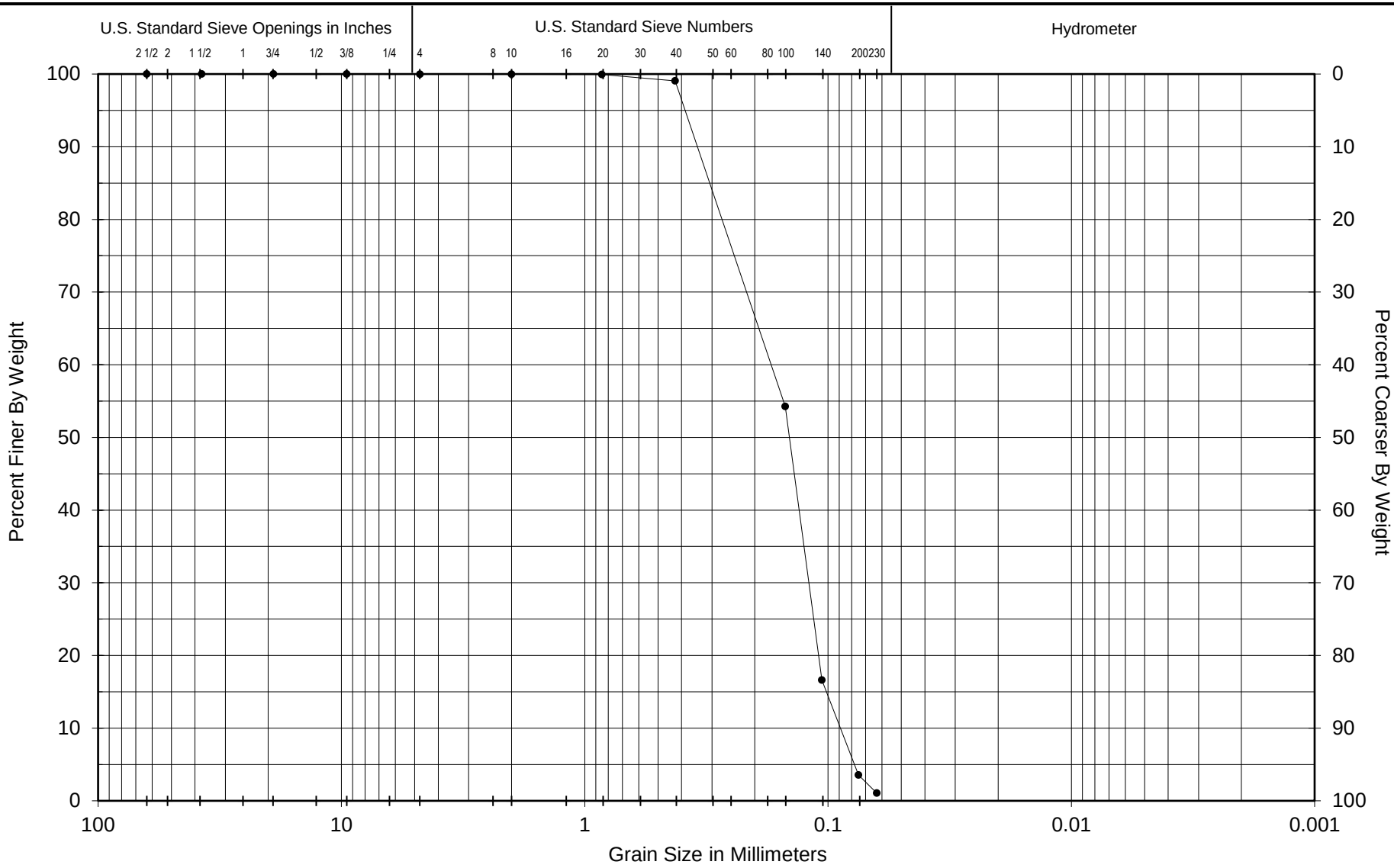
D (mm)	Sieve #	% Finer	% Greater	% Shell in Gravel
63	2.5"	100.00	0.00	
37.5	1.5"	100.00	0.00	
19	3/4"	100.00	0.00	
9.5	3/8"	100.00	0.00	
4.75	4	99.98	0.02	
2	10	99.97	0.03	100.00
0.85	20	99.92	0.08	
0.425	40	99.06	0.94	
0.15	100	54.24	45.76	
0.106	140	16.60	83.40	
0.075	200	3.56	96.44	
0.063	230	1.05	98.95	
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		
0.0000		N/A		

% Passing #10 99.97
% Passing #230 1.05
% Pass 2µ N/A

Particle Size		
% Gravel	> 2.00 mm	0.00
% Gravel-Sized Shell	> 2.00 mm	0.03
% Sand	0.063 - 2.00 mm	98.92
% Silt and Clay	< 0.063 mm	1.05
% Silt	0.004 - 0.063 mm	N/A
% Clay	<0.004 mm	N/A
% Coarse Sand	0.5 - 2.00 mm	0.70
% Medium Sand	0.25 - 0.50 mm	23.04
% Fine Sand	0.063 - 0.25 mm	75.18

Grain Size Distribution	%Finer	Next Larger %Finer	$D_{(Next\ Larger\ \%Finer)}$ (mm)	Next Smaller %Finer	$D_{(Next\ Smaller\ \%Finer)}$ (mm)	Grain Size (mm)
D10	10	16.60	0.106	3.56	0.075	0.089
D30	30	54.24	0.150	16.60	0.106	0.120
D50	50	54.24	0.150	16.60	0.106	0.144
D60	60	99.06	0.425	54.24	0.150	0.171

Uniformity Coefficient (Cu)	1.927
Coefficient of Curvature (Cc)	0.943



GRADATION CURVE

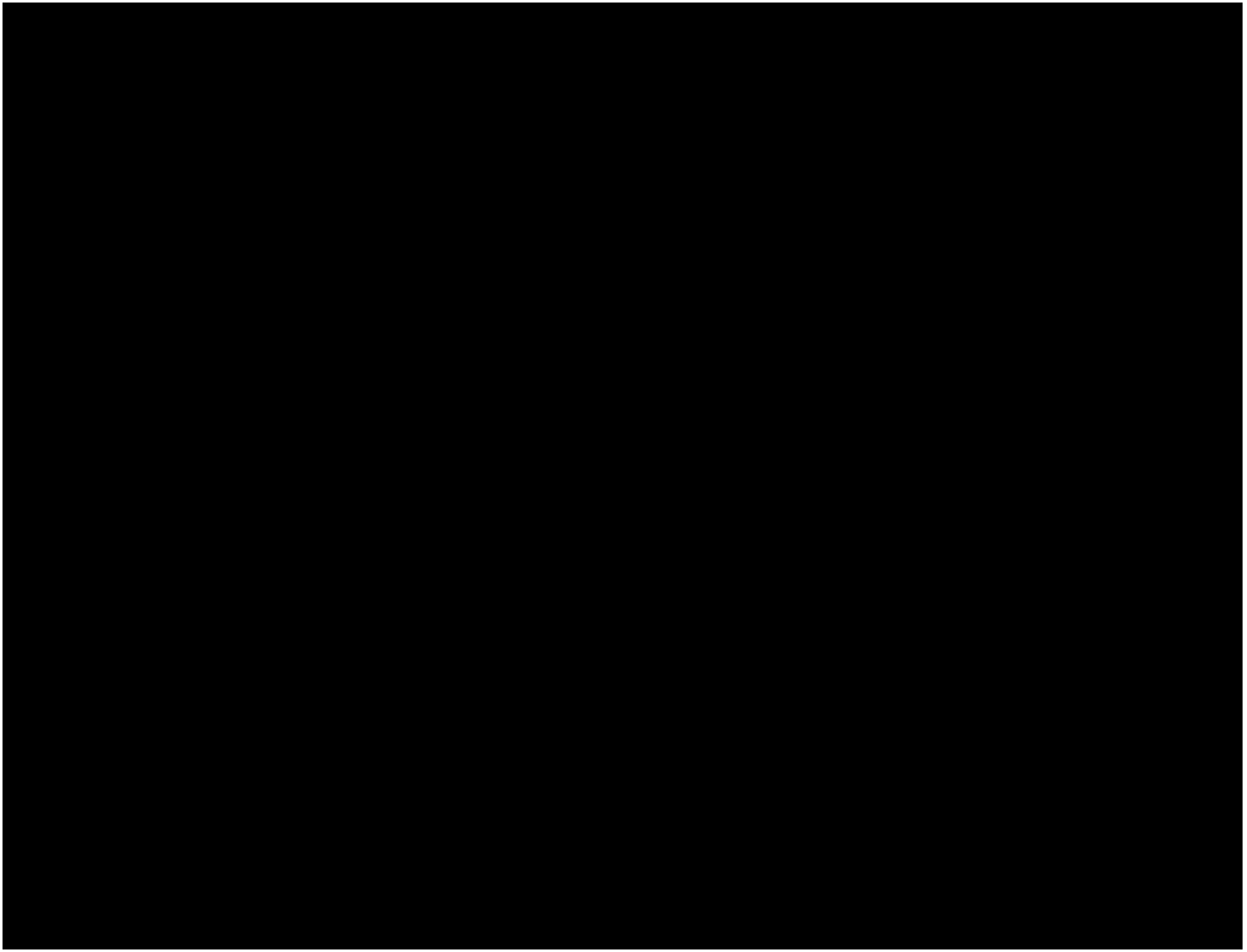
J23640

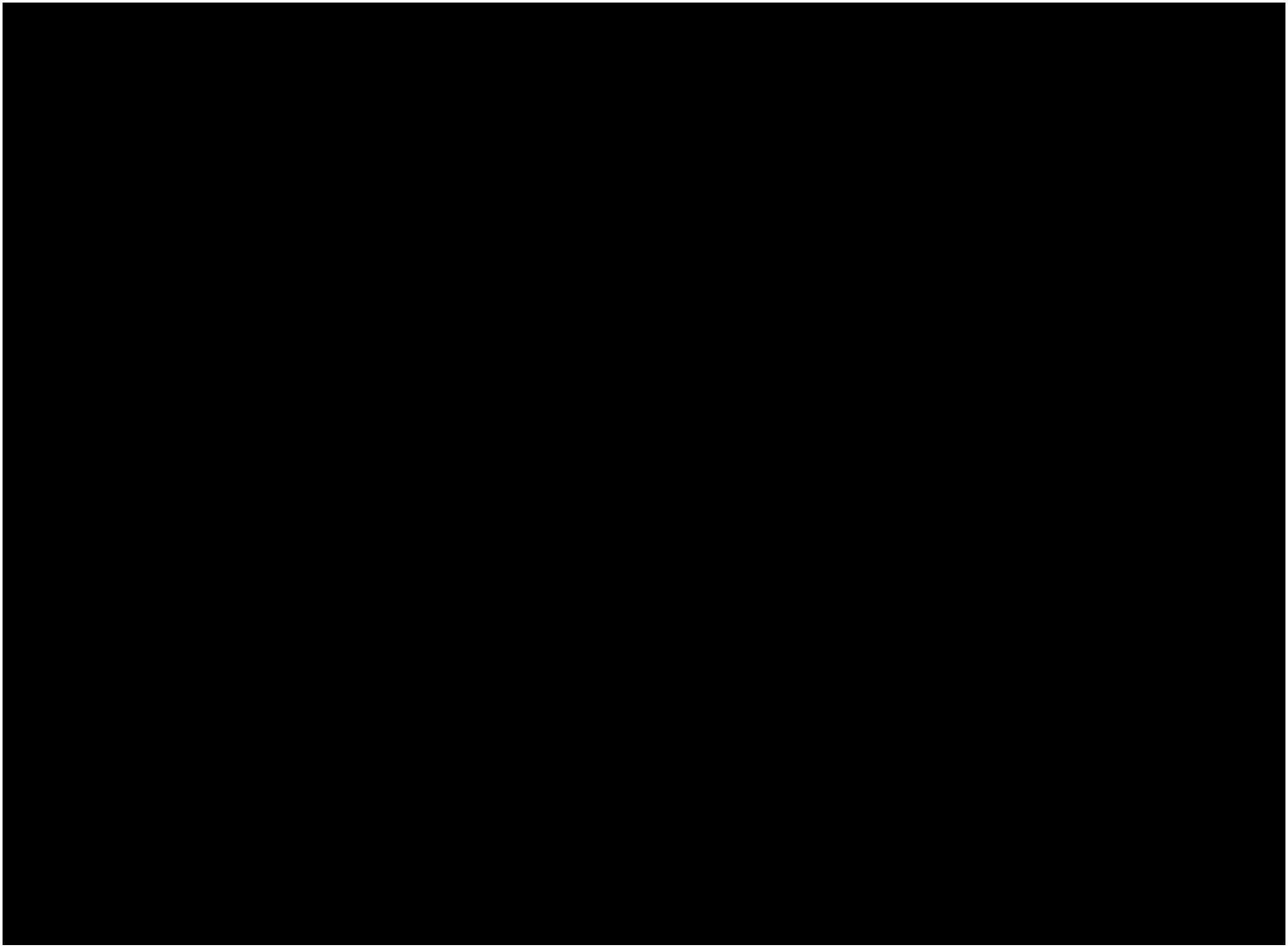
Vineyard Mid-Atlantic

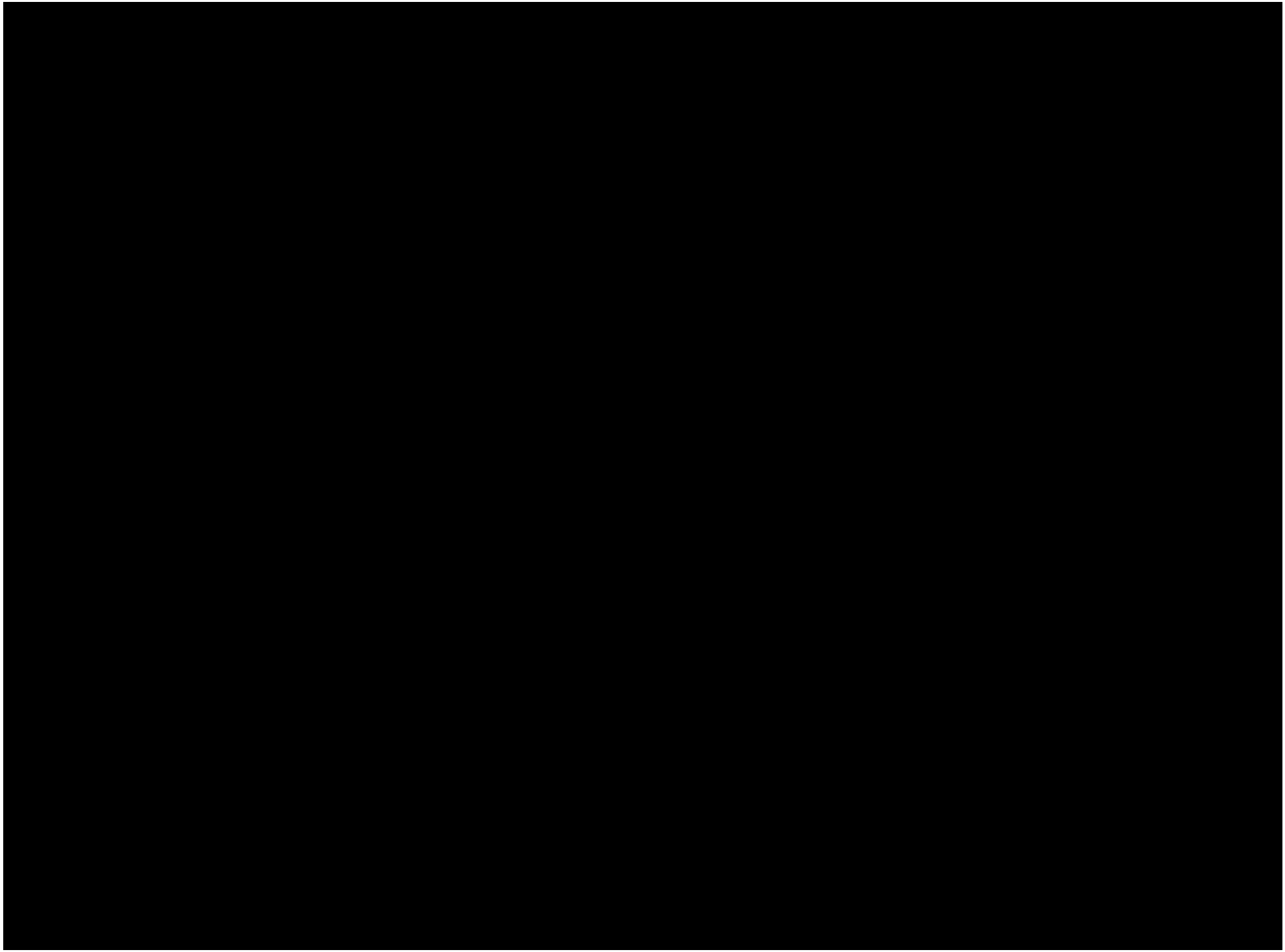
544LI23 Benthic GSA

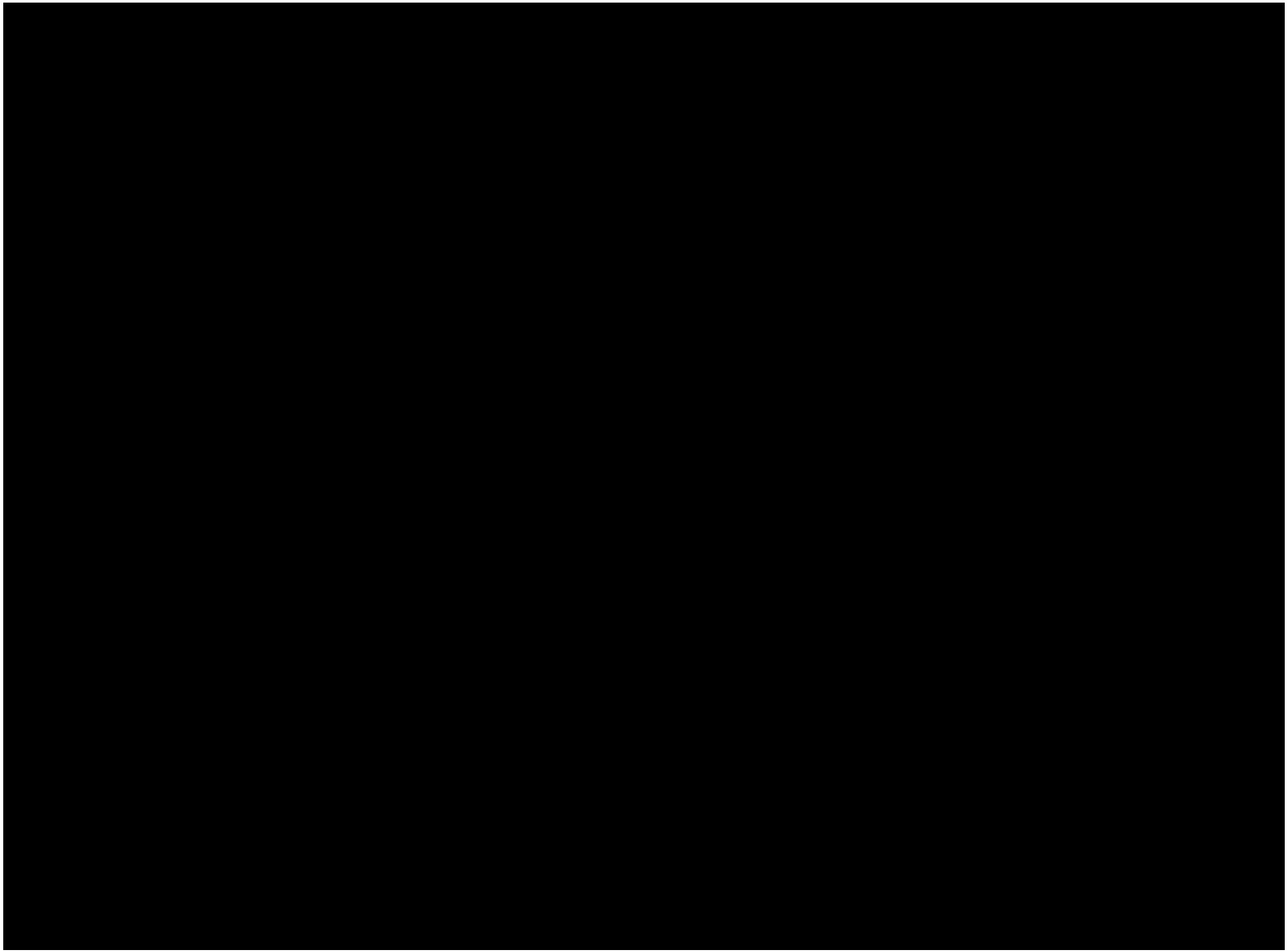
Sample ID 544LI23-GB061-3

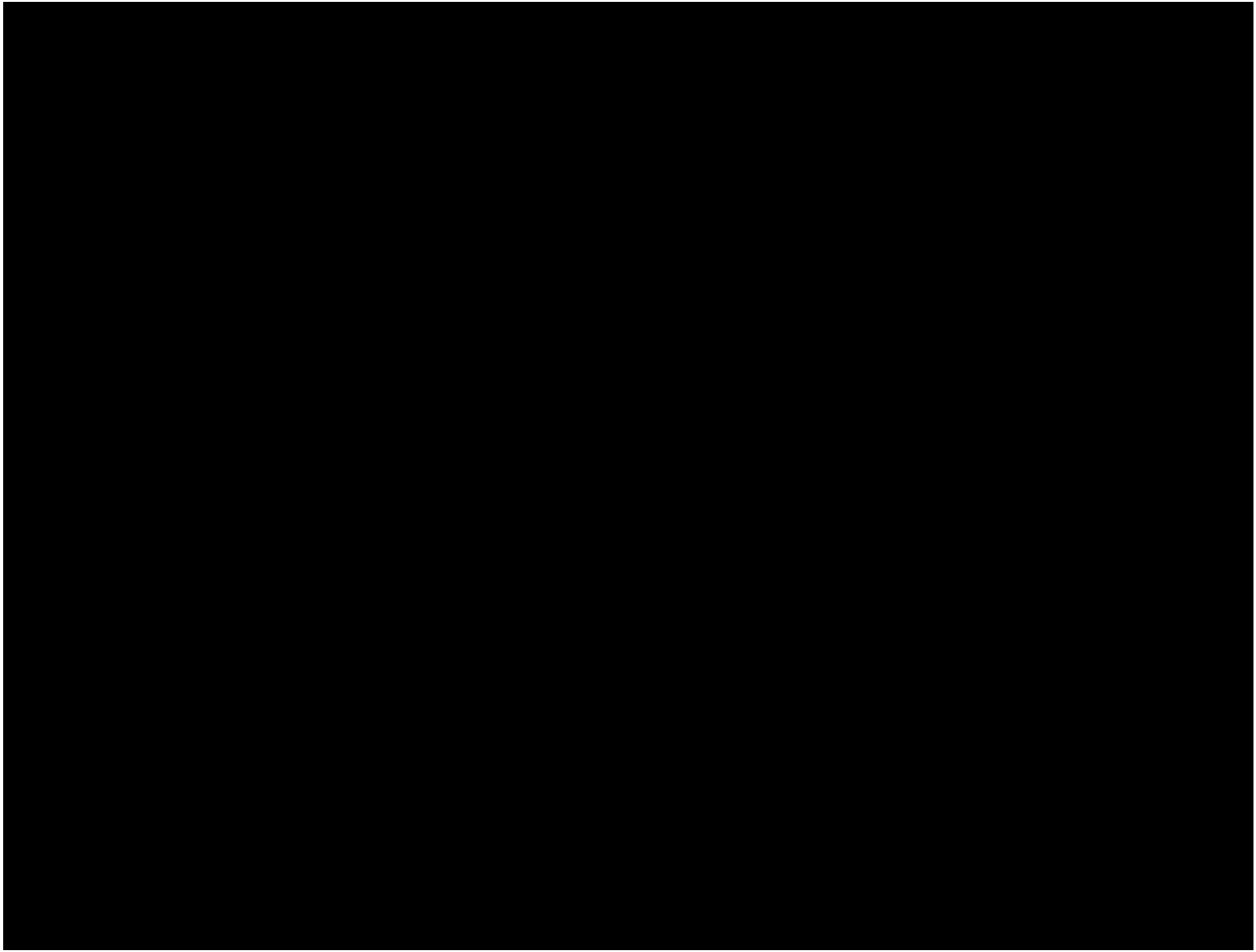
Water Depth (m) 10.23

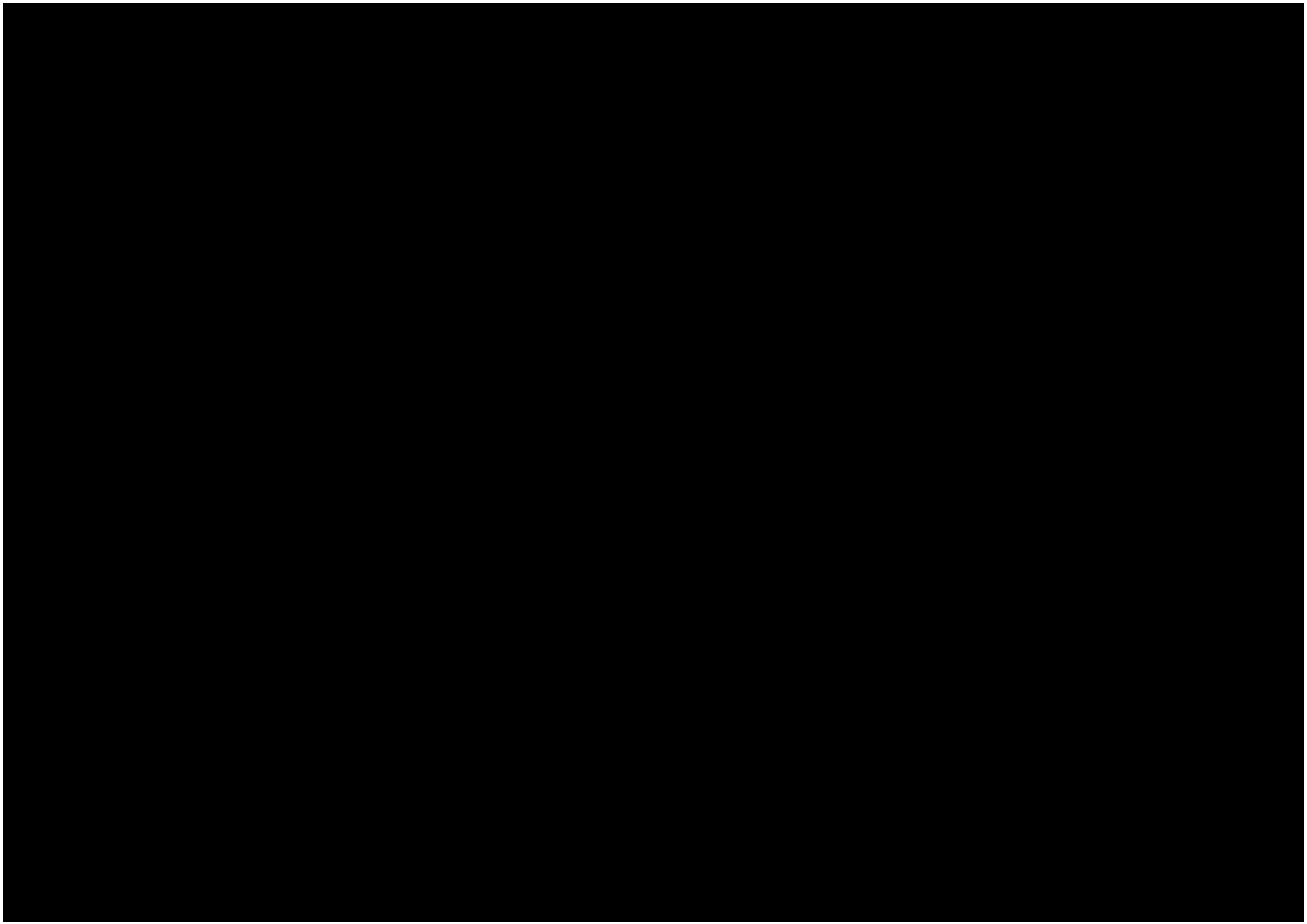










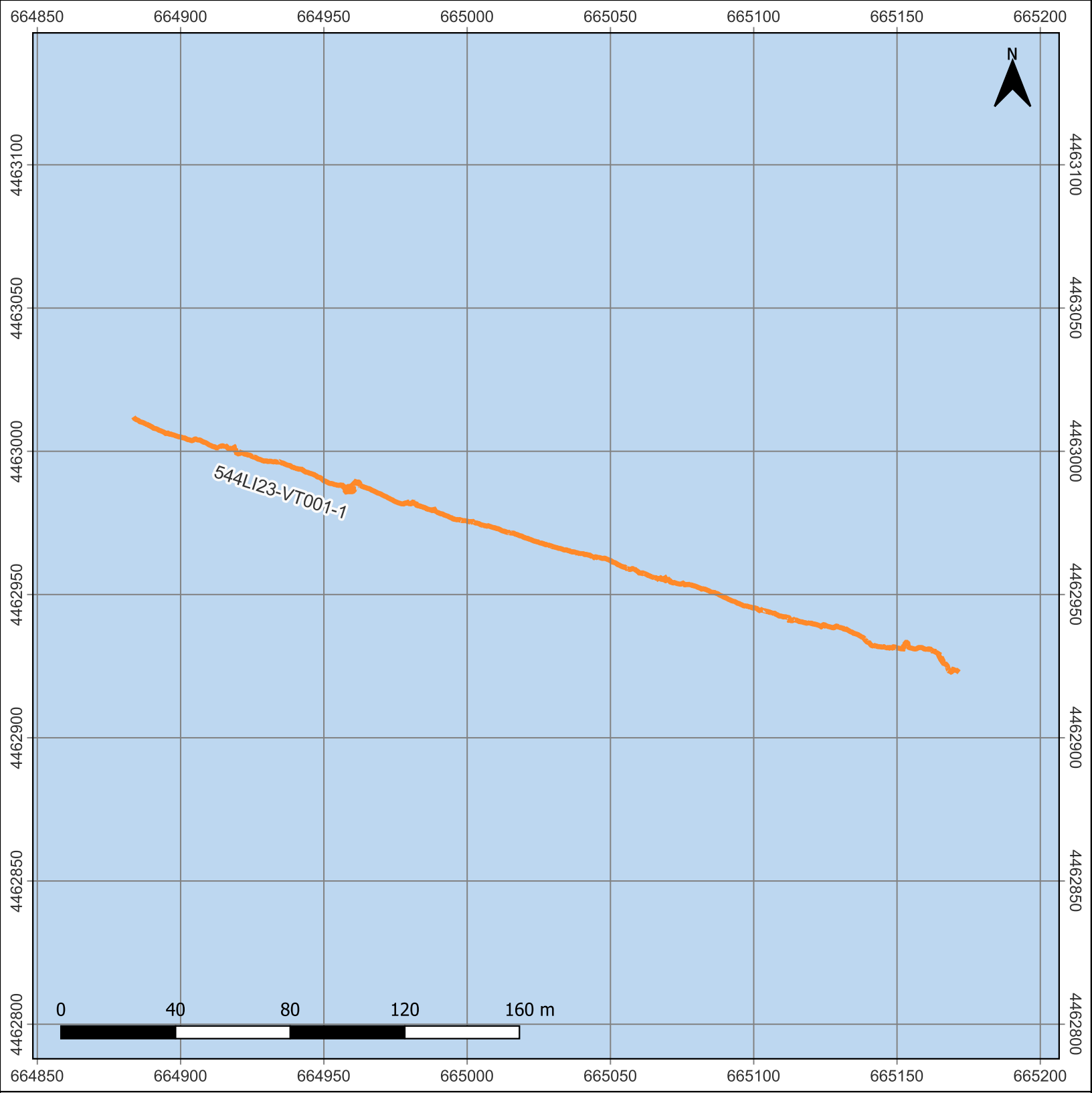


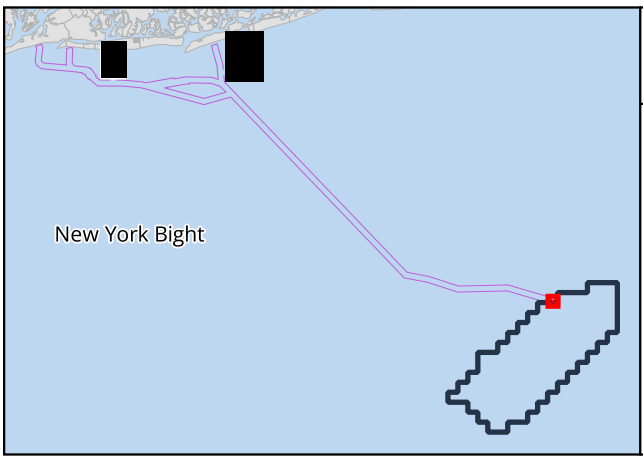
Appendix J

Video Transect CMECS Classifications

Video transects classified by Geo SubSea and Maxon Consulting

Charts created by Geo SubSea





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

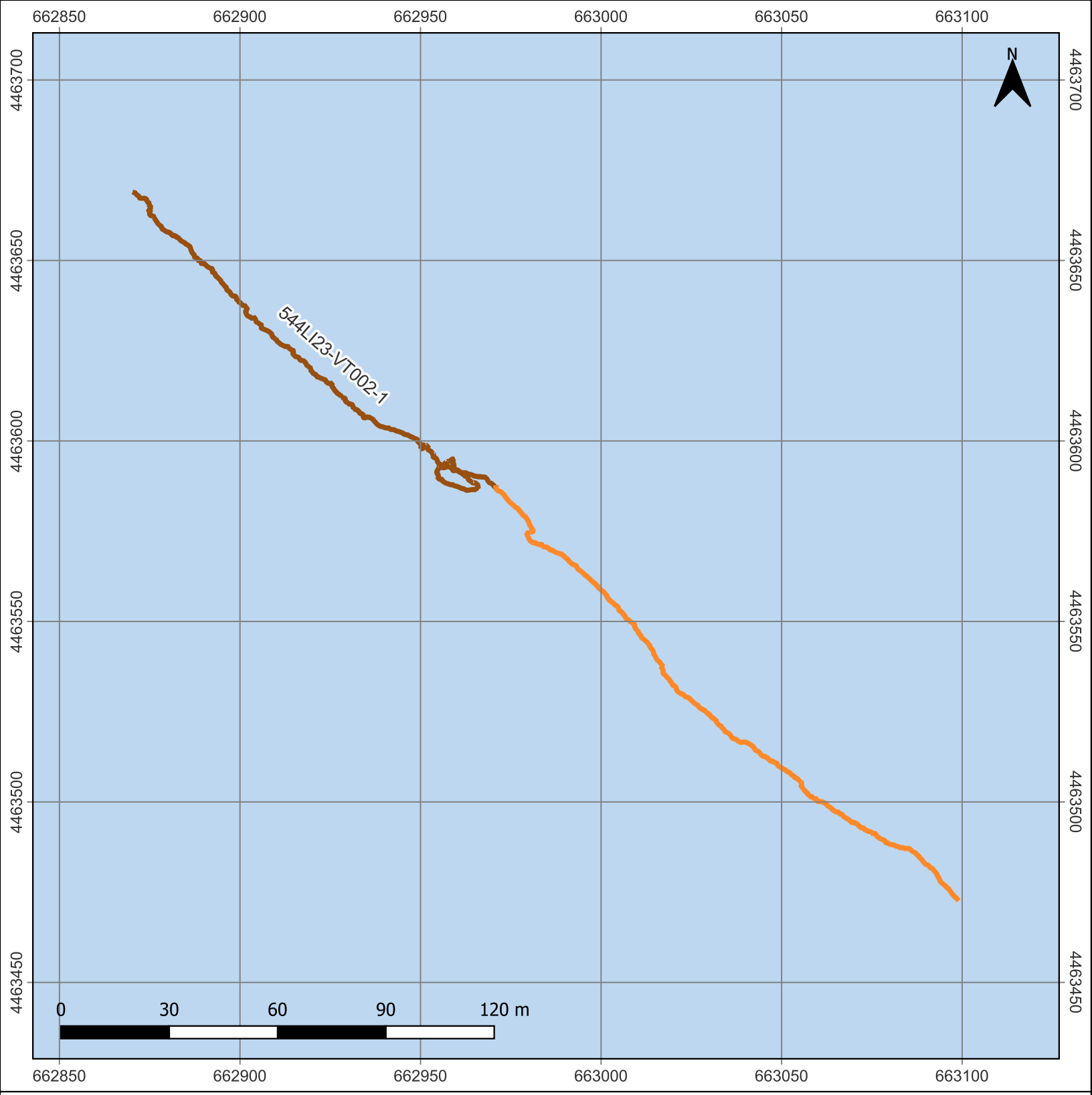
CMECS Classification from Video Survey

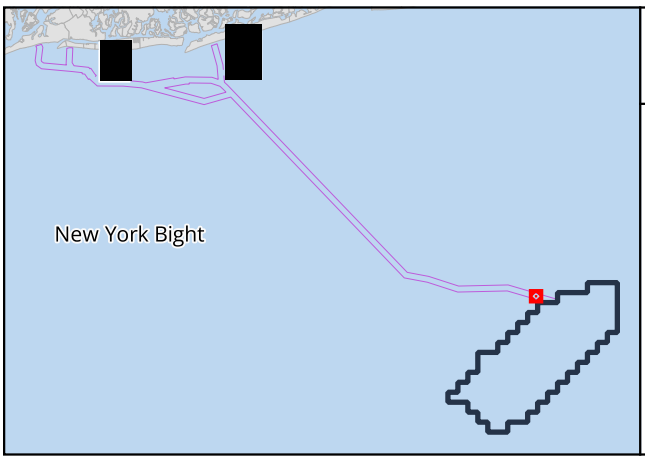
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT001-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

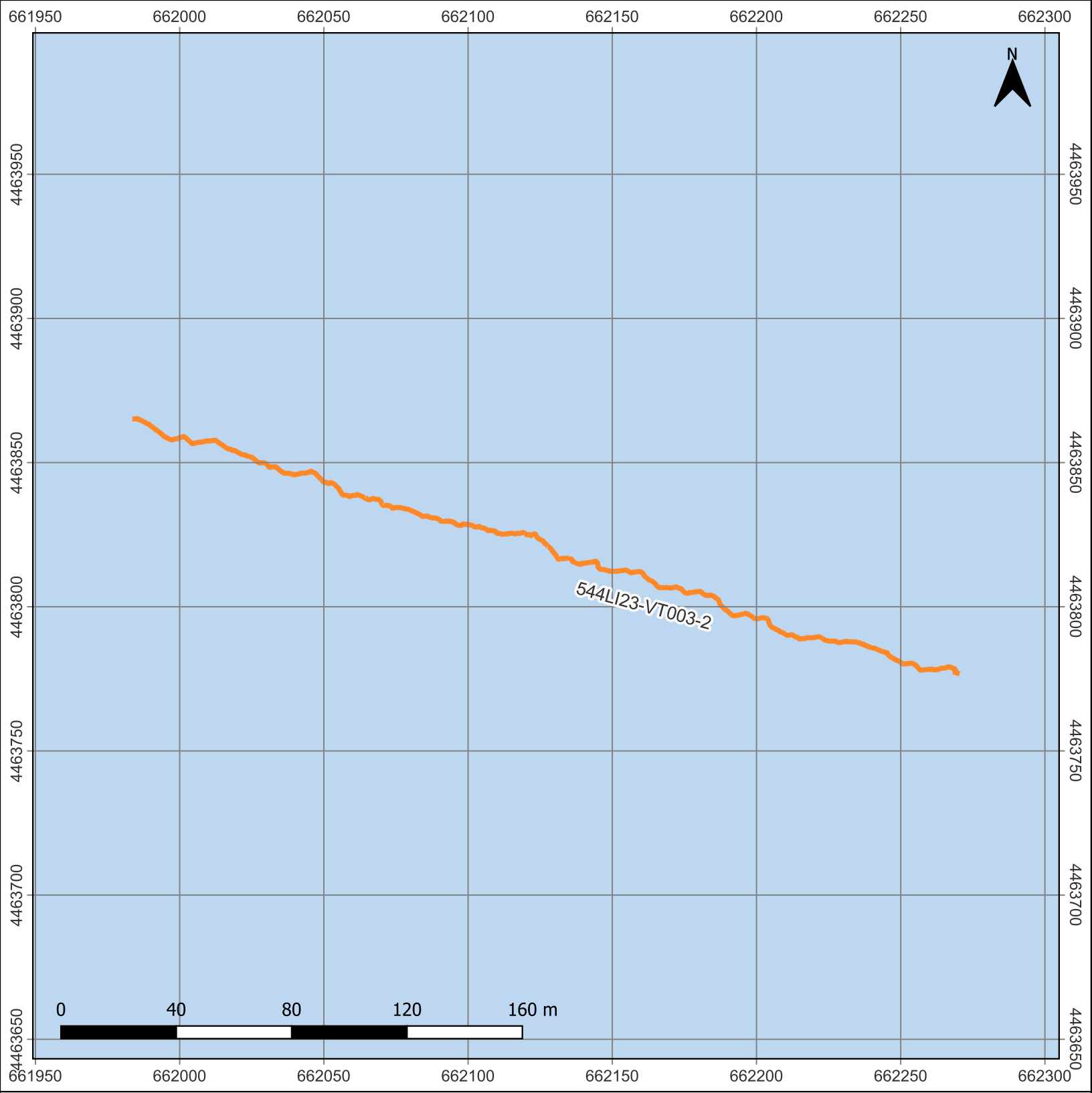
CMECS Classification from Video Survey

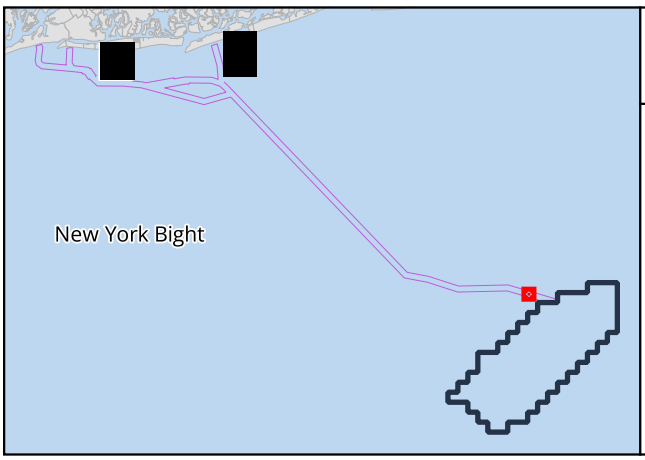
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT002-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

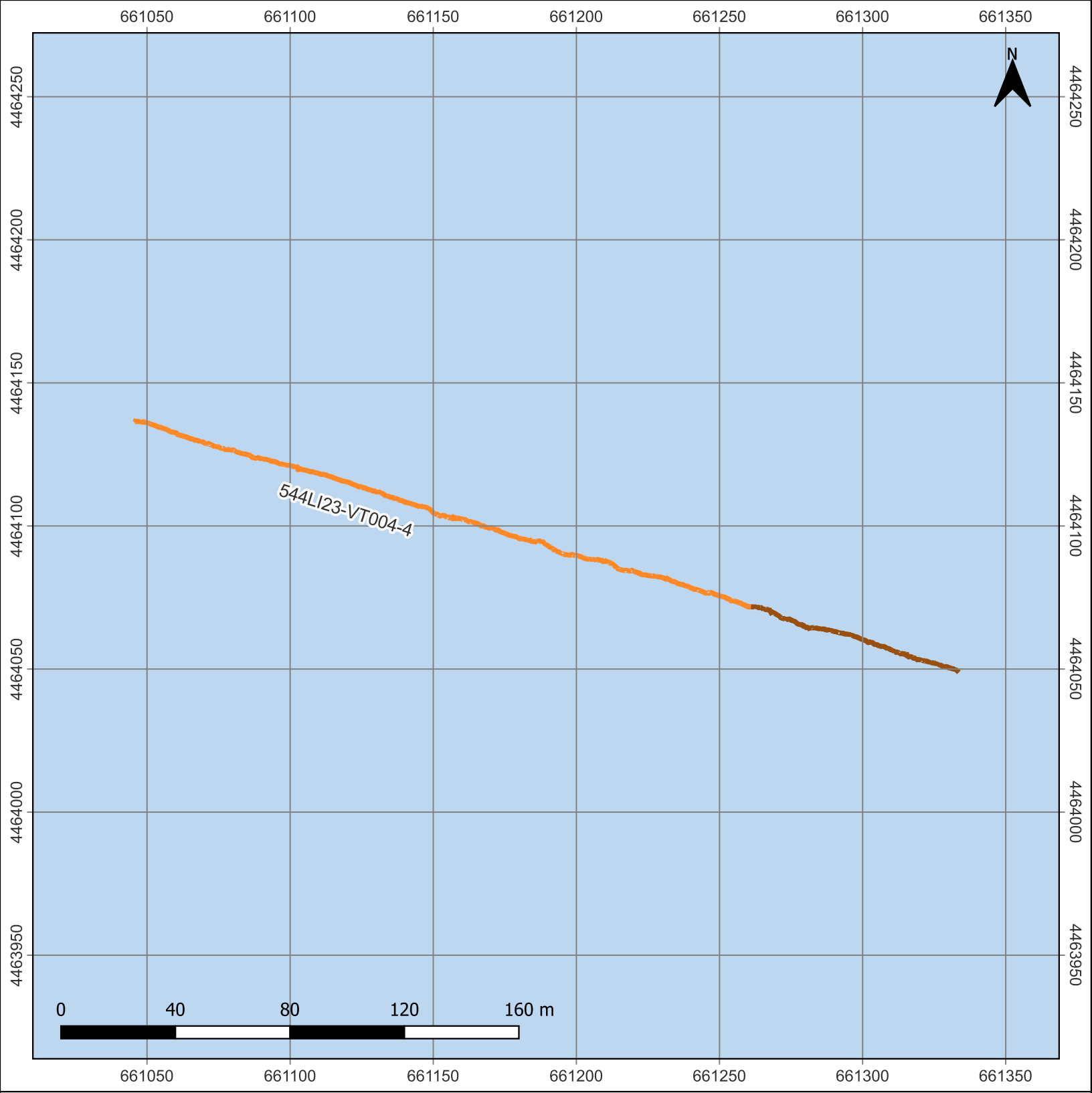
CMECS Classification from Video Survey

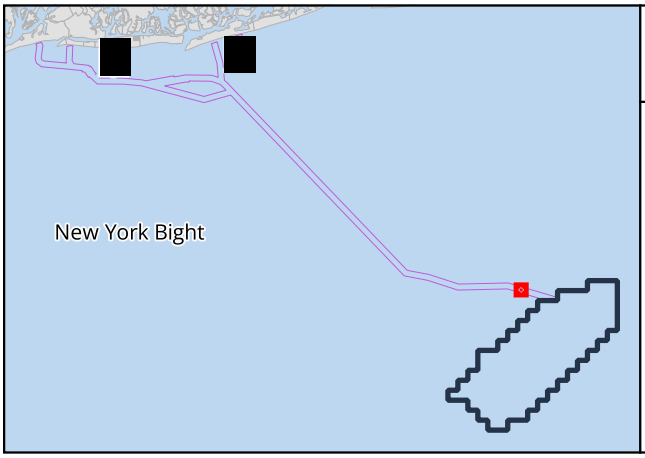
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT003-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

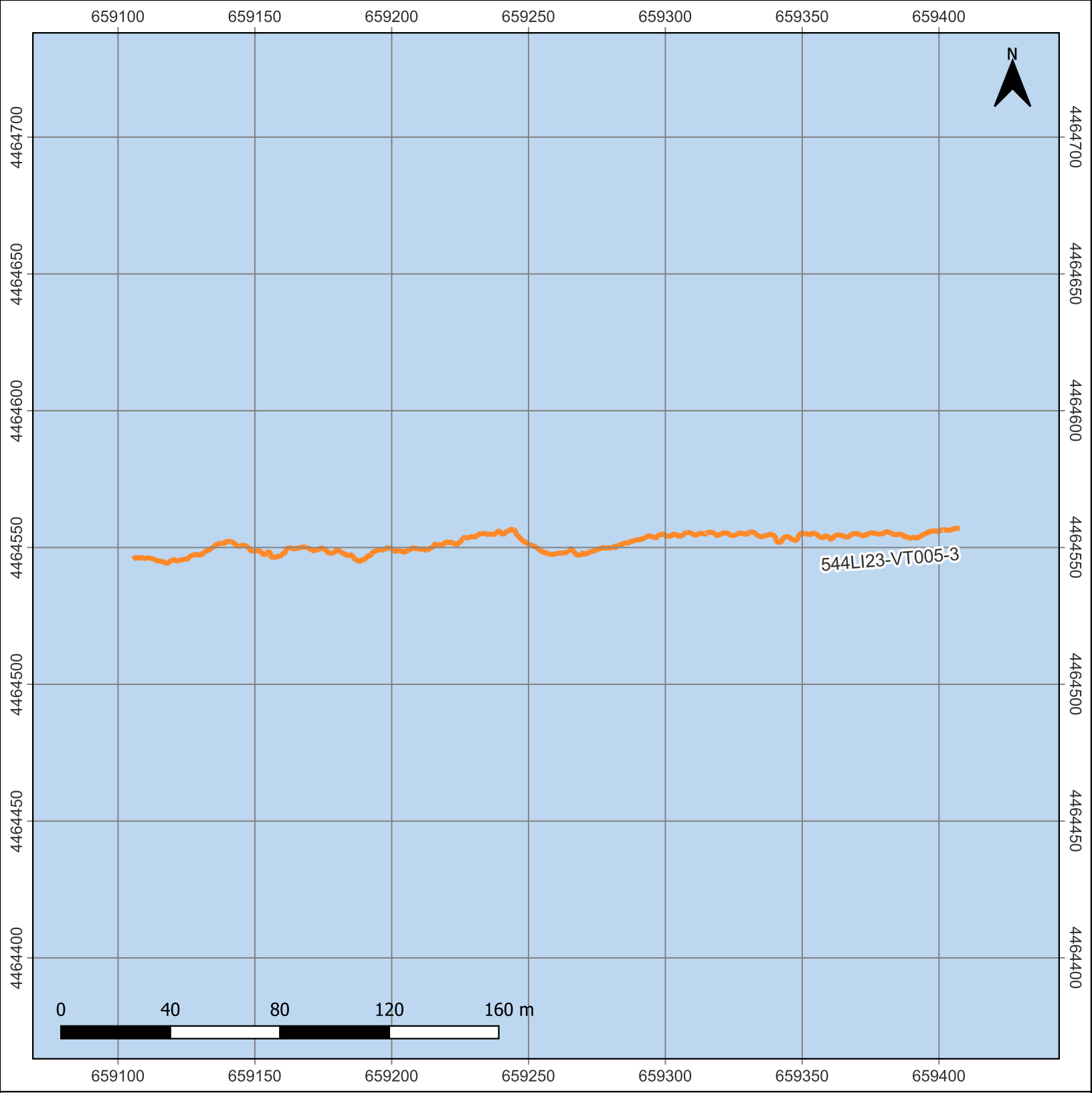
CMECS Classification from Video Survey

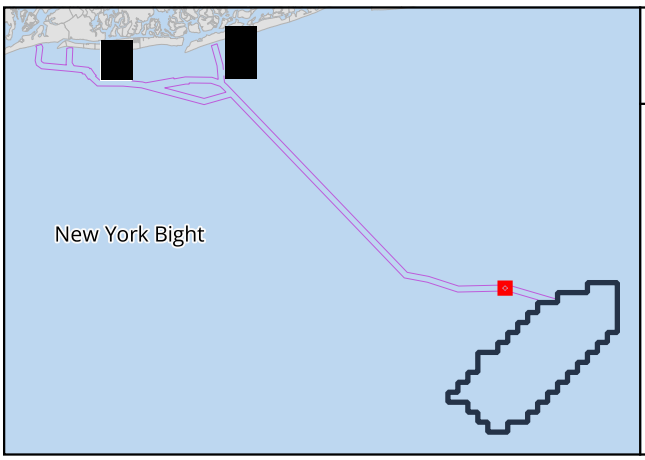
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT004-4

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

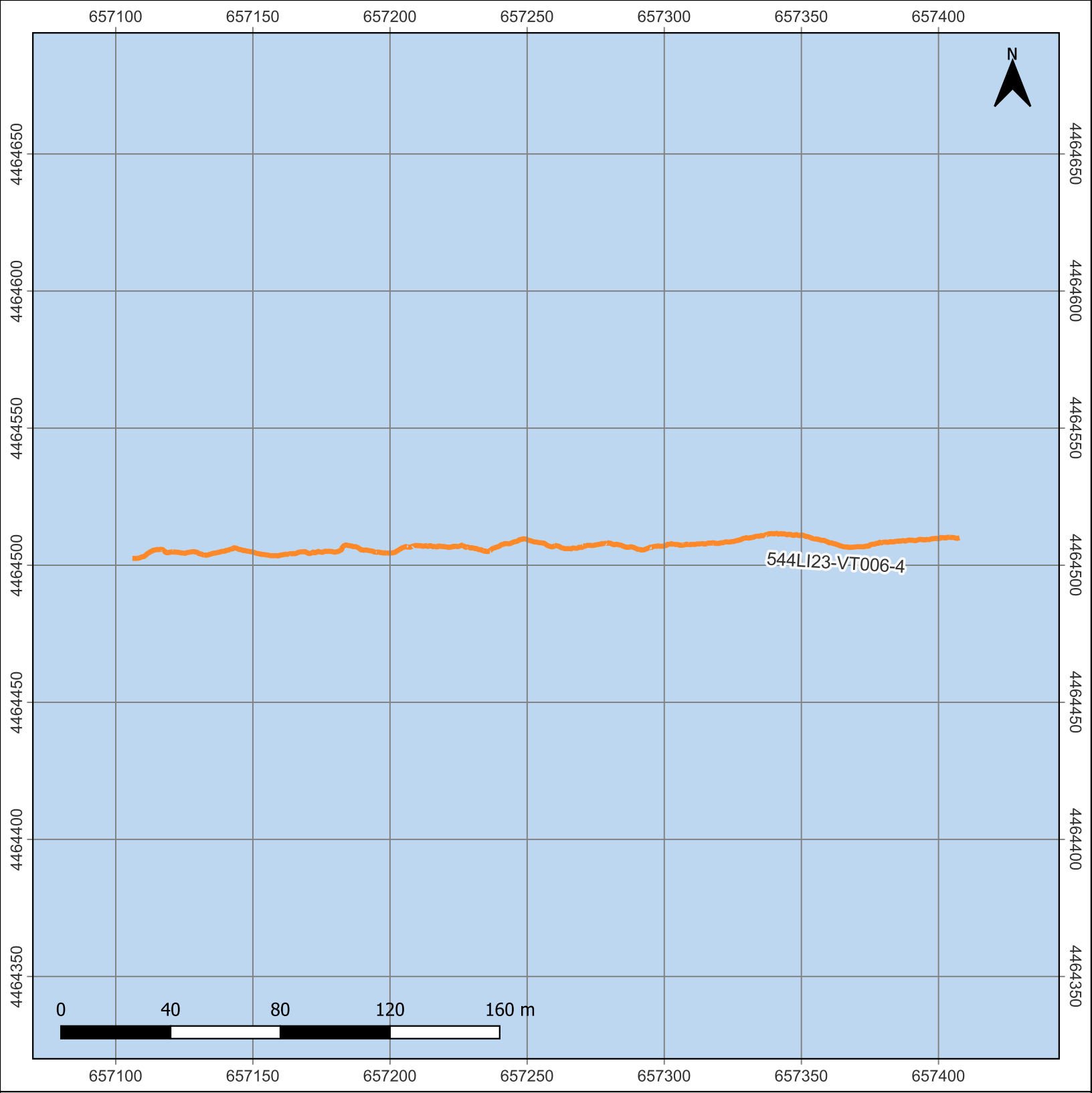
CMECS Classification from Video Survey

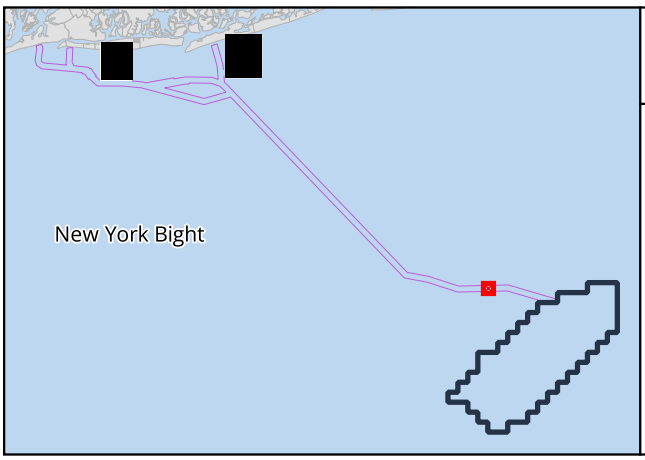
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT005-3

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

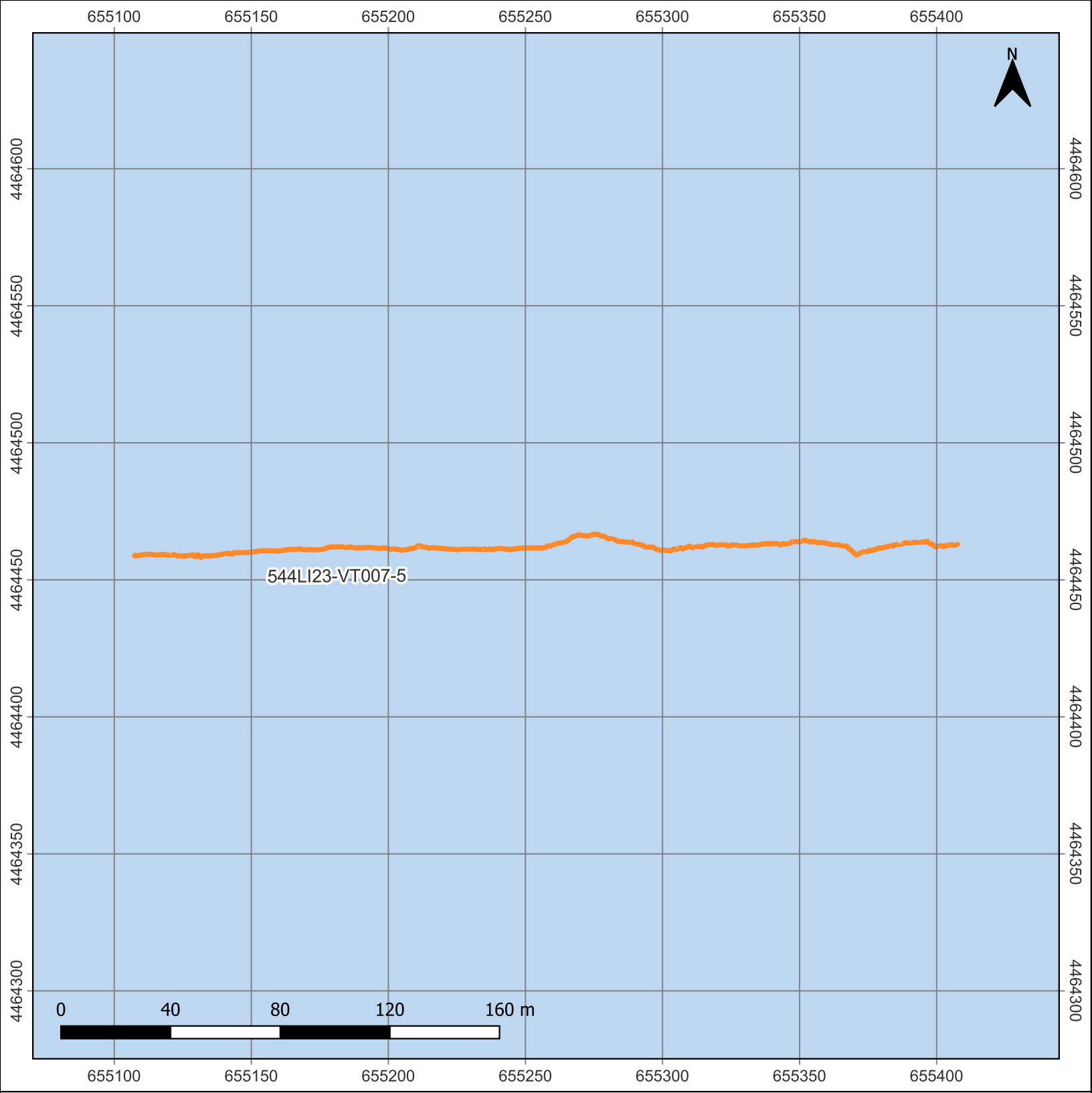
CMECS Classification from Video Survey

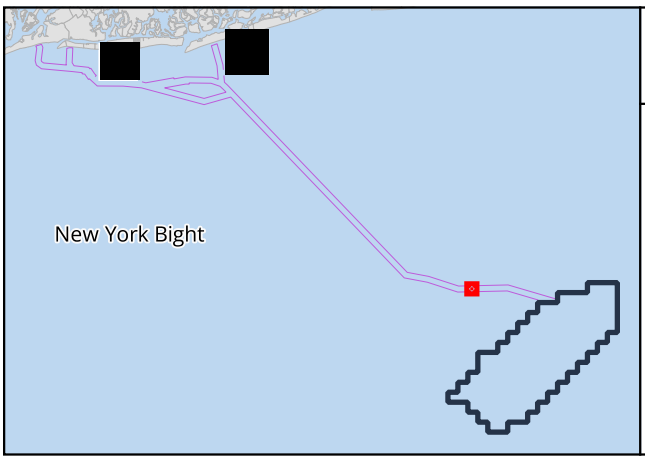
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT006-4

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

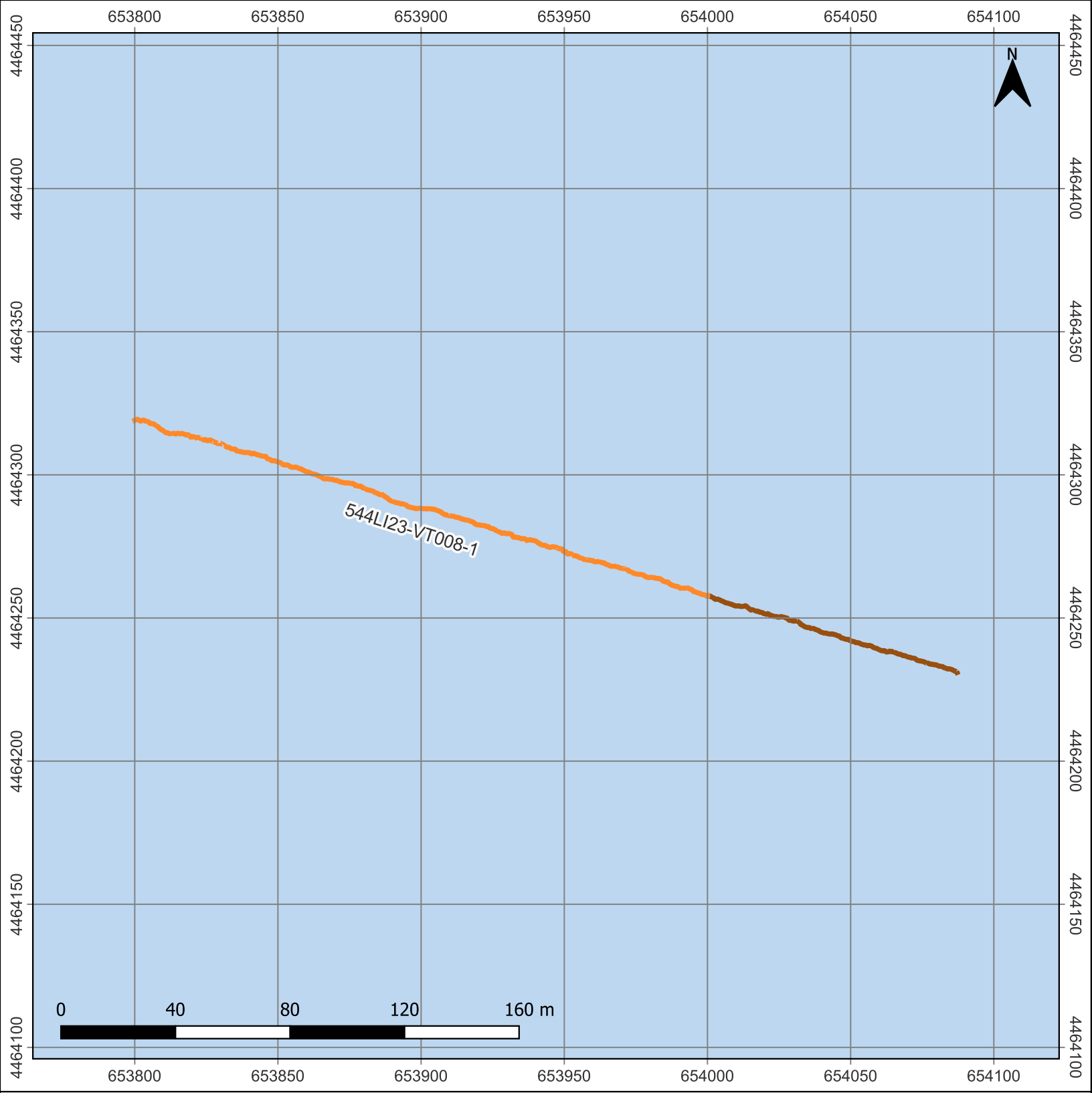
CMECS Classification from Video Survey

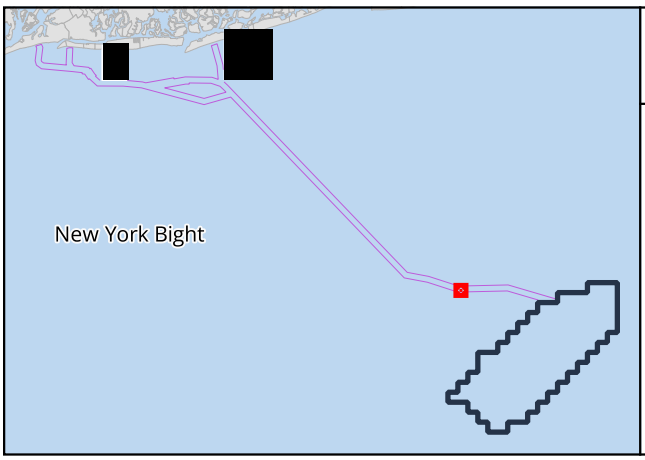
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT007-5

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

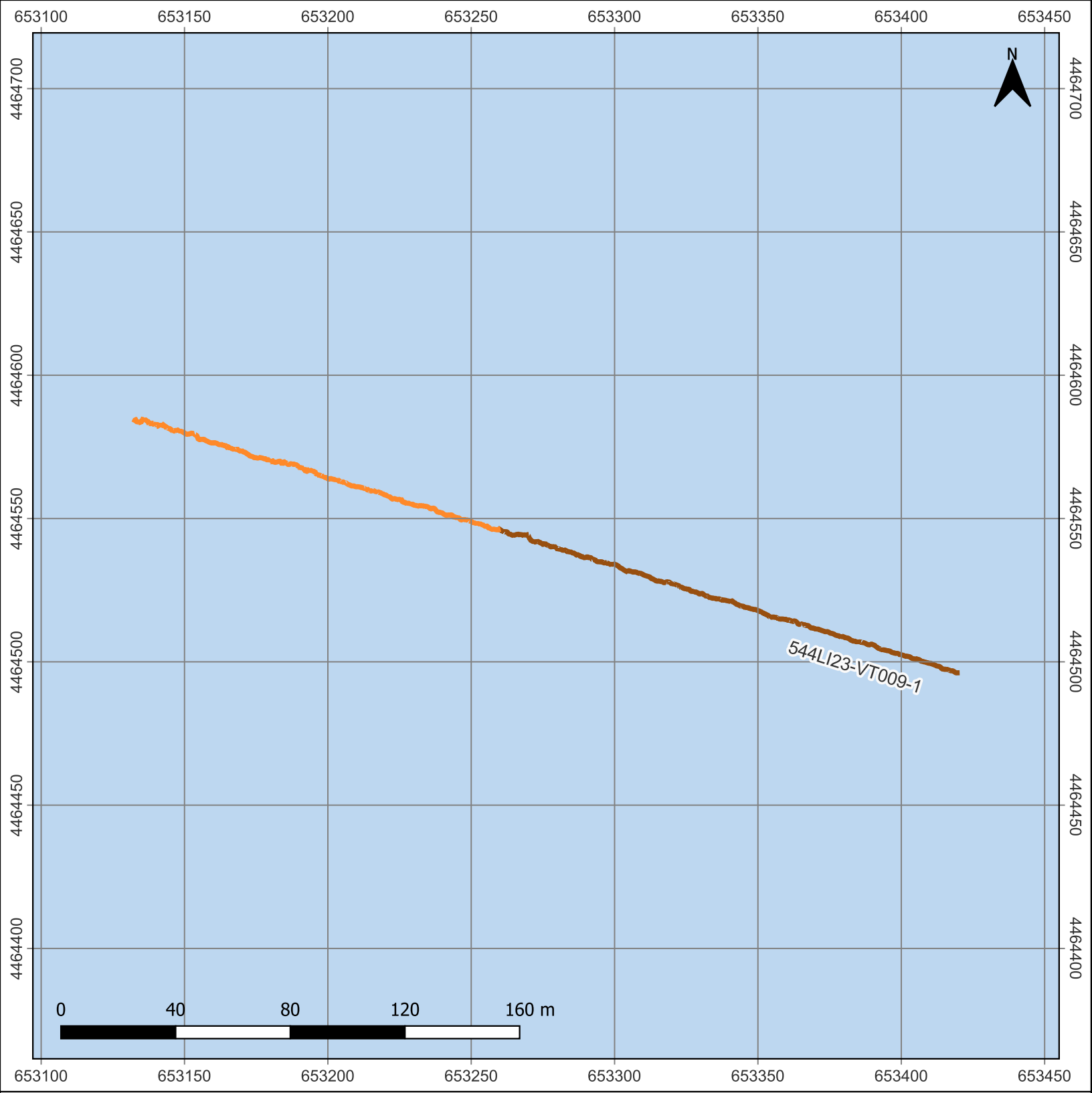
CMECS Classification from Video Survey

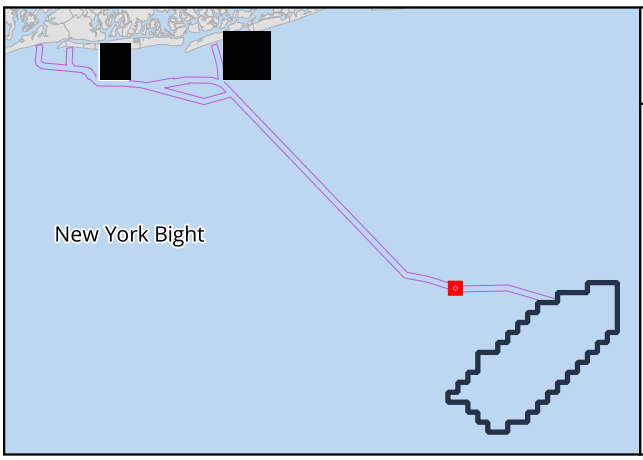
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT008-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

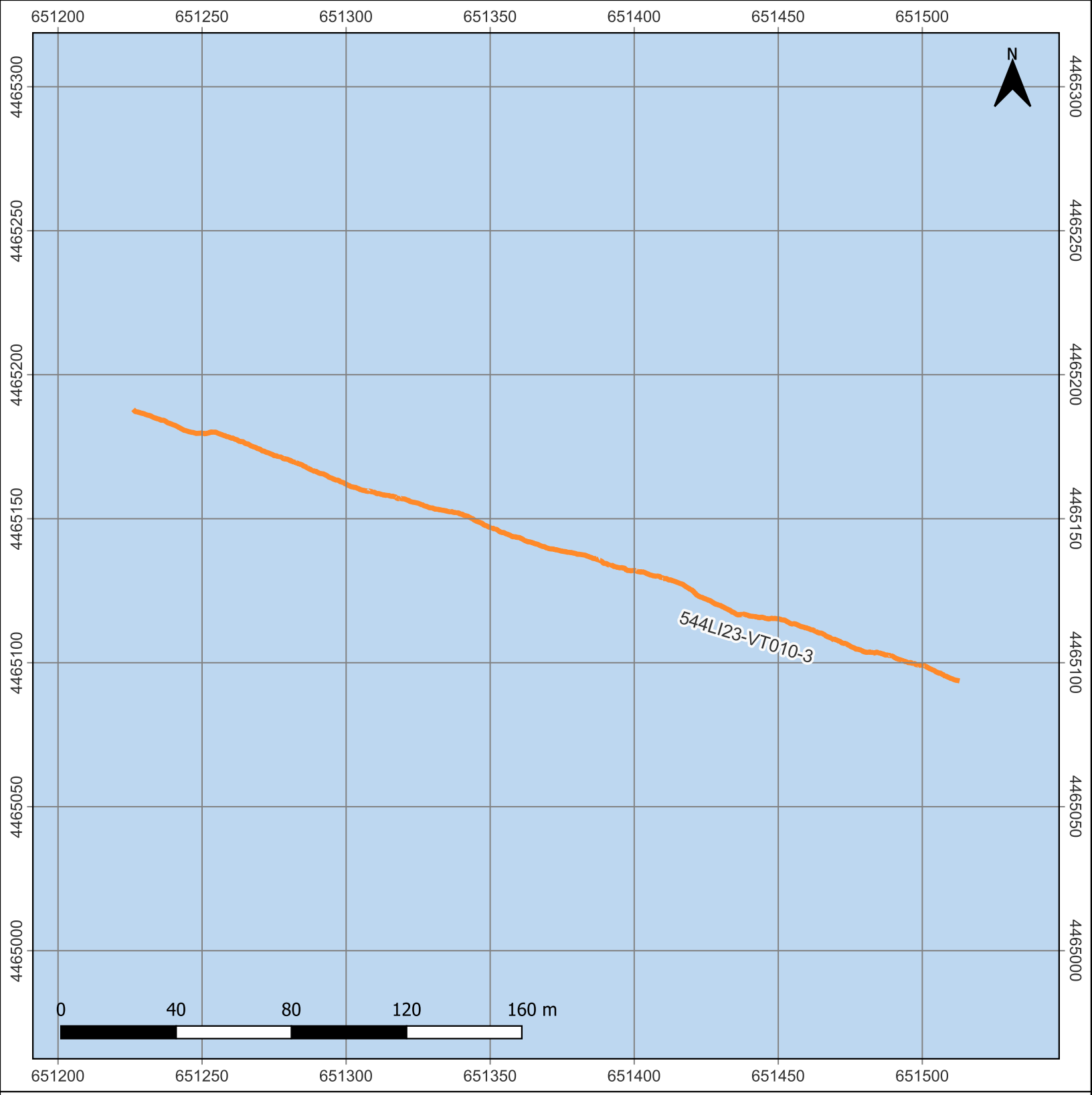
CMECS Classification from Video Survey

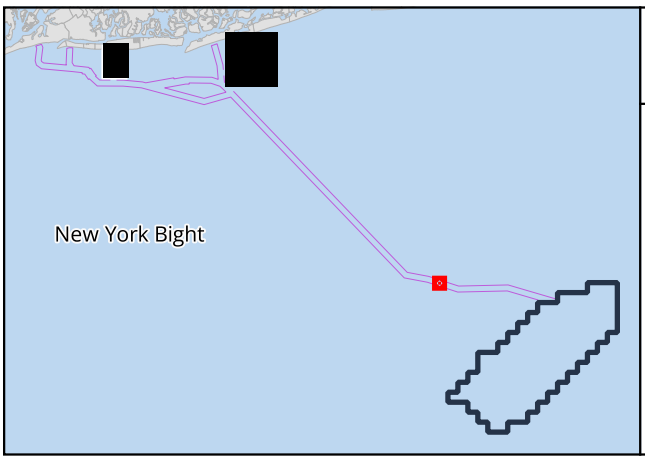
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT009-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

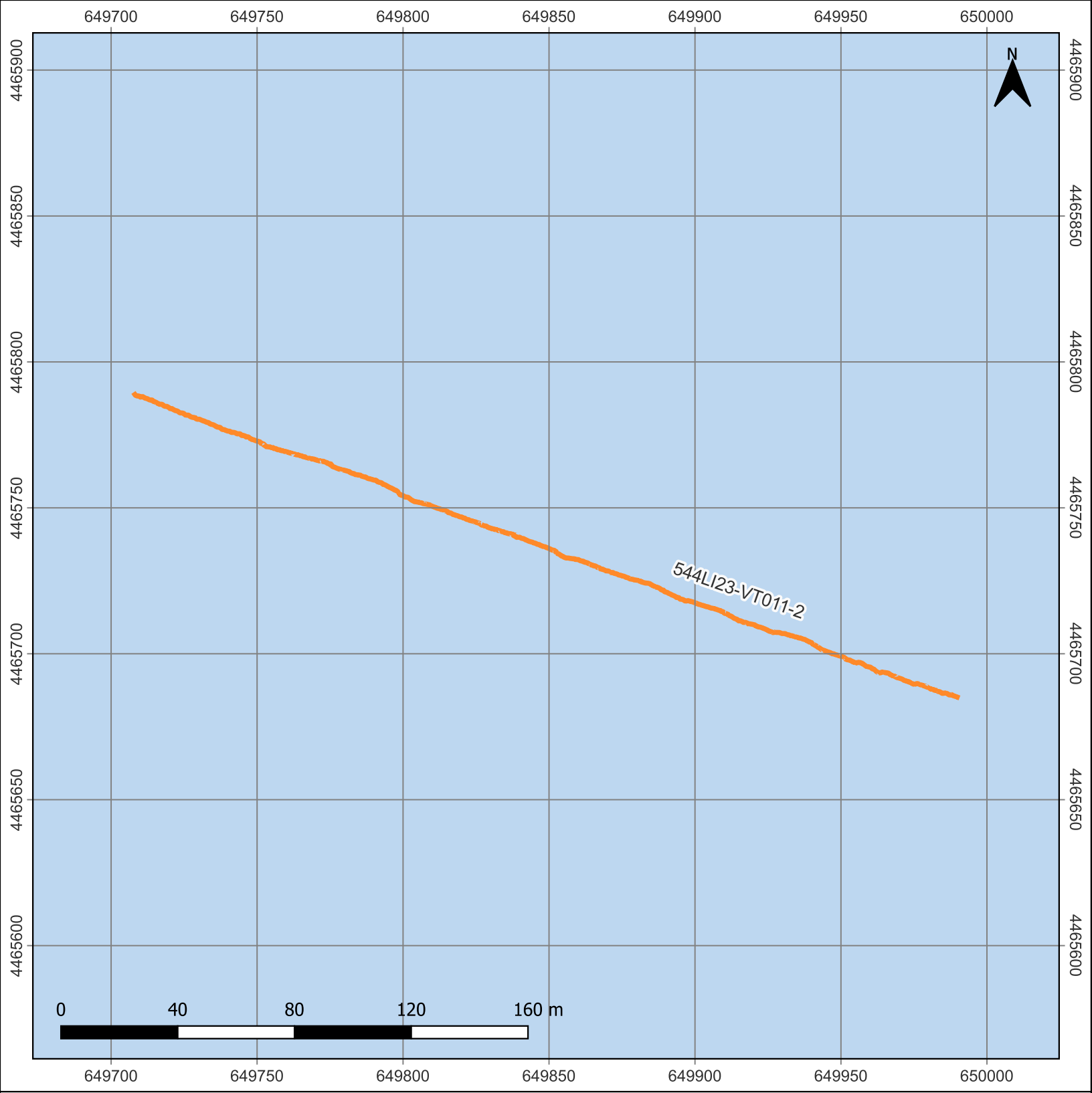
CMECS Classification from Video Survey

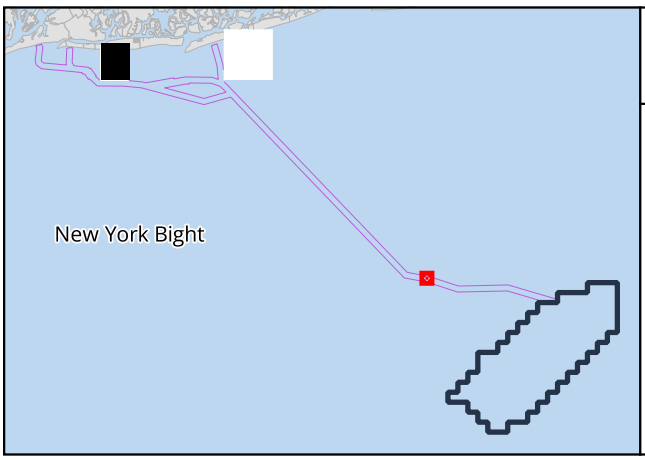
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT010-3

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

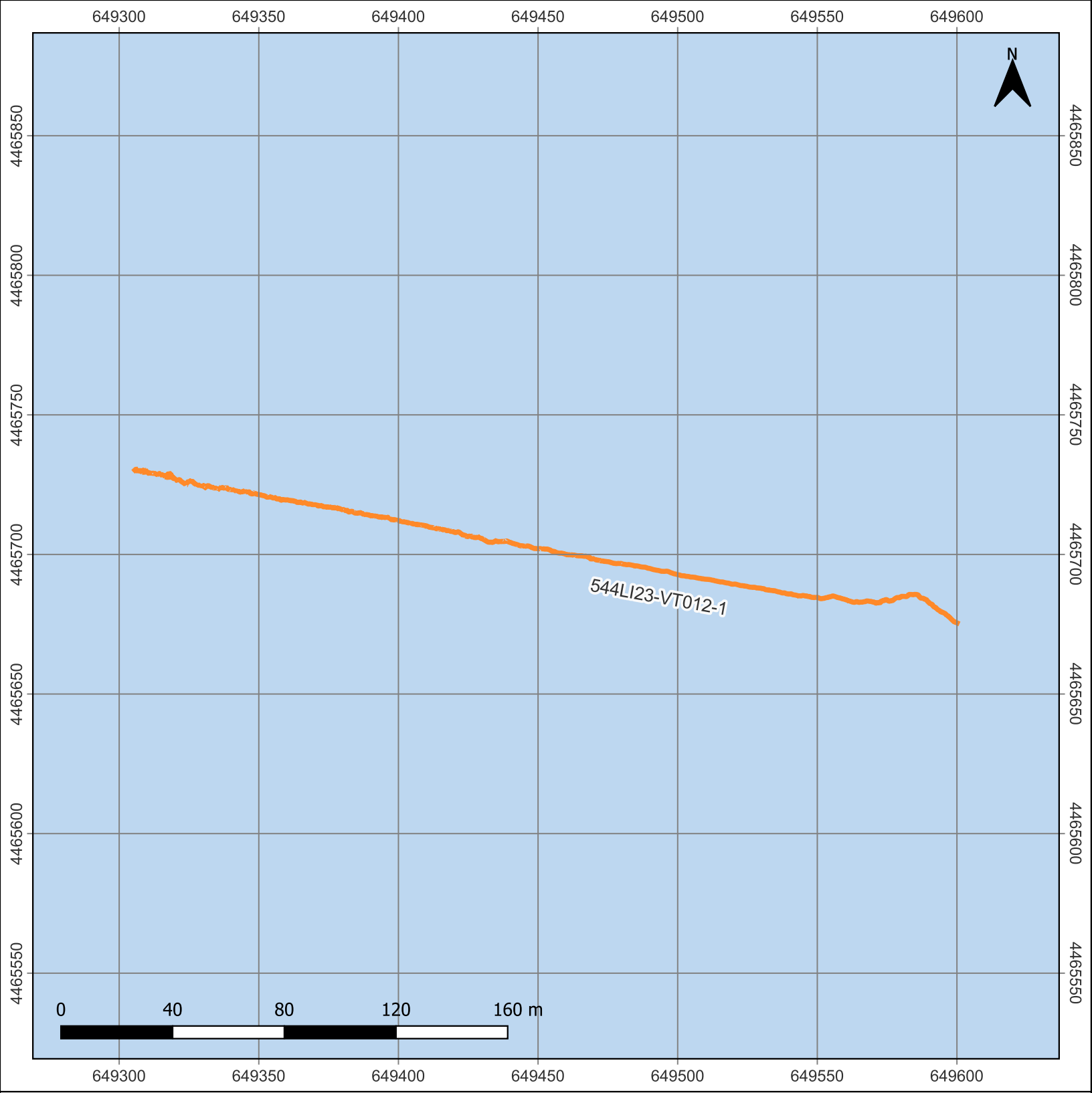
CMECS Classification from Video Survey

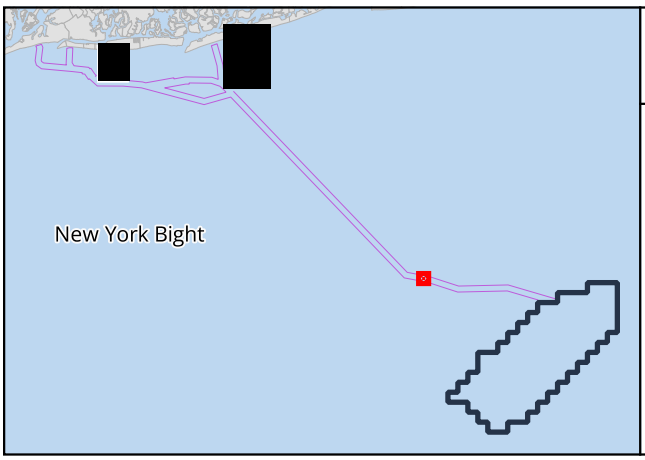
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT011-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

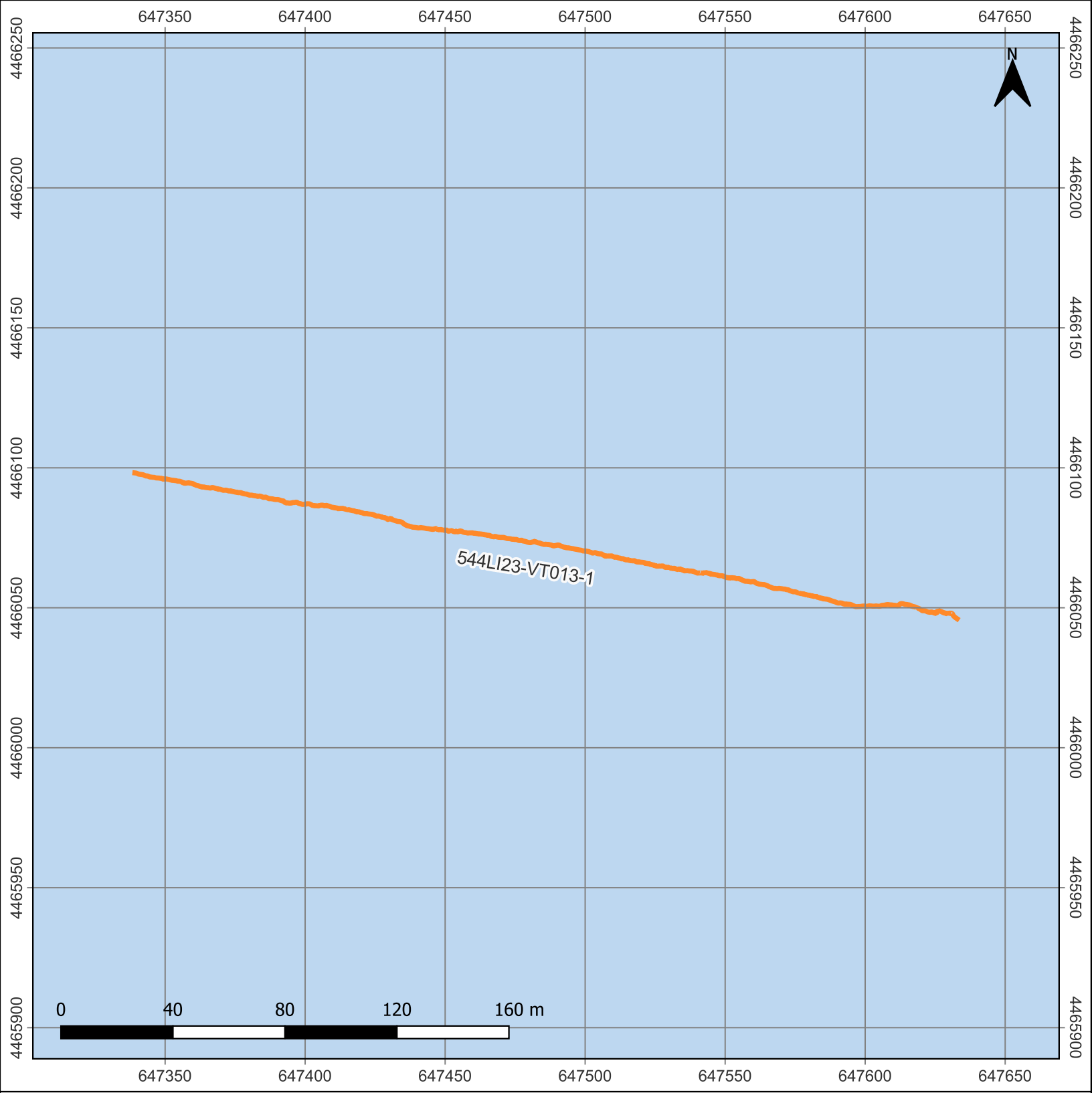
CMECS Classification from Video Survey

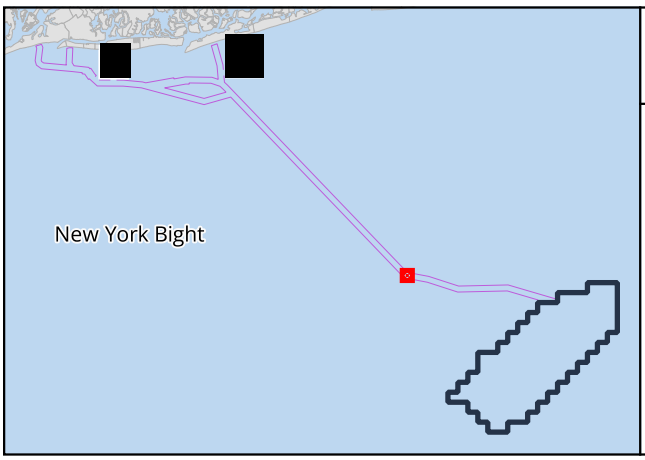
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT012-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

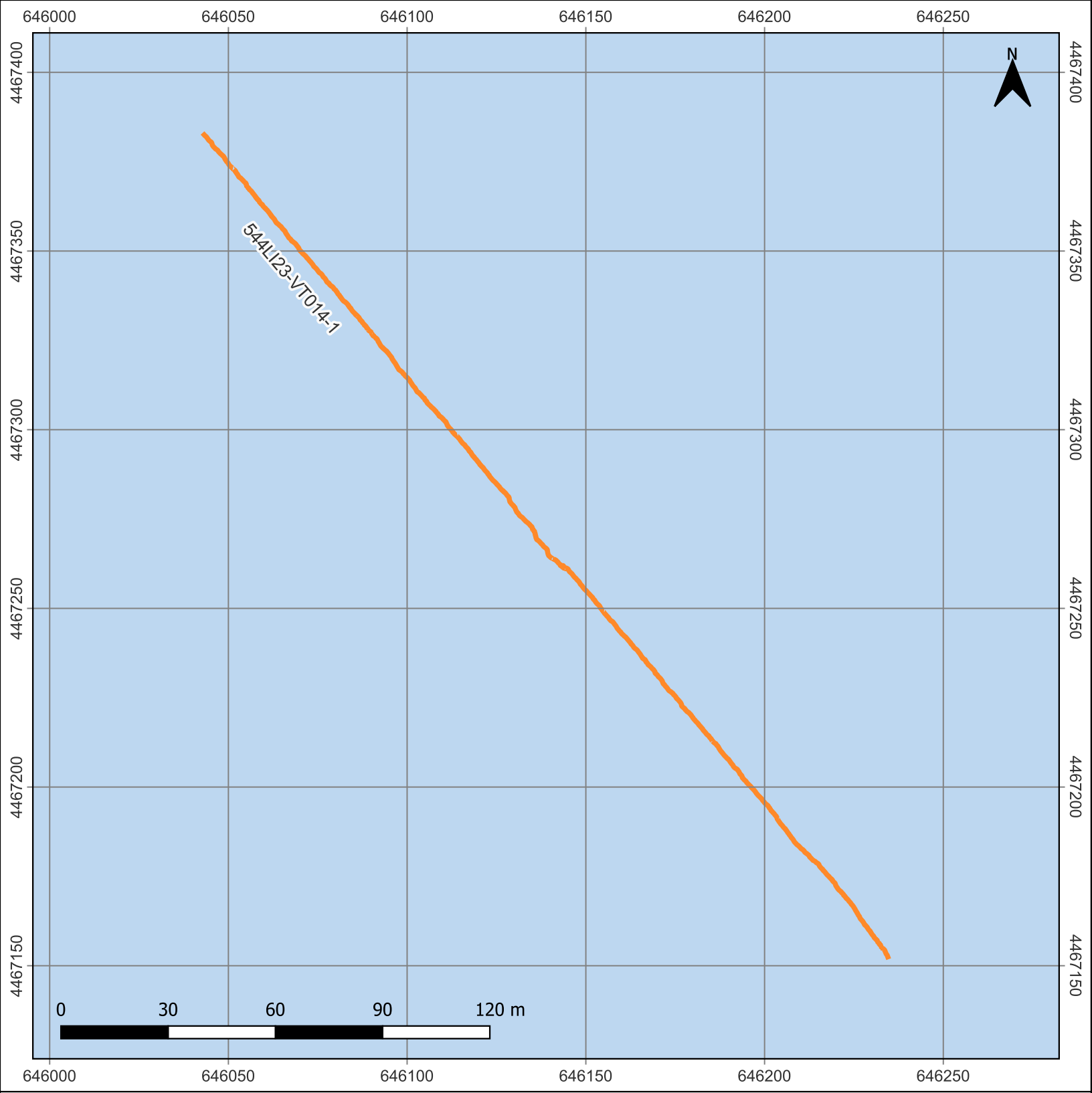
CMECS Classification from Video Survey

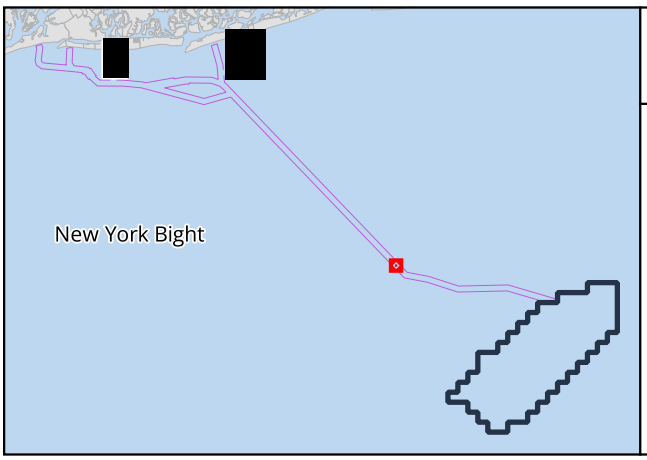
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT013-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

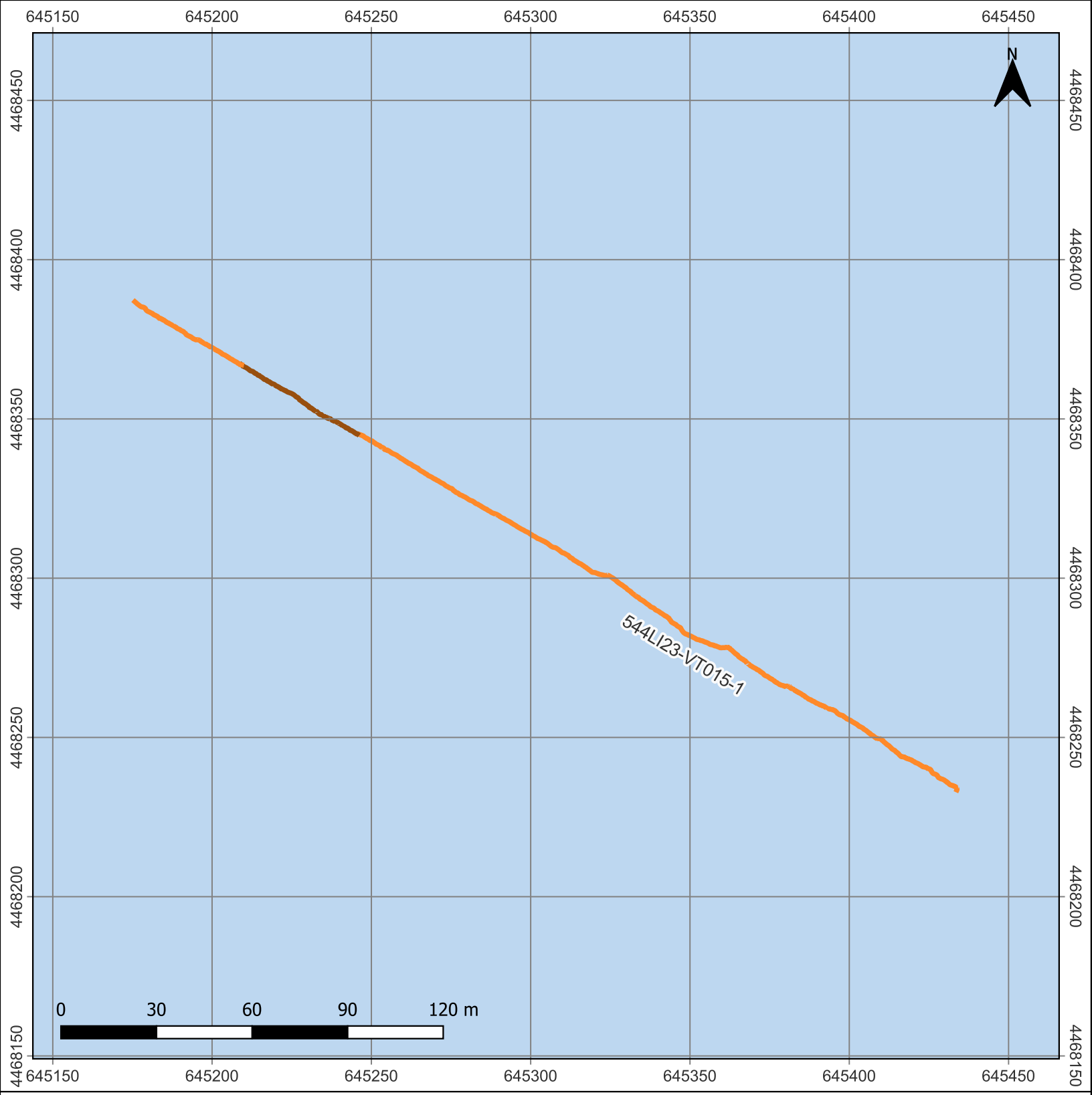
CMECS Classification from Video Survey

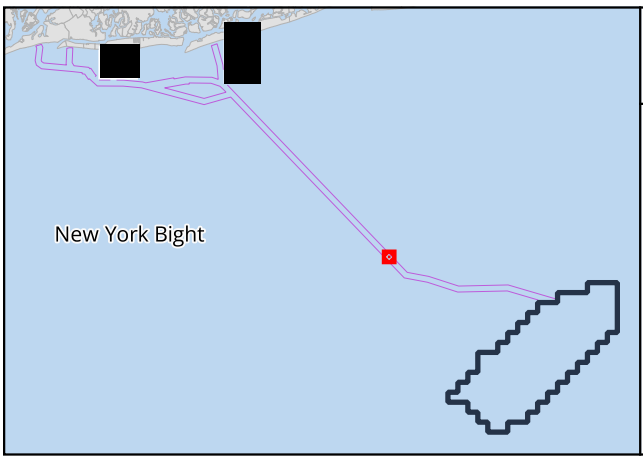
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT014-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

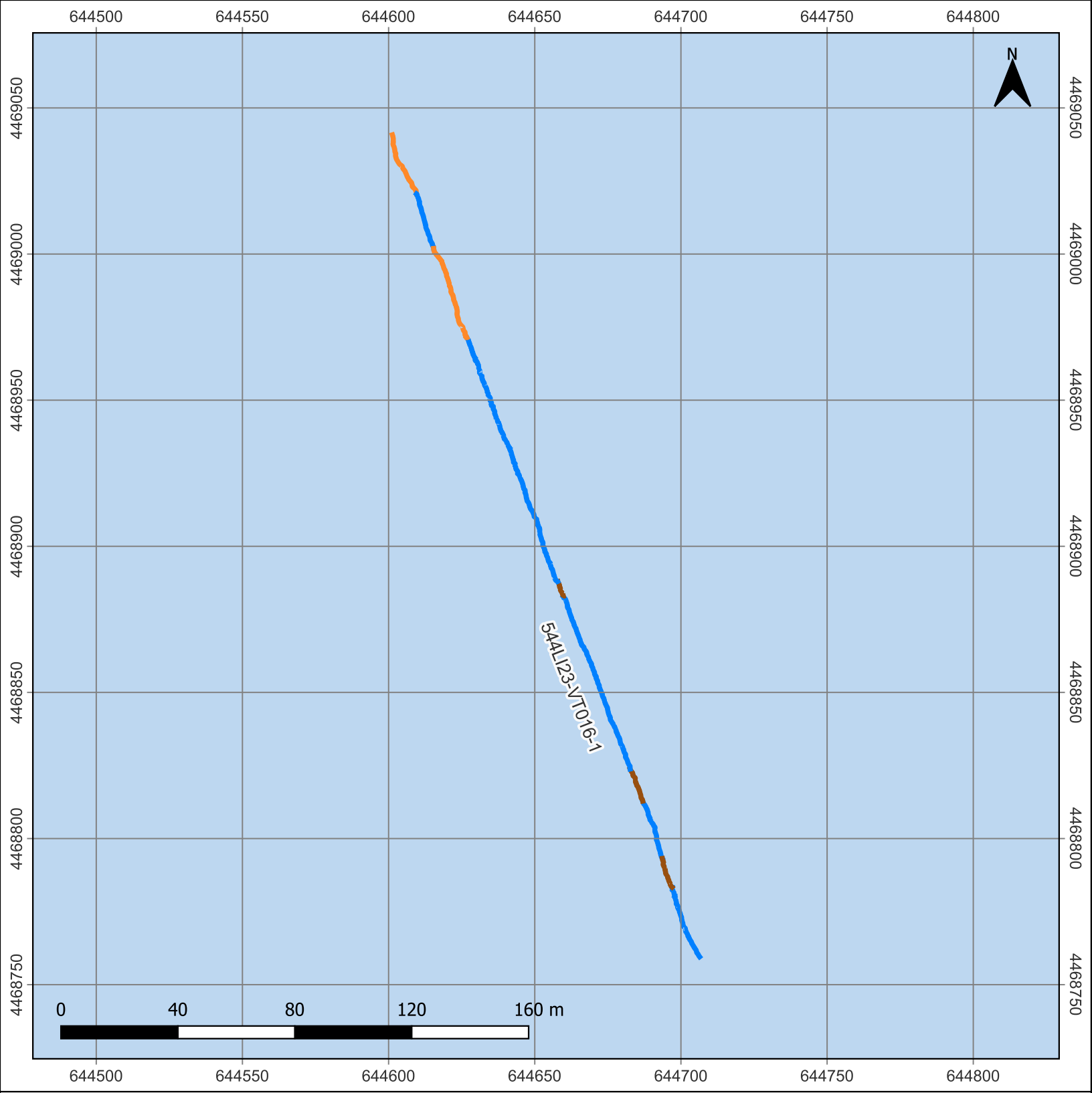
CMECS Classification from Video Survey

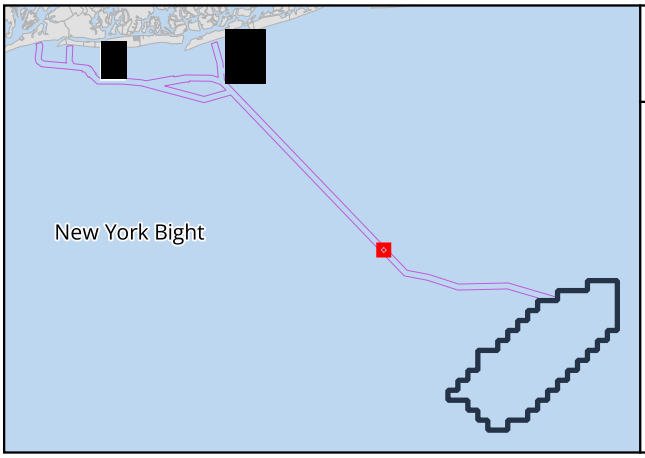
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT015-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

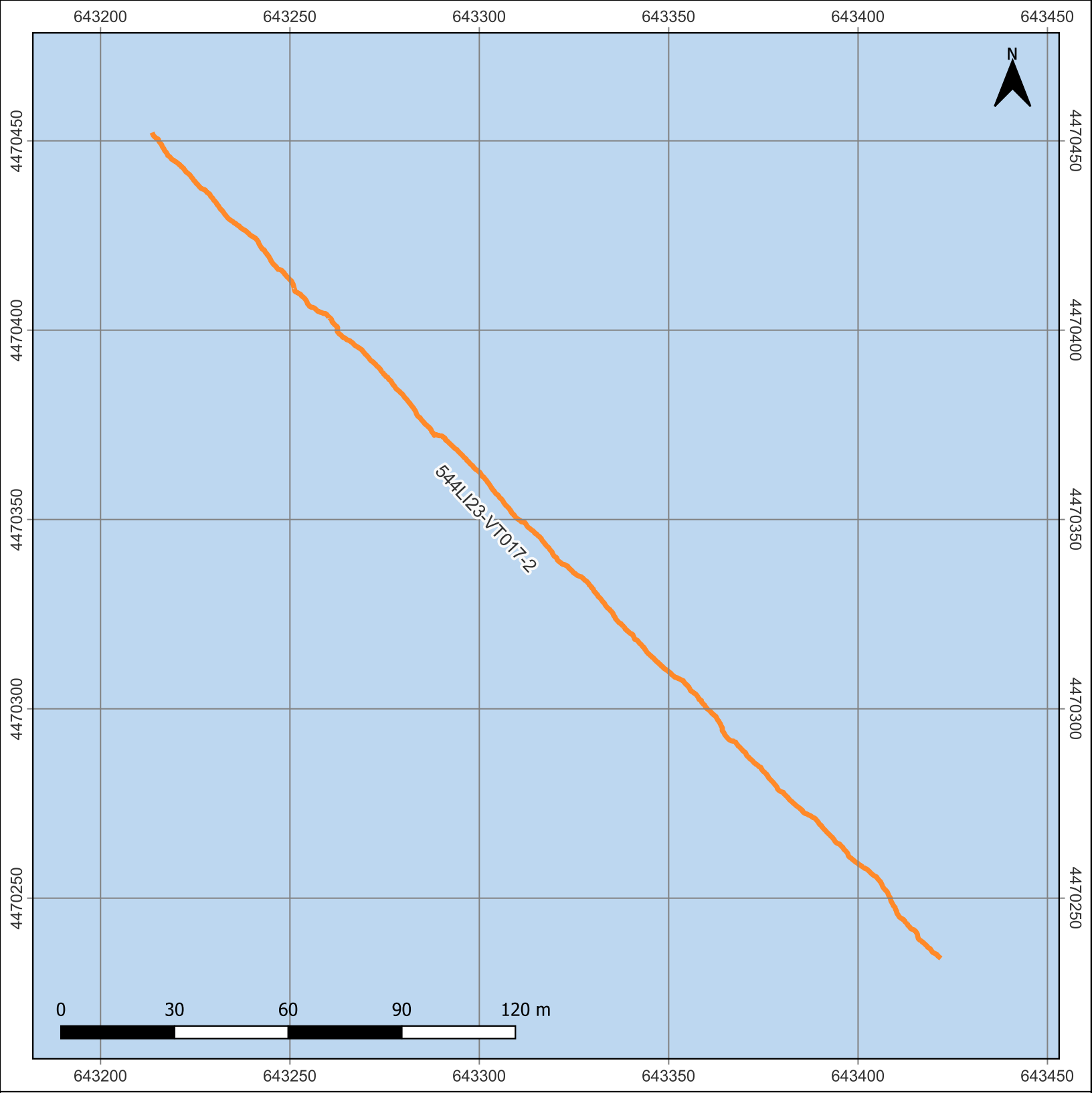
CMECS Classification from Video Survey

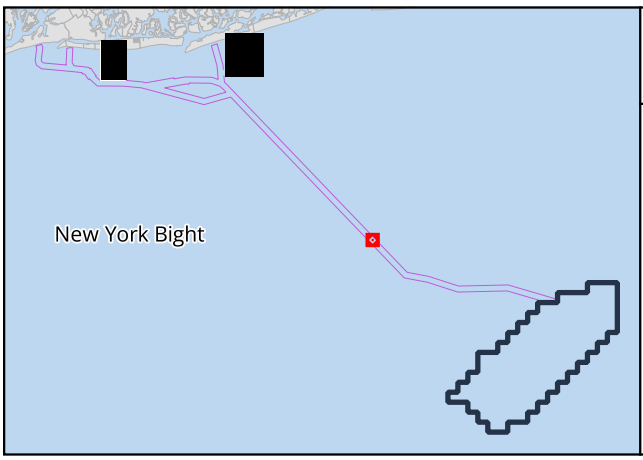
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT016-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

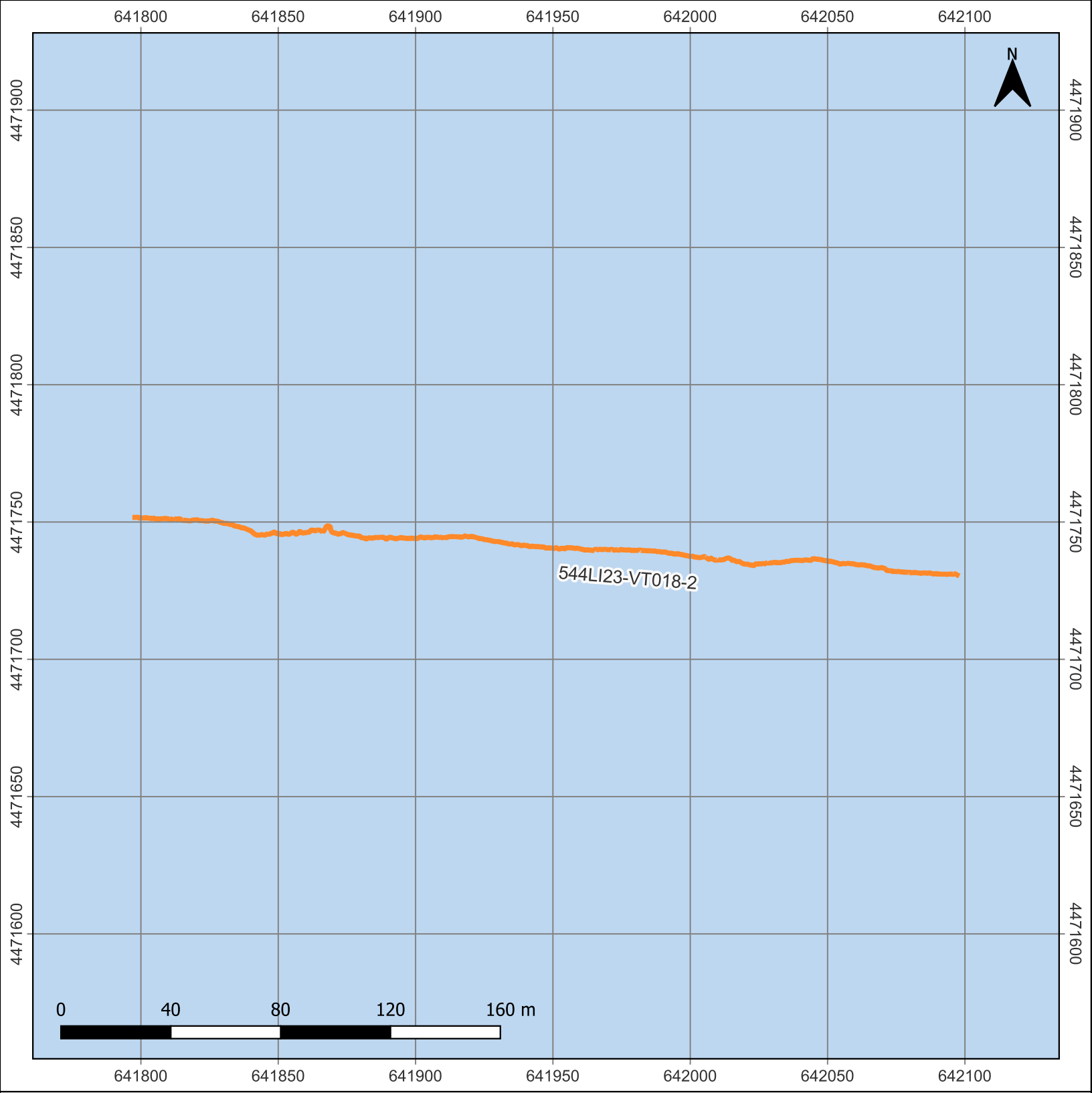
CMECS Classification from Video Survey

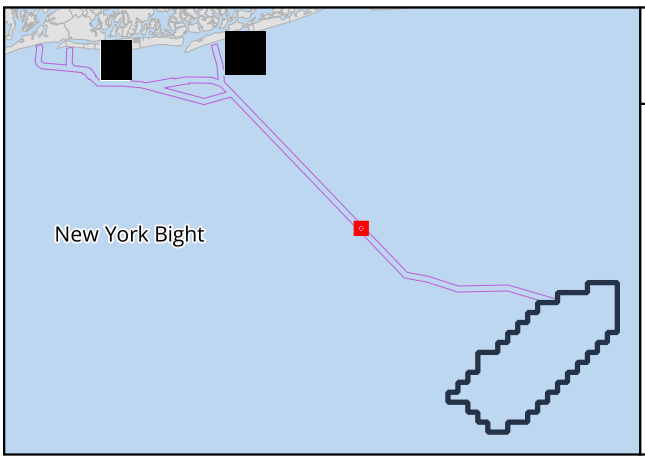
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT017-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

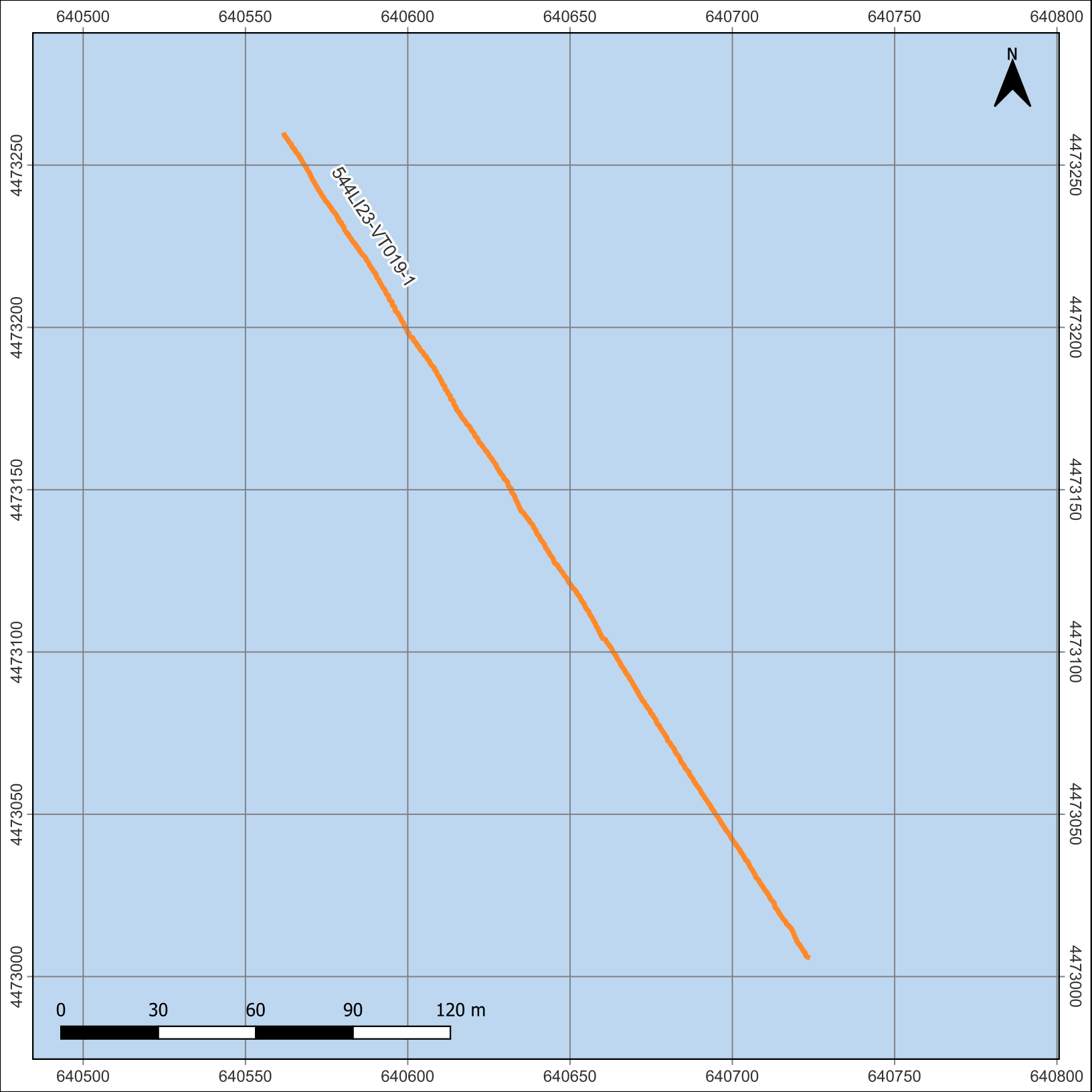
CMECS Classification from Video Survey

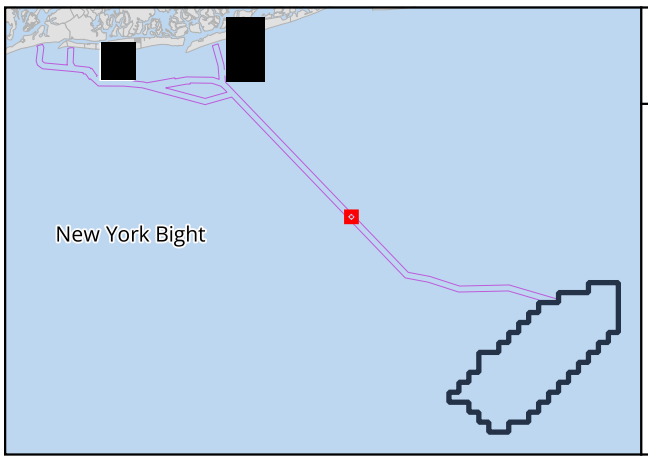
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT018-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

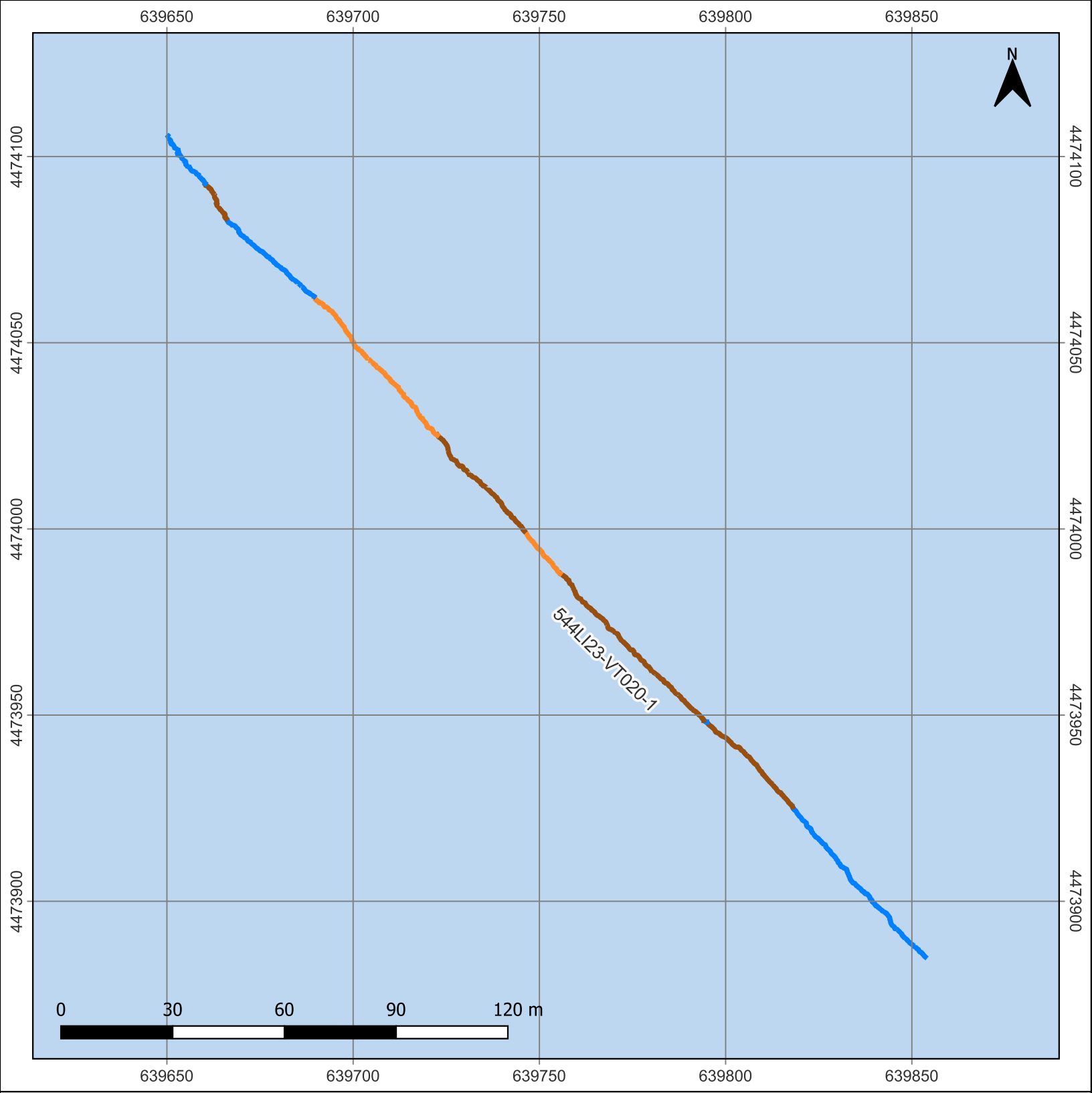
CMECS Classification from Video Survey

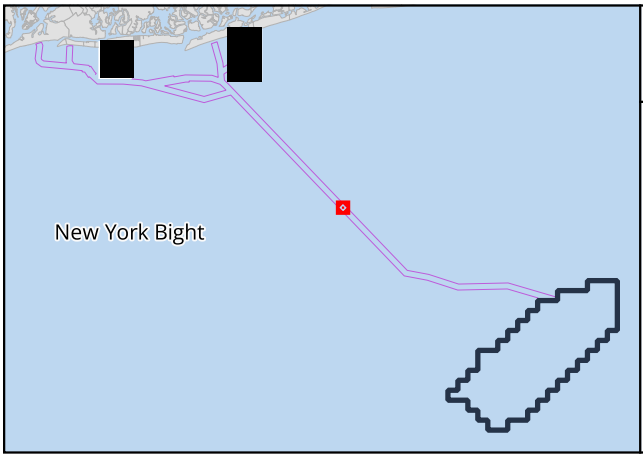
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT019-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

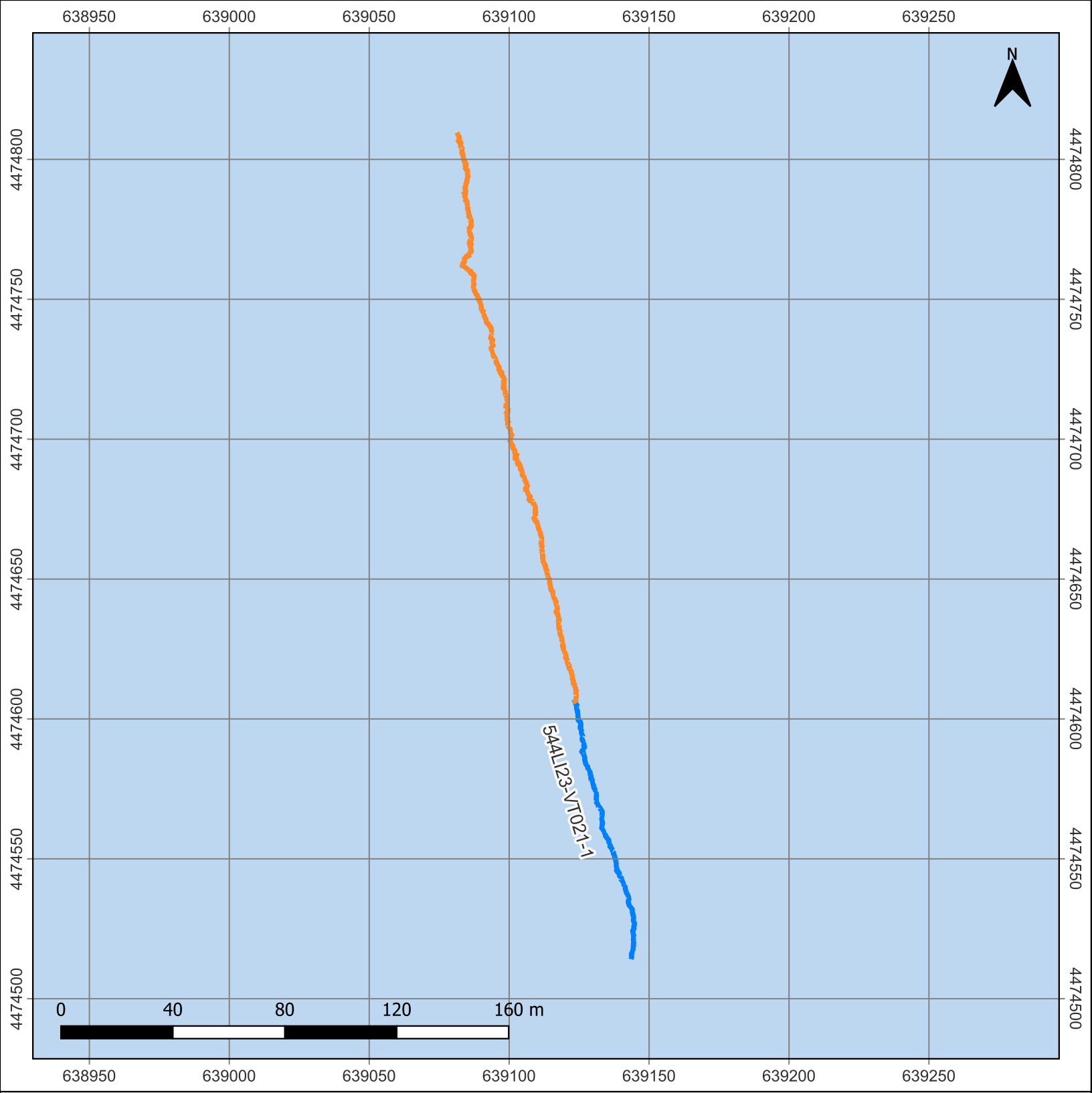
CMECS Classification from Video Survey

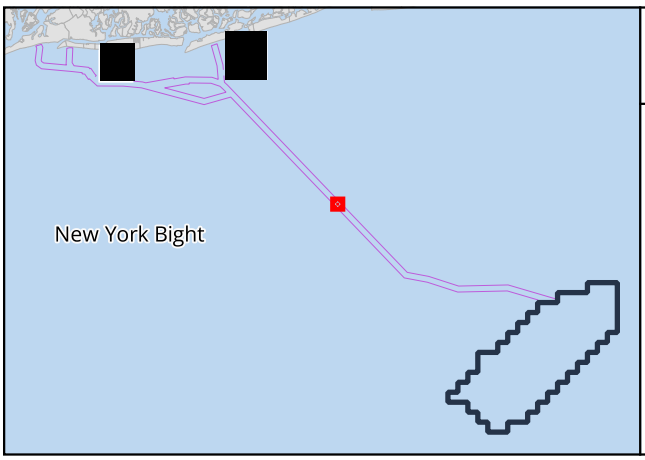
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT020-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

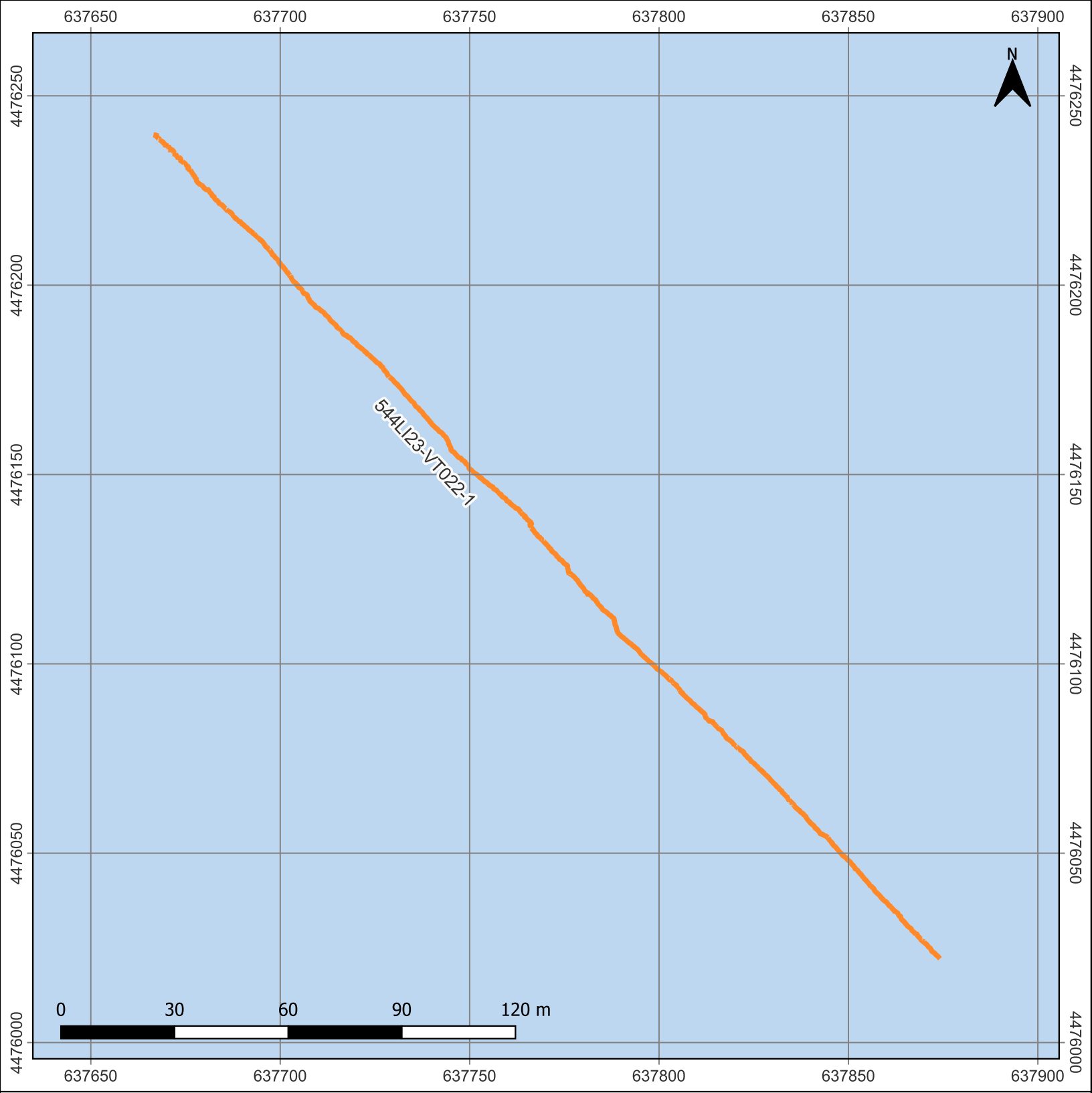
CMECS Classification from Video Survey

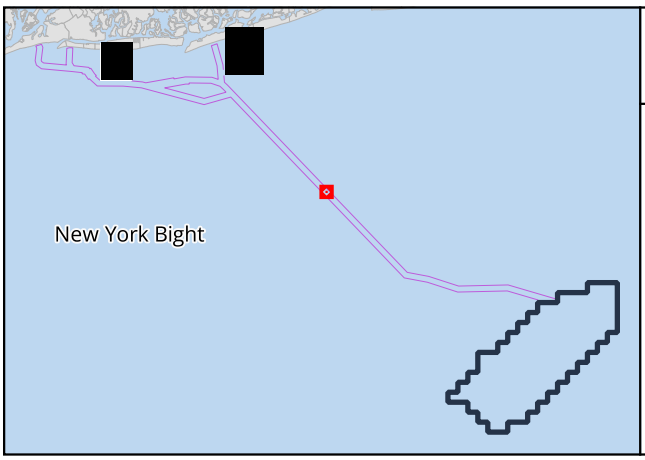
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT021-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

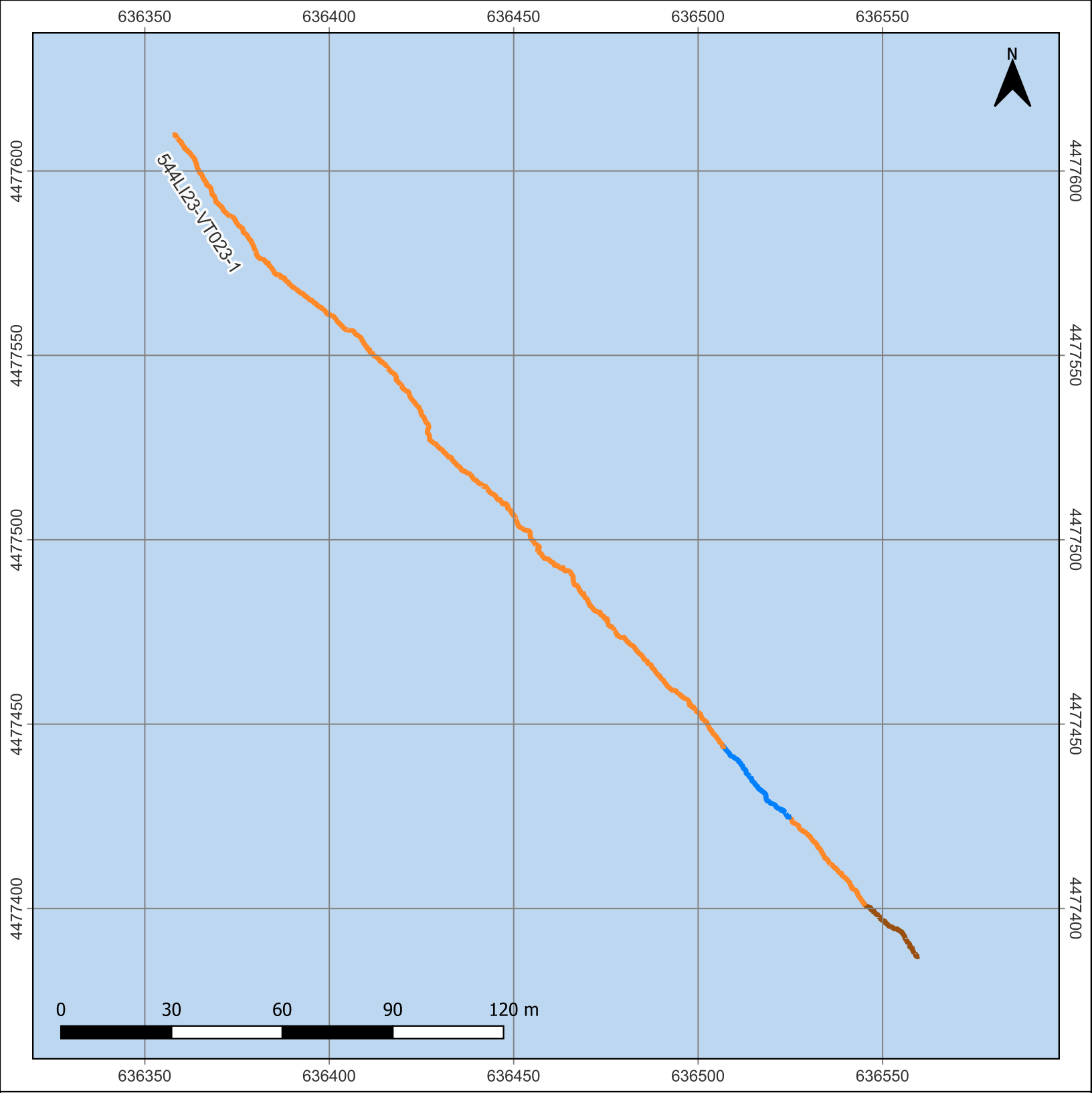
CMECS Classification from Video Survey

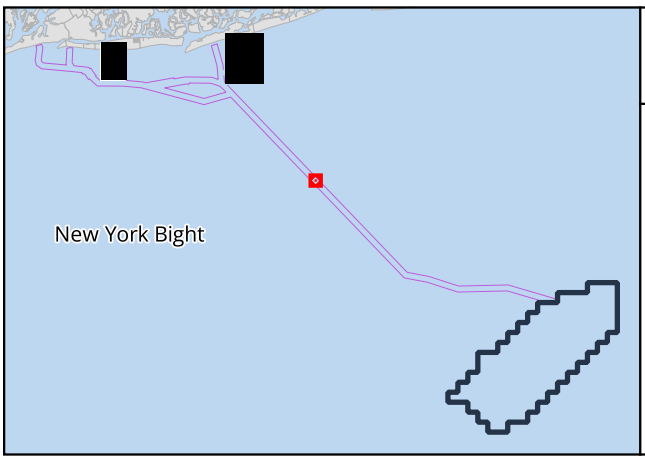
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT022-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

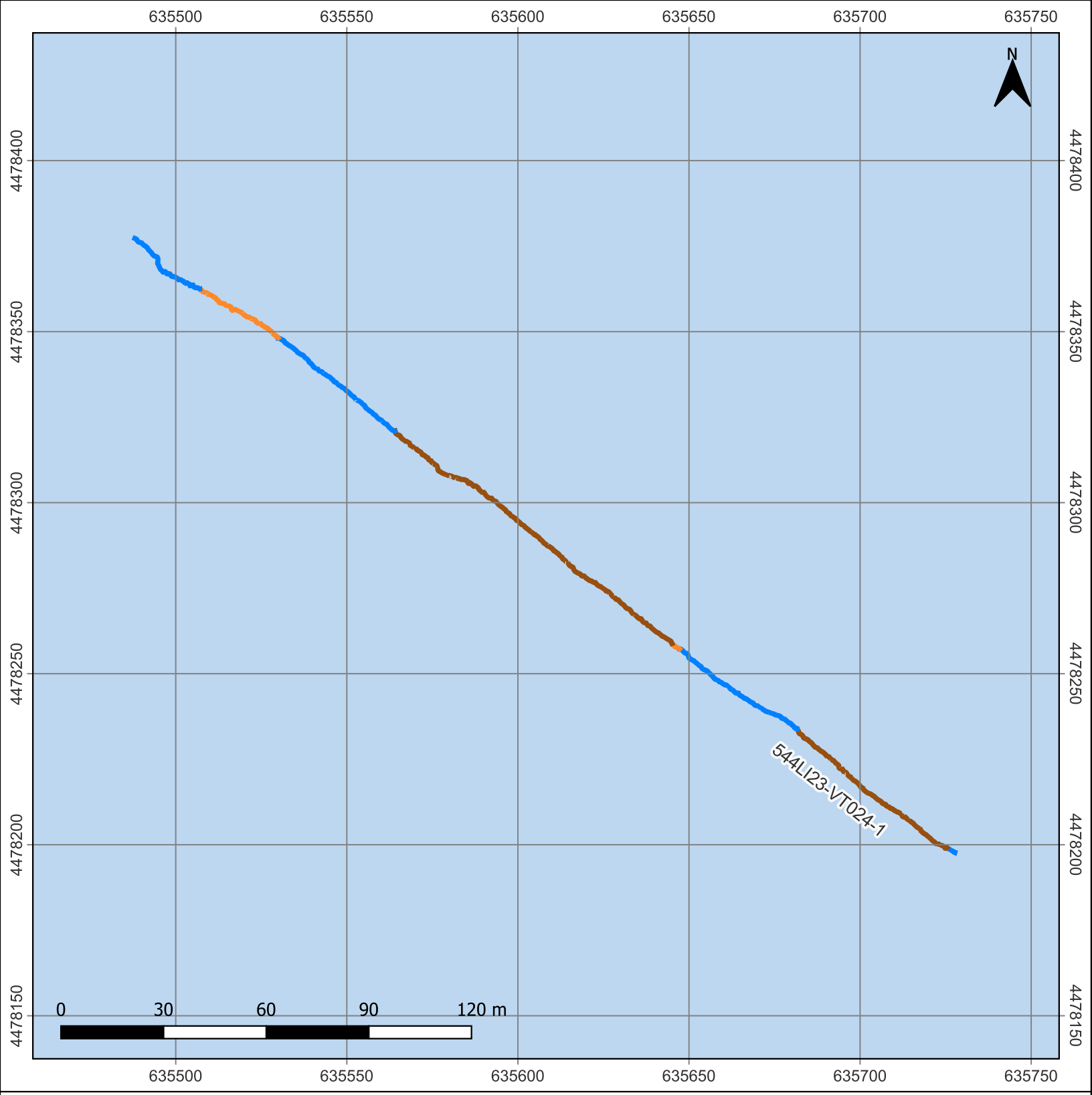
CMECS Classification from Video Survey

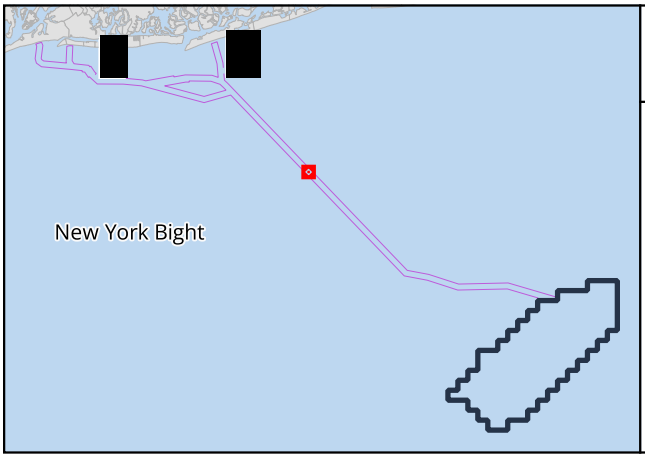
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT023-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

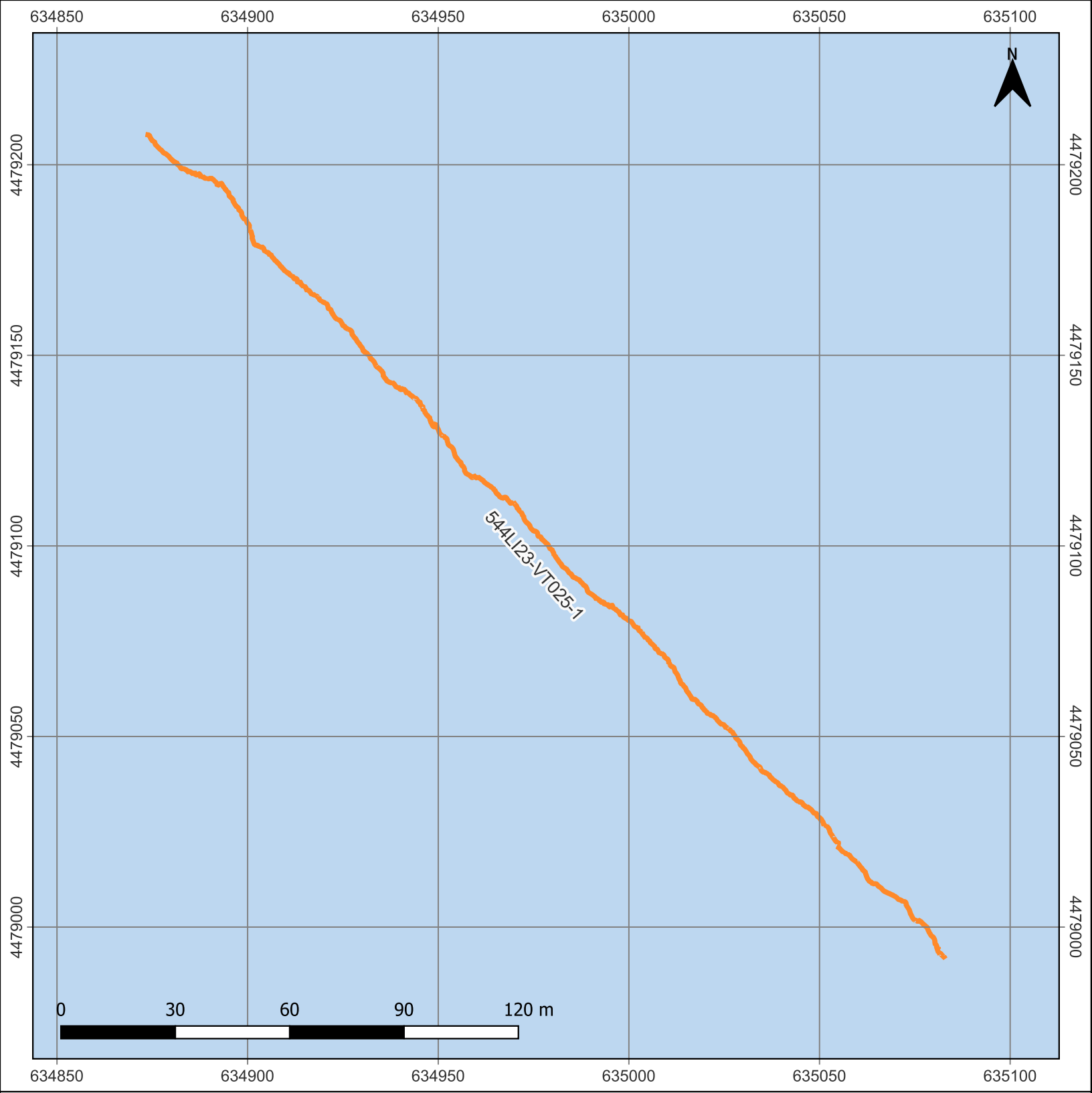
CMECS Classification from Video Survey

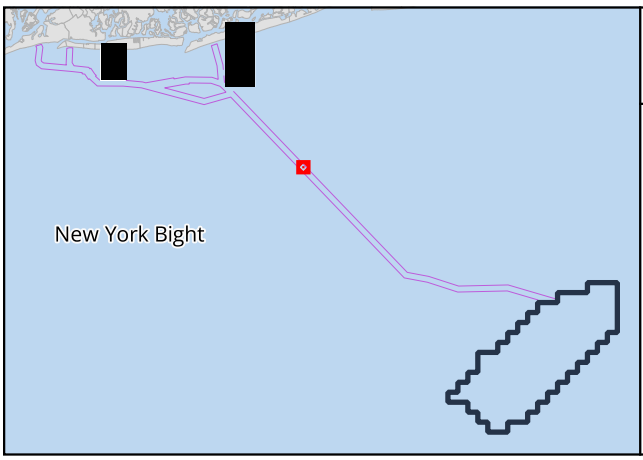
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT024-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

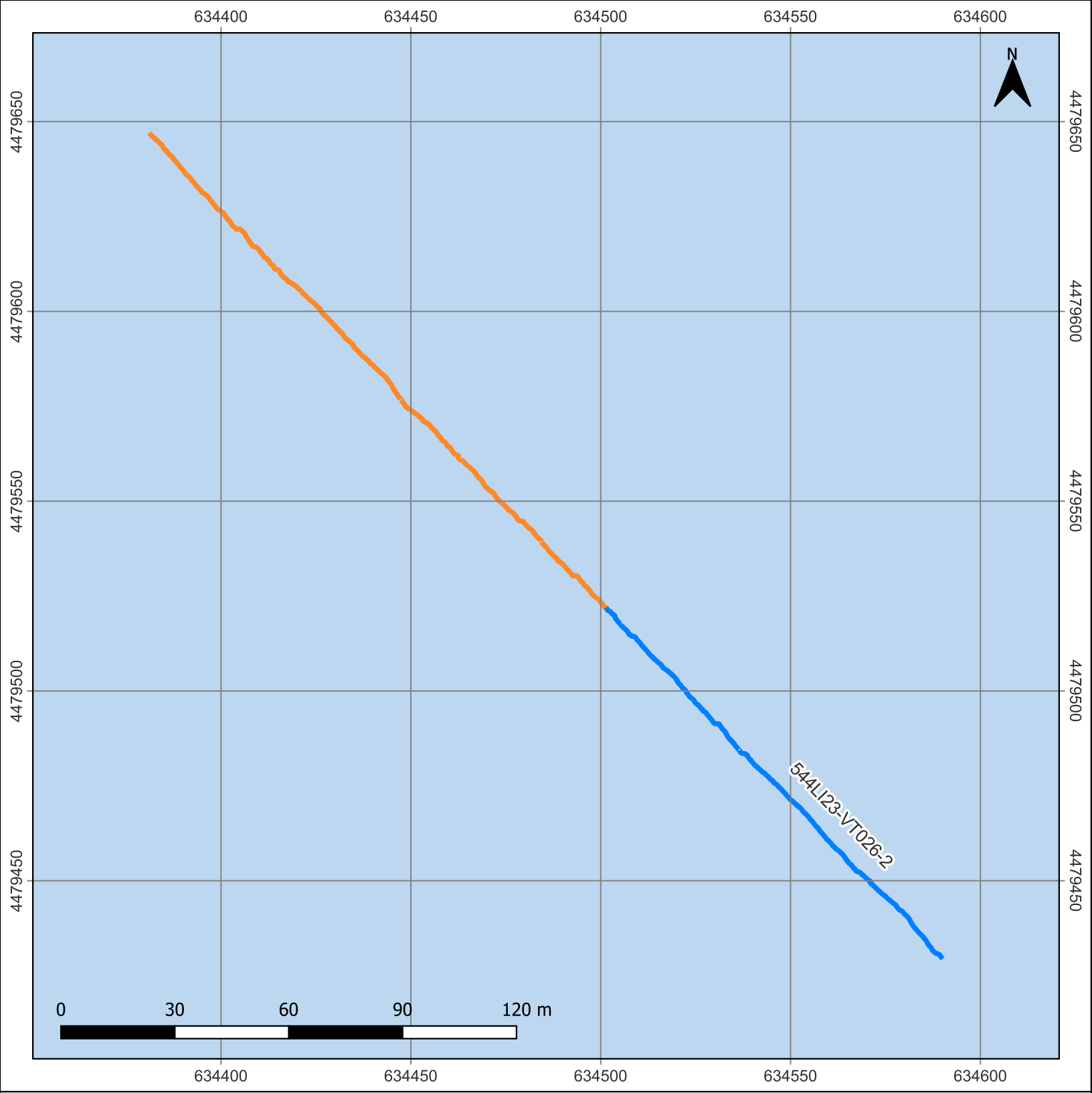
CMECS Classification from Video Survey

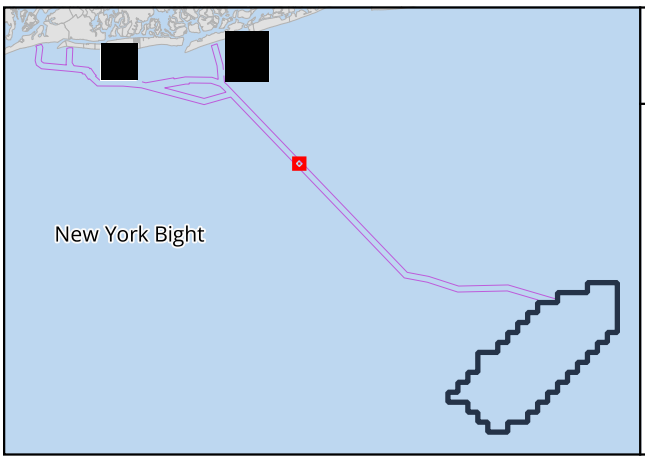
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT025-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

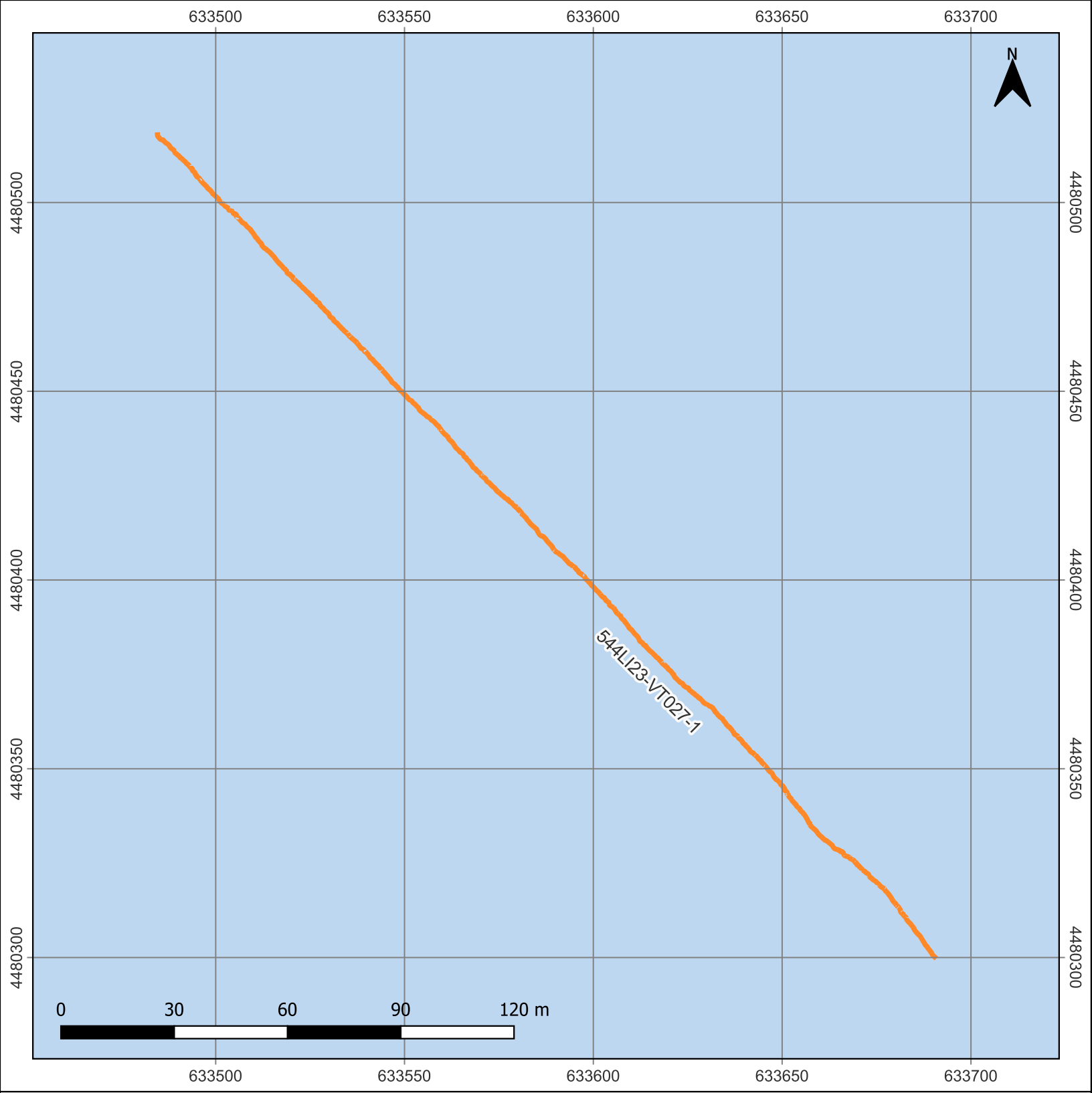
CMECS Classification from Video Survey

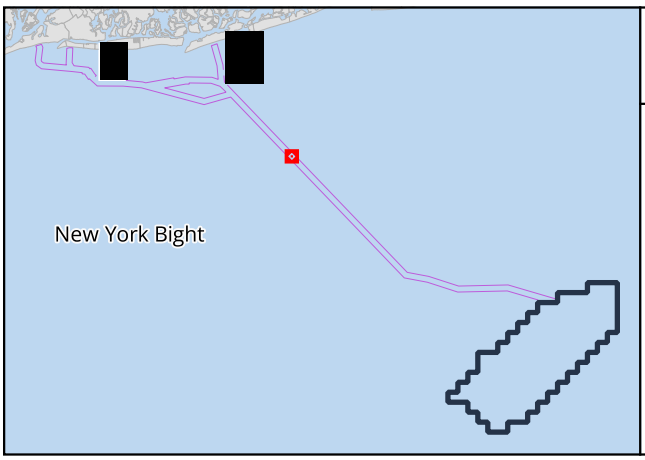
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT026-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

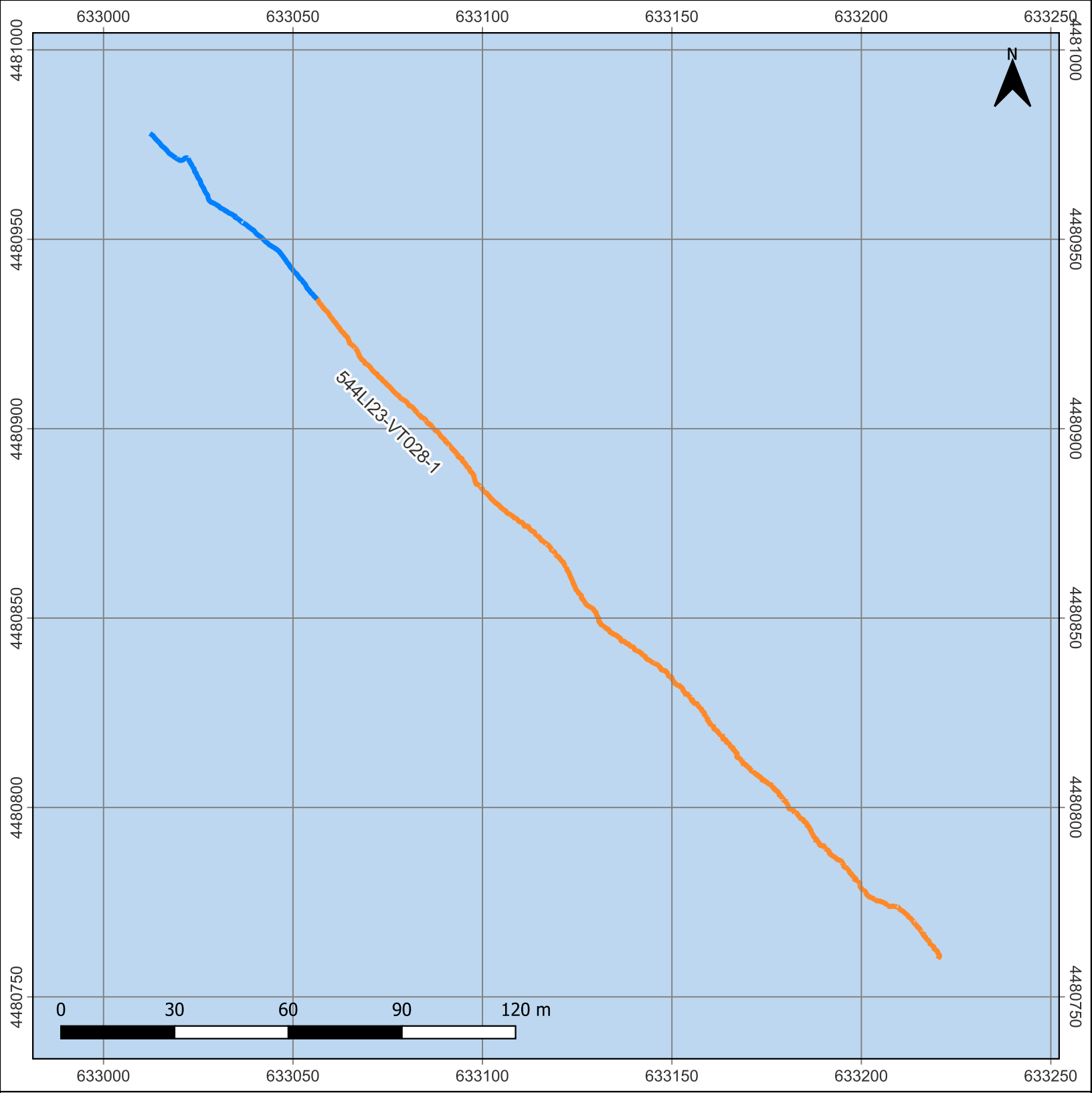
CMECS Classification from Video Survey

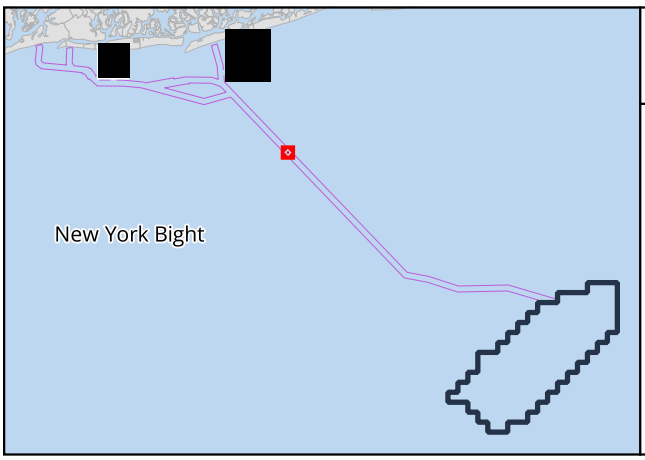
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT027-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

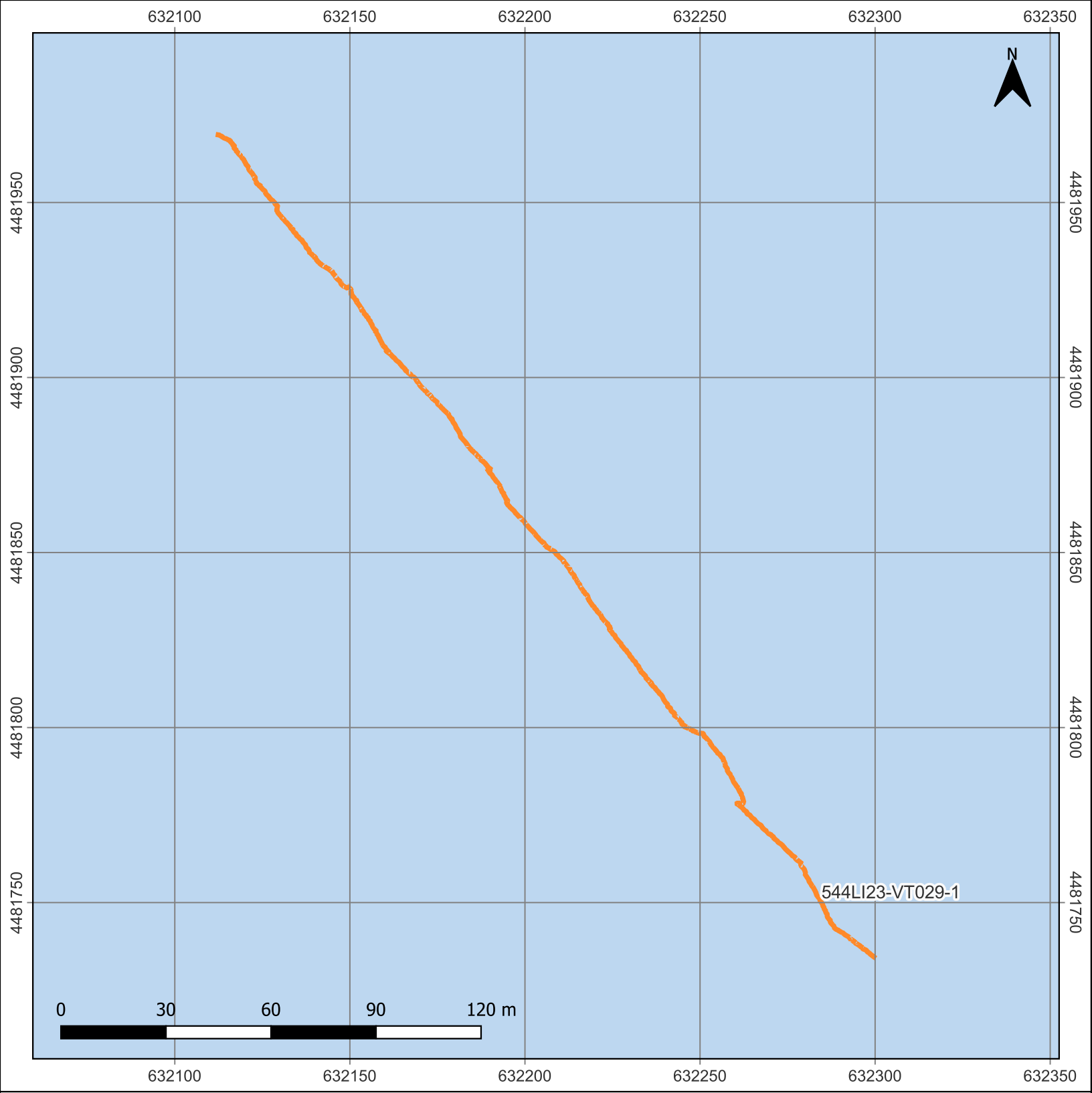
CMECS Classification from Video Survey

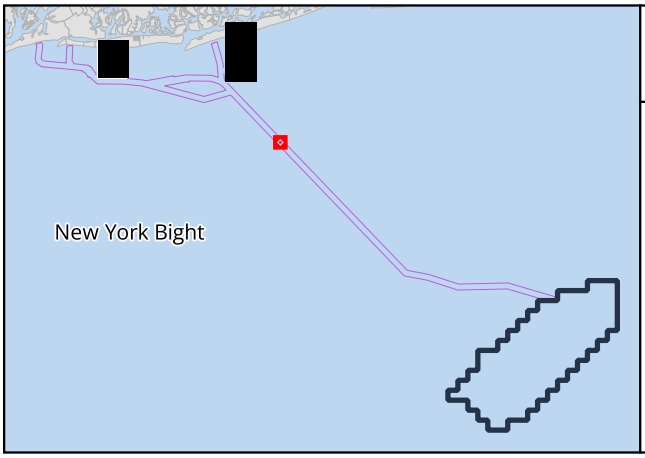
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT028-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

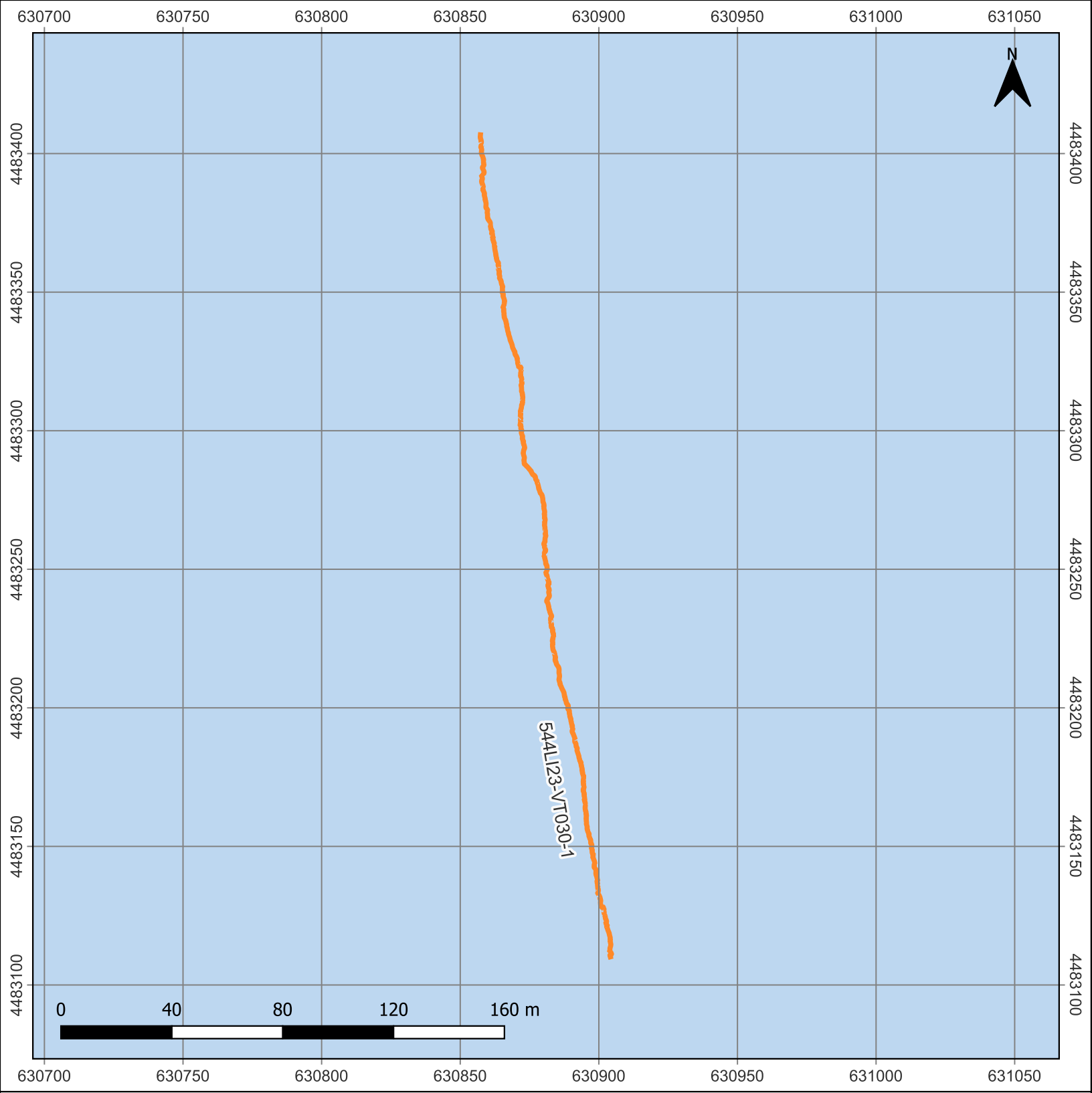
CMECS Classification from Video Survey

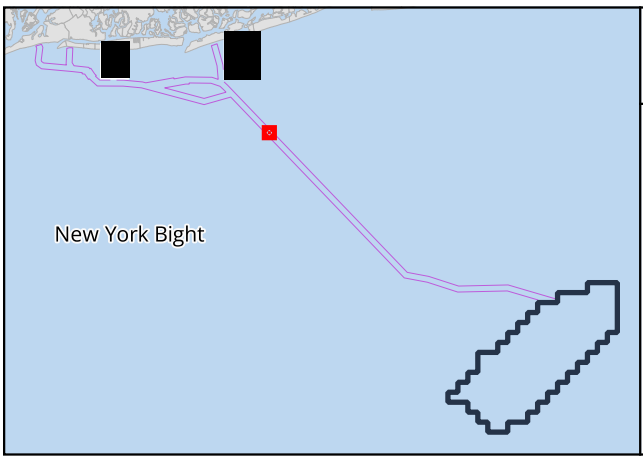
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT029-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

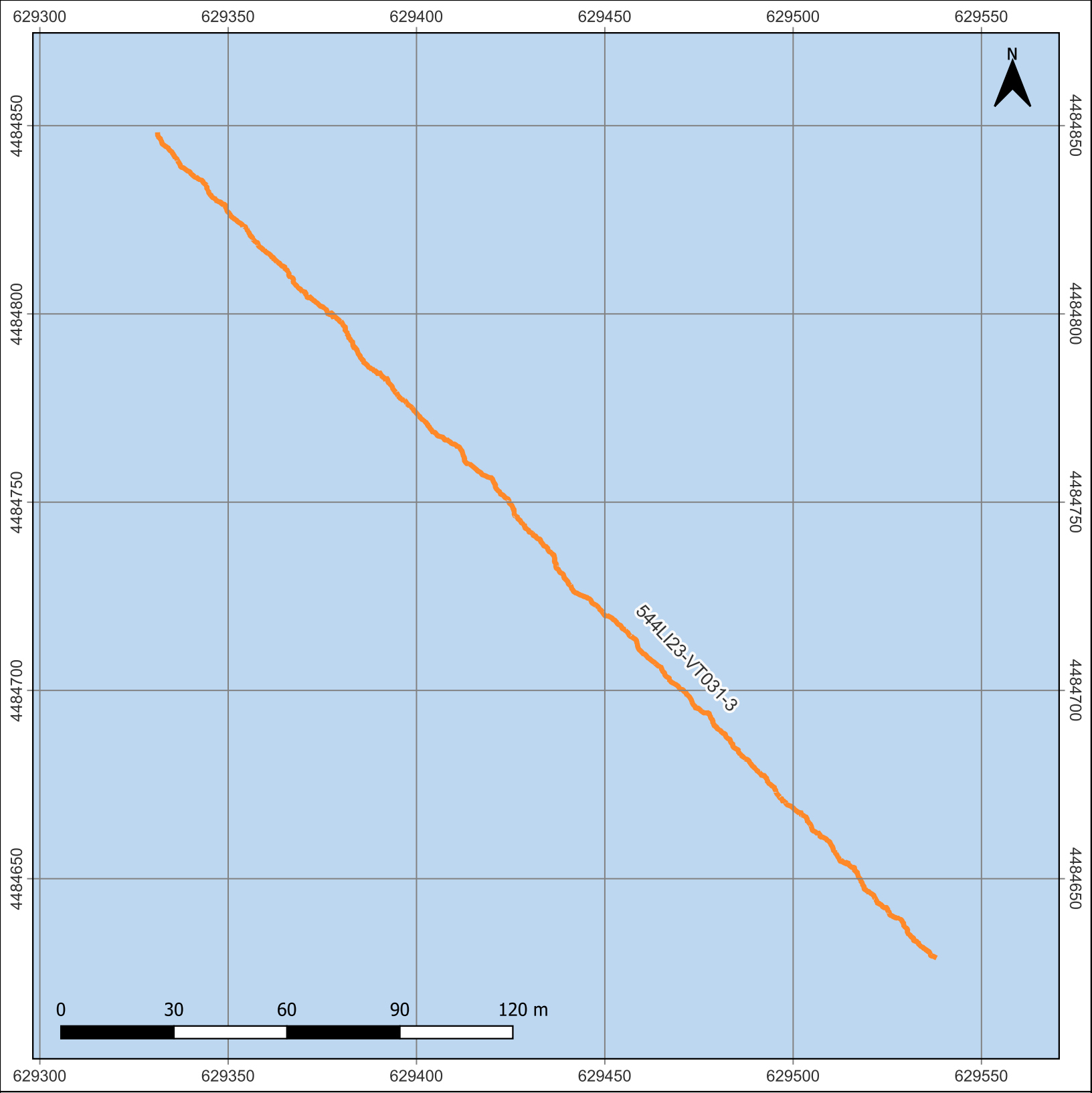
CMECS Classification from Video Survey

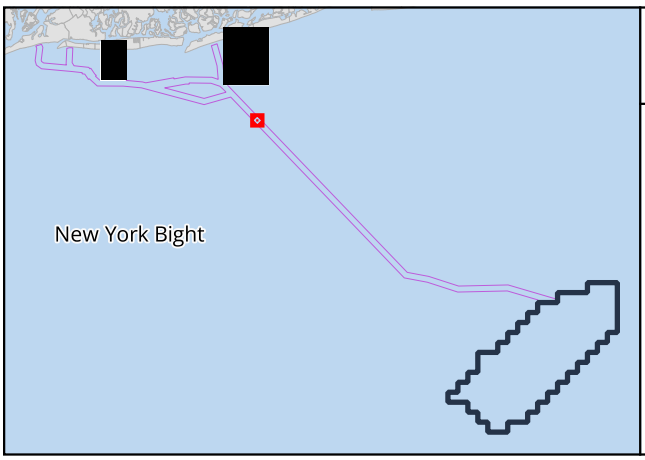
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT030-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

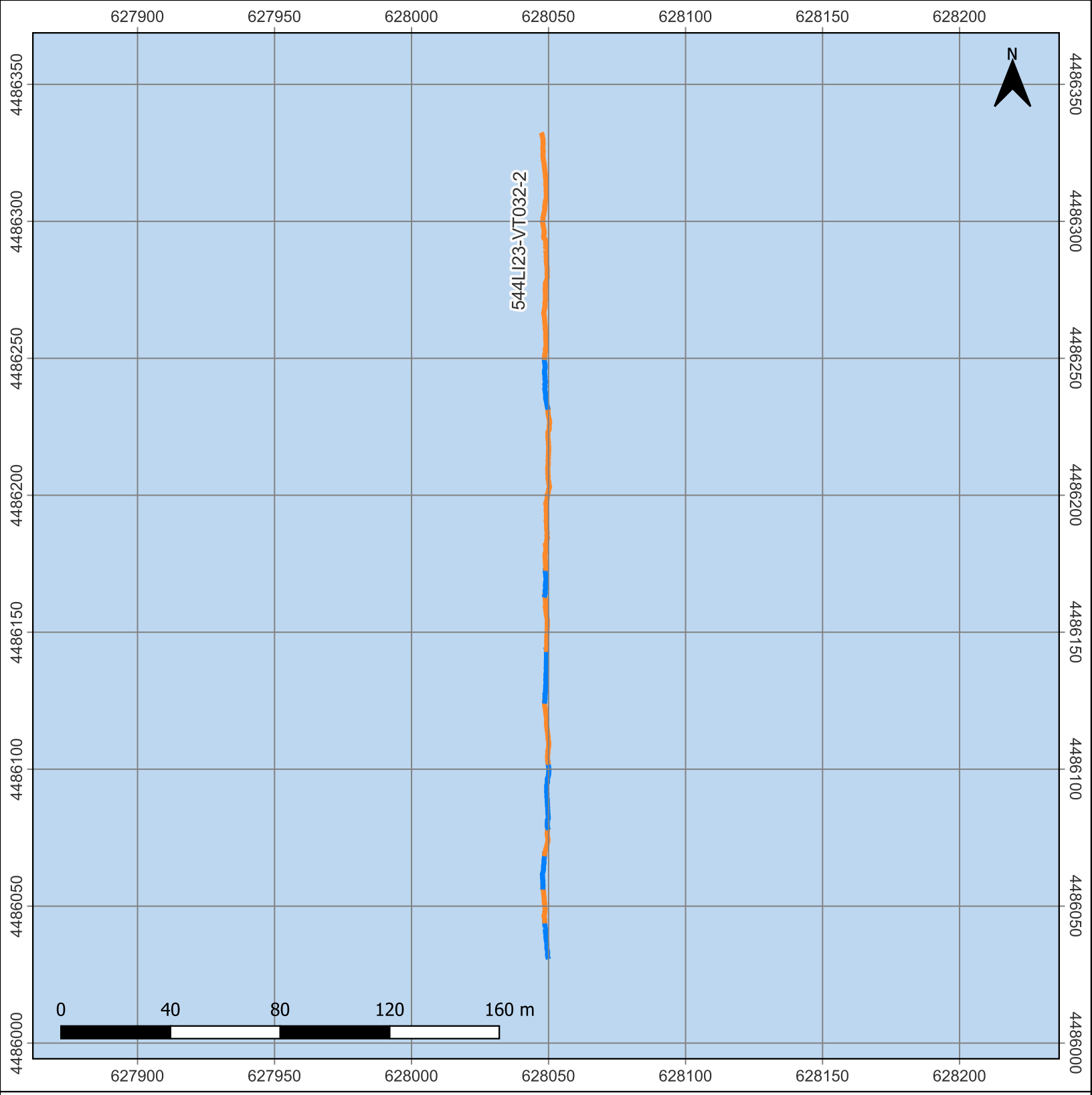
CMECS Classification from Video Survey

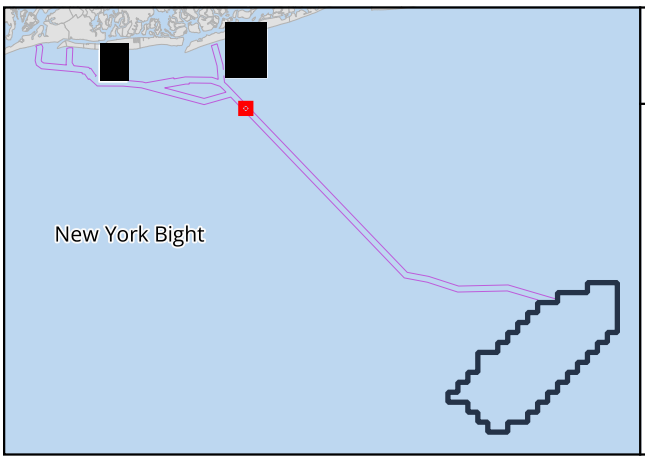
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT031-3

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

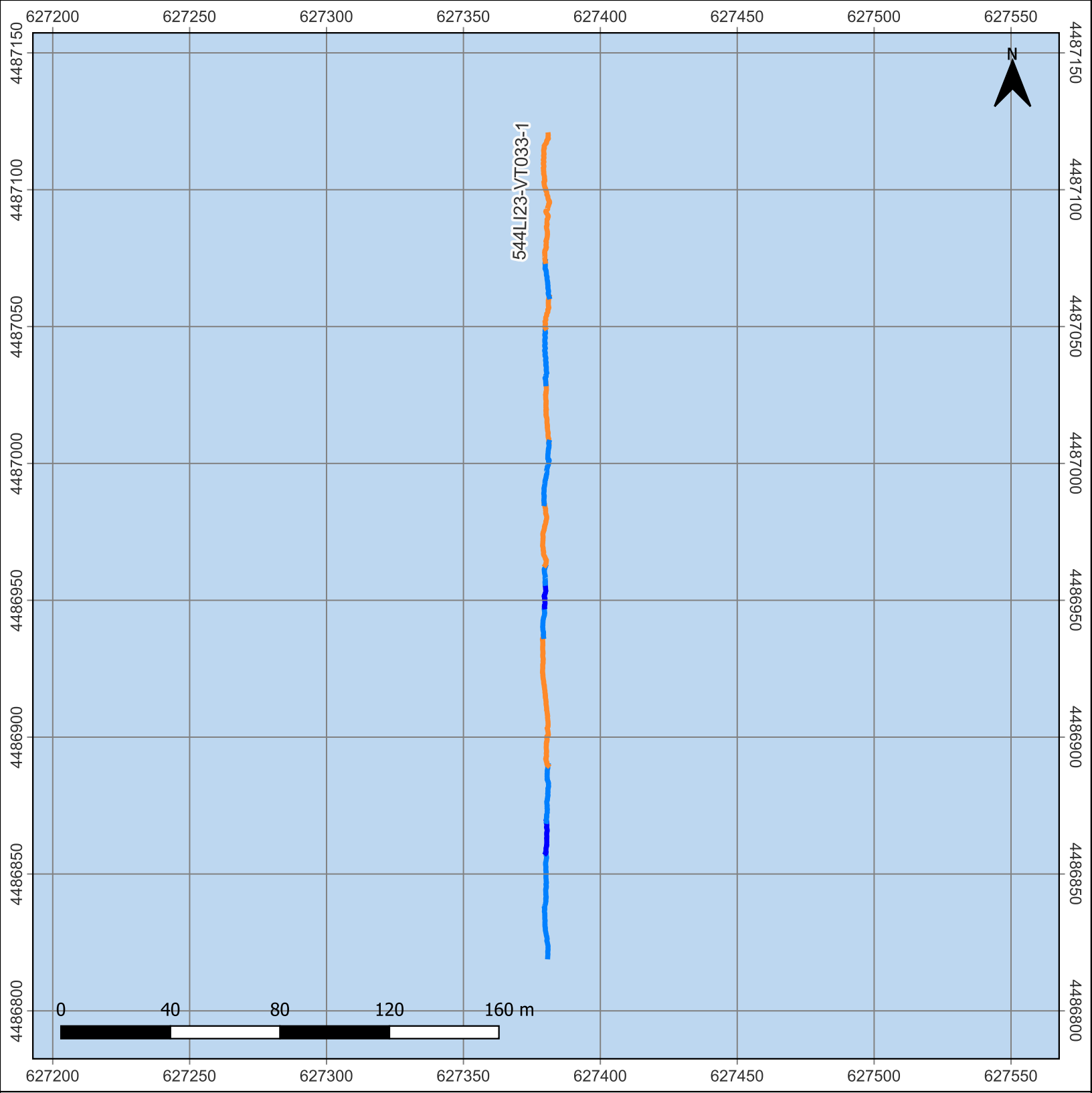
CMECS Classification from Video Survey

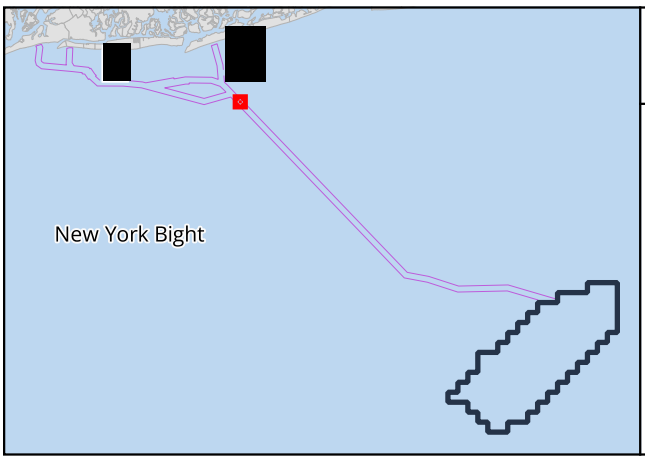
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT032-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

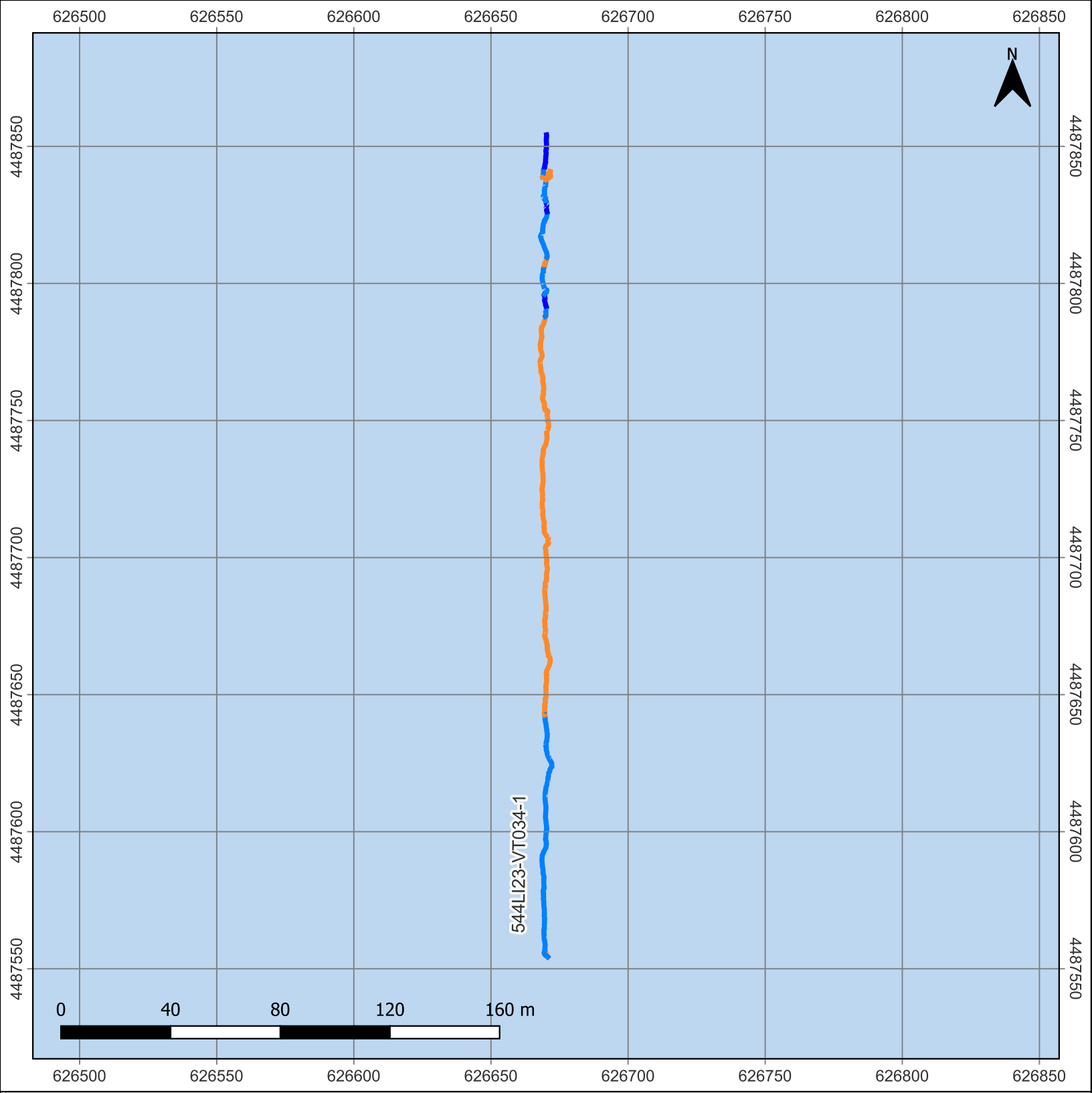
CMECS Classification from Video Survey

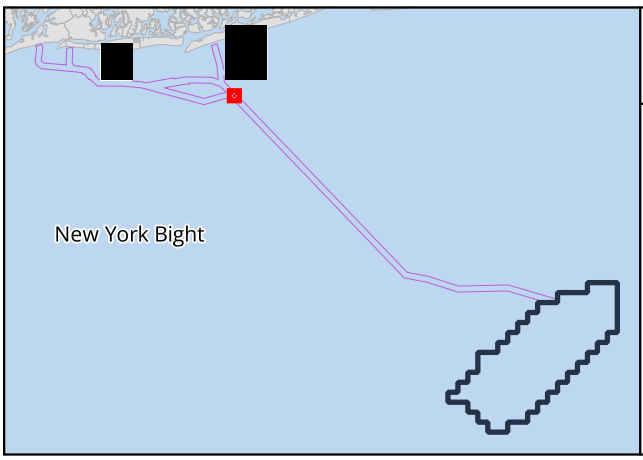
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT033-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

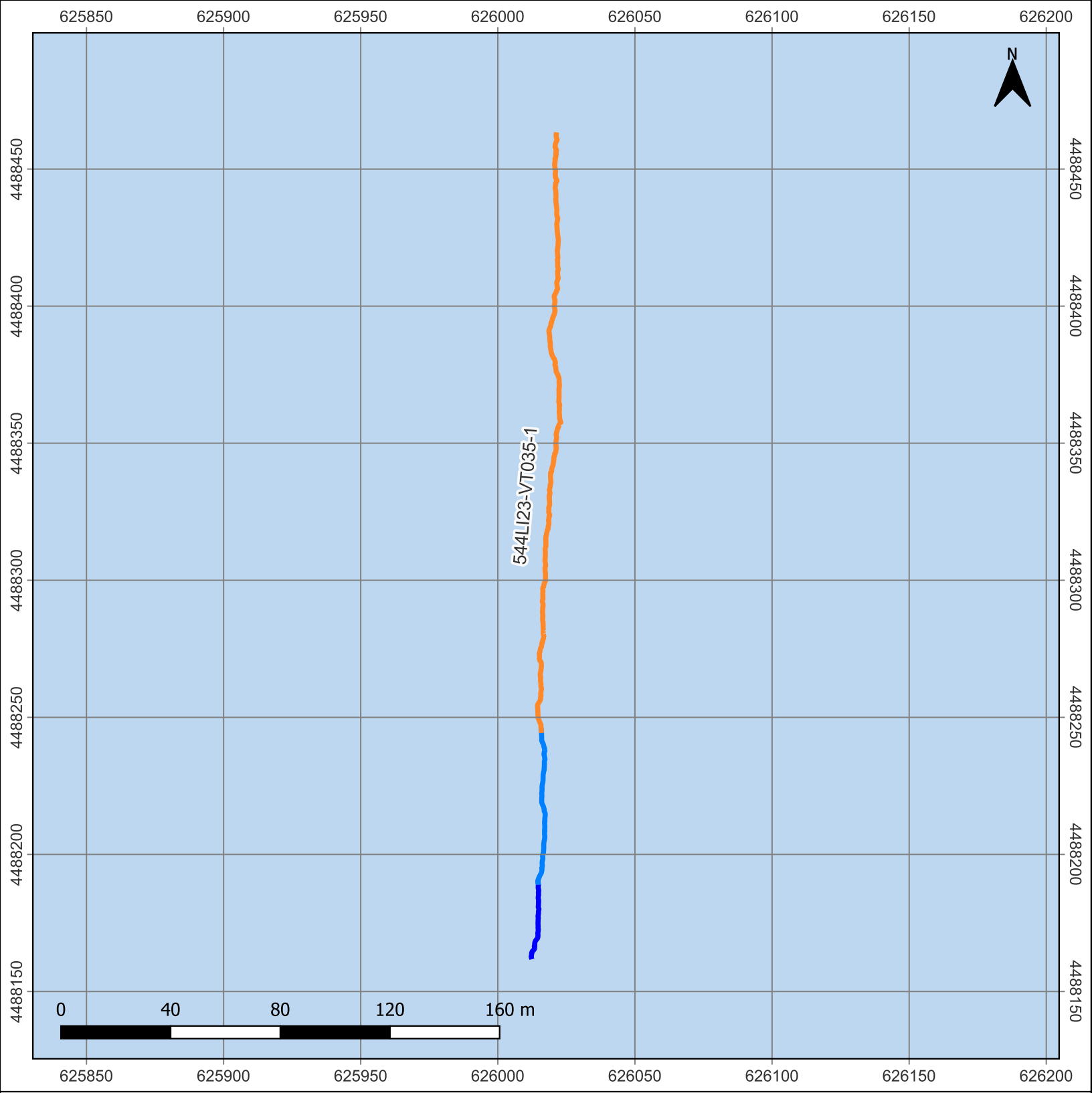
CMECS Classification from Video Survey

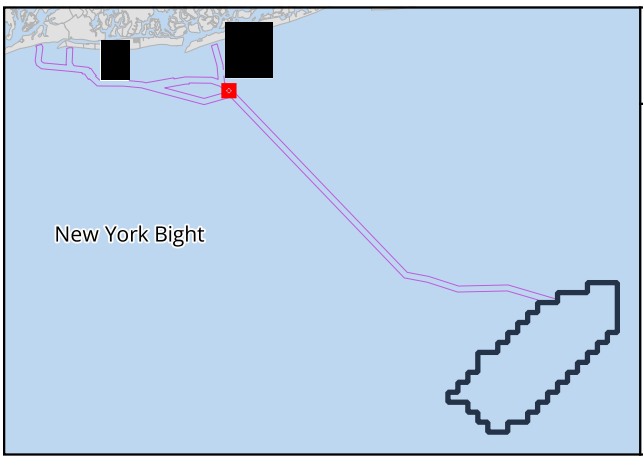
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT034-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

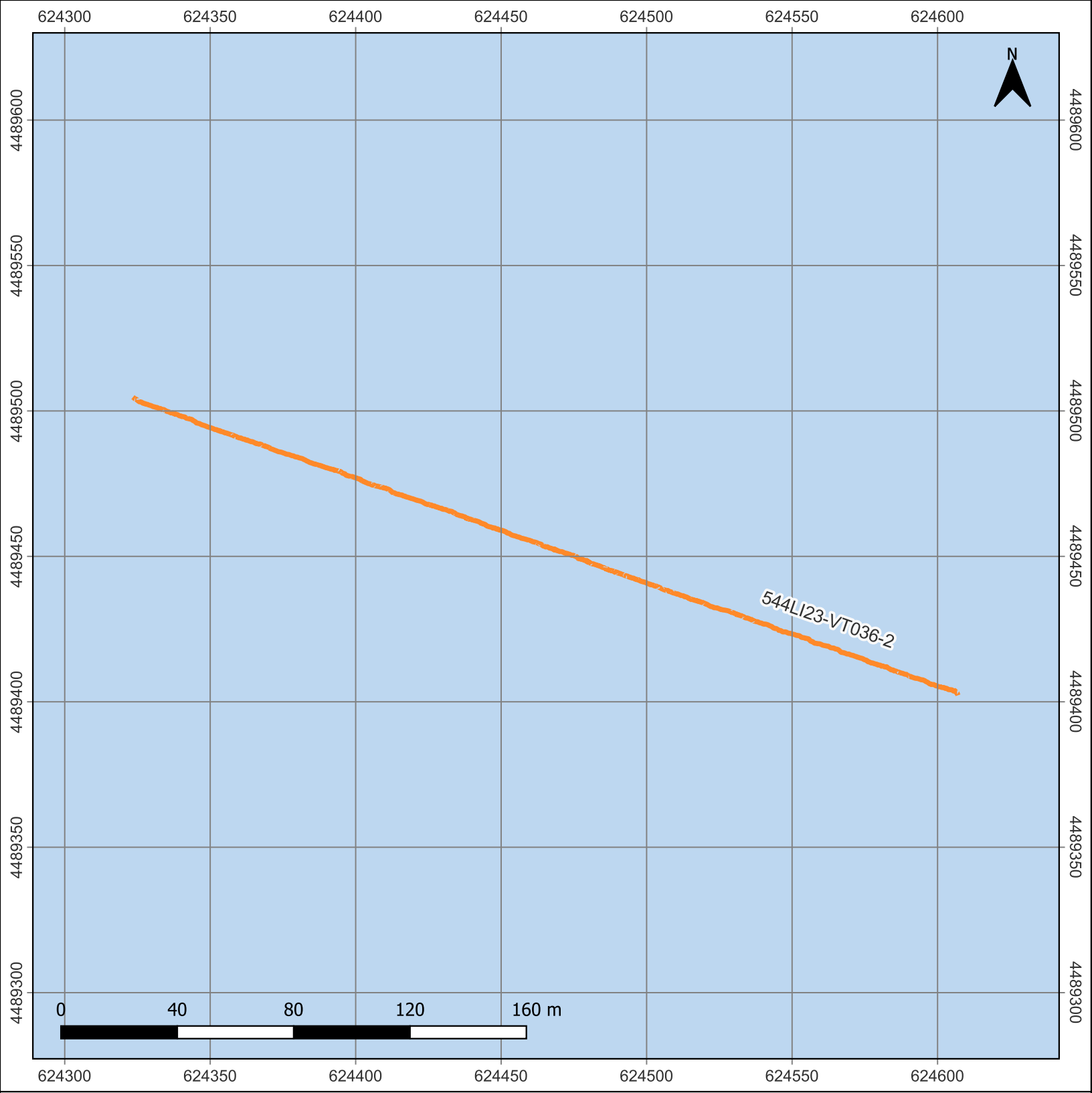
CMECS Classification from Video Survey

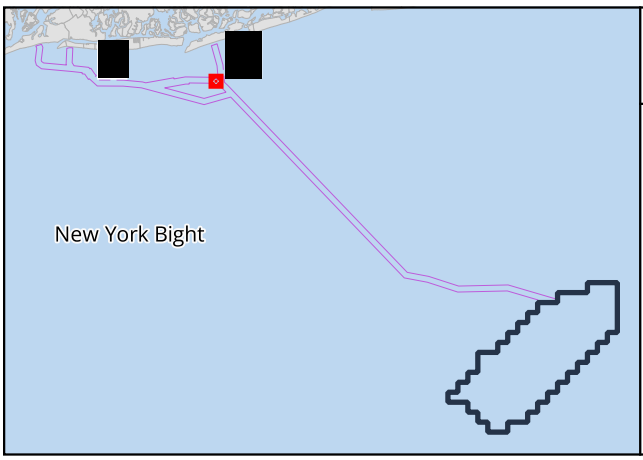
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT035-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

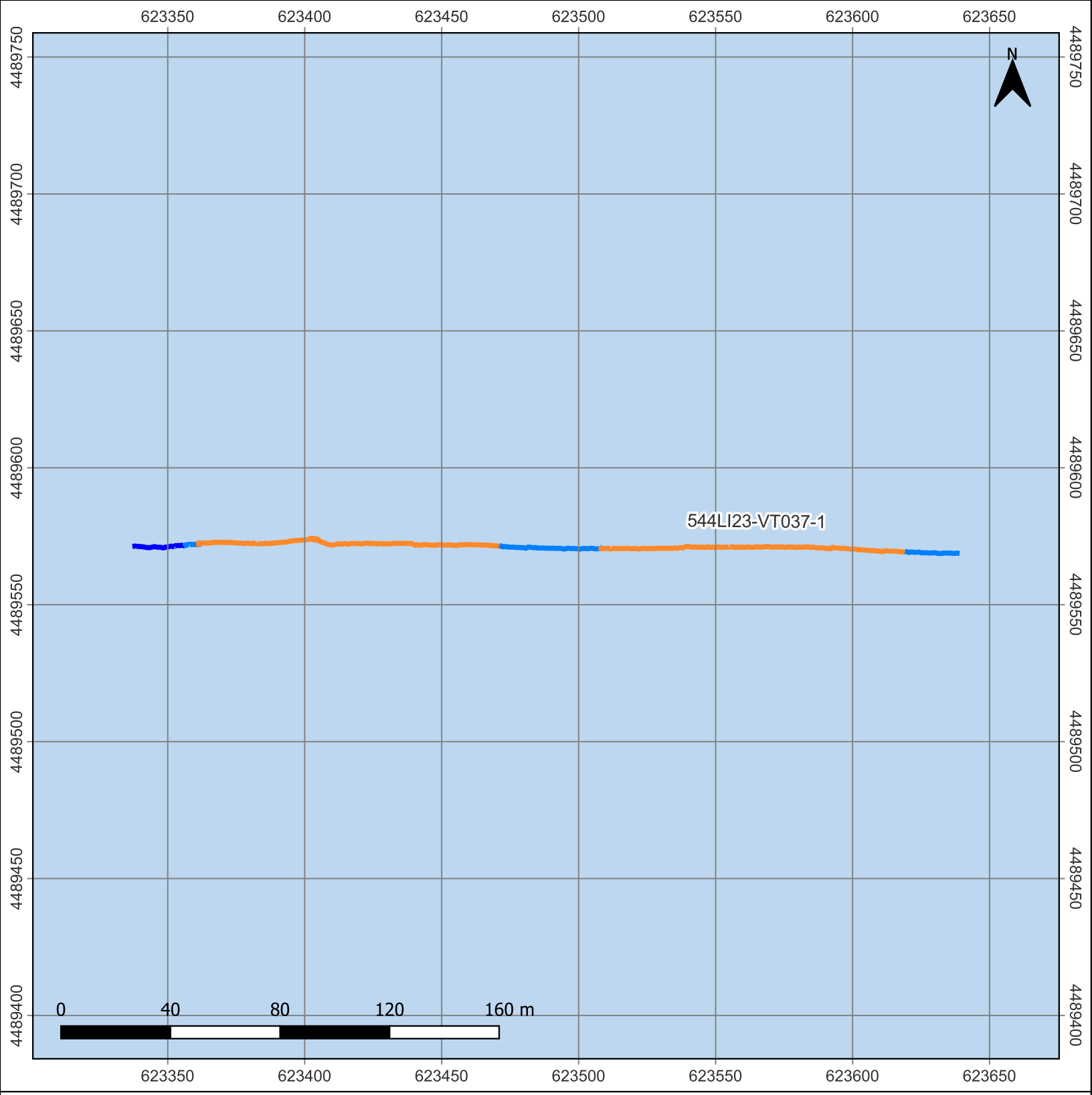
CMECS Classification from Video Survey

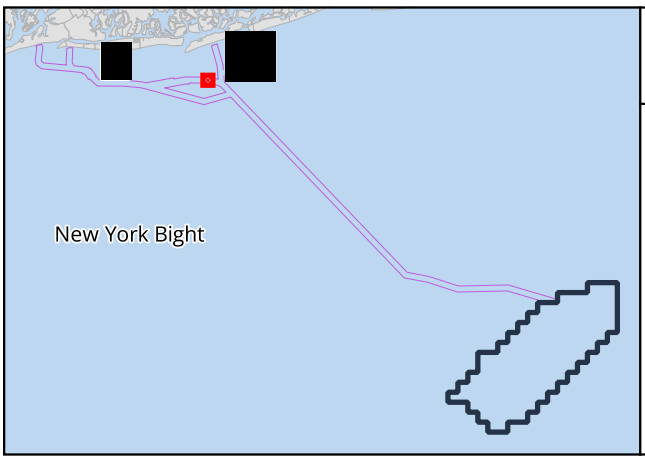
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT036-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

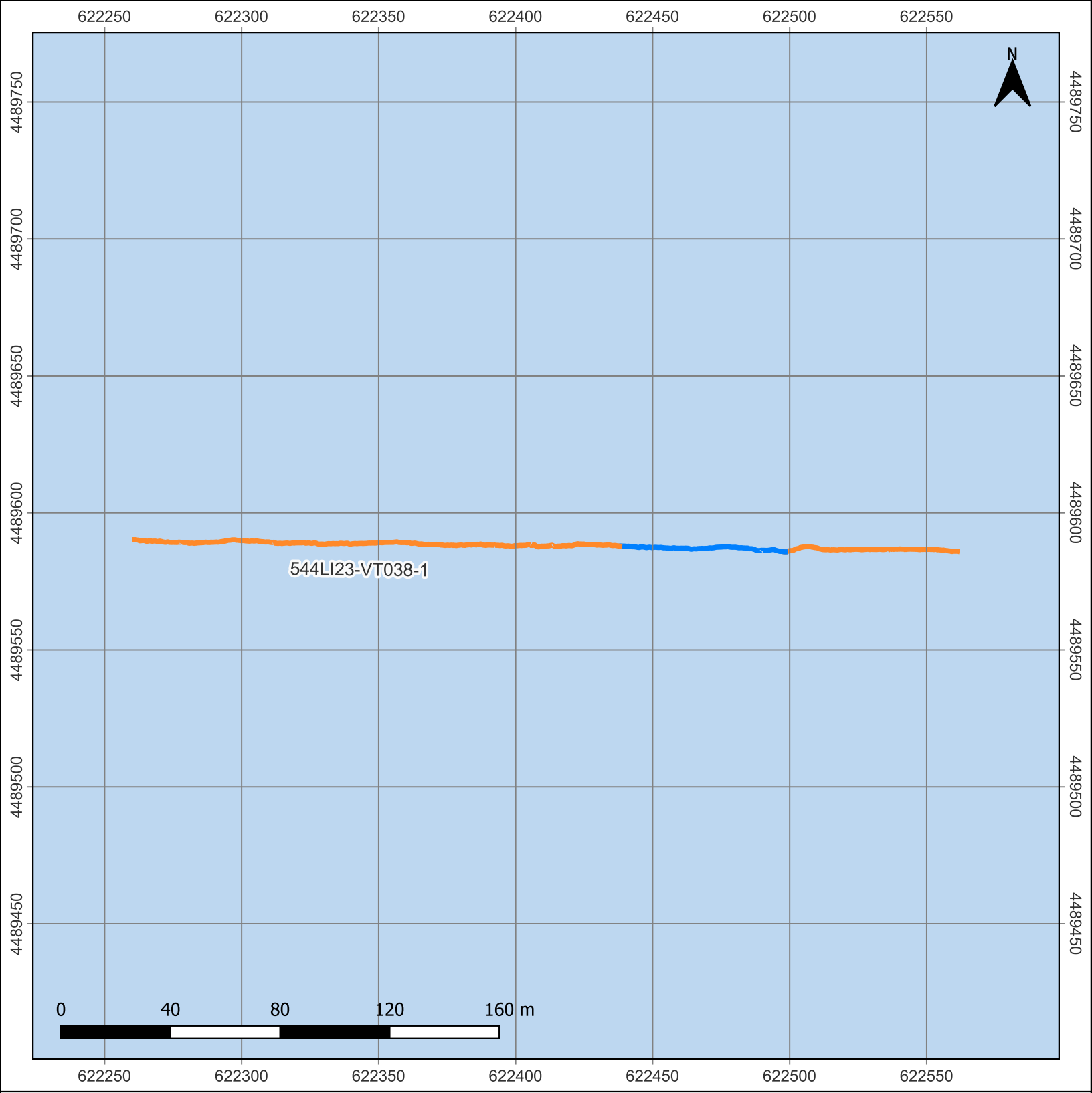
CMECS Classification from Video Survey

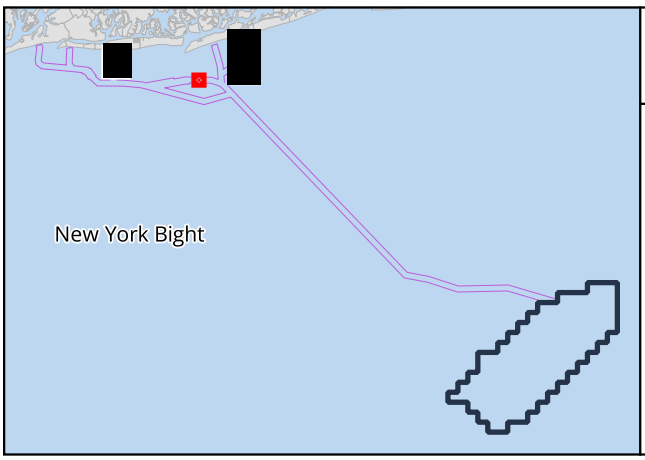
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT037-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

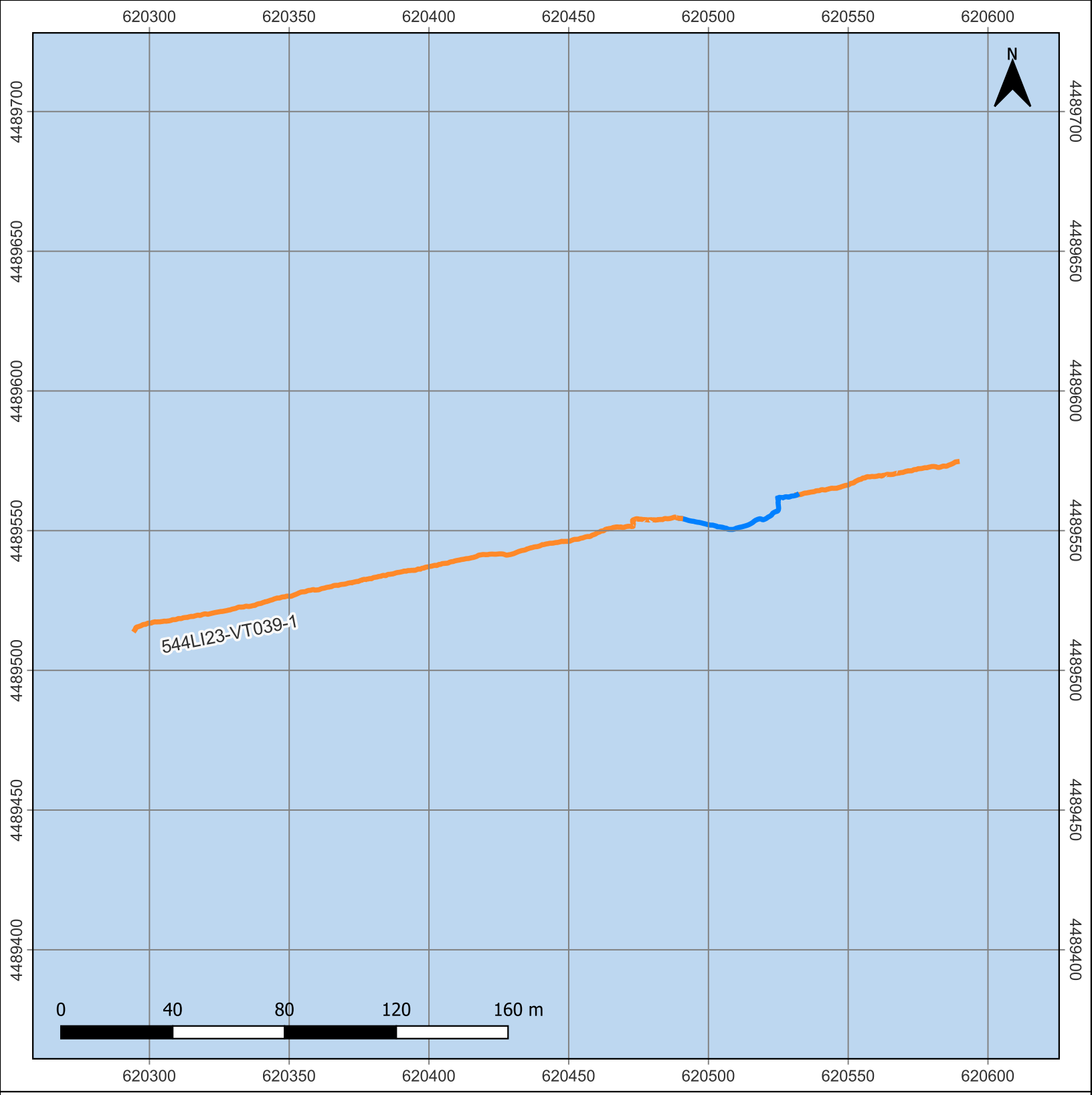
CMECS Classification from Video Survey

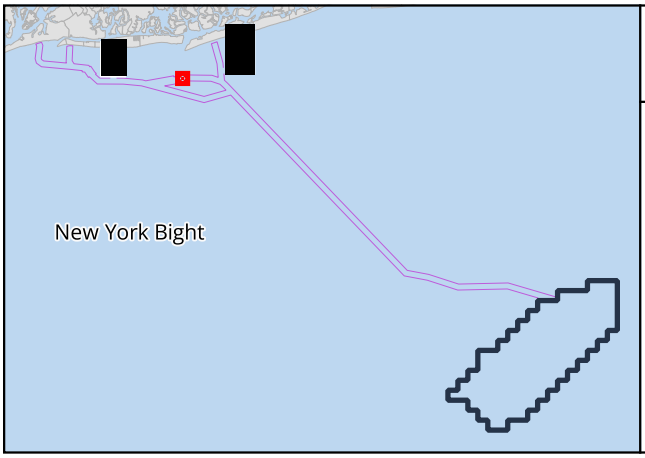
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT038-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

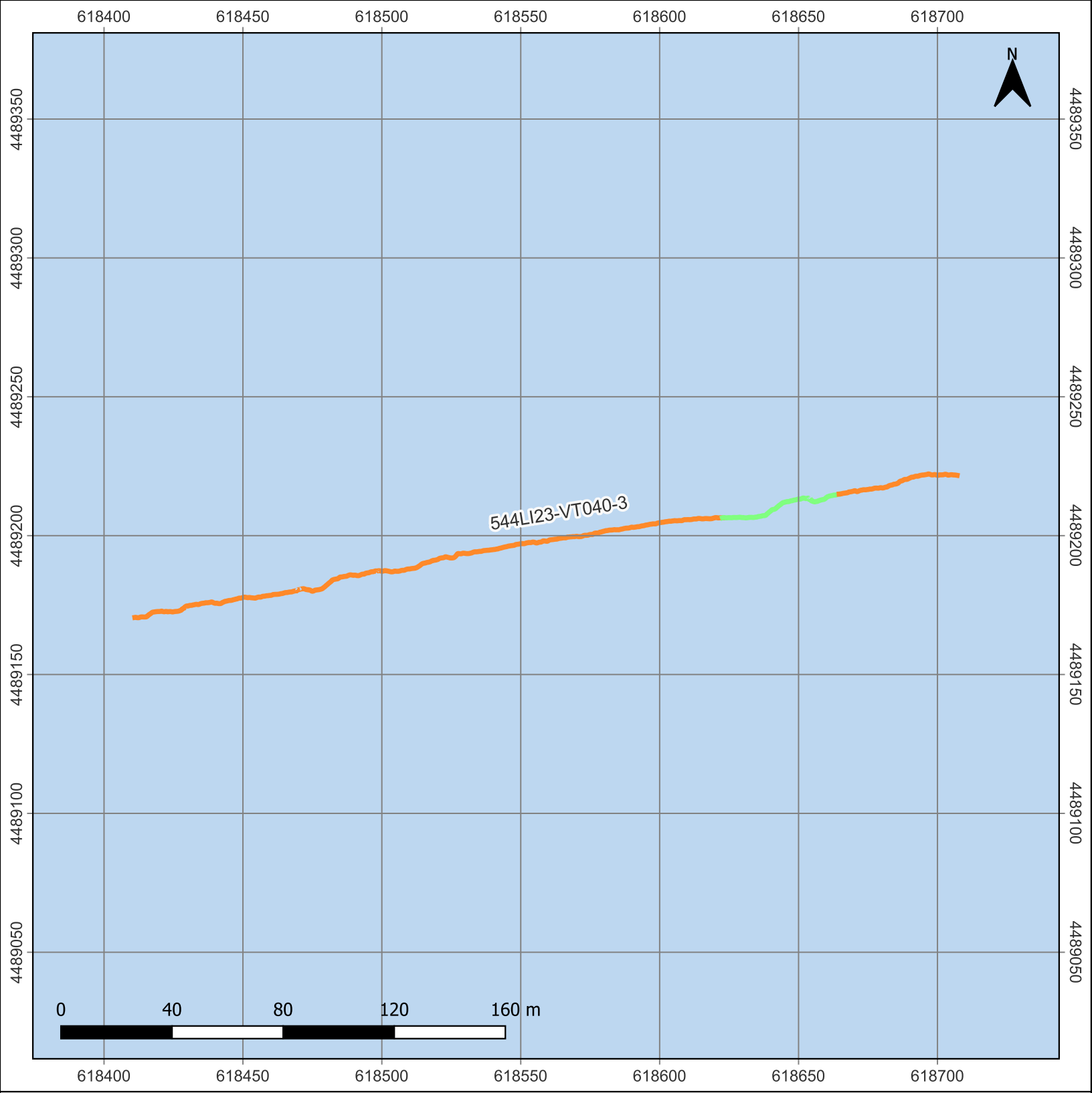
CMECS Classification from Video Survey

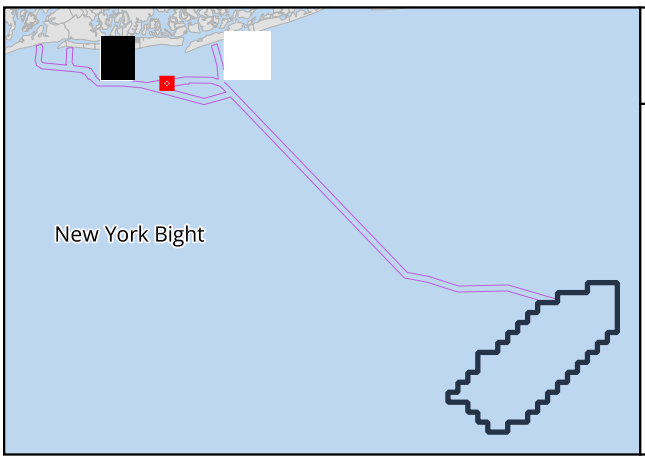
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT039-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

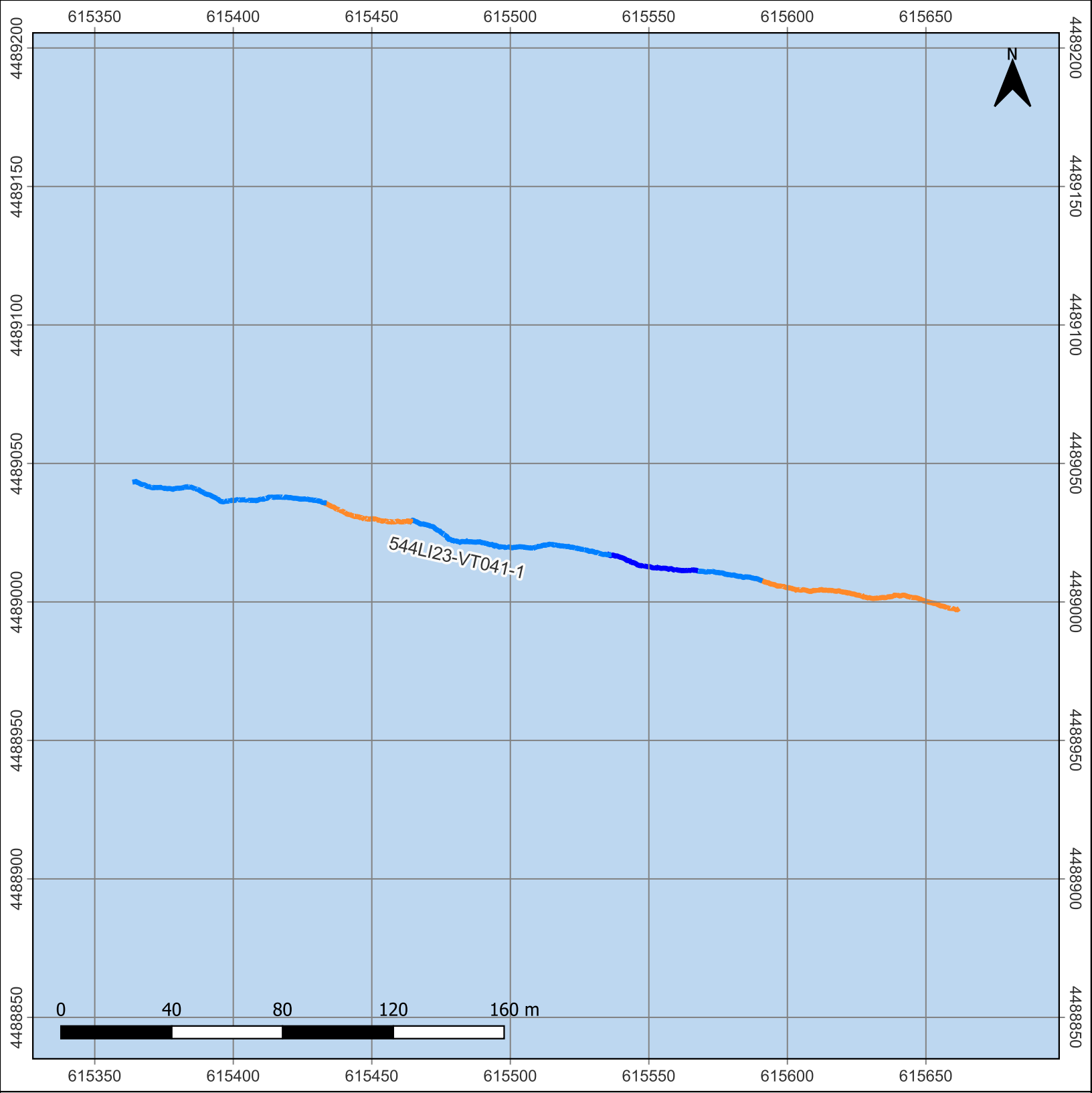
CMECS Classification from Video Survey

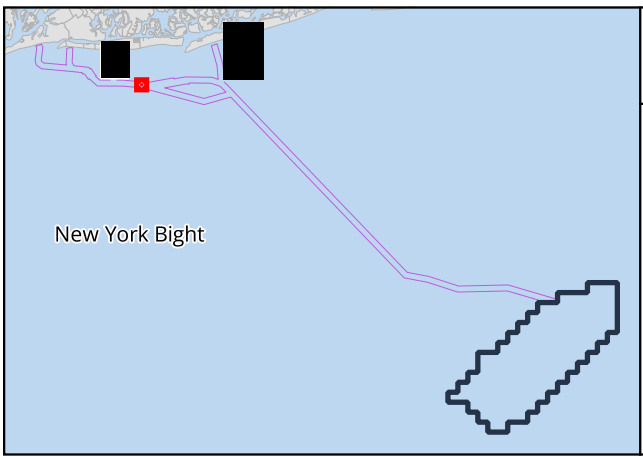
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT040-3

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

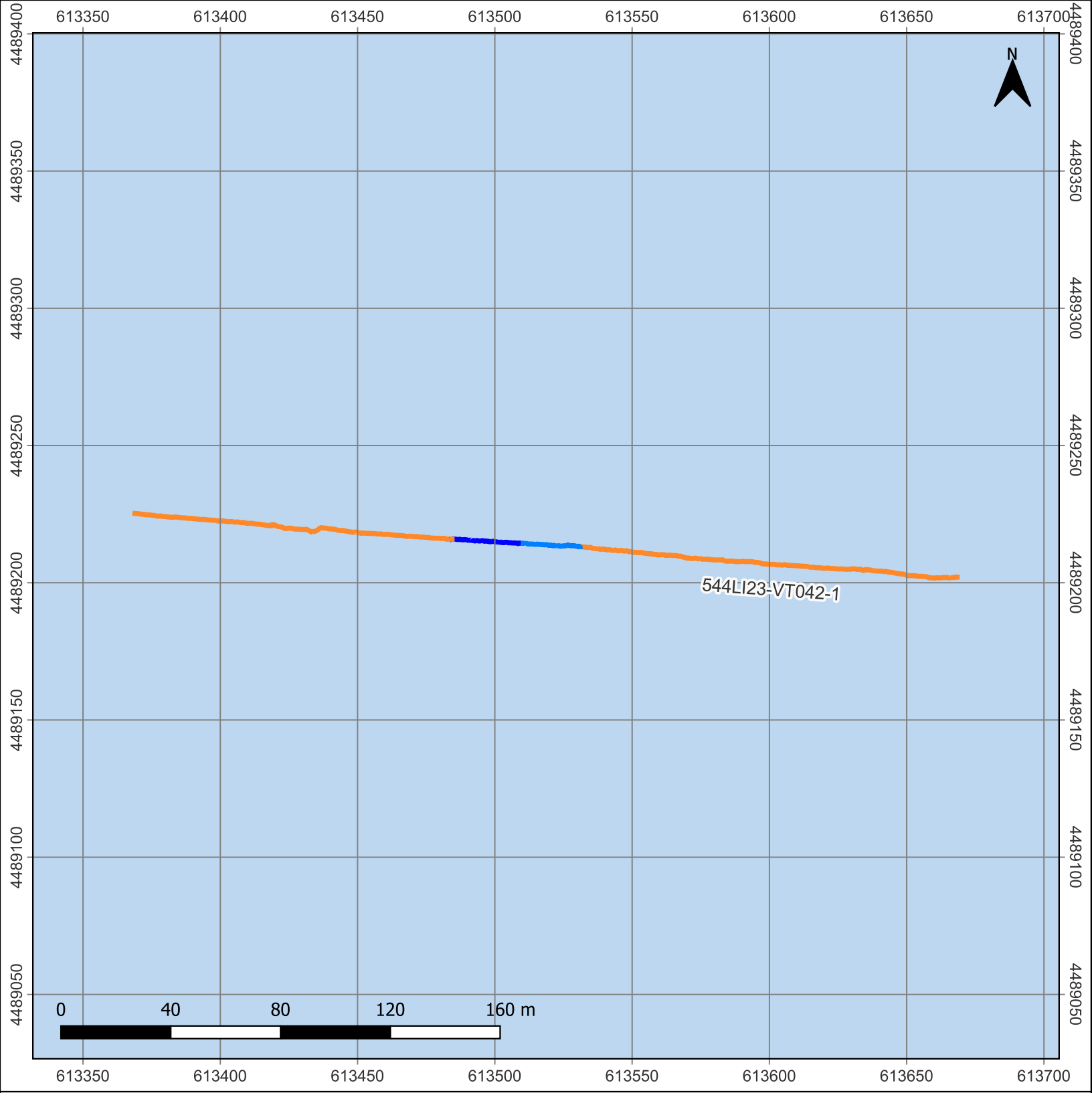
CMECS Classification from Video Survey

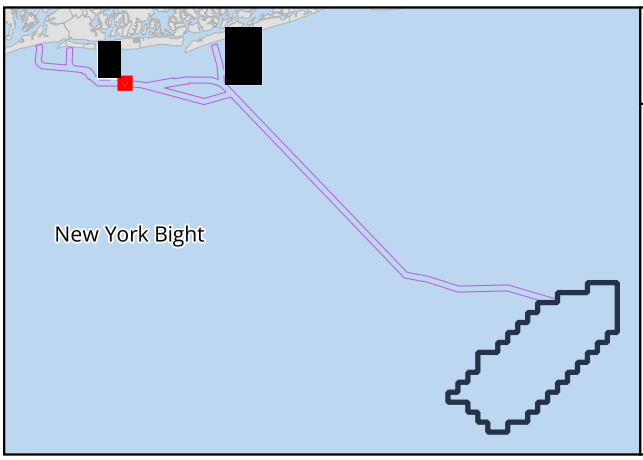
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT041-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

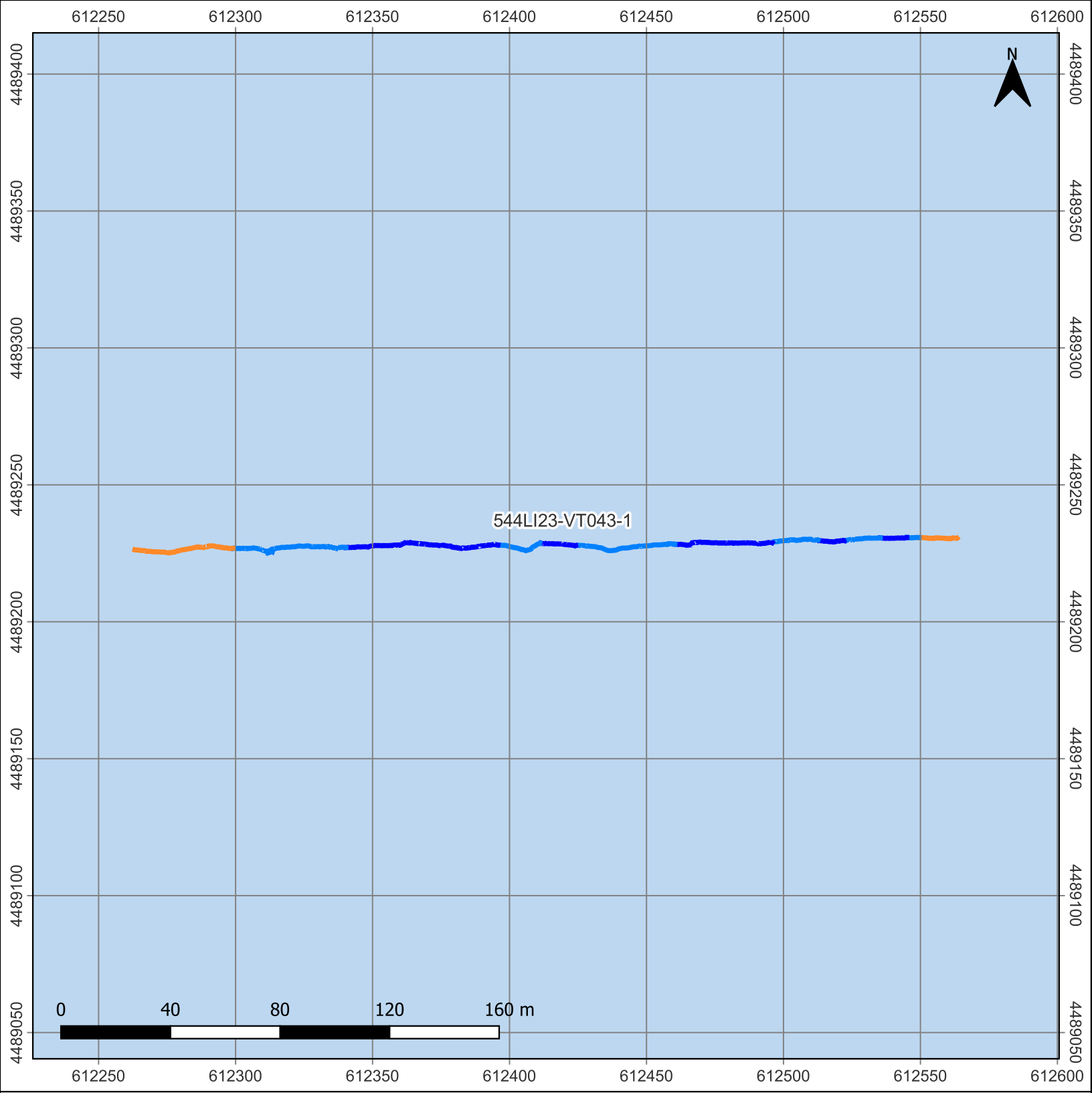
CMECS Classification from Video Survey

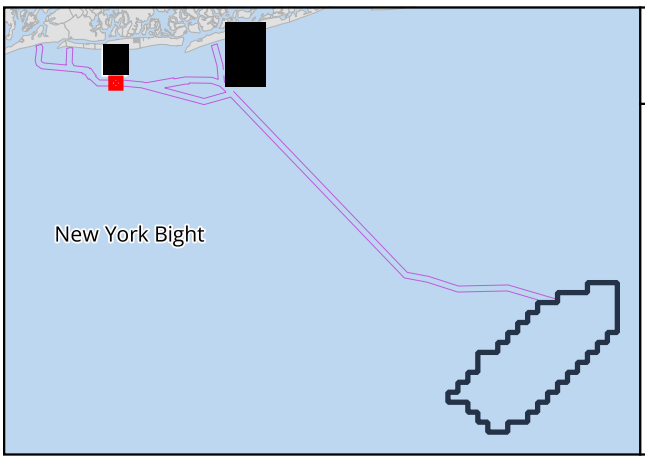
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT042-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

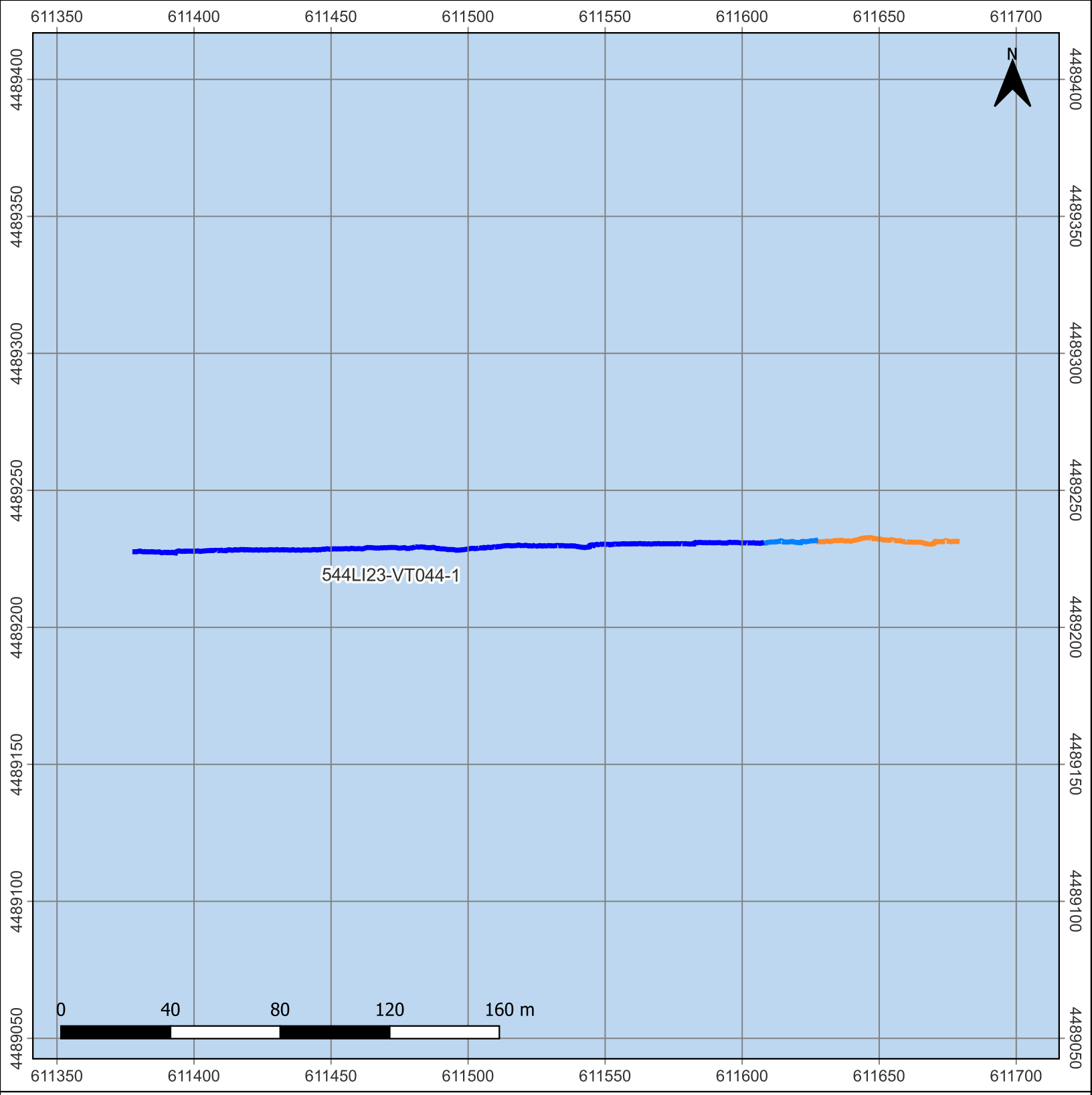
CMECS Classification from Video Survey

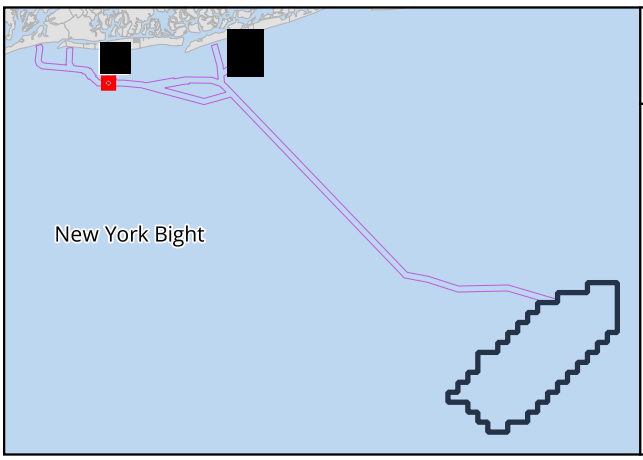
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT043-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

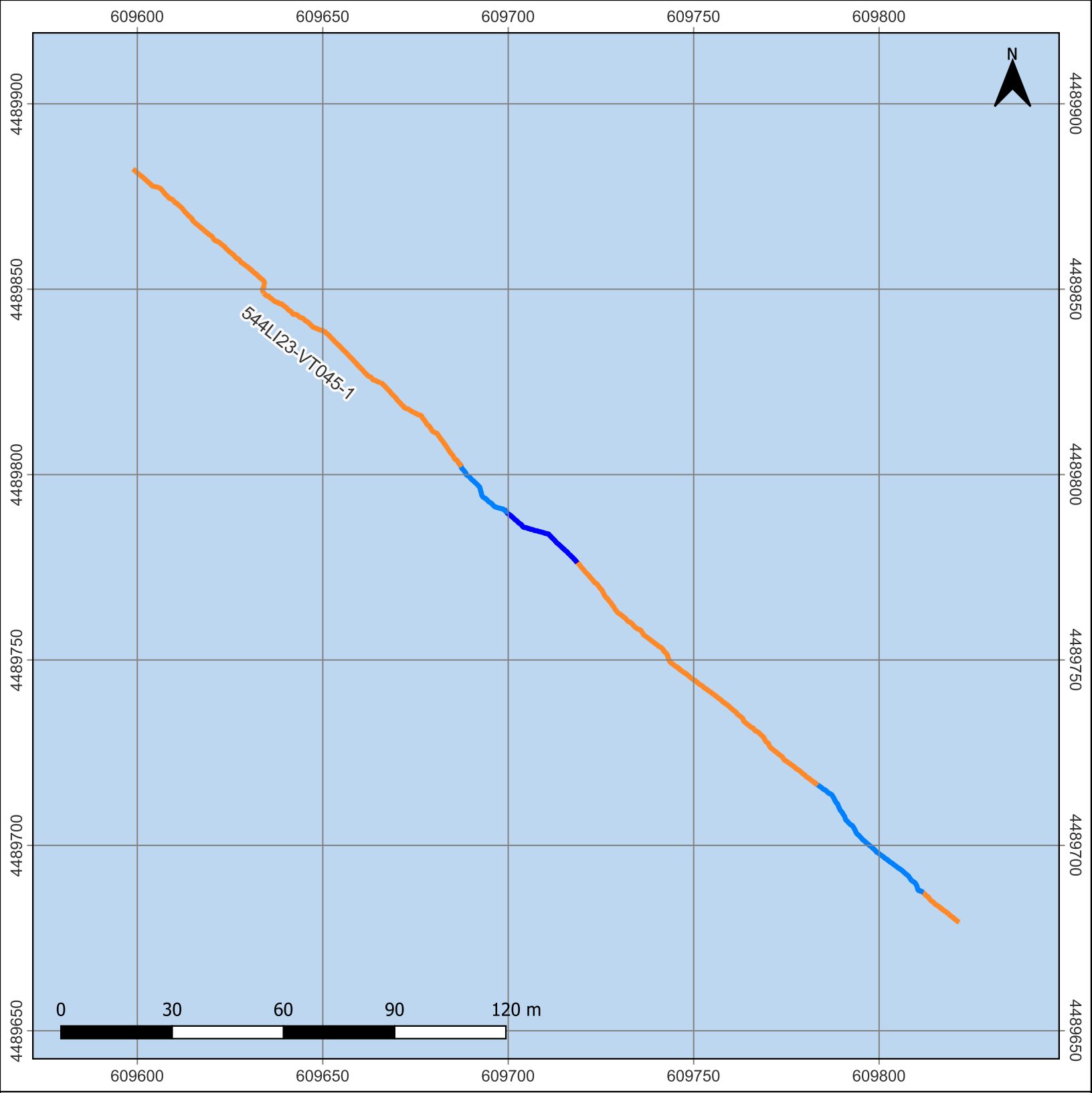
CMECS Classification from Video Survey

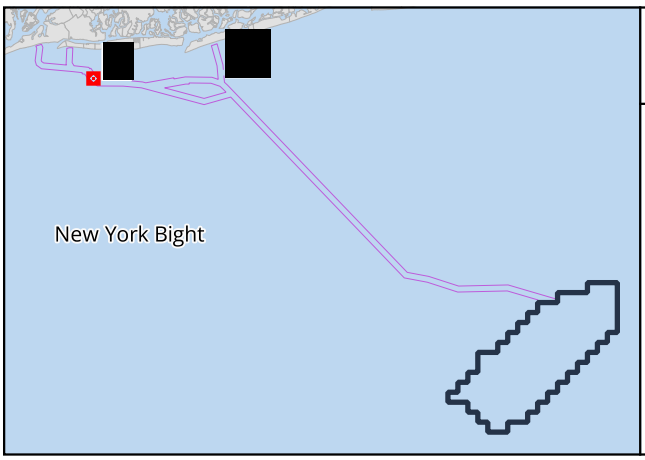
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT044-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

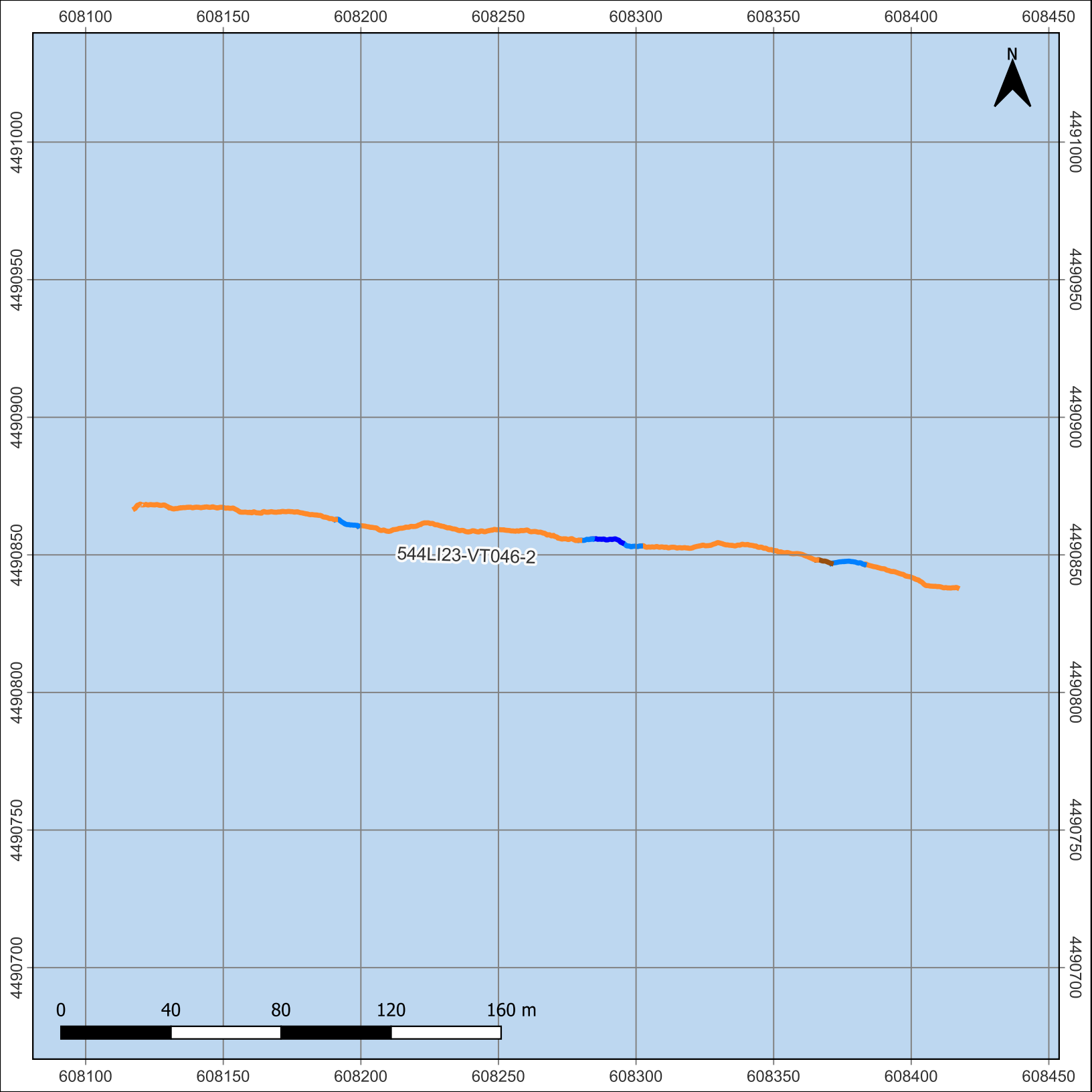
CMECS Classification from Video Survey

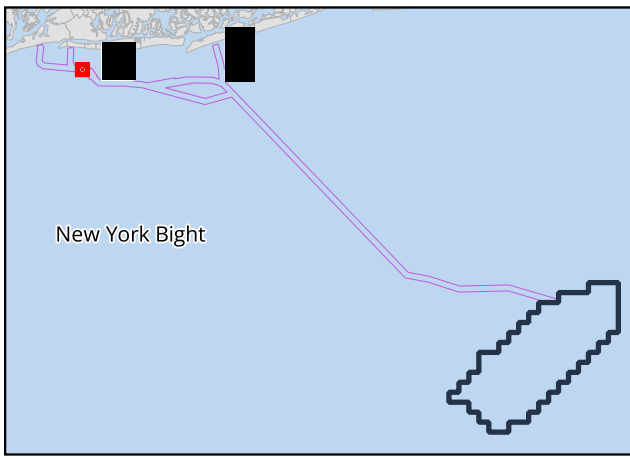
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT045-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

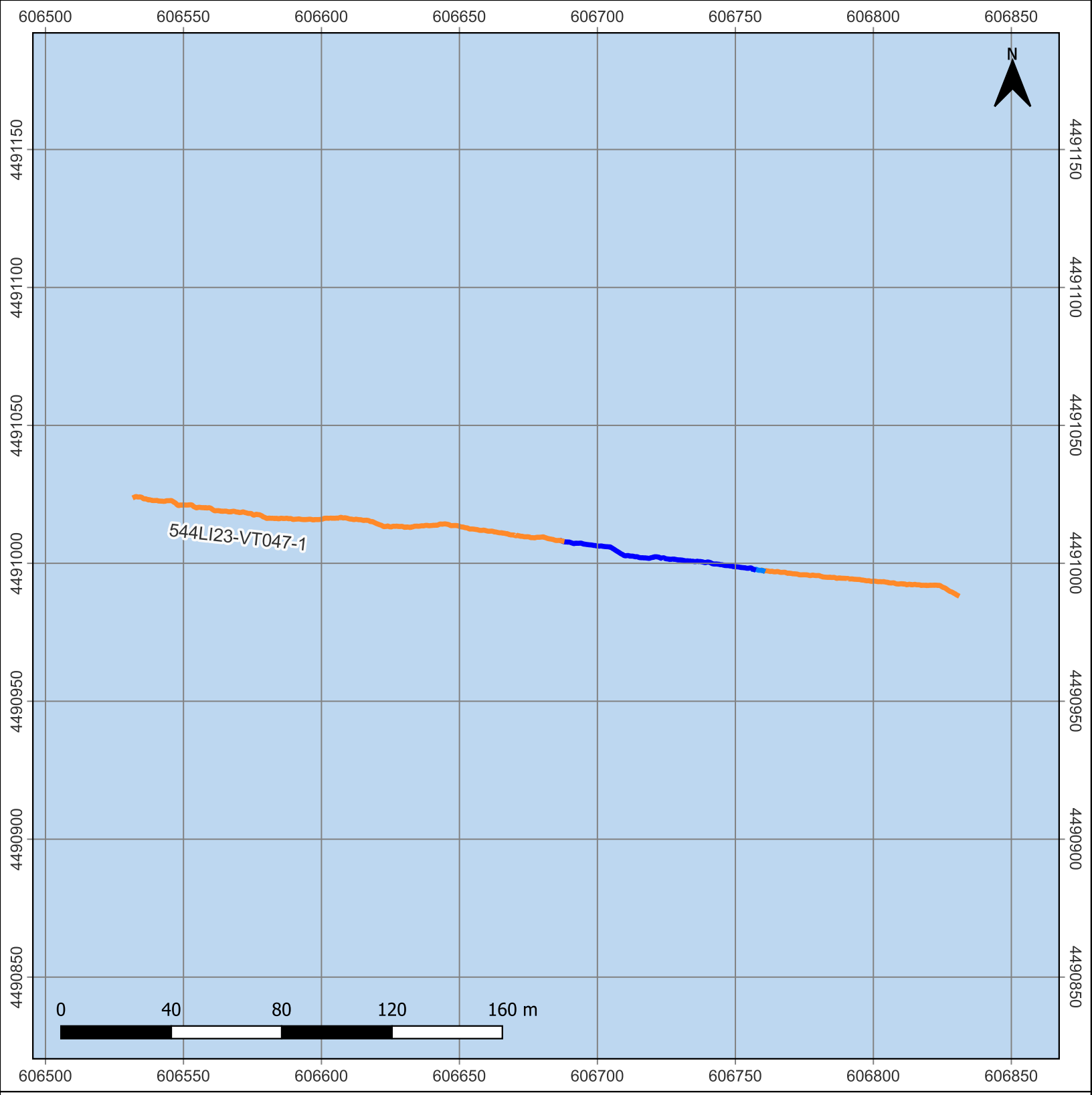
CMECS Classification from Video Survey

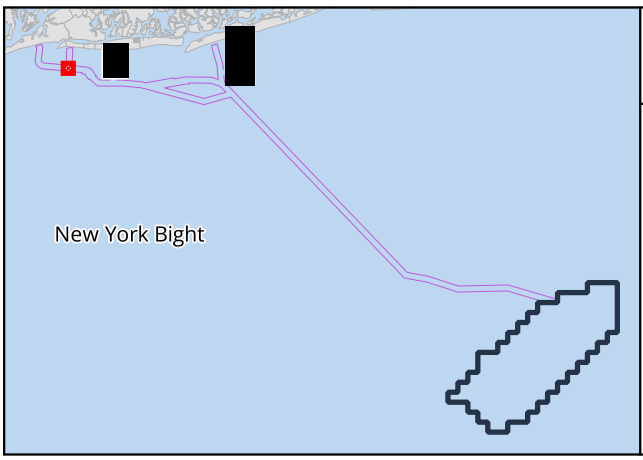
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT046-2

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

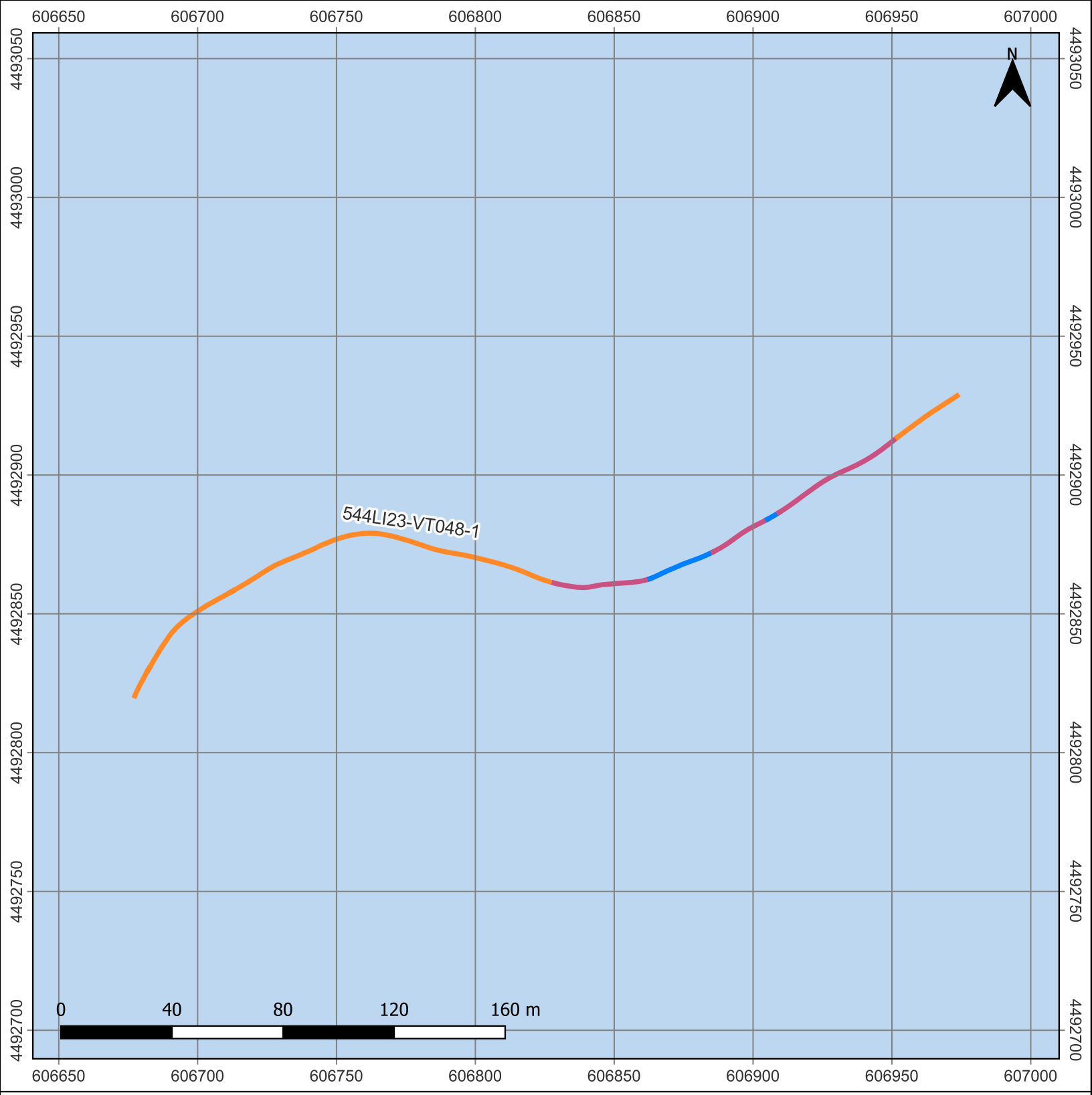
CMECS Classification from Video Survey

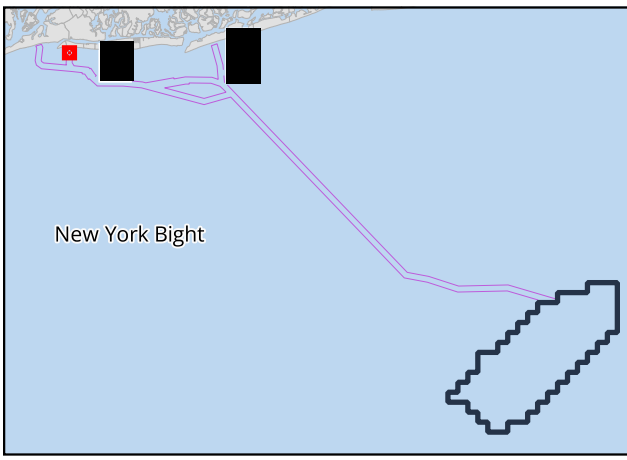
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT047-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

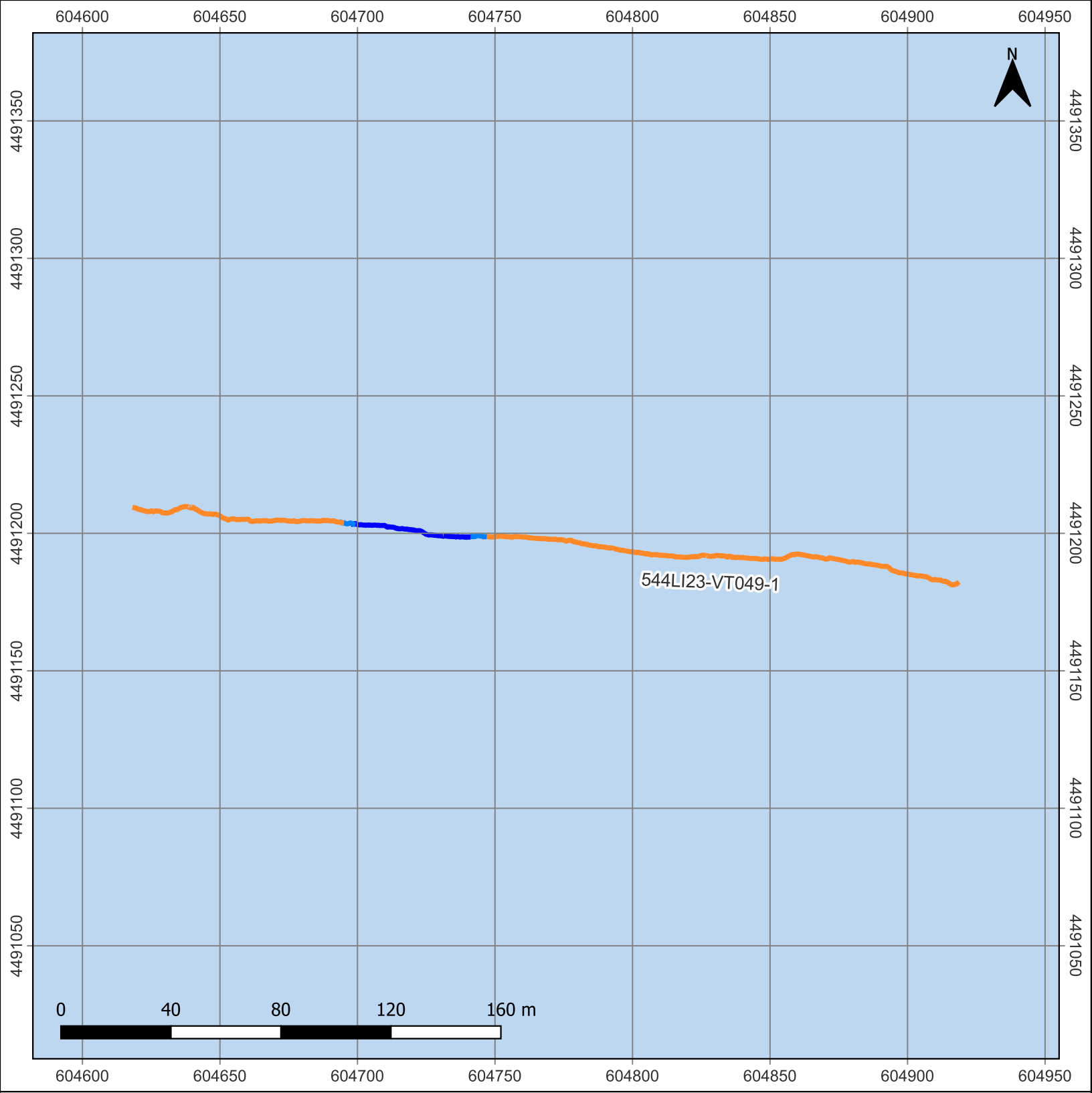
CMECS Classification from Video Survey

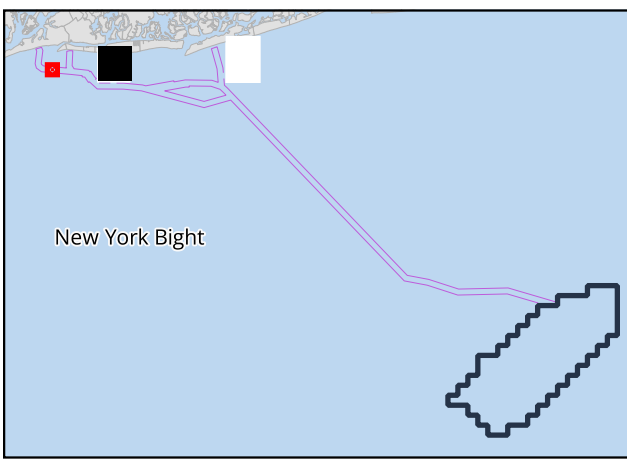
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT048-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

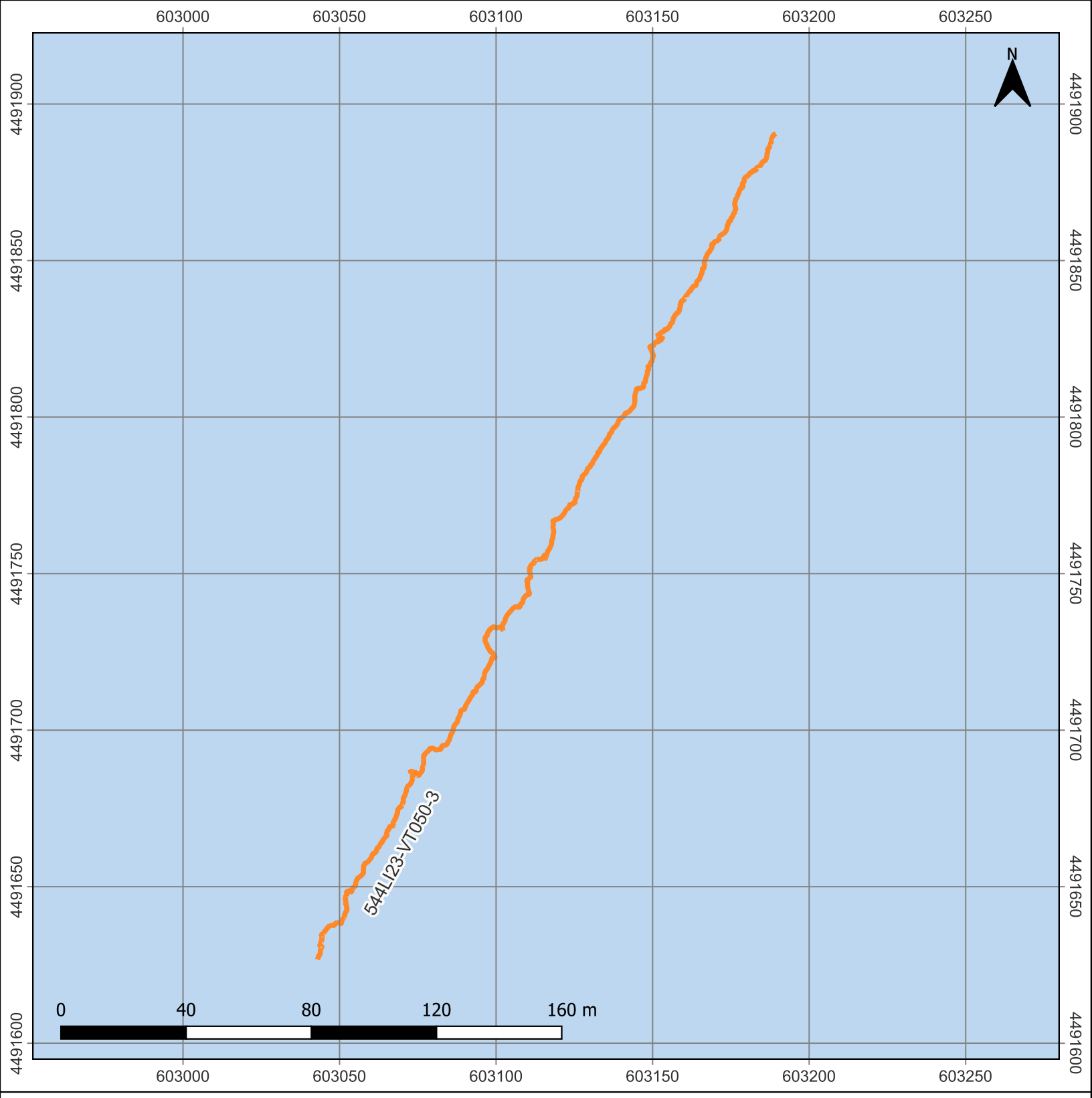
CMECS Classification from Video Survey

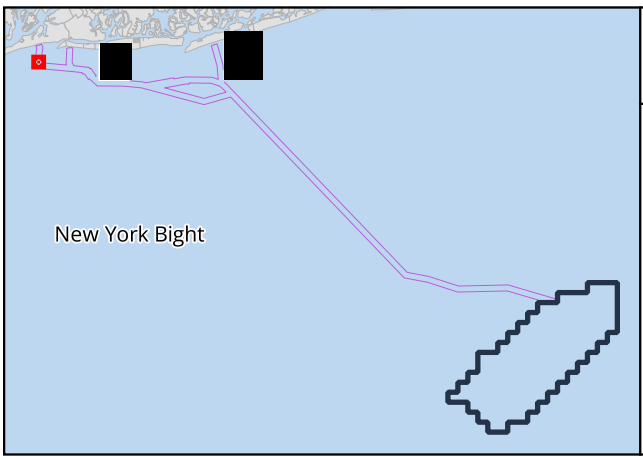
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT049-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

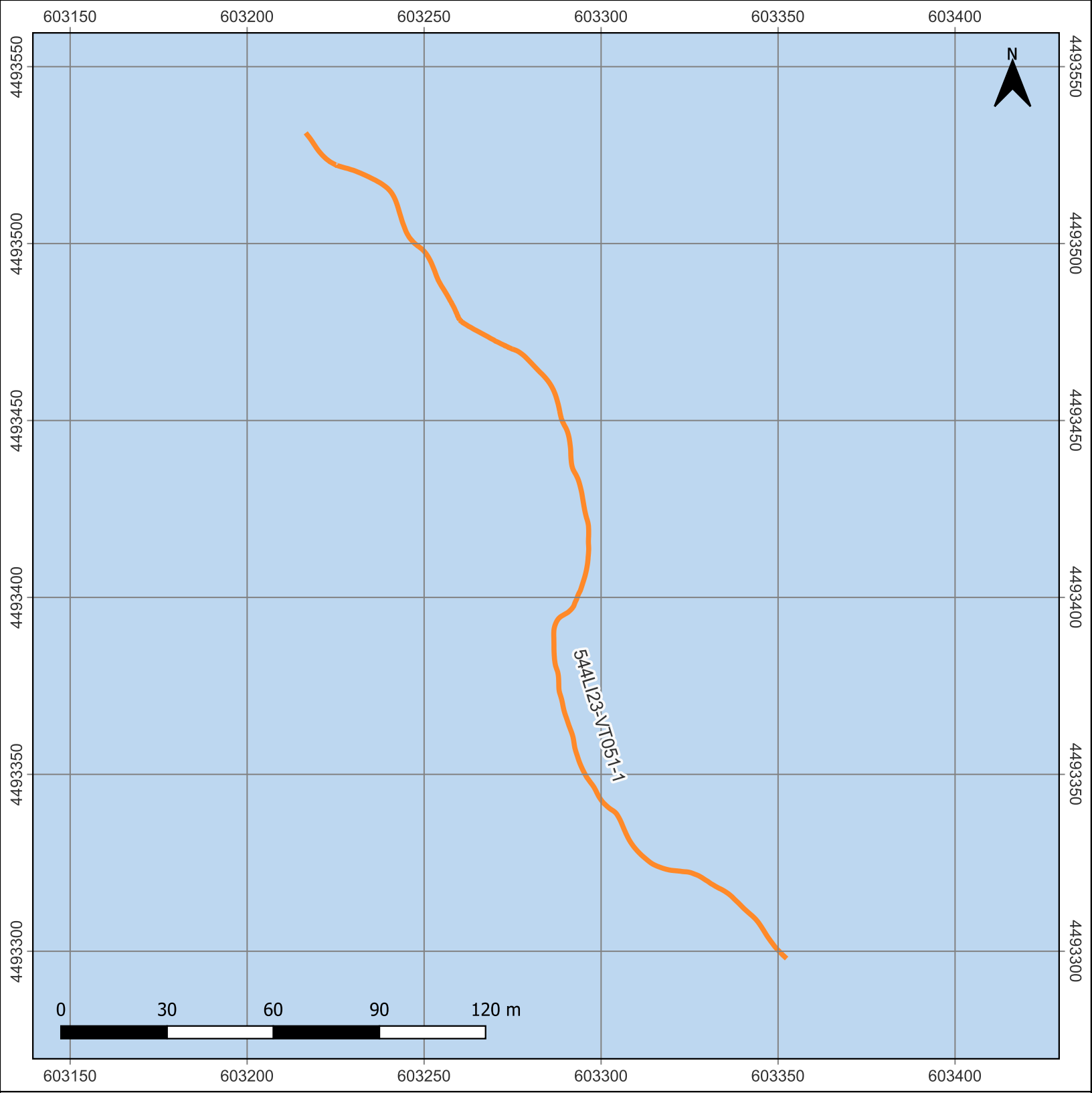
CMECS Classification from Video Survey

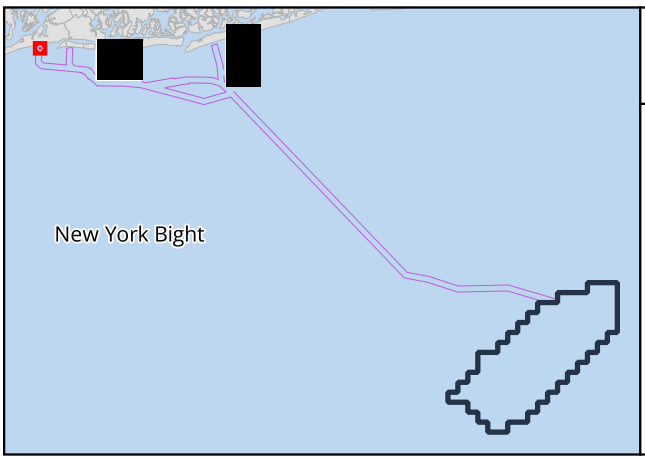
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT050-3

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

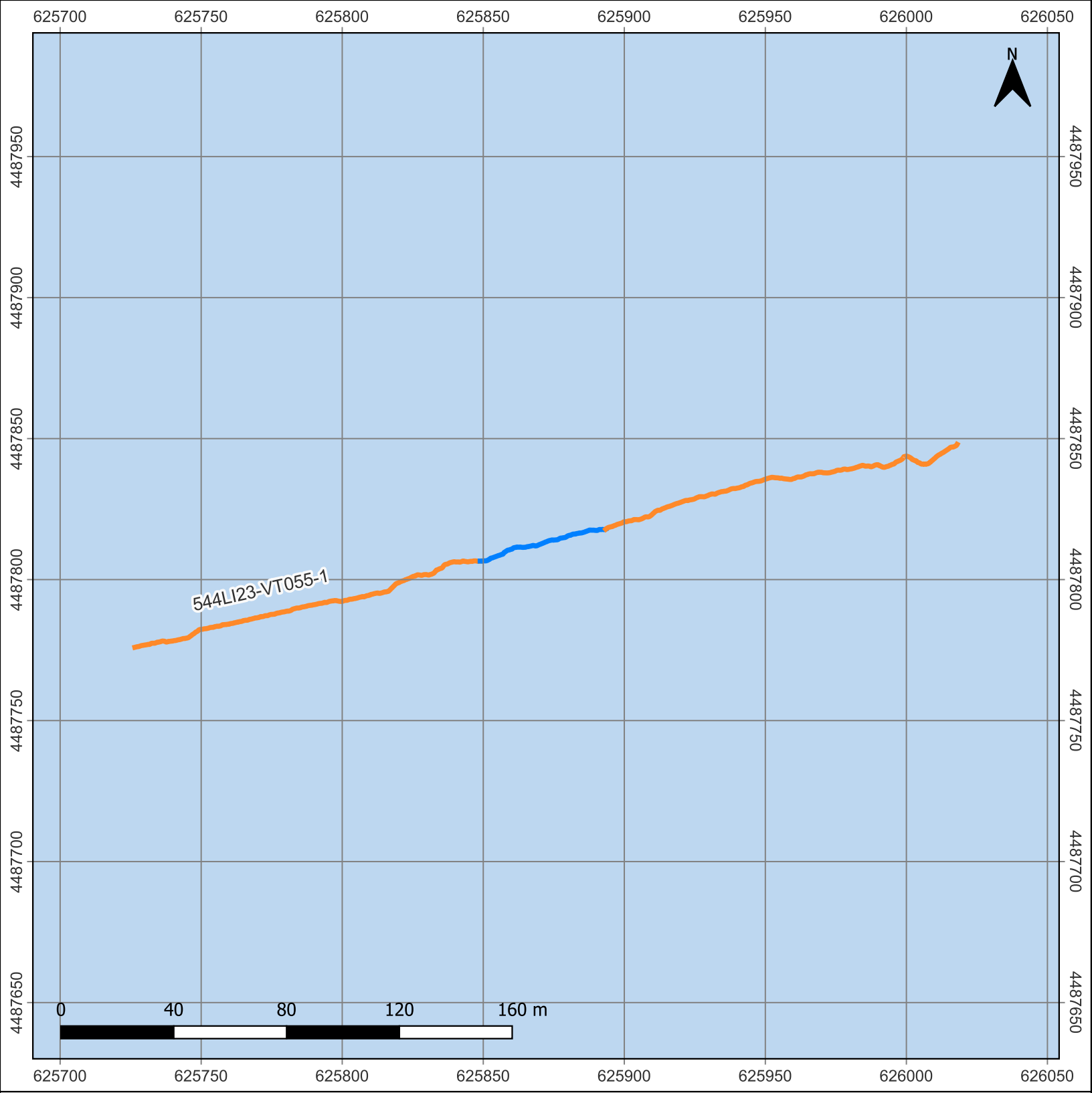
CMECS Classification from Video Survey

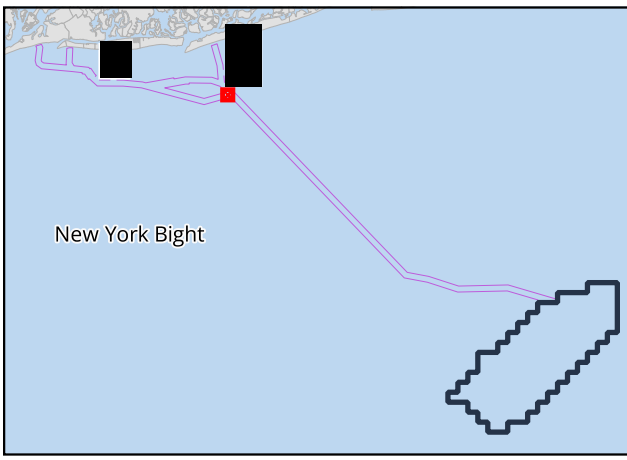
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT051-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

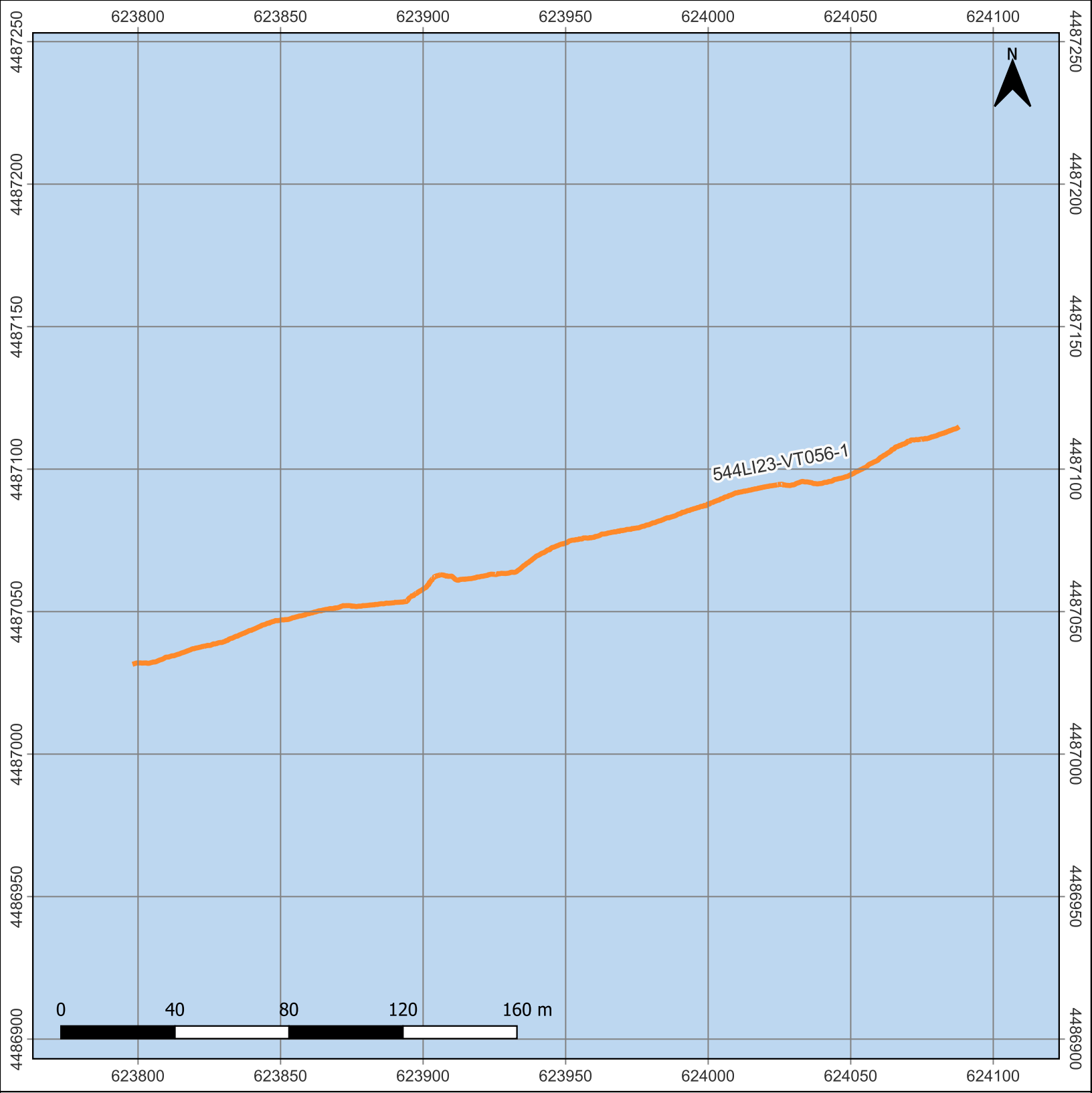
CMECS Classification from Video Survey

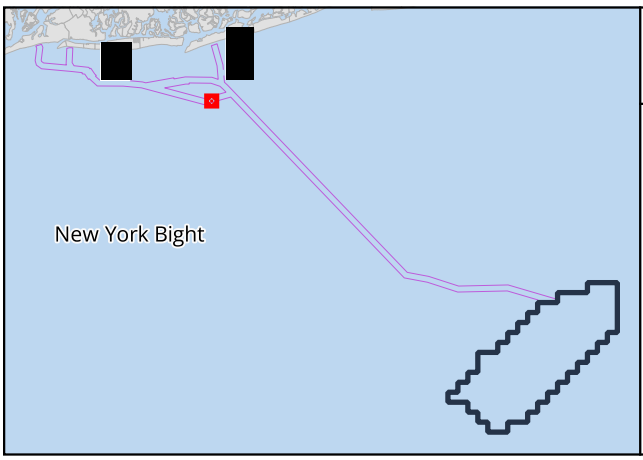
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT055-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

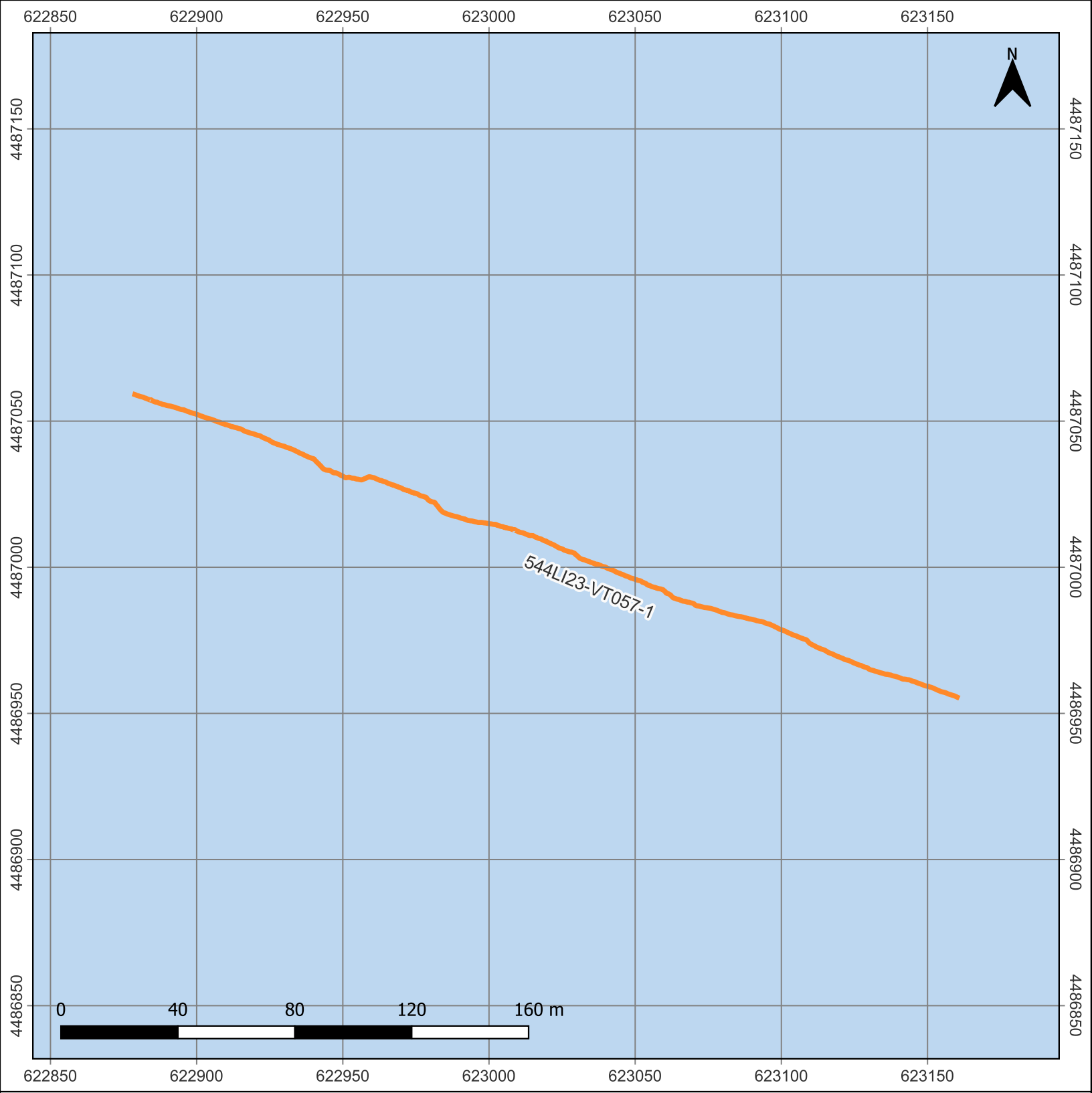
CMECS Classification from Video Survey

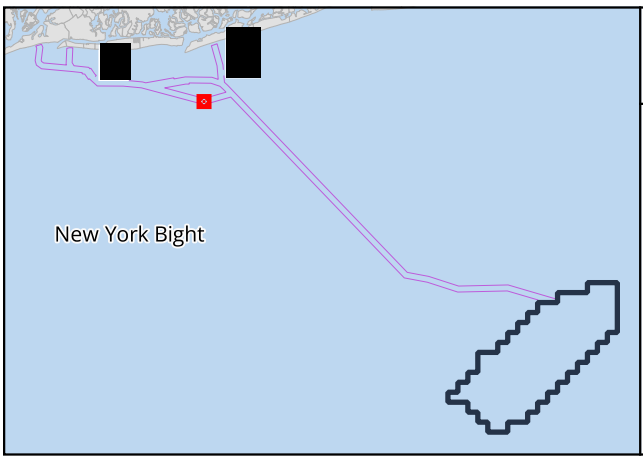
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT056-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

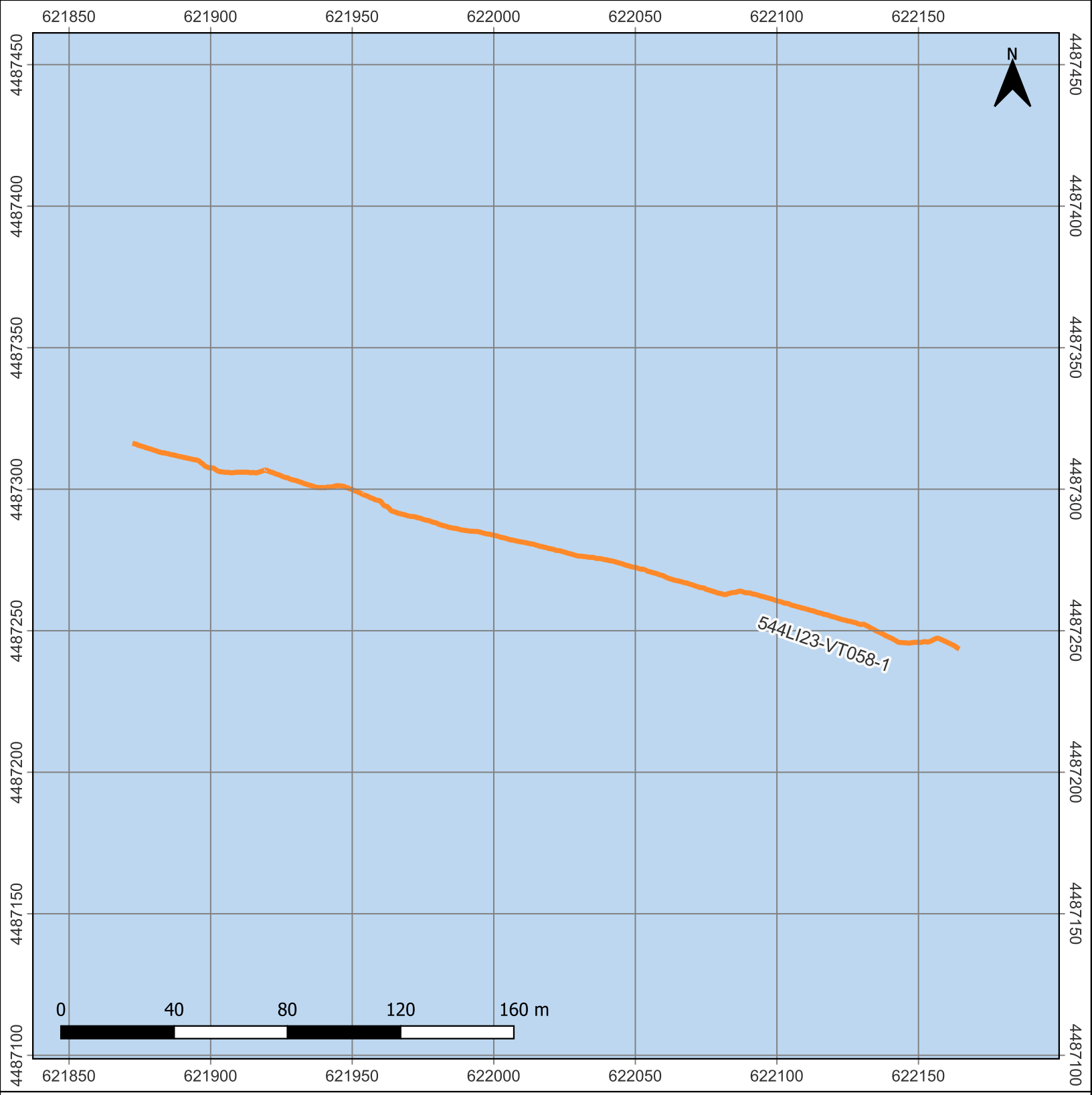
CMECS Classification from Video Survey

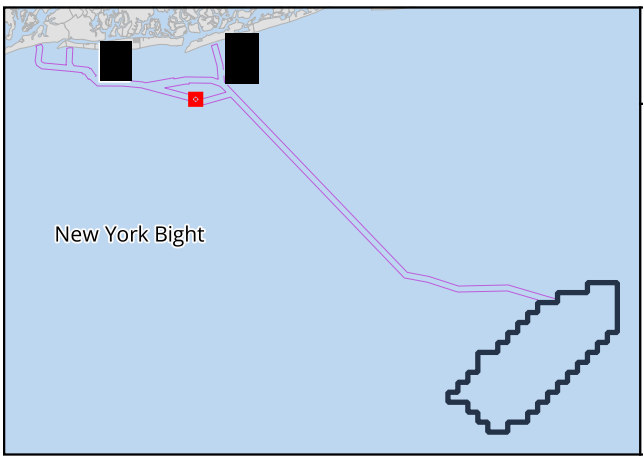
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT057-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

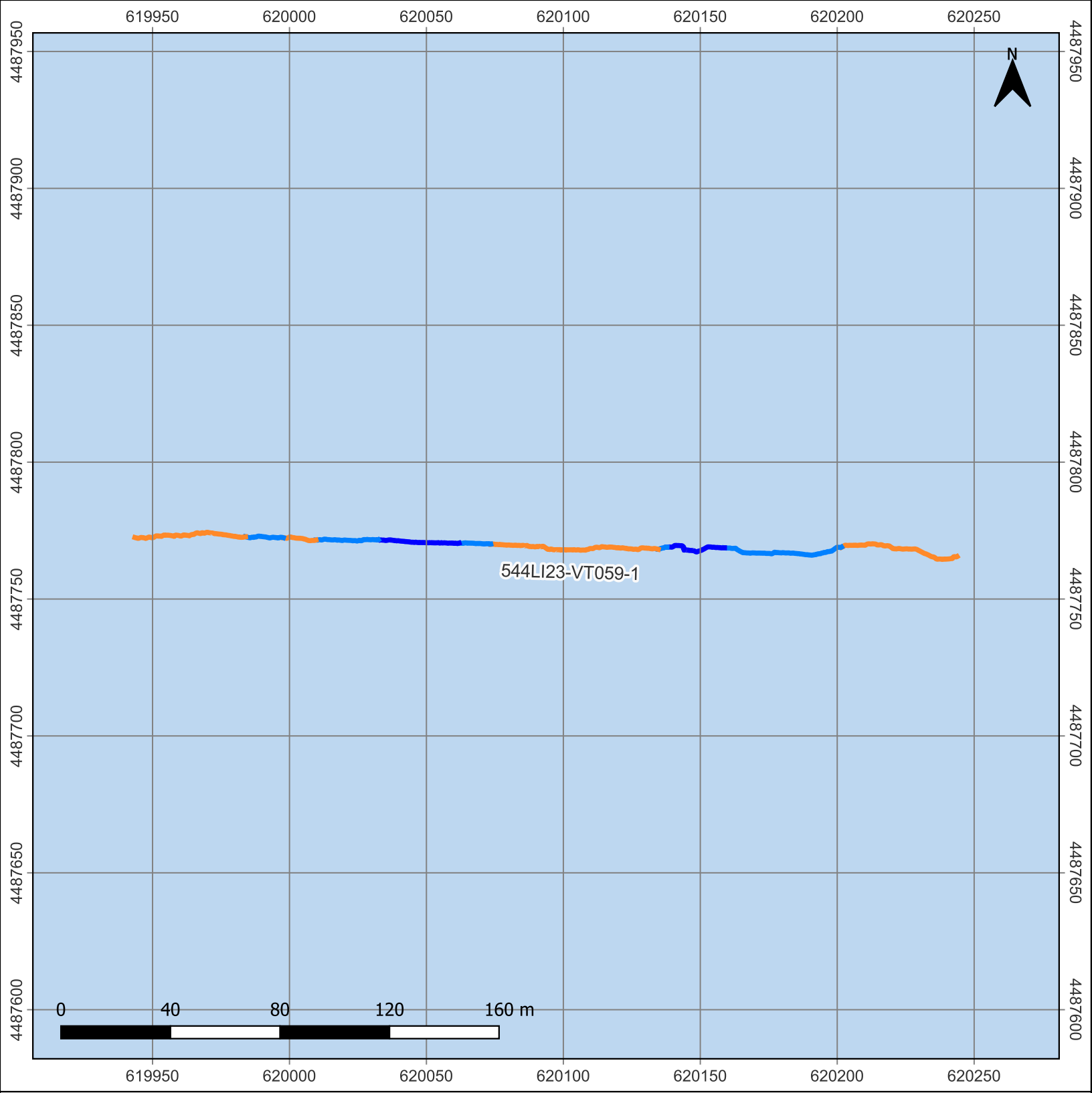
CMECS Classification from Video Survey

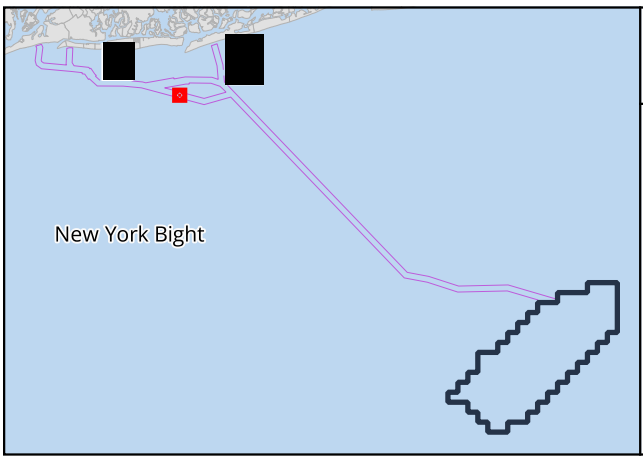
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT058-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

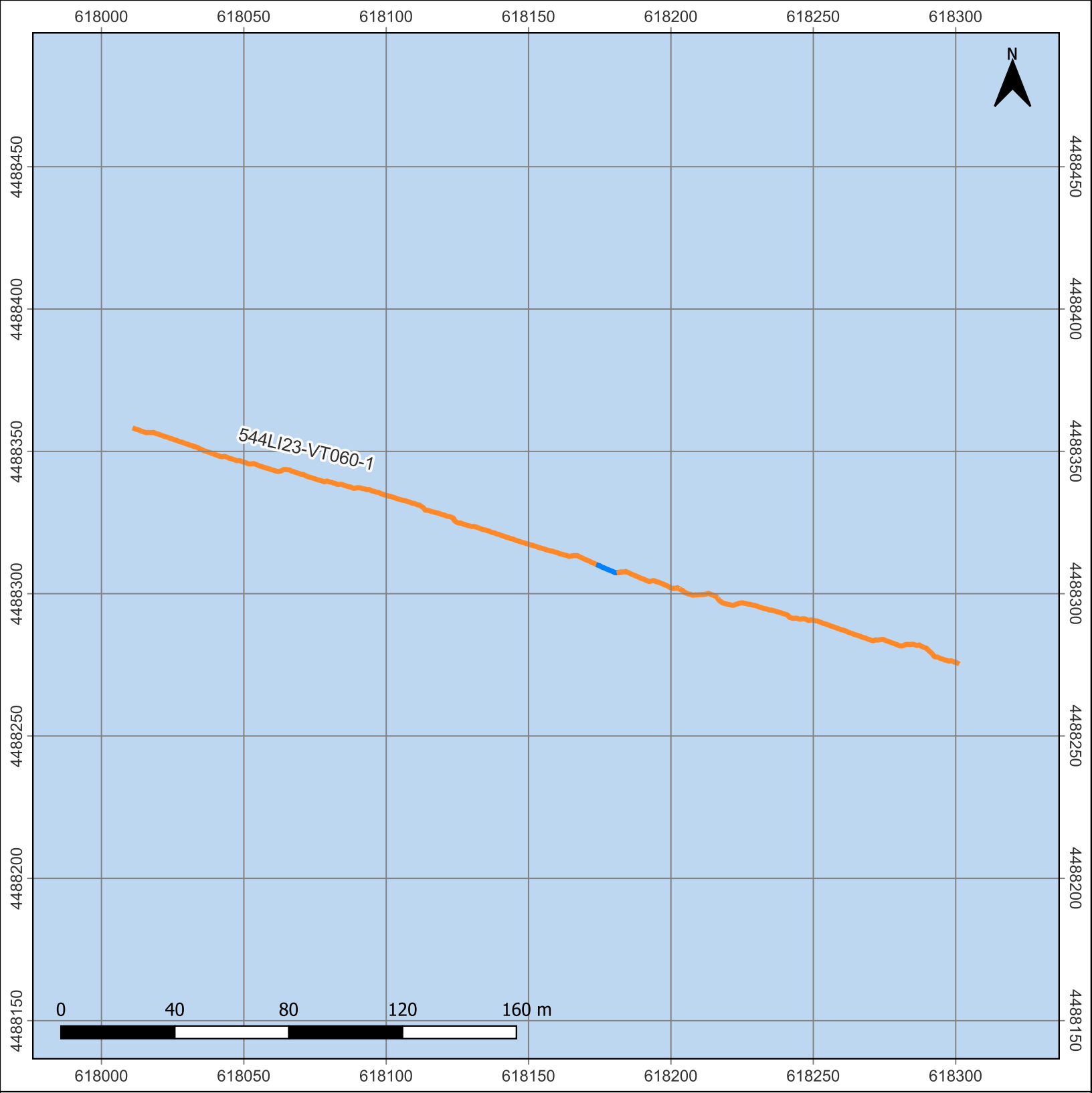
CMECS Classification from Video Survey

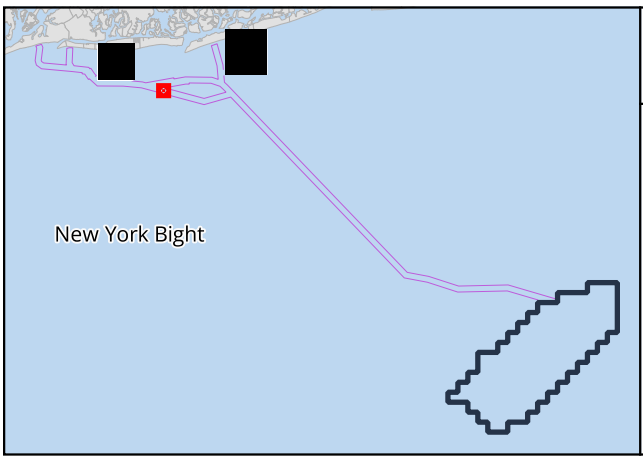
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT059-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

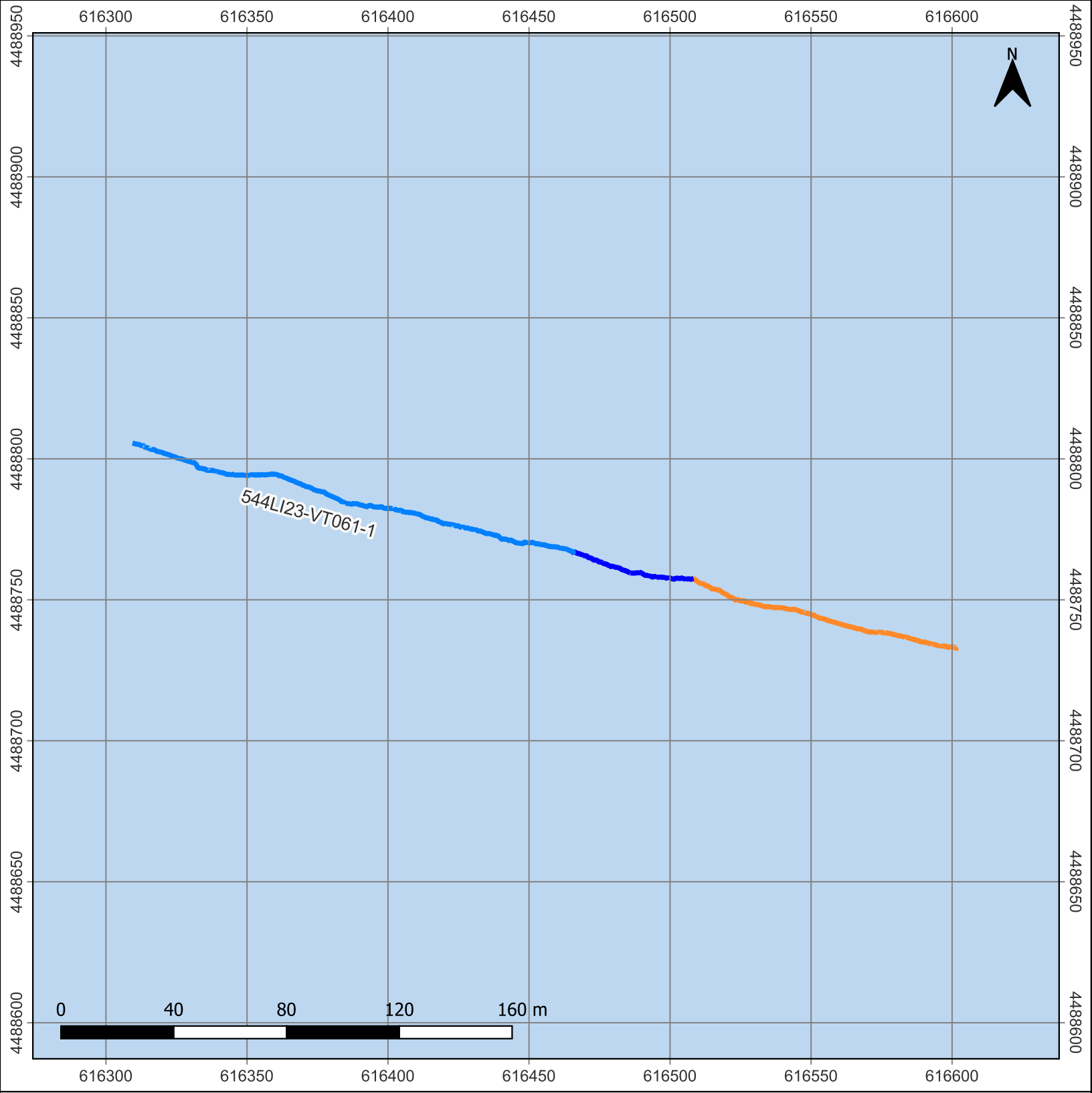
CMECS Classification from Video Survey

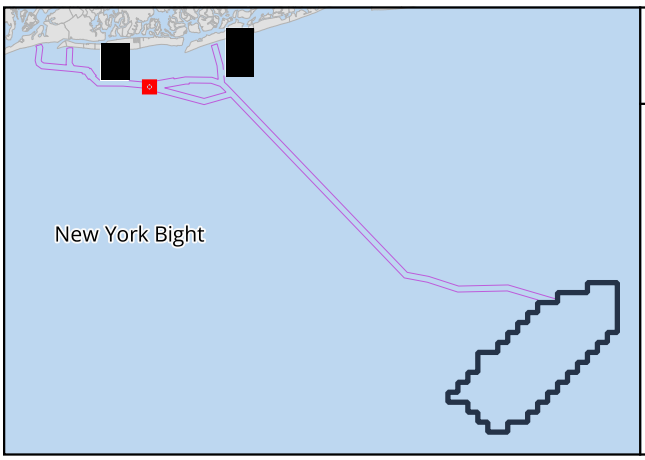
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT060-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

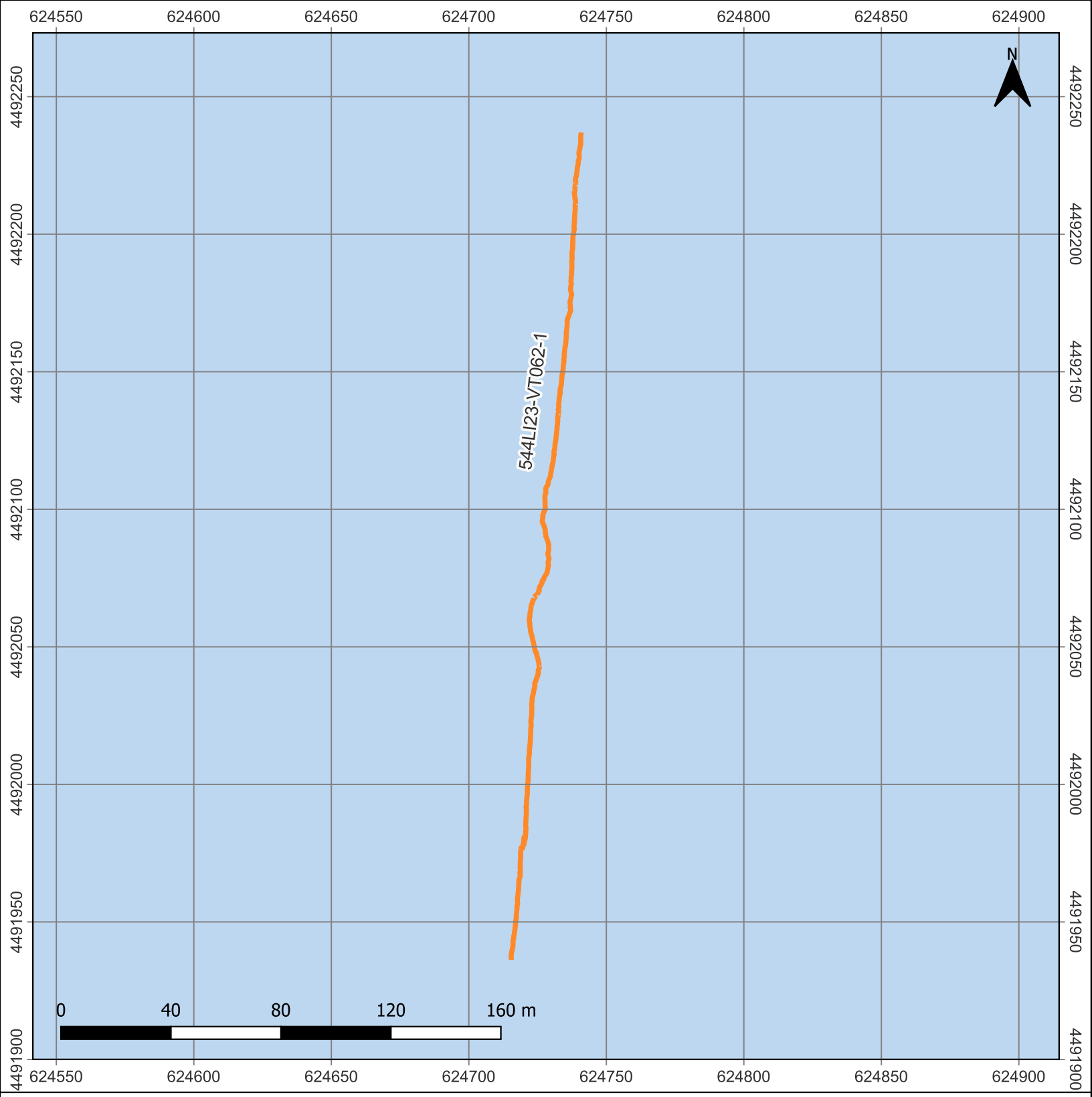
CMECS Classification from Video Survey

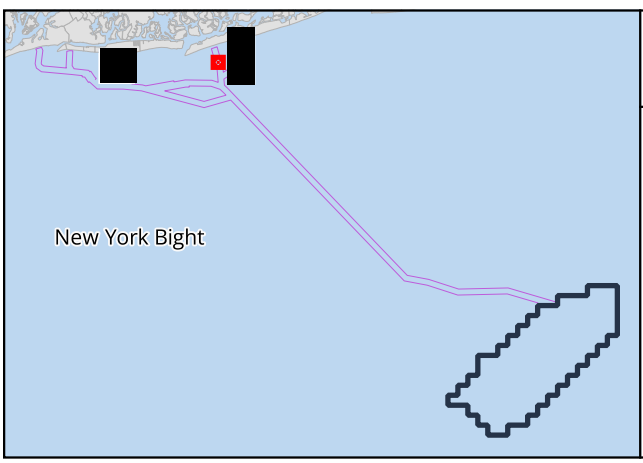
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT061-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

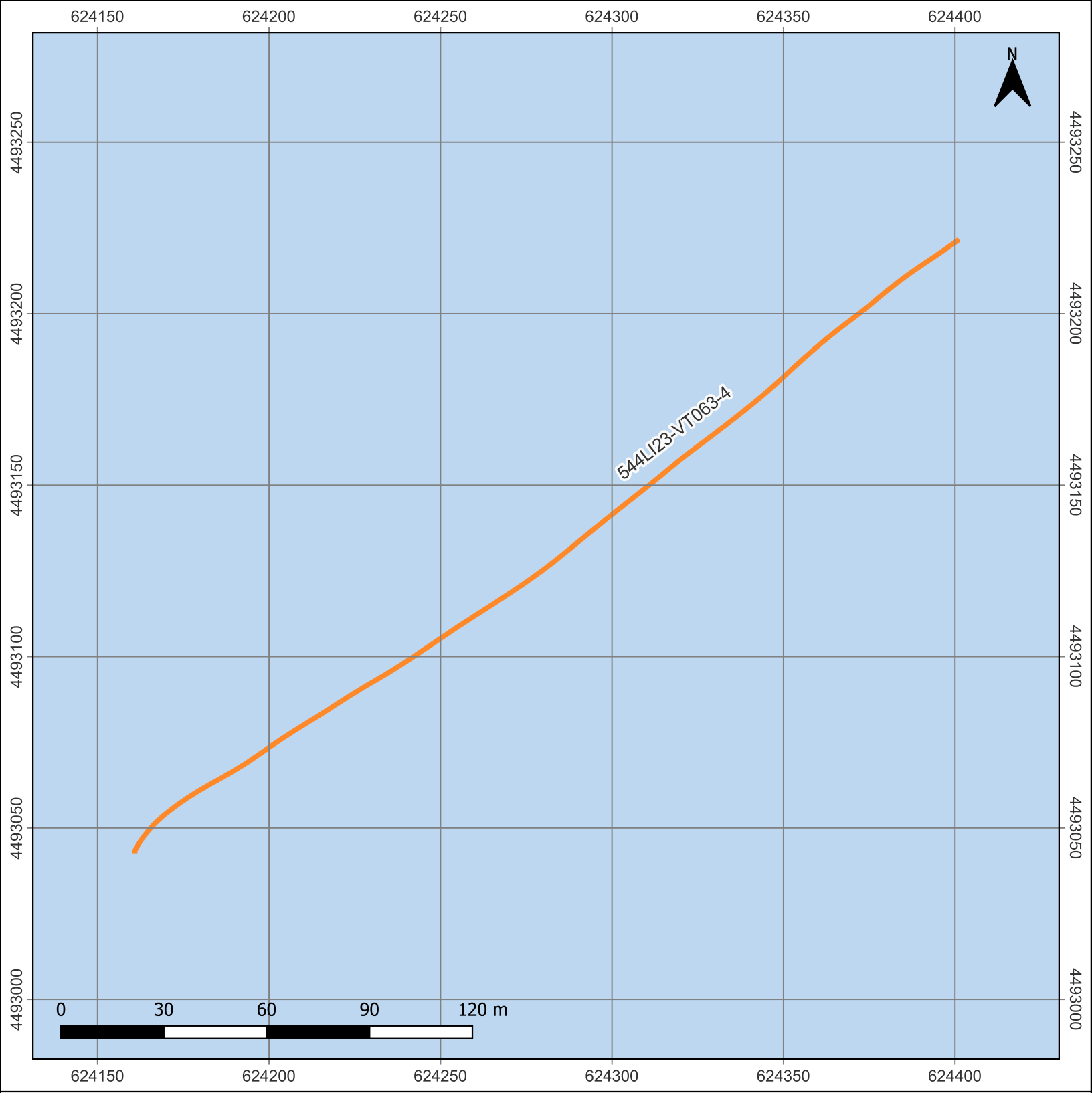
CMECS Classification from Video Survey

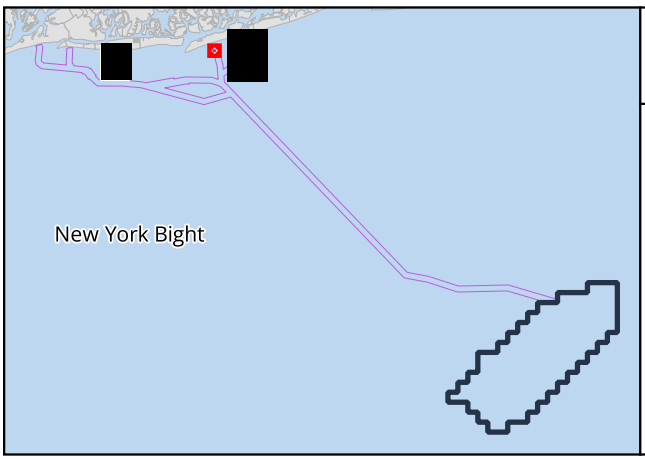
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT062-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

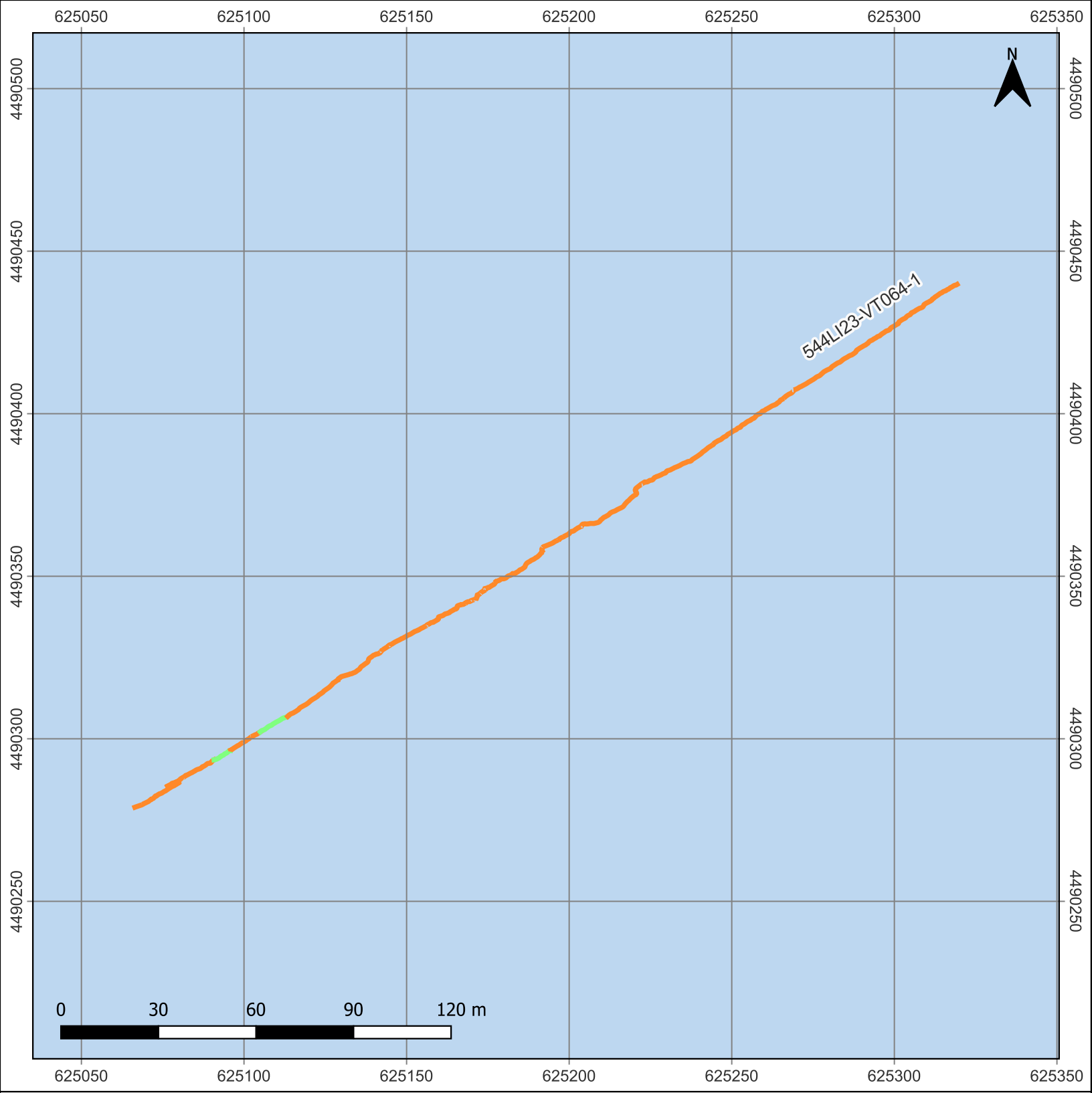
CMECS Classification from Video Survey

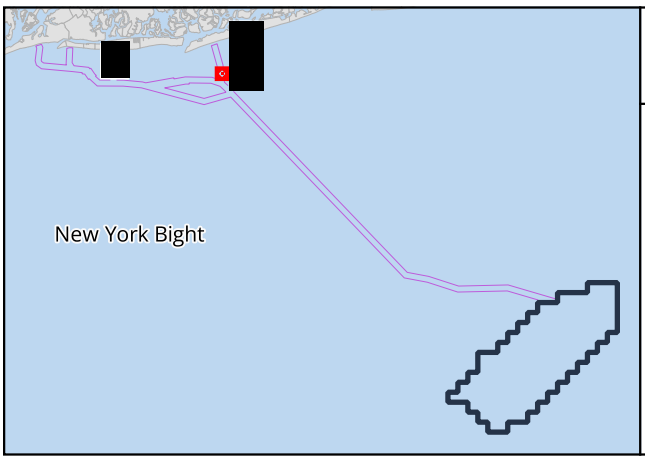
Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT063-4

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09





VINEYARD MID-ATLANTIC OCS-A 0544 BENTHIC SURVEY

CMECS Classification from Video Survey

Classifications

- Gravel Mixes
- Gravelly
- Shell
- Sand
- Muddy Sand
- Uncharacterized

Transect: 544LI23-VT064-1

NAD 1983 (2011) UTM 18N (meters)
Date: 2023-10-09

Appendix K

List of Data Submitted

File Name	Description
544LI23_Transect_XY_GSS_090523	~1 second XY points from clipped DAT & mp4 (nearshore) files with XY outliers removed.
544LI23_Transect_Lines_GSS_090123	Transect line file generated from 544LI23_Transect_XY_GSS_090523.
544LI23_Video_Transect_CMECS_GSS_090123	Continuous CMECS classifications for video transects.
544LI23_Video_Transect_Ripple_Overlay_GSS_090523	Video transect line overlay displaying areas where ripples were observed in video footage.
544LI23_Visibility_Lines_GSS_090123	Video transect line overlay displaying areas of low or no visibility in video footage.
544LI23_Fauna_Points_GSS_090823	Location and identification of fauna observed in video footage.
544LI23_Video_Transect_Biocommunities_GSS_090523	Estimated densities (via counts and descriptors) of recorded biological communities derived from 30-second data.
544LI23_Flora_Points_GSS_090523	Location and identification of flora (i.e., macroalgae) observed in video footage.
544LI23_Anthropogenic_Points_GSS_090723	Location and identification of potential anthropogenic debris observed in video footage.
544LI23_GB_CMECS_Points_GSS_091423	Grab sample locations and NMFS-modified CMECS substrate classifications.

All digital data were submitted as QGIS shapefiles (*.shp)