# Aqua Survey, Inc.

**Technical Report on the Sampling and Physical Testing of Sediment from Newark Bay- Main and Port Newark Branch Channels, Federal Navigation Project No. 64 for Upland Beneficial Use in New York and/or New Jersey**

**Contract No. W912DS-22-D-0002**
**Delivery Order No. W912DS-26-FA-007**

**Prepared for:**

**Army Corps of Engineers, New York District**
**26 Federal Plaza**
**New York, NY 10278**

**January 19, 2026**

**ASI Job No. 45-159**

*469 Point Breeze Road*
*Flemington, NJ 08822*

*Phone: 908-788-8700*
*Fax: 908-788-9165*
*mail@aquasurvey.com*
*www.aquasurvey.com*

Aqua Survey, Inc.

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# Information Page

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**Contract No. W912DS-22-D-0002**
**Delivery Order No. W912DS-26-FA-007**

**STUDY INITIATION DATE**

**December 5, 2025**

**STUDY COMPLETION DATE**

**January 19, 2026**

**PERFORMING LABORATORY**

**Aqua Survey, Inc.**
**469 Point Breeze Road**
**Flemington, New Jersey 08822**

**SPONSOR**

**Army Corps of Engineers, New York District**
**26 Federal Plaza**
**New York, NY 10278-0090**

**LABORATORY PROJECT ID**

**ASI STUDY No. 45-159**

# Signature Page

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**Army Corps of Engineers, New York District**
**26 Federal Plaza**
**New York, NY 10278**

This report, as well as all records and raw data were audited and found to be an accurate reflection of the study. Copies of raw data will be maintained by Aqua Survey, Inc. 469 Point Breeze Road, Flemington, New Jersey, 08822.

Cheryl Hall — 1/19/26
Cheryl Hall — Date
Quality Assurance Officer

Michelle Thomas — 1/19/26
Michelle Thomas — Date
Laboratory Manager

Jon Doi — 1-19-26
Jon Doi, Ph.D. — Date
Executive Vice President

# I. INTRODUCTION

The objective of this project was to collect and conduct physical analyses on sediment from Newark Bay- Main and Port Newark Branch Channels, for upland beneficial use in New York and/or New Jersey. This work was conducted in accordance with Appendix B, Attachment 1, of the technical manual entitled "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (Dredging Manual), an NYSDEC Sediment Sampling and Analysis Plan (SSAP) dated September 8, 2025, an NJDEP Sediment Sampling and Analysis Plan (SSAP) approved on October 7, 2025, and direction from the client.

It should be noted that two discrepancies were noticed with the Compositing Schemes provided in the NYSDEC and NJDEP sampling plans. USACE-NYD was contacted to confirm the correct naming of the Composites Samples as well as which locations were to be used to make each Composite. This confirmation as well as an updated Compositing Scheme can be found in the Correspondence section of this report.

Aqua Survey, Inc. (ASI) performed all sampling and physical analyses (grain size distribution, percent moisture, and total organic carbon analysis).

Chemical analysis of the samples was contracted directly with the analytical laboratory, Battelle, and its subcontract laboratories, Eurofins Pittsburgh, Pittsburgh, PA, and Eurofins Knoxville, Knoxville, TN. Their analytical results are not included in this report.

# II. CORRESPONDENCE

The following pages provide correspondence for this project.

# ORDER FOR SUPPLIES OR SERVICES



| 1. CONTRACT/PURCH ORDER/AGREEMENT NO. | 2. DELIVERY ORDER/ALL NO. | 3. DATE OF ORDER/CALL (YYYYMMMDD) | 4. REQUISITION/PURCH REQUEST NO. | 5. PRIORITY |
|---|---|---|---|---|
| W912DS22D0002 | W912DS26FA007 | 2025NOV26 | W16R0E53143281 | |

**6. ISSUED BY** CODE W912DS

W2SD ENDIST NEW YORK
KO CONTRACTING DIVISION, 26 FEDERAL PLAZA ROOM 16 300
NEW YORK, NY 10278-0004
UNITED STATES
MATTHEW LUBIAK, CONTRACTING OFFICER, EMAIL: MATTHEW.E.LUBIAK@USACE.ARMY.MIL TELEPHONE: 917-790-8089
ADRIAN STAFFORD-BROWNE, CONTRACT SPECIALIST, EMAIL: ADRIAN.J.STAFFORD-BROWNE@USACE.ARMY.MIL

**7. ADMINISTERED BY** *(If other than 6)* CODE

SCD: PAS:

**8. DELIVERY FOB**
- [ ] DESTINATION
- [ ] OTHER *(See Schedule if other)*

**9. CONTRACTOR** CODE 0L3C0 FACILITY

NAME AND ADDRESS
AQUA SURVEY INC
469 POINT BREEZE RD
FLEMINGTON, NJ 08822-4701
UNITED STATES
JON DOI, EXECUTIVE VICE PRESIDENT, TELEPHONE: 908-788-8700

**10. DELIVER TO FOB POINT BY** *(Date) (YYYYMMMDD)*
SEE SCHEDULE

**11. X IF BUSINESS IS**
- [X] SMALL
- [ ] SMALL DISADVANTAGED
- [ ] WOMEN-OWNED

**12. DISCOUNT TERMS**
NET DAYS 30

**13. MAIL INVOICES TO THE ADDRESS IN BLOCK**

**14. SHIP TO** CODE
SEE SCHEDULE

**15. PAYMENT WILL BE MADE BY** CODE W916TX
DODAAC: W916TX
USA ENGINEER FINANCE CTR 44213
USA CORPS OF ENGRS, ATTN FIN OFF 5722 INTEGRITY DRIVE
MILLINGTON, TN 38054-5005
UNITED STATES

**MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.**

**16. TYPE OF ORDER**
- DELIVERY/CALL [X] This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
- PURCHASE [ ] Reference your furnish the following on terms specified herein.

**ACCEPTANCE.** THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

| AQUA SURVEY INC | Jon Doi | Jon Doi, Executive Vice President | 2025NOV28 |
|---|---|---|---|
| NAME OF CONTRACTOR | SIGNATURE | TYPED NAME AND TITLE | DATE SIGNED (YYYYMMMDD) |

[ ] If this box is marked, supplier must sign Acceptance and return the following number of copies:

**17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE**
SEE SECTION G - CONTRACT ADMINISTRATION DATA

| 18. ITEM NO. | 19. SCHEDULE OF SUPPLIES/SERVICES | 20. QUANTITY ORDERED/ ACCEPTED* | 21. UNIT | 22. UNIT PRICE | 23. AMOUNT |
|---|---|---|---|---|---|
| | SEE SCHEDULE | | | | |

**If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircled.*

**24. UNITED STATES OF AMERICA**
BY: MATTHEW LUBIAK
CONTRACTING/ORDERING OFFICER

**25. TOTAL** USD 71,001.00
**26. DIFFERENCES**

**27a. QUANTITY IN COLUMN 20 HAS BEEN**
[ ] INSPECTED [ ] RECEIVED [ ] ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED:

b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE
c. DATE *(YYYYMMMDD)*
d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE
f. TELEPHONE NUMBER
g. E-MAIL ADDRESS

**28. SHIP. NO.**
- [ ] PARTIAL
- [ ] FINAL

**29. D.O. VOUCHER NO.**
**30. INITIALS**
**31. PAYMENT**
- [ ] COMPLETE
- [ ] PARTIAL
- [ ] FINAL

**32. PAID BY**
**33. AMOUNT VERIFIED CORRECT FOR**
**34. CHECK NUMBER**
**35. BILL OF LADING NO.**

**36. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT.**
a. DATE *(YYYYMMMDD)*
b. SIGNATURE AND TITLE OF CERTIFYING OFFICER

| 37. RECEIVED AT | 38. RECEIVED BY *(Print)* | 39. DATE RECEIVED *(YYYYMMMDD)* | 40. TOTAL CONTAINERS | 41. S/R ACCOUNT NUMBER | 42. S/R VOUCHER NO. |
|---|---|---|---|---|---|
| | | | | | |

The major objective of a sediment sampling and analysis plan (SSAP) is to accurately characterize the horizontal and vertical distribution of the physical/geotechnical properties and contaminant concentrations of the sediment to be dredged.

This document serves as the template to develop the SSAP for a proposed dredging project by identifying the information required by the Department to review, and ultimately approve, the SSAP. The required information must be provided by entering it into the spaces provided in this template. See page 3 for a list of attachments required to be submitted. Note that clickable links to rule sets, remediation standards, etc., are provided throughout this document. Please submit the completed electronic application package to luasu@dep.nj.gov.

The SSAP for a dredging project must be approved by the Department prior to the collection and analysis of any sediment samples. Once the final SSAP has been approved by the Department, the applicant may conduct sampling in conformance with the plan. Approval of the SSAP will be indicated by the signature of Department staff on page 12 of the completed template.

**If any sediment samples are collected and analyzed without prior Department approval, it is done so at risk, as any such samples may or may not be considered by the Department in making regulatory decisions regarding the proposed project.**

For additional information on tidal dredging projects, see The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters found in Appendix G of the Coastal Zone Management Rules (N.J.A.C. 7:7). This SSAP template incorporates much of what is required to be submitted by applicants in Appendix G as part of the permit application for a dredging project; however, additional information may be required on a project-specific basis.

If you have any questions, please contact the Department's Office of Dredging and Sediment Technology (ODST) by email at depwlmodst@dep.nj.gov or by phone at 609-633-2289.

***BEFORE COMPLETING THIS SSAP TEMPLATE:***

*Please determine if the proposed project qualifies for any of the testing exclusions identified in N.J.A.C. 7:7 Appendix G and contact ODST to receive a confirmation that the testing exclusion is applicable to the project.*

SEDIMENT SAMPLING & ANALYSIS PLAN (SSAP)

# FILE NUMBER REQUEST FORM

## Dredge Site Information

| | | |
|---|---|---|
| Dredge Site Address:<br>Newark Bay Federal Navigation Channel | | County:<br>Essex |
| City:<br>Newark | State:<br>NJ | Zip:<br>07114 |
| Site Block(s) & Lot(s): | | |
| Site NJ State Plane Coordinates | X: 593725<br>Y: 670965 | |
| Project Description:<br>Sampling and testing for the upland placement of Newark Bay Federal Navigation Channel. The project is proposed to be dredged in Fall 2026, with the placement site to be furnished by the dredging contractor. The total volume to be tested is 69,301 CY. Attached, please find the NYSDEC-approved SSAP, bathymetric charts with sample locations, and shoal details. Red shoals will be dredged in 2025 and will NOT be included in 2026 dredging. Orange shoals have been tested in 2025, and do NOT require further testing. | | |
| Previously Issued Permit No.(s) and if applicable, please provide a copy of the previous permit(s):<br>Federal Coastal Zone Management Act and WQCs<br>2024 - File and Activity No.: 0000-02-0028.1 CDT230003 & CDT240004<br>2025 - File and Activity No.: 0000-02-0028.1 CDT250001 | | |

## Applicant Information

| | | |
|---|---|---|
| Applicant Name: | | |
| Phone Number: | Email Address: | |
| Address: | | |
| City: | State: | Zip: |

## Agent Information

| | | |
|---|---|---|
| Agent Name:<br>Ryan Corbett, U.S. Army Corps of Engineers | | |
| Phone Number:<br>(917) 790-8082 | Email Address:<br>Ryan.P.Corbett@usace.army.mil | |
| Address:<br>26 Federal Plaza, Room 16-406, Operations Division | | |
| City:<br>New York | State:<br>NY | Zip:<br>10278 |

| ***Submit the Following Attachments:*** | – A figure identifying the geographic location of the project site.<br>– Hydrographic/survey plans with the following:<br>▪ Plan must depict existing water depths at **mean low water** (MLW).<br>▪ Plan must identify project depths in feet below mean low water.<br>▪ The notes section must state the date and time the hydrographic survey was conducted – **this must be within 6 months of the SSAP submittal date.**<br>▪ Proposed dredge area must be outlined. Clearly identify areas of maintenance and/or new dredging<br>▪ Identify the location of boat/vessel fueling stations within 500' of the project site.<br>▪ Identify the locations of all outfalls or intakes within 500' of the project site.<br>▪ Identify all in-water structures within and adjacent to the project site.<br>▪ The proposed sample locations must be superimposed on the hydrographic survey unless you are requesting the Department to identify sample locations (see page 5).<br>▪ See Appendix G, Chapter III-A-2 for more details.<br>– A copy of any previously issued dredging permits and approved plans. |
|---|---|

## Proposed Dredging Plan

Please provide project information in the spaces provided below and check all applicable boxes:

### Type of Dredging:

☒ Maintenance (N.J.A.C. 7:7-12.6) ☐ New dredging (N.J.A.C. 7:7-12.7)

### Method of Dredging:

☐ Hydraulic ☒ Mechanical ☐ Jetting technology

### Project-specific Information:

Extent of area to be dredged (square feet): 3,386,322

Proposed depth(s) of dredging (feet below MLW): -35, -40, -50

Proposed *overdredge depth (feet below MLW): 2

Estimated volume of sediment to be dredged (no overdredge) (cubic yards): 306,402

Estimated volume of overdredge (cubic yards): 250,839

Total estimated total volume of sediment to be dredged (cubic yards): 557,241

Known contaminated spill(s) adjacent to dredge area:

There were no significant contaminated spills since the last dredging event in 2024.

***Overdredge Depth***

*Overdredge depth is allocated for any inaccuracies due to the equipment or operator during dredging operations. Overdredge shall not be used as a means to advance beyond maintenance dredging depths or the authorized dredge depth.*

## Dredged Material & Water Management

### Sediment Placement Area:

Please check all applicable boxes and provide the location of the placement area or other identifying placement site information such as permit(s), CDF name, etc., in the space provided below:

- ☐ Onsite
- ☐ Engineering with nature project
- ☐ Agriculture site
- ☒ Processed dredged material facility (mixed with Portland cement)
- ☒ Landfill or site remediation project
- ☐ Confined disposal facility
- ☐ Other use:

Placement Site Location & Additional Information:

Placement site to be furnished by the dredging contractor.

### Dewatering Methodology:

Please check all applicable boxes and provide a specific location of the dewatering site and details on methodology in the space provided below:

- ☐ Upland temporary dewatering area (hay bales/silt fences or *other* – please elaborate below)
- ☒ Scow
- ☐ Filter press
- ☐ Geotubes
- ☐ Polymer (check if possible use and elaborate on polymer name, if known, below)
- ☐ Confined disposal facility
- ☐ Other method:

Dewatering Site Location & Additional Information:

## Sediment Core Sample Locations

Guidance on determining the proper number of cores for a project and appropriate core locations can be found in Appendix G, Chapter III-D.

Request ODST to identify core sample locations? ☐ Yes ☒ No

Provide the information in the following table (or attach as separate sheet):

| Sample ID Number | Location: Planned X* | Location: Planned Y* | Project Depth MLW | Proposed Overdredge |
|---|---|---|---|---|
| See attached spreadsheet | | | | |
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***Note**: All coordinates shall be in the NJ State Plane Coordinate System. The latitude and longitude of the planned sample locations can be approximated using NJ-GeoWeb or a similar mapping application.

## Core Sample Compositing Scheme

Please refer to Appendix G, Chapter III-D for core composite guidance and rationale.

Request ODST to identify core sample compositing scheme? ☐ Yes ☒ No

Provide the information in the following table (or attach as separate sheet):

| Composite Sample ID Number | Core Sample ID Numbers |
|---|---|
| A (Main Channel, Shoal 1A) | 1, 2, 3 |
| B | 4, 5 |
| C | 6, 7 |
| D | 8, 9, 10 |
| E | 11, 12, 13 |
| F | 14 |
| G | 16, 17 |
| H | 15, 18 |
| I | 19 |
| J | 20, 21 |
| K | 22, 23 |
| | |
| | |
| | |
| | |
| | |
| | |
| See attached spreadsheet and NYSDEC-approved SSAP | |

Page 7 to completed by NJDEP-ODST –

**Proceed to Analytical Requirements section.**

## Required Sediment and Water Sampling Tests

### Tier I – Physical/Geotechnical:

Required for all projects:

- ☒ Grain Size Distribution (ASTM D422 or D4381)
- ☒ Total Organic Carbon (USEPA 440.0, USEPA SW-846 9060A, or equivalent method)
- ☒ Water Content (ASTMD653, D2216, D4643, Standard Method 2540D, or equivalent method)

Representative subsamples of each homogenized core sample (or distinct strata) and composite analytical sample must be analyzed for Grain Size Distribution, Total Organic Carbon (TOC), and percent moisture. Samples are also subjected to Bulk Sediment Chemistry, Standard & Modified Elutriate, Synthetic Precipitation Leaching Procedure, and Structural Fill Protocol, as specified below.

Individual sediment core samples comprised of greater than **90% sand** (analyzed using the **hydrometer** method) are excluded from **Tier II Testing** and must not be composited with other sediment samples.

### Tier II – Chemical Analysis:

- ☒ Bulk Sediment Chemistry
- ☐ Effluent (Modified) Elutriate
- ☐ Standard Elutriate

### Tier III – Leaching Tests:

- ☐ Synthetic Precipitation Leaching Procedure (SPLP)
  - Run SPLP analysis on any Bulk Sediment Chemistry Analytes that exceed the Soil Remediation Standards for the Migration to Groundwater Exposure Pathway (N.J.A.C. 7:26D Appendix 1, Table 5). Then compare SPLP results to the Soil Leachate Remediation Standards for the Migration to Groundwater Exposure Pathway (N.J.A.C. 7:26D Appendix 1, Table 6).

- ☒ Structural Fill Protocol (addition of Portland cement to raw dredge material and analysis for bulk sediment chemistry and SPLP)
  - All compounds identified on the following page for Bulk Sediment Chemistry analysis must also be performed for amended material and SPLP - see page 10, Reporting Requirement No. 20.

***Disclaimer**: Additional analytical tests may be required by the proposed dredge material management site beyond those required by the Department's SSAP. For example, if dredge material is proposed to be disposed of at a landfill as ID27, the applicant may be required to analyze for additional parameters (Ignitability, Corrosivity, Reactive Sulfide, Reactive Cyanide) for the landfill to accept the material.*

*Bulk Sediment Chemistry Analysis*

- ☒ Semi-Volatile Compounds
- ☒ Volatile Organic Compounds (VOCs)
- ☒ Polychlorinated Dibenzo Dioxins and Furans (PCDDs and PCDFs; 17 congeners)
- ☒ Polychlorinated Biphenyls (PCBs): ☒ Aroclors ☐ PCB Congeners (209)
- ☒ Organochlorine Pesticides
- ☒ Inorganics (Metals) – Includes Hexavalent and Trivalent Chromium

*Standard Elutriate and/or Modified Elutriate Analysis*

- ☐ Semi-Volatile Compounds
- ☐ Volatile Organic Compounds (VOCs)
- ☐ Polychlorinated Dibenzo Dioxins and Furans (PCDDs and PCDFs; 17 congeners)
- ☐ Polychlorinated biphenyls (PCBs): ☐ Aroclors ☐ PCB Congeners (209)
- ☐ Organochlorine Pesticides
- ☐ Inorganics (Metals) – Includes Hexavalent and Trivalent Chromium

## Analytical Requirements

All analytical procedures must be conducted by a laboratory certified by the Department to conduct that procedure pursuant to the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18) or the National Environmental Laboratory Accreditation Program (NELAP). Use NJDEP DataMiner to verify the accreditation status of a laboratory by reviewing the laboratory's certificate and Annual Certified Parameter List issued by the NJDEP or you may contact the Office of Quality Assurance via email at OQA@dep.nj.gov or by phone at (609) 292-3950 to verify the status of laboratory.

The achieved analytical detection limits for all contaminants in the Target Analyte List must be less than the applicable regulatory criteria and guidance values to which the data will be compared when evaluating the potential impacts of the proposed project. The laboratory method detection limits (MDLs) must not exceed the regulatory standard.

## Sampling Plan Implementation Requirements

If implementation of the approved SSAP does not provide data that are representative of, or fully characterizes, the sediment to be dredged, the Department may require the collection and analyses of additional sediment samples. Sediment core sampling collection procedures must be consistent with those in the NJDEP Field Sampling Procedures Manual (2022).

1. The Department must be notified of any deviations from the approved SSAP prior to the homogenizing, compositing, and analysis of the collected sediment samples.

2. All sediment core sample collection activities must be properly documented. Detailed fieldnotes/observations during sampling must be documented in a field sampling logbook.

3. NJDEP GPS Data Collection Standards for GIS Data Development (2017) must be used for positioning methods when locating all sampling points.

4. All sampling equipment must be properly cleaned before and after the collection of each individual sediment core sample.

5. An inert plastic liner must be used in conjunction with each sediment core sampling device; this plastic liner must not be reused.

6. All individual sediment core samples are to be taken to the sediment characterization depth, as specified in this document, and not any deeper.

7. When collecting sediment core samples, the project applicant must ensure that a sufficient volume of sediment is collected to conduct all of the tests (physical and geotechnical, chemical) specified in the approved SSAP.

8. Individual sediment core samples must be photographed prior to homogenization, with the sample identification number, a length scale, and date included in the photograph.

9. Provide core logs showing the depth of sampling (below the sediment surface and mean low water) and a qualitative description of the sediment for each individual sediment core sample.

10. Only sediment core samples collected correctly may be homogenized, composited, and analyzed.

11. Individual sediment core samples may be homogenized in their entirety for analysis provided that there no distinct strata (apparent grain size distribution, composition, and visual characteristics) present that are greater than two (2) feet in depth. The Department shall be notified of any sediment core samples that show grain size stratification prior to homogenizing.

12. The entire sediment core sample (or distinct strata, when present) must be homogenized – “representative” sub-samples of a non-homogenized sediment core sample must not be collected, composited, and analyzed.

13. Individual sediment core samples may be composited only if the grain size distribution of the sediment is similar. Individual samples should not be composited if the percentage clay, silt, or sand differ by more than 20%. The Department shall be notified of any sediment core samples that show varying grain size distribution prior to compositing samples.

14. Representative subsamples of each homogenized core sample (or distinct strata) are combined inequal proportions (by mass) to form the composite analytical sample.

15. The sample preservation requirements and holding times for each analysis, as specified in the analytical methods used, must be adhered to, or proposed alternatives approved by the Department prior to analysis.

16. Sample Chain of Custody requirements must be consistent with those specified in the NJDEP Field Sampling Procedures Manual (2022).

17. If implementation of the approved SSAP does not provide data that are representative of, or fully characterizes, the sediment to be dredged, the Department may require the collection and analyses of additional sediment samples.

18. Analytical laboratories must follow all of the required QA/QC procedures specified in the analytical methods used. Any deviations from these procedures must be documented and justified in the Analytical Data Report.

19. All routine procedures associated with the sampling, handling, transport, storage, preservation, and analysis of the sediment should be specified in Standard Operating Procedure (SOP) documents maintained by the parties actually collecting and analyzing the sediment.

20. **For Structural Fill Protocol**:
    - The following two (2) tests are required:
        - For each core/composite sample/vertically stratified sample, a sample of the processed dredged material product will be created by combining measured amounts of proposed additive with a pre-weighed sample of the sediments to be dredged. The mixing time will, to the greatest extent possible, replicate the residence time in the blending facility/operation to be used in the actual full-scale project. The ratio of proposed additive to composite sediment sample, by weight, will be recorded. The dredged material product to be tested will be formed using the "recipe" (proportions of dredged material and proposed additive) which replicates the actual dredged material product to be used as structural fill on the site. The dredged material product will be pulverized, and each composite sample will be subjected to bulk sediment analyses.
        - The dredged material product samples will be pulverized, and each sample subjected to a Synthetic Precipitation Leaching Procedure (SPLP) using the USEPA Method 1312.
    - A final report must be submitted to the Department in a series of three (3) summary data tables: [1] Raw Sediment - Bulk Sediment Chemistry, [2] Dredged Material Product (Amended Material) - Bulk Sediment Chemistry, and [3] Dredged Material Product (Amended Material) - SPLP results.

## Sample Collection & Laboratory Analysis

If known, **identify** the organizations that will conduct the following activities below:

Collection of samples: Aqua Survey

Lab analysis: Battelle/ Aqua Survey

## Reporting Requirements

The sediment data package must be included in the Waterfront Development Permit application. Any data package submitted to the Department shall comply with the QA/QC requirements outlined in Appendix B of the Dredging Manual. The package must be provided electronically. The data package must include summary tables of the laboratory results and associated method detection limits (MDLs) in a spreadsheet format. The summary tables must present a comparison of the data to the Department's standards, including all interim standards, as applicable (see below tab. The summary tables must present data with identical units and highlight all results that exceed applicable criteria. Where a standard does not exist, N/A or NS should be listed in the corresponding cell. **Units for sediment analyses must be presented in milligrams per kilogram (mg/kg) and units for all water analyses must be presented in micrograms per liter (µg/L).**

In addition:

- PCB Aroclor data must provide a summation for detected analytes.
- PCB Congener data must be presented individually and summed.
- Dioxin data must be presented using current World Health Organization Toxic Equivalency Factors (WHO TEFs) with the calculated Toxic Equivalency (TEQ).
- Chromium Soil Cleanup Criteria (2010)

| Chemical Test | Medium | Dredging & Dewatering Method & Placement Area | Criteria Comparison & Link | Units |
|---|---|---|---|---|
| Bulk Sediment Chemistry | Sediment | • All dredging/dewatering methods and placement areas<br>• Jetting | 2021 Soil Remediation Standards for the Ingestion-Dermal and Inhalation Exposure Pathway – Residential & Non-residential (N.J.A.C. 7:26D – Appendix 1, Tables 1-4) | mg/kg |
| | | • Aquatic/habitat placement | 2009 Ecological Screening Criteria Sediment Freshwater Criteria & Saline Water Criteria | |
| Standard & Modified Elutriate | Water | • Aquatic/habitat placement<br>• Hydraulic dredging with direct discharge<br>• CDF placement<br>• Jetting | 2023 Surface Water Quality Criteria for Toxic Substances – Freshwater (FW2) & Saline Water (SE & SC) Criteria<br>(N.J.A.C. 7:9B) | µg/L |
| SPLP | Raw & Amended Sediment | • Any offsite beneficial reuse | Soil Leachate Remediation Standards for the Migration to Ground Water Exposure Pathway<br>(N.J.A.C. 7:26D – Appendix 1, Table 6) | µg/L |
| Structural Fill Protocol (includes SPLP) | Amended Sediment | • Applicable for DM originating from NY/NJ Harbor | 2021 Soil Remediation Standards for the Ingestion-Dermal and Inhalation Exposure Pathway – Residential & Non-residential<br>(N.J.A.C. 7:26D – Appendix 1, Tables 1-4) | mg/kg |

## SSAP Certifications

### Agent Certification:

☐ I certify that I provided accurate information and will comply with the requirements listed in the approved Sediment Sampling and Analysis Plan.

| | |
|---|---|
| Name: | Ryan Corbett |
| Date: | |
| Signature: | |

### Department Approval – Official Use Only:

☒ The Department hereby approves the Sediment Sampling and Analysis Plan dated for implementation.

☒ The project complies with the requirements of N.J.A.C. 7:7-4.20 Permit-by-rule 20 – Implementation of a sediment sampling plan for sampling in a water area as part of a dredging or dredged material management activity or as part of a remedial investigation of a contaminated site.

☐ This project does not qualify for N.J.A.C. 7:7-4.20 Permit-by-rule 20. Additional permits are necessary to implement the project such as N.J.A.C. 7:7-6.23 General permit 23 – Geotechnical survey borings or a Waterfront Development Individual In-water Permit.

| | |
|---|---|
| DLRP File & Activity No. | 0000-02-0028.1 |
| Approved Core Locations Depicted on the Following Plans: | Series of condition survey sheets dated January 8, 2025 |
| ODST Staff: | Jeff Thein |
| Approval Date: | 10/07/2025 |
| Signature: | |

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Dredge Team, Region 2**
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4076 | r2dredge@dec.ny.gov
www.dec.ny.gov

Kelly Vega
Chief | Dredged Materials Management Section
Operations Division
US Army Corps of Engineers – New York District
26 Federal Plaza, New York, NY 10278

9/8/2025

Dear Ms. Vega,

This letter has been prepared in response to your request for a sediment sampling and testing plan for Newark Bay. The request was submitted in the form of a letter sent on September 4, 2025, by Kelly Vega, subject "Grain Size Sampling and Testing Plan for Jamaica Bay, NY Federal Navigation Project", with the attached sediment sampling plan prepared by the US Army Corp of Engineers (USACE) titled "Newark Bay Hackensack and Passaic River Newark Bay Main Channel New Jersey Condition Survey" dated December 2024 to January 2, 2025. The revised SSAP request letter was sent by Kelly Vega September 9, 2025, and was received by the DEC on September 11, 2025. The total dredge area encompasses approximately 75,868 square yards. The anticipated volume of material to be dredged is approximately 69,301 CY. The target elevation is –50' MLLW plus 2' over dredge in the main channel of Newark Bay and –40' MLLW + 2' over dredge in the Branch Channel of Newark Bay. Placement of the material will be in an upland site either in New York or New Jersey which is TBD. NYSDEC has determined that 23 sediment core sampling locations on the plan are sufficient to cover the scope of the project.

**Analytical Testing**

<u>Cores in the Main Channel will be driven to –52' MLLW and combined into six composites</u>.

Cores in Shoal 1 on the Eastern side of the main channel, will be made of five composites. Cores 1,2 and 3, will be driven to –52' MLLW and the entirety of the cores will be combined into one composite. Cores 4 and 5, will be driven to –52' MLLW and the entirety of the cores will be combined into one composite. Cores 6 and 7 will be driven to –52' MLLW and the entirety of the cores will be combined into one composite. Cores 8, 9 and 10 will be driven to –52' MLLW and the entirety of the cores will be combined into one composite. Cores 11, 12 and 13, will be driven to –52' MLLW and the entirety of the cores will be combined into 1 composite.

Cores in Shoal 2 (Core 14) on the Western Side of the Main Channel will be driven to –52' MLLW and the entirety of the core will be combined into one composite.

<u>Cores in the Branch Channel will be driven to –42' MLLW and combined into 5 composites</u>.

Cores in Shoal 3 will be made of two composites. Cores 15 and 16 will be driven to –42' MLLW and the entirety of the cores will be combined into one composite. Cores 17 and 18 (Shoal 3) will be driven to –42' MLLW and the entirety of the cores will be combined into one composite.

Cores in Shoal 4 (Core 19) will be driven to –42' MLLW and the entirety of the core will be combined into one composite.

Cores in Shoal 5 will be made of two composites. Cores 20 and 21 will be driven to –42' MLLW and the entirety of the cores will be combined into one composite. Cores 22 and 23 will be driven to –42' MLLW and the entirety of the cores will be combined into one composite.

Each core shall be analyzed for grain size. If the results of the grain size analysis indicate that any individual core sample is greater than 90% sand (i.e., less than 10% of particles pass a number 200 sieve), then no further testing is required on that core sample. If a core sample is less than 90% sand, then additional testing will be required for organic carbon, percent moisture and other analytes.

In addition to physical analysis, each composite shall be tested for bulk sediment chemistry if the material is less than 90% sand. The specific analytes which must be tested for include VOCs, semi-volatile organics, PCBs and aroclors, pesticides, metals, and Dioxin and Furans and their congeners. The specific analytes required by both NY and NJ are found in the attached protocols for the testing of processed dredge material. To save money on chemical analysis, the sampler can elect to implement the compositing scheme below. The composites must be made up of equal amounts of the homogenized core sample strata. Analysis results must be submitted with a table labeling the core locations based on the sample locations map cited above and compositing table below to show which core locations are in each composite. The sample locations maps must also be resubmitted with the results.

| **Project Depth Composite** | **Sample Identification Number** |
|---|---|
| Main Channel Shoal 1A | 1, 2, 3 |
| Main Channel Shoal 1B | 4, 5, |
| Main Channel Shoal 1C | 6, 7 |
| Main Channel Shoal 1D | 8, 9, 10 |
| Main Channel Shoal 1E | 11, 12, 13 |
| Main Channel Shoal 2 | 14 |
| Side Channel Shoal 3A | 15, 16 |

| | |
|---|---|
| Side Channel Shoal 3B | 17, 18 |
| Side Channel Shoal 4 | 19 |
| Side Channel Shoal 5A | 20, 21 |
| Side Channel Shoal 5B | 22, 23 |

This SSAP is designed to provide NYSDEC with the information needed to determine potential environmental impacts on natural resources and allow the project sponsor to identify potential upland placement locations if needed. Each raw sediment sample must be tested for the analytes listed in Table 2 of the NYSDEC Technical & Operational Guidance Series (TOGS) 5.1.9. All sediment analyses should be provided to the NYSDEC/NJDEP in the form of a technical report that includes an excel spreadsheet summarizing the results and highlighting threshold exceedances of TOGS 5.1.9 Table 2, 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, and NJDEP's Soil Remediation Standards and Screening Levels. In addition, if the disposal methods for this material include upland placement of amended dredge material product in New York or New Jersey, then measurements must also be made on raw sediment and amended dredge material product that includes all the analytes listed in Table 6.8 of 6 NYCRR Part 375 and in the New Jersey Department of Environmental Protection (NJDEP) Soil Remediation Standards and Screening Levels (revised 09-18-2017) (See Attachment 2 for protocols for testing processed dredged materials). The three referenced tables of required analytes are available at:

https://www.dec.ny.gov/docs/water_pdf/togs519.pdf
https://govt.westlaw.com/nycrr/Document/I4eadfca8cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)
https://dep.nj.gov/wp-content/uploads/rules/rules/njac7_26d.pdf

If upland placement is required, the report should also include the results of chemical analyses on the amended dredge material product. These results should be submitted in three summary data tables:

1. Raw sediment, bulk sediment chemistry
2. Amended dredge material product, bulk sediment chemistry
3. Dredged material product, SPLP results

Note that analyses of dredge material for upland placement should also include hexavalent and trivalent chromium, dioxins, and furans.

Please ensure the contract laboratory is aware of changes to the list of target analytes and analytical requirements. Laboratories used to perform the testing required herein must be certified by the State of New Jersey and the State of New York for the particular analytical method. Both states recommend verifying the volumes required for the tests with the laboratories prior to sampling. Any data package submitted to either NJDEP or NYSDEC shall comply with the QA/QC requirements outlined in Appendix B of the NJDEP technical manual

entitled “The Management and Regulation of Dredging Activities and Dredged Material in New Jersey’s Tidal Waters” (October 1997).

Each placement location has its unique sampling requirements. The project sponsor is encouraged to contact potential placement locations to learn whether additional testing beyond those outlined here will be required.

If you have any questions regarding the SSAP, please feel free to contact Sho Miyazaki at sho.miyazaki@dec.ny.gov or r2dredge@dec.ny.gov.

Sincerely,

Isaac Z. Nikolic

Isaac Nikolic.
Division of Marine Resources
NYSDEC

**ATTACHMENT 1: Table 2 of the NYSDEC Technical & Operational Guidance Series (TOGS) 5.1.9**

Threshold values are based on known and presumed impacts on aquatic organisms/ecosystem. Where fresh water and marine threshold values differ sufficiently, the marine value is presented in parentheses. All concentrations are in mg/kg dry weight.

| Compound | Class A | Class B | Class C | Derivation Code |
|---|---|---|---|---|
| Metals (mg/kg) | | | | |
| Arsenic | < 14 (8.2) | (8.2) 14 - 53 | > 53 | 1 |
| Cadmium | < 1.2 | 1.2 - 9.5 | > 9.5 | 1 |
| Copper* | < 33 | 33 - 207 (270) | > 207 (270) | 1 |
| Lead | < 33 (47) | 33 (47) - 166 (218) | > 166 (218) | 1 |
| Mercury[+] | < 0.17 | 0.17 - 1.6 (1.0) | > 1.6 (1.0) | 1 |
| PAHs and Petroleum-Related Compounds (mg/kg) | | | | |
| Benzene | < 0.59 | 0.59 - 2.16 | > 2.16 | 2 |
| Total BTEX* | < 0.96 | 0.96 - 5.9 | > 5.9 | 2 |
| Total PAH[1] | < 4 | 4 - 35 (45) | > 35 (45) | 1 |
| Pesticides (mg/kg) | | | | |
| Sum of DDT+DDD+DDE[+] | < 0.003 | 0.003 - 0.03 | > 0.03 | 2 |
| Mirex*[+] | < 0.0014 | 0.0014 - 0.014 | > 0.014 | 2 |
| Chlordane*[+] | < 0.003 | 0.003 - 0.036 | > 0.036 | 1 |
| Dieldrin | < 0.11 | 0.11 -0. 48 | > 0.48 | 2 |
| Chlorinated Hydrocarbons (mg/kg) | | | | |
| PCBs (sum of aroclors)[2] | < 0.1 | 0.1 - 1 | > 1 | 3 |
| 2,3,7,8-TCDD*[3] (sum of toxic equivalency) | < 0.0000045 | 0.0000045 - 0.00005 | > 0.00005 | 4 |

[+] Threshold values lower than the Method Detection Limit are superseded by the Method Detection Limit. (See Table 1)
* Indicates case-specific parameter (see Chapter II, Section A).
[1]For Sum of PAH, see Appendix E
[2]For the sum of the 22 PCB congeners required by the USACE NYD or EPA Region 2, the sum must be multiplied by two to determine the total PCB concentration.
[3]TEQ calculation as per the NATO - 1988 method (see Appendix D)

Note: The proposed list of analytes can be augmented with additional site specific parameters of concern. Any additional analytes suggested will require Division approved sediment quality threshold values for the A, B and C classifications.

## ATTACHMENT 2: PROTOCOL FOR THE TESTING OF PROCESSED DREDGED

## MATERIAL FOR USE AS STRUCTURAL FILL

Revision (10/08)

The analytes which must be tested for are listed in the tables found at:

- https://www.nj.gov/dep/rules/rules/njac7_26d.pdf
  (For reuse of processed dredged material in the State of New Jersey)
- Hexavalent and Trivalent Chromium- recent literature
  http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf (Table 11-2, Restricted Use Soil Cleanup Objectives for reuse of processed dredged material in the State of New York, page 349).

The specific sampling plan will identify the pollutants that are to be analyzed for the dredging project.

Since the dredged material will be treated with other materials that will alter its physical and chemical composition, additional tests must be performed on the end product. The required tests are as follows:

- Bulk sediment chemistry, grain size, total organic carbon, and percent moisture analyses must be performed on each raw sediment composite/core sample or vertically stratified sample. Any water which separates from the raw sediment sample during transport/storage (i.e., porewater) must be re-mixed with the solid components of the sediments prior to forming the core or composite samples; this porewater must not be decanted from the sediment sample.

- For each core/composite sample/vertically stratified sample, a sample of the processed dredged material product will be created by combining measured amounts of proposed additive with a pre-weighed sample of the sediments to be dredged. The mixing time will, to the greatest extent possible, replicate the residence time in the blending facility/operation to be used in the actual full-scale project. The ratio of proposed additive to composite sediment sample, by weight, will be recorded. The dredged material product to be tested will be formed using the "recipe" (proportions of dredged material and proposed additive) which replicates the actual dredged material product to be used as structural fill on the site. The dredged material product will be pulverized, and each composite sample will be subjected to bulk sediment analyses.

- The dredged material product samples will be pulverized, and each sample subjected to a Synthetic Precipitation Leaching Procedure (SPLP) using the USEPA Method 1312.

A final report, including the results of the raw sediment and dredged material product testing, will be submitted to the Department in a series of three (3) summary data tables:

- Raw sediment bulk sediment chemistry
- Dredged material product bulk sediment chemistry
- Dredged material product SPLP results

## ATTACHMENT 3: TABLE 375-6.8(B): RESTRICTED USE SOIL CLEAN UP OBJECTIVES

**Table 375-6.8(b): Restricted Use Soil Cleanup Objectives**

| Contaminant | CAS Number | Protection of Public Health: Residential | Restricted-Residential | Commercial | Industrial | Protection of Ecological Resources | Protection of Groundwater |
|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | |
| Arsenic | 7440-38-2 | 16[f] | 16[f] | 16[f] | 16[f] | 13[f] | 16[f] |
| Barium | 7440-39-3 | 350[f] | 400 | 400 | 10,000[d] | 433 | 820 |
| Beryllium | 7440-41-7 | 14 | 72 | 590 | 2,700 | 10 | 47 |
| Cadmium | 7440-43-9 | 2.5[f] | 4.3 | 9.3 | 60 | 4 | 7.5 |
| Chromium, hexavalent[h] | 18540-29-9 | 22 | 110 | 400 | 800 | 1[e] | 19 |
| Chromium, trivalent[h] | 16065-83-1 | 36 | 180 | 1,500 | 6,800 | 41 | NS |
| Copper | 7440-50-8 | 270 | 270 | 270 | 10,000[d] | 50 | 1,720 |
| Total Cyanide[h] | | 27 | 27 | 27 | 10,000[d] | NS | 40 |
| Lead | 7439-92-1 | 400 | 400 | 1,000 | 3,900 | 63[f] | 450 |
| Manganes[e] | 7439-96-5 | 2,000[f] | 2,000[f] | 10,000[d] | 10,000[d] | 1600[f] | 2,000[f] |
| Total Mercury | | 0.81[j] | 0.81[j] | 2.8[j] | 5.7[j] | 0.18[f] | 0.73 |
| Nickel | 7440-02-0 | 140 | 310 | 310 | 10,000[d] | 30 | 130 |
| Selenium | 7782-49-2 | 36 | 180 | 1,500 | 6,800 | 3.9[f] | 4[f] |
| Silver | 7440-22-4 | 36 | 180 | 1,500 | 6,800 | 2 | 8.3 |
| Zinc | 7440-66-6 | 2200 | 10,000[d] | 10,000[d] | 10,000[d] | 109[f] | 2,480 |
| **PCBs/Pesticides** | | | | | | | |
| 2,4,5-TP Acid (Silvex) | 93-72-1 | 58 | 100[a] | 500[b] | 1,000[c] | NS | 3.8 |
| 4,4'-DDE | 72-55-9 | 1.8 | 8.9 | 62 | 120 | 0.0033[e] | 17 |
| 4,4'-DDT | 50-29-3 | 1.7 | 7.9 | 47 | 94 | 0.0033[e] | 136 |
| 4,4'-DDD | 72-54-8 | 2.6 | 13 | 92 | 180 | 0.0033[e] | 14 |
| Aldrin | 309-00-2 | 0.019 | 0.097 | 0.68 | 1.4 | 0.14 | 0.19 |
| alpha-BHC | 319-84-6 | 0.097 | 0.48 | 3.4 | 6.8 | 0.04[g] | 0.02 |
| beta-BHC | 319-85-7 | 0.072 | 0.36 | 3 | 14 | 0.6 | 0.09 |
| Chlordane (alpha) | 5103-71-9 | 0.91 | 4.2 | 24 | 47 | 1.3 | 2.9 |
| delta-BHC | 319-86-8 | 100[a] | 100[a] | 500[b] | 1,000[c] | 0.04[g] | 0.25 |
| Dibenzofuran | 132-64-9 | 14 | 59 | 350 | 1,000[c] | NS | 210 |
| Dieldrin | 60-57-1 | 0.039 | 0.2 | 1.4 | 2.8 | 0.006 | 0.1 |
| Endosulfan I | 959-98-8 | 4.8[i] | 24[i] | 200[i] | 920[i] | NS | 102 |
| Endosulfan II | 33213-65-9 | 4.8[i] | 24[i] | 200[i] | 920[i] | NS | 102 |
| Endosulfan sulfate | 1031-07-8 | 4.8[i] | 24[i] | 200[i] | 920[i] | NS | 1,000[c] |
| Endrin | 72-20-8 | 2.2 | 11 | 89 | 410 | 0.014 | 0.06 |
| Heptachlor | 76-44-8 | 0.42 | 2.1 | 15 | 29 | 0.14 | 0.38 |
| Lindane | 58-89-9 | 0.28 | 1.3 | 9.2 | 23 | 6 | 0.1 |
| Polychlorinated biphenyls | 1336-36-3 | 1 | 1 | 1 | 25 | 1 | 3.2 |
| **Semivolatiles** | | | | | | | |
| Acenaphthene | 83-32-9 | 100[a] | 100[a] | 500[b] | 1,000[c] | 20 | 98 |
| Acenapthylene | 208-96-8 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 107 |
| Anthracene | 120-12-7 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 1,000[c] |
| Benz(a)anthracene | 56-55-3 | 1[f] | 1[f] | 5.6 | 11 | NS | 1[f] |
| Benzo(a)pyrene | 50-32-8 | 1[f] | 1[f] | 1[f] | 1.1 | 2.6 | 22 |
| Benzo(b)fluoranthene | 205-99-2 | 1[f] | 1[f] | 5.6 | 11 | NS | 1.7 |
| Benzo(g,h,i)perylene | 191-24-2 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 1,000[c] |
| Benzo(k)fluoranthene | 207-08-9 | 1 | 3.9 | 56 | 110 | NS | 1.7 |
| Chrysene | 218-01-9 | 1[f] | 3.9 | 56 | 110 | NS | 1f |
| Dibenz(a,h)anthracene | 53-70-3 | 0.33[e] | 0.33[e] | 0.56 | 1.1 | NS | 1,000[c] |
| Fluoranthene | 206-44-0 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 1,000[c] |
| Fluorene | 86-73-7 | 100[a] | 100[a] | 500[b] | 1,000[c] | 30 | 386 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.5[f] | 0.5[f] | 5.6 | 11 | NS | 8.2 |
| m-Cresol | 108-39-4 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 0.33[e] |
| Naphthalene | 91-20-3 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 12 |
| o-Cresol | 95-48-7 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 0.33[e] |
| p-Cresol | 106-44-5 | 34 | 100[a] | 500[b] | 1,000[c] | NS | 0.33[e] |
| Pentachlorophenol | 87-86-5 | 2.4 | 6.7 | 6.7 | 55 | 0.8[e] | 0.8[e] |
| Phenanthrene | 85-01-8 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 1,000[c] |
| Phenol | 108-95-2 | 100[a] | 100[a] | 500[b] | 1,000[c] | 30 | 0.33[e] |
| Pyrene | 129-00-0 | 100[a] | 100[a] | 500[b] | 1,000[c] | NS | 1,000[c] |

| Volatiles | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.68 |
| 1,1-Dichloroethane | 75-34-3 | 19 | 26 | 240 | 480 | NS | 0.27 |
| 1,1-Dichloroethene | 75-35-4 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.33 |
| 1,2-Dichlorobenzene | 95-50-1 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 1.1 |
| 1,2-Dichloroethane | 107-06-2 | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 [f] |
| cis-1,2-Dichloroethene | 156-59-2 | 59 | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.25 |
| trans-1,2-Dichloroethene | 156-60-5 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.19 |
| 1,3-Dichlorobenzene | 541-73-1 | 17 | 49 | 280 | 560 | NS | 2.4 |
| 1,4-Dichlorobenzene | 106-46-7 | 9.8 | 13 | 130 | 250 | 20 | 1.8 |
| 1,4-Dioxane | 123-91-1 | 9.8 | 13 | 130 | 250 | 0.1 [e] | 0.1 [e] |
| Acetone | 67-64-1 | 100 [a] | 100 [b] | 500 [b] | 1,000 [c] | 2.2 | 0.05 |
| Benzene | 71-43-2 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 |
| Butylbenzene | 104-51-8 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 12 |
| Carbon tetrachloride | 56-23-5 | 1.4 | 2.4 | 22 | 44 | NS | 0.76 |
| Chlorobenzene | 108-90-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 40 | 1.1 |
| Chloroform | 67-66-3 | 10 | 49 | 350 | 700 | 12 | 0.37 |
| Ethylbenzene | 100-41-4 | 30 | 41 | 390 | 780 | NS | 1 |
| Hexachlorobenzene | 118-74-1 | 0.33 [e] | 1.2 | 6 | 12 | NS | 3.2 |
| Methyl ethyl ketone | 78-93-3 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 100 [a] | 0.12 |
| Methyl tert-butyl ether | 1634-04-4 | 62 | 100 [a] | 500 [b] | 1,000 [c] | NS | 0.93 |
| Methylene chloride | 75-09-2 | 51 | 100 [a] | 500 [b] | 1,000 [c] | 12 | 0.05 |
| n-Propylbenzene | 103-65-1 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 3.9 |
| sec-Butylbenzene | 135-98-8 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 11 |
| tert-Butylbenzene | 98-06-6 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | NS | 5.9 |
| Tetrachloroethene | 127-18-4 | 5.5 | 19 | 150 | 300 | 2 | 1.3 |
| Toluene | 108-88-3 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 36 | 0.7 |
| Trichloroethene | 79-01-6 | 10 | 21 | 200 | 400 | 2 | 0.47 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 47 | 52 | 190 | 380 | NS | 3.6 |
| 1,3,5- Trimethylbenzene | 108-67-8 | 47 | 52 | 190 | 380 | NS | 8.4 |
| Vinyl chloride | 75-01-4 | 0.21 | 0.9 | 13 | 27 | NS | 0.02 |
| Xylene (mixed) | 1330-20-7 | 100 [a] | 100 [a] | 500 [b] | 1,000 [c] | 0.26 | 1.6 |

**NYCRR Part 375-6.8(b):**

**Restricted Use Soil Cleanup Objectives**
**All soil cleanup objectives (SCOs) are in parts per million (ppm).**

**NS = Not specified. See Technical Support Document (TSD).**

**[a]The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.**

[b]The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

[c]The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

[d]The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

[e]For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

[f]For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

[g]This SCO is derived from data on mixed isomers of BHC.

[h]The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i]This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

[j]This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

| Composite | Sample # | Project Depth | Overdepth | Water Depth | Core Length | Easting | Northing | Shoal Name | Hatching Color | PDF Page No. | Sheet No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | **1** | 50 | 2 | 48.6 | 3.4 | 589713.867 | 661492.509 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| A | **2** | 50 | 2 | 49.1 | 2.9 | 589756.045 | 661249.034 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| A | **3** | 50 | 2 | 49.0 | 3.0 | 589519.797 | 661147.744 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| B | **4** | 50 | 2 | 48.8 | 3.2 | 589437.580 | 660827.166 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| B | **5** | 50 | 2 | 48.8 | 3.2 | 589663.436 | 660607.914 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| C | **6** | 50 | 2 | 48.9 | 3.1 | 589479.768 | 660416.095 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| C | **7** | 50 | 2 | 48.5 | 3.5 | 589727.675 | 660153.506 | Main Channel (East) | Green | 2 of 17 | 2 of 13 |
| D | **8** | 50 | 2 | 49.8 | 2.2 | 590392.900 | 662620.383 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| D | **9** | 50 | 2 | 49.6 | 2.4 | 590235.756 | 662401.225 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| D | **10** | 50 | 2 | 49.0 | 3.0 | 590173.377 | 662164.970 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| E | **11** | 50 | 2 | 49.1 | 2.9 | 590002.090 | 662004.140 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| E | **12** | 50 | 2 | 49.0 | 3.0 | 589956.021 | 661719.470 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| E | **13** | 50 | 2 | 48.7 | 3.3 | 589762.845 | 661595.226 | Main Channel (East) | Green | 3 of 17 | 3 of 13 |
| F | **14** | 50 | 2 | 48.1 | 3.9 | 589658.012 | 663355.849 | Main Channel (West) | Magenta | 3 of 17 | 3 of 13 |
| H | **15** | 40 | 2 | 38.9 | 3.1 | 594076.296 | 675802.841 | Port Newark Branch | Blue | 12 of 17 | 2 of 7 |
| G | **16** | 40 | 2 | 38.9 | 3.1 | 594387.758 | 675392.582 | Port Newark Branch | Blue | 13 of 17 | 3 of 7 |
| G | **17** | 40 | 2 | 39.0 | 3.0 | 594216.324 | 675614.120 | Port Newark Branch | Blue | 13 of 17 | 3 of 7 |
| H | **18** | 40 | 2 | 39.0 | 3.0 | 593982.747 | 675895.670 | Port Newark Branch | Blue | 13 of 17 | 3 of 7 |
| I | **19** | 40 | 2 | 39.5 | 2.5 | 592945.964 | 677199.786 | Port Newark Branch | Purple | 13 of 17 | 3 of 7 |
| J | **20** | 40 | 2 | 39.0 | 3.0 | 592721.619 | 677527.705 | Port Newark Branch | Turquoise | 14 of 17 | 4 of 7 |
| J | **21** | 40 | 2 | 39.6 | 2.4 | 592553.667 | 677758.040 | Port Newark Branch | Turquoise | 14 of 17 | 4 of 7 |
| K | **22** | 40 | 2 | 38.5 | 3.5 | 592308.071 | 678098.843 | Port Newark Branch | Turquoise | 14 of 17 | 4 of 7 |
| K | **23** | 40 | 2 | 37.4 | 4.6 | 592148.294 | 678315.294 | Port Newark Branch | Turquoise | 14 of 17 | 4 of 7 |

**From:** Tom Dolce
**To:** Lisa Pipolo; Michelle Thomas
**Subject:** FW: Newark Bay 2025 draft SOW
**Date:** Monday, November 24, 2025 7:55:08 AM
**Attachments:** FY26 Newark Bay - Sample Location Coordinates_rev1_with composites.xlsx

---

Clarity for Newark Bay when it happens.

Please save the file somewhere safe.

Thanks,

Tom

---

**From:** Corbett, Ryan P CIV USARMY CENAN (USA) <Ryan.P.Corbett@usace.army.mil>
**Sent:** Monday, November 24, 2025 7:00 AM
**To:** Tom Dolce <dolce@aquasurvey.com>; Jon Doi <doi@aquasurvey.com>; Kurt Hummler <hummler@aquasurvey.com>
**Cc:** Lee, Tiffani M CIV USARMY CENAN (USA) <Tiffani.M.Lee@usace.army.mil>; Ehtesham, Arsheen CIV USARMY CENAN (USA) <Arsheen.Ehtesham@usace.army.mil>; Vega, Kelly L CIV USARMY CENAN (USA) <Kelly.L.Vega@usace.army.mil>
**Subject:** RE: Newark Bay 2025 draft SOW

Tom,

Thanks for reaching out. I've attached a sample location list with composites lettered. The original sample list for NYS DEC was misaligned, and they concurred with the attached composite breakdown list and locations following their initial approval. I can pass along that email, if that is helpful for the report.

You can label the composites by letter as identified by the attached excel spreadsheet. If there are any questions at any time, do not hesitate to reach out.

Thanks so much,

Ryan P. Corbett

Biologist, Dredged Material Management Section

New York District, U.S. Army Corps of Engineers

26 Federal Plaza, New York, NY 10278-0090

(917) 790-8082 (Office)

---

**From:** Tom Dolce <dolce@aquasurvey.com>
**Sent:** Monday, November 17, 2025 8:03 AM
**To:** Corbett, Ryan P CIV USARMY CENAN (USA) <Ryan.P.Corbett@usace.army.mil>; Jon Doi <doi@aquasurvey.com>; Kurt Hummler <hummler@aquasurvey.com>
**Cc:** Lee, Tiffani M CIV USARMY CENAN (USA) <Tiffani.M.Lee@usace.army.mil>; Ehtesham, Arsheen CIV USARMY CENAN (USA) <Arsheen.Ehtesham@usace.army.mil>; Vega, Kelly L CIV USARMY CENAN (USA) <Kelly.L.Vega@usace.army.mil>
**Subject:** [Non-DoD Source] RE: Newark Bay 2025 draft SOW

Good Morning Ryan-

Circling back on the SSAPs and approvals. I just wanted to make sure I understood the statements you made and which composite plan to follow once we get notice to proceed.

There were only two differences between what was in the NJDEP SSAP and the NYSDEC SSAP.

| NJDEP SSAP | | NYSDEC | |
|---|---|---|---|
| Composite G | Cores 16, 17 | Side Chanel Shoal 3A | Cores 15, 16 |
| Composite H | Cores 15, 18 | Side Channel Shoal 3B | Cores17, 18 |

Two questions:

1. Which composite scheme do we follow?
2. Which SSAP nomenclature should we follow for labeling composites?

I think that covers my questions.

Thanks,
Tom

---

**From:** Corbett, Ryan P CIV USARMY CENAN (USA) <Ryan.P.Corbett@usace.army.mil>
**Sent:** Thursday, October 9, 2025 4:05 PM
**To:** Jon Doi <doi@aquasurvey.com>; Tom Dolce <dolce@aquasurvey.com>; Kurt Hummler <hummler@aquasurvey.com>

**Cc:** Lee, Tiffani M CIV USARMY CENAN (USA) <Tiffani.M.Lee@usace.army.mil>; Ehtesham, Arsheen CIV USARMY CENAN (USA) <Arsheen.Ehtesham@usace.army.mil>; Vega, Kelly L CIV USARMY CENAN (USA) <Kelly.L.Vega@usace.army.mil>
**Subject:** Newark Bay 2025 draft SOW

Hi Jon,

I have attached the draft SOW and approved SSAP from NJDEP. NYSDEC's concurrence is attached as well. Please note that the composites are up to date in the revised request attachment to NYS and the NJDEP concurrence, but the numbering was revised following NYS concurrence receipt. NYS has acknowledged and concurred with the revision.

Please let myself and Tiffani know if there are any revisions necessary to the SOW and we will proceed with task order generation.

Thank you!

Ryan P. Corbett

Biologist, Dredged Material Management Section

New York District, U.S. Army Corps of Engineers

26 Federal Plaza, New York, NY 10278-0090

(917) 790-8082 (Office)

## III. TEST ADMINISTRATION

### A. Sponsor

Army Corps of Engineers, New York District (USACE-NYD)
26 Federal Plaza
New York, NY 10278

### B. Testing Facilities

Aqua Survey, Inc.
469 Point Breeze Road
Flemington, NJ 08822

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Eurofins Pittsburgh
301 Alpha Drive RDIC Park
Pittsburgh, PA 15238

### C. Dates of Experimentation

| | |
|---|---|
| Date of Study Initiation: | December 5, 2025 |
| Date of Study Completion: | January 19, 2025 |

### D. Study Participants

| | |
|---|---|
| Jon Doi, Ph.D. | Executive Vice President |
| Thomas Dolce | President |
| Michael Doren | Field Operations Specialist |
| Cheryl Hall | Quality Assurance Officer |
| Elizabeth Horn | Staff Scientist |
| Jeffery Plone | Field Operations Support |
| Michelle Thomas | Laboratory Manager |

## IV. MATERIALS AND METHODS

All sampling and testing was performed in accordance with Appendix B, Attachment 1, of the technical manual entitled "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (Dredging Manual), an NYSDEC Sediment Sampling and Analysis Plan (SSAP) dated September 8, 2025, an NJDEP Sediment Sampling and Analysis Plan (SSAP) approved on October 7, 2025, and direction from the client.

## A. Sampling

Test sediment from twenty-three locations was collected from Newark Bay– Main and Port Newark Branch Channels by Aqua Survey personnel on December 5 and December 9, 2025. The vessels used for sampling, the R/V Prattis and R/V Tesla, were positioned using a Trimble SPS855 Differential Global Positioning System (DGPS). Sediment collection was performed using a Rossfelder P-3 vibracore with flexible plastic core liners. The project depths were minus 42.0 feet below mean lower low water (MLLW) and minus 52.0 feet below mean lower low water (MLLW), each including a 2 foot overdredge.

The core samples collected were inspected and photographed. Characteristics were recorded on Sediment Core Logs. All samples were assigned unique ASI sample numbers. These samples were received on ice under chain of custody and were stored at 2-4 °C.

See Figures 1a and 1b for the sample locations maps and Table 1 for sample identification numbers and DGPS coordinates.

The appendices contain all supporting documentation including sediment core logs (Appendix A), photographs (Appendix B), chains of custody (Appendix C), sample use forms (Appendix D), grain size distribution and percent moisture (Appendix E), and TOC raw data (Appendix F).

## B. Homogenizing and Compositing

It should be noted that two discrepancies were noticed with the Compositing Schemes provided in the NYSDEC and NJDEP sampling plans. USACE-NYD was contacted to confirm the correct naming of the Composites Samples as well as which locations were to be used to make each Composite. This confirmation as well as an updated Compositing Scheme can be found in the Correspondence section of this report.

Each of the 23 core samples was carefully homogenized using a stainless steel mixer. This procedure followed the specific guidelines found on pages 9-11 and in Appendix A of the Dredging Manual and in ASI's standard operating procedure SOP/PRP/008. Samples were mixed until uniform in color and texture.

Nine (9) composites and two (2) discrete samples were created from the core samples. Since it is proposed that some of the dredged material will be treated with stabilizing materials, which will alter its chemical and physical composition, an aliquot of each of the composite samples was treated in a manner to simulate this stabilization process. A standard commercial brand of Portland cement was used in creating the amended composite samples. An aliquot of each composite sample was blended with Portland cement (8% by weight) for approximately 5 minutes using the power drill and mixing paddle. Sample identification numbers and the compositing scheme are provided in Table 2.

Sub-samples of each of the composites and the discrete samples, both amended and unamended, and the individual cores, were reserved for the appropriate

physical and chemical analyses. Subsamples of the nine composites and the two discrete samples were archived in the freezer.

### C. Physical Analysis and Total Organic Carbon

Sub-samples of each of the cores and the unamended composites were analyzed by ASI for percent moisture and grain size in accordance with the *Standard Test Method for Particle-Size Analysis of Soils*, Designation: D422-63 (Re-approved 2002). See Appendix E for the grain size and percent moisture raw data, calculations, and distribution graphs.

Total Organic Carbon (TOC) was also determined at ASI based on the guidance from EPA Office of Solid Waste and Emergency Response SW-846 Method No. 9060 (Volume IC, Chapter 5, Revision 0, 9/86). The instrument for this analysis was the Teledyne Tekmar LSS Boat serial number (US18208024R) connected to Teledyne Tekmar Lotix Analyzer serial number (US18214013R). See Appendix F for the TOC raw data.

## V. PHYSICAL ANALYSIS RESULTS

The percent moisture content, grain size distribution and total organic carbon for the sediment and unamended composite samples are shown in Table 3.

**Table 1. DGPS Coordinates**

| Channel | Core | Northings | Eastings | Project Depth (Includes 2 ft. overdredge) |
|---|---|---|---|---|
| Main Channel | 1 | 661486.5 | 589712.8 | -52.0 |
| | 2 | 661251.9 | 589763.0 | -52.0 |
| | 3 | 661147.5 | 589517.7 | -52.0 |
| | 4 | 660827.3 | 589435.9 | -52.0 |
| | 5 | 660609.1 | 589665.2 | -52.0 |
| | 6 | 660416.9 | 589480.6 | -52.0 |
| | 7 | 660155.2 | 589730.9 | -52.0 |
| | 8 | 662615.7 | 590388.6 | -52.0 |
| | 9 | 662402.1 | 590233.4 | -52.0 |
| | 10 | 662166.7 | 590175.1 | -52.0 |
| | 11 | 662007.7 | 590001.2 | -52.0 |
| | 12 | 661721.5 | 589953.8 | -52.0 |
| | 13 | 661591.5 | 589764.4 | -52.0 |
| | 14 | 663355.9 | 589652.9 | -52.0 |
| Port Newark Branch | 15 | 675802.9 | 594075.7 | -42.0 |
| | 16 | 675390.5 | 594384.6 | -42.0 |
| | 17 | 675620.7 | 594217.2 | -42.0 |
| | 18 | 675901.5 | 593988.0 | -42.0 |
| | 19 | 677197.7 | 592943.8 | -42.0 |
| | 20 | 677539.6 | 592710.6 | -42.0 |
| | 21 | 677761.6 | 592554.9 | -42.0 |
| | 22 | 678094.1 | 592307.4 | -42.0 |
| | 23 | 678324.8 | 592155.9 | -42.0 |

**Figure 1a. Sample Locations Map- Main Channel**

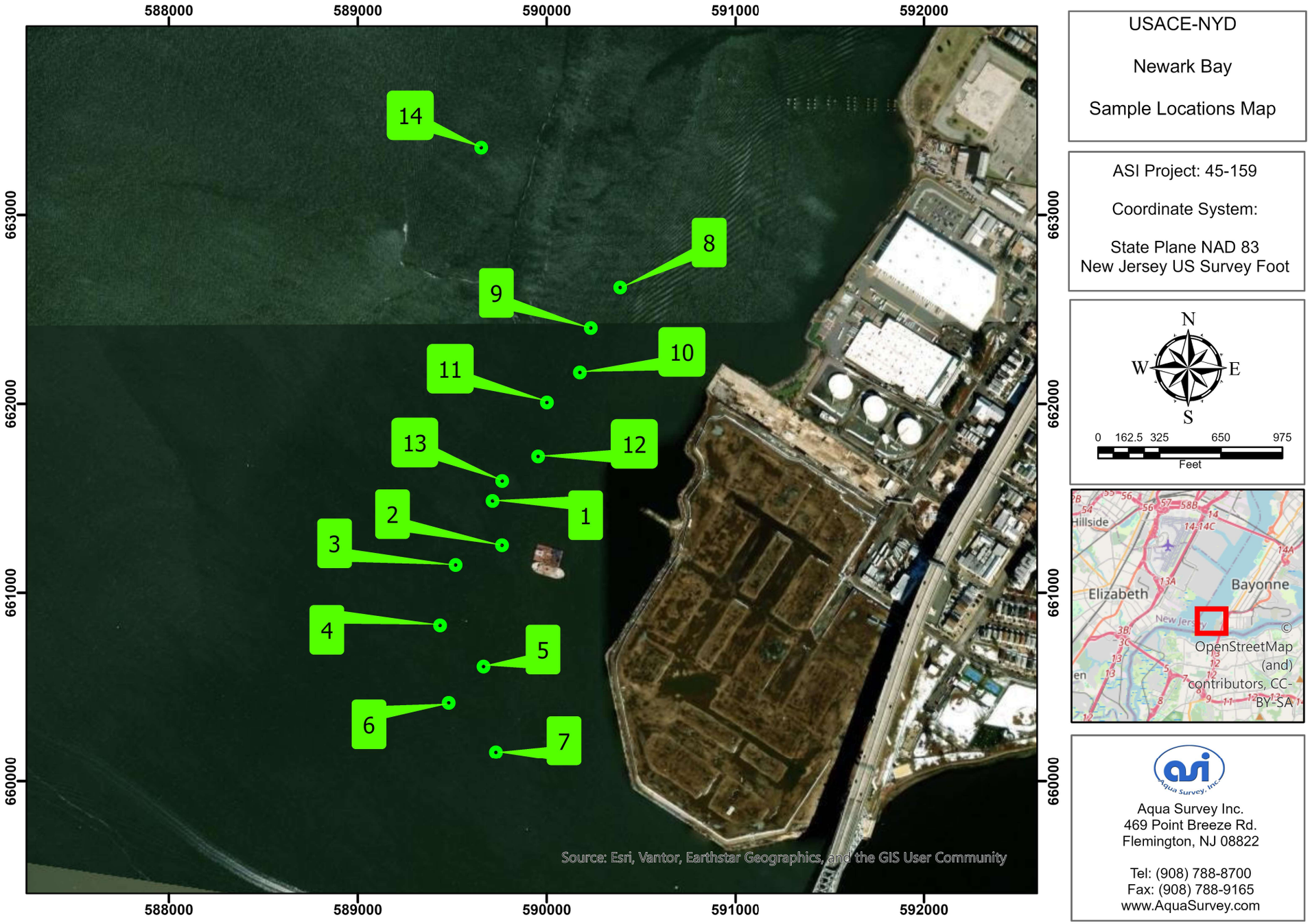


**Figure 1b. Sample Locations Map- Port Newark Branch**

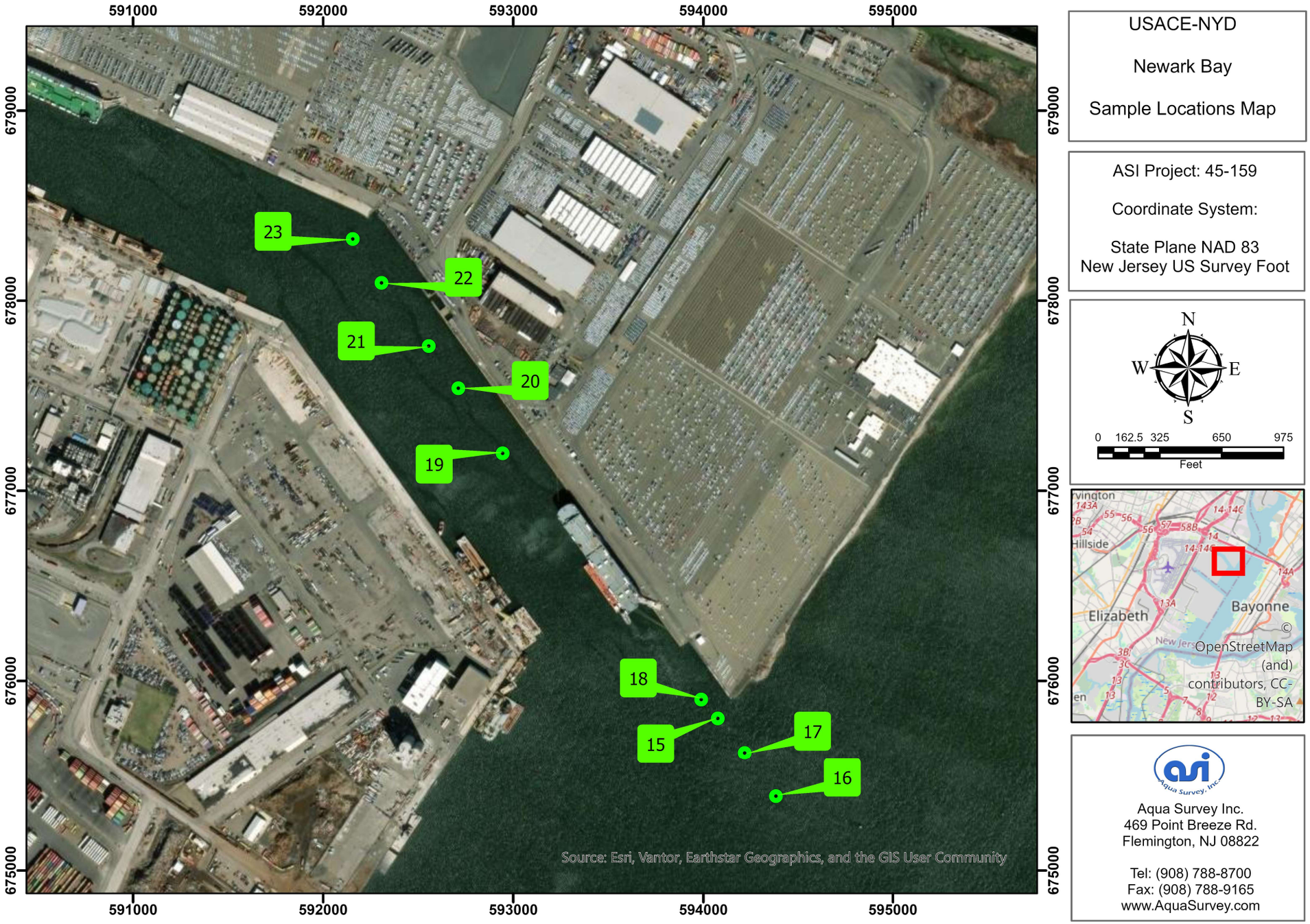


**Table 2. Sample Identification and Compositing Scheme**

| Core Name | ASI ID # | Composite | Amended Composite |
|---|---|---|---|
| 1 | 20251086 | Composite A 20251109 | Amended Composite A 20251118 |
| 2 | 20251087 | | |
| 3 | 20251088 | | |
| 4 | 20251089 | Composite B 20251110 | Amended Composite B 2021119 |
| 5 | 20251090 | | |
| 6 | 20251091 | Composite C 2021111 | Amended Composite C 20251120 |
| 7 | 20251092 | | |
| 8 | 20251093 | Composite D 20251112 | Amended Composite D 20251121 |
| 9 | 20251094 | | |
| 10 | 20251095 | | |
| 11 | 20251096 | Composite E 20251113 | Amended Composite E 20251122 |
| 12 | 20251097 | | |
| 13 | 20251098 | | |
| 14 | 20251099 | Composite F 20251099 | Amended Composite F 20251123 |
| 16 | 20251101 | Composite G 20251114 | Amended Composite G 20251124 |
| 17 | 20251102 | | |
| 15 | 20251100 | Composite H 20251115 | Amended Composite H 20251125 |
| 18 | 20251103 | | |
| 19 | 20251104 | Composite I 20251104 | Amended Composite I 20251126 |
| 20 | 20251105 | Composite H 20251116 | Amended Composite H 20251127 |
| 21 | 20251106 | | |
| 22 | 20251107 | Composite I 20251117 | Amended Composite I 20251128 |
| 23 | 20251108 | | |

**Table 3. Grain Size Distribution, Percent Moisture and TOC**

| Sample ID | ASI # | Total % Gravel | Total % Sand | Total % Silt | Total % Clay | % Moisture | TOC ppm | % TOC of Dry Weight |
|---|---|---|---|---|---|---|---|---|
| #1 | 20251086 | 0.0 | 13.5 | 58.3 | 28.2 | 55.78 | 27,656 | 2.77 |
| #2 | 20251087 | 0.0 | 13.6 | 57.8 | 28.6 | 54.47 | 27,429 | 2.74 |
| #3 | 20251088 | 0.0 | 12.1 | 59.3 | 28.6 | 59.05 | 30,336 | 3.03 |
| Comp A | 20251109 | 0.0 | 11.5 | 59.6 | 28.9 | 56.91 | 28,217 | 2.82 |
| #4 | 20251089 | 0.0 | 12.5 | 55.2 | 32.3 | 54.76 | 27,931 | 2.79 |
| #5 | 20251090 | 0.0 | 16.0 | 55.7 | 28.3 | 52.53 | 33,047 | 3.30 |
| Comp B | 20251110 | 0.0 | 11.7 | 57.2 | 31.1 | 55.15 | 27,973 | 2.80 |
| Comp B | 20251110 dup | 0.0 | 14.3 | 58.2 | 27.5 | | | |
| Comp B | 20251110 trp | 0.0 | 13.3 | 55.6 | 31.1 | | | |
| #6 | 20251091 | 1.0 | 27.4 | 47.7 | 23.9 | 52.32 | 26,086 | 2.61 |
| #7 | 20251092 | 2.8 | 23.5 | 46.0 | 27.7 | 53.11 | 24,021 | 2.40 |
| Comp C | 20251111 | 0.7 | 24.7 | 49.7 | 24.9 | 53.16 | 21,544 | 2.15 |
| #8 | 20251093 | 0.0 | 13.1 | 58.7 | 28.2 | 54.67 | 27,781 | 2.78 |
| #9 | 20251094 | 0.0 | 11.6 | 57.6 | 30.8 | 54.79 | 28,132 | 2.81 |
| #10 | 20251095 | 0.0 | 10.1 | 60.9 | 29.0 | 59.92 | 28,956 | 2.90 |
| Comp D | 20251112 | 0.0 | 10.7 | 60.3 | 29.0 | 56.05 | 26,982 | 2.70 |
| #11 | 20251096 | 0.0 | 10.2 | 58.2 | 31.6 | 56.34 | 29,590 | 2.96 |
| #12 | 20251097 | 0.0 | 12.6 | 56.8 | 30.6 | 57.24 | 28,615 | 2.86 |
| #13 | 20251098 | 0.0 | 8.3 | 57.4 | 34.3 | 58.50 | 30,474 | 3.05 |
| Comp E | 20251113 | 0.0 | 12.2 | 61.8 | 26.0 | 57.26 | 28,376 | 2.84 |
| #14/ Comp F | 20251099 | 0.0 | 28.5 | 43.1 | 28.4 | 51.89 | 20,147 | 2.01 |
| #16 | 20251101 | 0.0 | 2.7 | 63.6 | 33.7 | 52.89 | 25,405 | 2.54 |
| #17 | 20251102 | 0.0 | 2.6 | 61.8 | 35.6 | 58.34 | 34,847 | 3.48 |
| Comp G | 20251114 | 0.0 | 4.9 | 63.2 | 31.9 | 56.33 | 30,404 | 3.04 |
| #15 | 20251100 | 0.0 | 2.2 | 58.8 | 39.0 | 52.13 | 24,969 | 2.50 |
| #18 | 20251103 | 0.0 | 3.8 | 66.2 | 30.0 | 56.65 | 32,451 | 3.25 |
| Comp H | 20251115 | 0.0 | 4.6 | 66.0 | 29.4 | 54.50 | 27,927 | 2.79 |

**Table 3 (Continued). Grain Size Distribution, Percent Moisture and TOC**

| Sample ID | ASI # | Total % Gravel | Total % Sand | Total % Silt | Total % Clay | % Moisture | TOC ppm | % TOC of Dry Weight |
|---|---|---|---|---|---|---|---|---|
| #19/ Comp I | 20251104 | 0.0 | 5.7 | 66.9 | 27.4 | 52.91 | 29,066 | 2.91 |
| #19/ Comp I | 20251104 dup | 0.0 | 5.9 | 66.0 | 28.1 | | | |
| #19/ Comp I | 20251104 trp | 0.0 | 5.9 | 65.3 | 28.8 | | | |
| #20 | 20251105 | 0.0 | 4.1 | 62.5 | 33.4 | 59.11 | 30,961 | 3.10 |
| #20 | 20251105 dup | | | | | 59.12 | | |
| #20 | 20251105 trp | | | | | 59.07 | | |
| #21 | 20251106 | 0.0 | 1.2 | 61.1 | 37.7 | 59.43 | 31,048 | 3.10 |
| Comp J | 20251116 | 0.0 | 4.1 | 63.0 | 32.9 | 59.71 | 31,851 | 3.19 |
| #22 | 20251107 | 0.0 | 5.0 | 66.2 | 28.8 | 57.87 | 29,442 | 2.94 |
| #23 | 20251108 | 0.0 | 2.5 | 69.0 | 28.5 | 57.96 | 29,977 | 3.00 |
| Comp K | 20251117 | 0.0 | 7.3 | 66.8 | 25.9 | 58.62 | 32,190 | 3.22 |
| Comp K | 20251117 dup | | | | | 58.68 | | |
| Comp K | 20251117 trp | | | | | 58.61 | | |

# APPENDICES

# Appendix A

# Sediment Core Logs

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 08:45 | Crew: | JP | | |
| Coordinates: | N 661486.5 | E 589712.8 | | Vessel: | PRATTIS | | |
| Core # : 1 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 7.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 55.6 | Recovered Core Length (ft.): | | 4.5 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 6.2 | Sample Length Retained (ft.): | | 2.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.4 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251086 | DARK GRAY SILT |
| 2.6 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 09:19 | Crew: | JP | | |
| Coordinates: | N 661251.9 | E 589763.0 | | Vessel: | PRATTIS | | |
| Core # : 2 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 8.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 55.1 | Recovered Core Length (ft.): | | 5.1 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.7 | Sample Length Retained (ft.): | | 2.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.4 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251087 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.6 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 09:46 | Crew: | JP | | |
| Coordinates: | N 661147.5 | E 589517.7 | | Vessel: | PRATTIS | | |
| Core # : 3 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 8.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 54.7 | Recovered Core Length (ft.): | | 5.1 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.2 | Sample Length Retained (ft.): | | 2.5 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.5 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.5 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251088 | DARK GRAY SILT FIRMER WITHDEPTH |
| 2.5 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 10:07 | Crew: | JP | | |
| Coordinates: | N 660827.3 | E 589435.9 | | Vessel: | PRATTIS | | |
| Core # : 4 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 7.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 54.1 | Recovered Core Length (ft.): | | 4.6 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.7 | Sample Length Retained (ft.): | | 2.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.4 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251089 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.6 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 10:30 | Crew: | JP | | |
| Coordinates: | N 660609.1 | E 589665.2 | | Vessel: | PRATTIS | | |
| Core # : 5 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 8.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 53.7 | Recovered Core Length (ft.): | | 5.2 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.1 | Sample Length Retained (ft.): | | 2.4 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.6 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.4 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.4 | 20251090 | DARK GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 10:43 | Crew: | JP | | |
| Coordinates: | N 660416.9 | E 589480.6 | | Vessel: | PRATTIS | | |
| Core # : 6 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 5.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 53.2 | Recovered Core Length (ft.): | | 3.9 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 3.8 | Sample Length Retained (ft.): | | 2.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.4 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251091 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.6 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 11:07 | Crew: | JP | | |
| Coordinates: | N 660155.2 | E 589730.9 | | Vessel: | PRATTIS | | |
| Core # : 7 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 52.6 | Recovered Core Length (ft.): | | 4.2 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 3.1 | Sample Length Retained (ft.): | | 2.5 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.5 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.5 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251092 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.5 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 11:33 | Crew: | JP | | |
| Coordinates: | N 662615.7 | E 590388.6 | | Vessel: | PRATTIS | | |
| Core # : 8 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 52.1 | Recovered Core Length (ft.): | | 4.1 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 2.4 | Sample Length Retained (ft.): | | 2.3 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.7 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.3 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251093 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.3 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 12:04 | Crew: | JP | | |
| Coordinates: | N 662402.1 | E 590233.4 | | Vessel: | PRATTIS | | |
| Core # : 9 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | | 52.0 | Core Penetration Length (ft.): | 5.0 | | |
| Measured Water Depth [MWD] [ft.]: | | | 51.4 | Recovered Core Length (ft.): | 3.6 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | | 1.6 | Sample Length Retained (ft.): | 2.2 | | |
| Corrected Depth @ MLLW [ft.]: | | | 49.8 | Core Volume Retained (gal) | 1.5 | | |
| | | | | Collected to Project Depth: | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | | 2.2 | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251094 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.2 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-5-25 | | Time: 12:25 | Crew: | JP | | |
| Coordinates: | N 662166.7 | E 590175.1 | | Vessel: | PRATTIS | | |
| Core # : 10 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 50.4 | Recovered Core Length (ft.): | | 4.7 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 1.1 | Sample Length Retained (ft.): | | 2.7 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.3 | Core Volume Retained (gal) | | 1.5 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.7 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.7 | 20251095 | DARKGRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 9:04 | Crew: | JP | | |
| Coordinates: | N 662007.7 | E 590001.2 | | Vessel: | TESLA | | |
| Core # : 11 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 53.7 | Recovered Core Length (ft.): | | 4.9 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.0 | Sample Length Retained (ft.): | | 2.3 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.7 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.3 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.3 | 20251096 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 09:32 | Crew: | JP | | |
| Coordinates: | N 661721.5 | E 589953.8 | | Vessel: | TESLA | | |
| Core # : 12 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 54.0 | Recovered Core Length (ft.): | | 4.1 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.2 | Sample Length Retained (ft.): | | 2.2 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.8 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.2 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251097 | DARK GRAY SILT FIRMER WITH DEPTH |
| 2.2 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (East) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12.9.25 | | Time: 09:52 | Crew: | JP | | |
| Coordinates: | N 661591.5 | E 589764.4 | | Vessel: | TESLA | | |
| Core # : 13 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 7.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 53.9 | Recovered Core Length (ft.): | | 5.0 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.5 | Sample Length Retained (ft.): | | 2.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 49.4 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.6 | 20251098 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Main Channel (West) | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 10:21 | Crew: | JP | | |
| Coordinates: | N 663355.9 | E 589652.9 | | Vessel: | TESLA | | |
| Core # : 14 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 52.0 | Core Penetration Length (ft.): | | 6.0 | 5.0 | |
| Measured Water Depth [MWD] [ft.]: | | 55.2 | Recovered Core Length (ft.): | | 4.3 | 4.1 | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.0 | Sample Length Retained (ft.): | | 1.8 | 1.8 | |
| Corrected Depth @ MLLW [ft.]: | | 50.2 | Core Volume Retained (gal) | | 0.9 | 0.9 | |
| | | | Collected to Project Depth: | | Yes ☑ | No ☐ | Refusal ☐ |
| Required Sample Core Length [SCL] [ft.]: | | 1.8 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251099 | GRAY SILT FIRMER WITH DEPTH |
| 1.8 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 11:09 | Crew: | JP | | |
| Coordinates: | N 675802.9 | E 594075.7 | | Vessel: | TESLA | | |
| Core # : 15 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 42.0 | Core Penetration Length (ft.): | | 5.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 44.6 | Recovered Core Length (ft.): | | 4.8 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.4 | Sample Length Retained (ft.): | | 2.8 | | |
| Corrected Depth @ MLLW [ft.]: | | 39.2 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.8 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.8 | 20251100 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 11:23 | Crew: | JP | | |
| Coordinates: | N 675390.5 | E 594384.6 | | Vessel: | TESLA | | |
| Core # : 16 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 42.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 44.4 | Recovered Core Length (ft.): | | 4.7 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.5 | Sample Length Retained (ft.): | | 3.1 | | |
| Corrected Depth @ MLLW [ft.]: | | 38.9 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 3.1 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 3.1 | 20251101 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 11:44 | Crew: | JP | | |
| Coordinates: | N 675620.7 | E 594217.2 | | Vessel: | TESLA | | |
| Core # : 17 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | 42.0 | | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | 44.7 | | Recovered Core Length (ft.): | | 4.9 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | 5.5 | | Sample Length Retained (ft.): | | 2.8 | | |
| Corrected Depth @ MLLW [ft.]: | 39.2 | | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | 2.8 | | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.8 | 20251102 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 12:04 | Crew: | JP | | |
| Coordinates: | N 675901.5 | E 593988.0 | | Vessel: | TESLA | | |
| Core # : 18 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 42.0 | Core Penetration Length (ft.): | | 6.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 44.3 | Recovered Core Length (ft.): | | 4.9 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 5.5 | Sample Length Retained (ft.): | | 3.2 | | |
| Corrected Depth @ MLLW [ft.]: | | 38.8 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 3.2 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251103 | GRAY SILT FIRMER WITH DEPTH |
| 3.2 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | |
|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | |
| Job # : 45-159 | Date: 12-9-25 | Time: 12:30 | | Crew: | JP | |
| Coordinates: | N 677197.7 | E 592943.8 | | Vessel: | TESLA | |
| Core # : 19 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | 42.0 | | Core Penetration Length (ft.): | | 5.0 | 5.0 | |
| Measured Water Depth [MWD] [ft.]: | 44.9 | | Recovered Core Length (ft.): | | 3.9 | 4.0 | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | 5.2 | | Sample Length Retained (ft.): | | 2.3 | 2.3 | |
| Corrected Depth @ MLLW [ft.]: | 39.7 | | Core Volume Retained (gal) | | 1.0 | 1.0 | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | 2.3 | | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251104 | GRAY SILT FIRMER WITH DEPTH |
| 2.3 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 12:47 | Crew: | JP | | |
| Coordinates: | N 677539.6 | E 592710.6 | | Vessel: | TESLA | | |
| Core # : 20 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | 42.0 | | Core Penetration Length (ft.): | | 7.0 | | |
| Measured Water Depth [MWD] [ft.]: | 44.1 | | Recovered Core Length (ft.): | | 5.3 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | 5.0 | | Sample Length Retained (ft.): | | 2.9 | | |
| Corrected Depth @ MLLW [ft.]: | 39.1 | | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | 2.9 | | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251105 | GRAY SIT FIRMER WITH DEPTH |
| 2.9 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 13:05 | Crew: | JP | | |
| Coordinates: | N 677761.6 | E 592554.9 | | Vessel: | TESLA | | |
| Core # : 21 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 42.0 | Core Penetration Length (ft.): | | 5.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 44.7 | Recovered Core Length (ft.): | | 3.7 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.9 | Sample Length Retained (ft.): | | 2.2 | | |
| Corrected Depth @ MLLW [ft.]: | | 39.8 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 2.2 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 2.2 | 20251106 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 13:21 | Crew: | JP | | |
| Coordinates: | N 678094.1 | E 592307.4 | | Vessel: | TESLA | | |
| Core # : 22 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | | 42.0 | Core Penetration Length (ft.): | | 5.0 | | |
| Measured Water Depth [MWD] [ft.]: | | 43.0 | Recovered Core Length (ft.): | | 4.4 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | | 4.6 | Sample Length Retained (ft.): | | 3.6 | | |
| Corrected Depth @ MLLW [ft.]: | | 38.4 | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | | 3.6 | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 | 20251107 | GRAY SILT FIRMER WITH DEPTH |
| 3.6 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

# AQUA SURVEY, INC.

## SEDIMENT CORE LOG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Client : USACE | | Project : Newark Bay-Port Newark Branch | | | Logger: MD | | |
| Job # : 45-159 | Date: 12-9-25 | | Time: 13:49 | Crew: | JP | | |
| Coordinates: | N 678324.8 | E 592155.9 | | Vessel: | TESLA | | |
| Core # : 23 | Zone: NJ | Datum: NAD 83 | | Deploy: | 1 | 2 | 3 |
| Project Depth (incl. 2 ft. Overdredge) [PD] [ft] MLLW | 42.0 | | Core Penetration Length (ft.): | | 7.0 | | |
| Measured Water Depth [MWD] [ft.]: | 41.7 | | Recovered Core Length (ft.): | | 6.4 | | |
| Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: | 4.1 | | Sample Length Retained (ft.): | | 4.4 | | |
| Corrected Depth @ MLLW [ft.]: | 37.6 | | Core Volume Retained (gal) | | 1.0 | | |
| | | | Collected to Project Depth: | | Yes ☑ No ☐ Refusal ☐ | | |
| Required Sample Core Length [SCL] [ft.]: | 4.4 | | | | | | |

**All Length Measurements are in Decimal Feet**

| Sample Interval (ft.) | Sample Id # | Description |
|---|---|---|
| Top 0.0 – 4.4 | 20251108 | GRAY SILT FIRMER WITH DEPTH |
| | | |
| | | |
| | | |
| | | |
| Bottom | | |

| | | | | |
|---|---|---|---|---|
| # of containers: | 1 | | | |
| Type of container: | bucket | hardliner | cup | other |

Core Volumes
Nominal core-barrel diameter: 4.0" .50 gal/ft EST. Volume

Conditions:

Liner Type: Soft

Comments:

Sample Type: P3

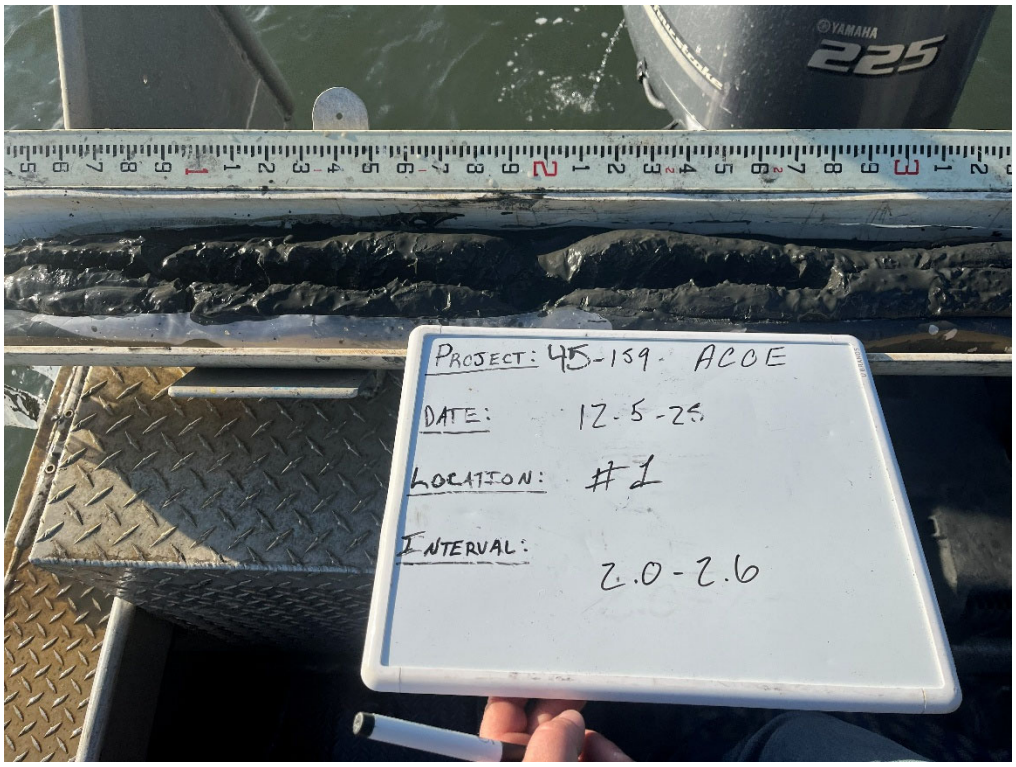
| | | |
|---|---|---|
| Live Organisms Present | Yes ☐ | No ☑ |
| Oil Present | Yes ☐ | No ☑ |
| Odor Present | Yes ☐ | No ☑ |
| Debris Present | Yes ☐ | No ☑ |
| Within 10% of Req'd Core Length | Yes ☑ | No ☐ |
| Photo | Yes ☑ | No ☐ |

*Core Log version 073025*

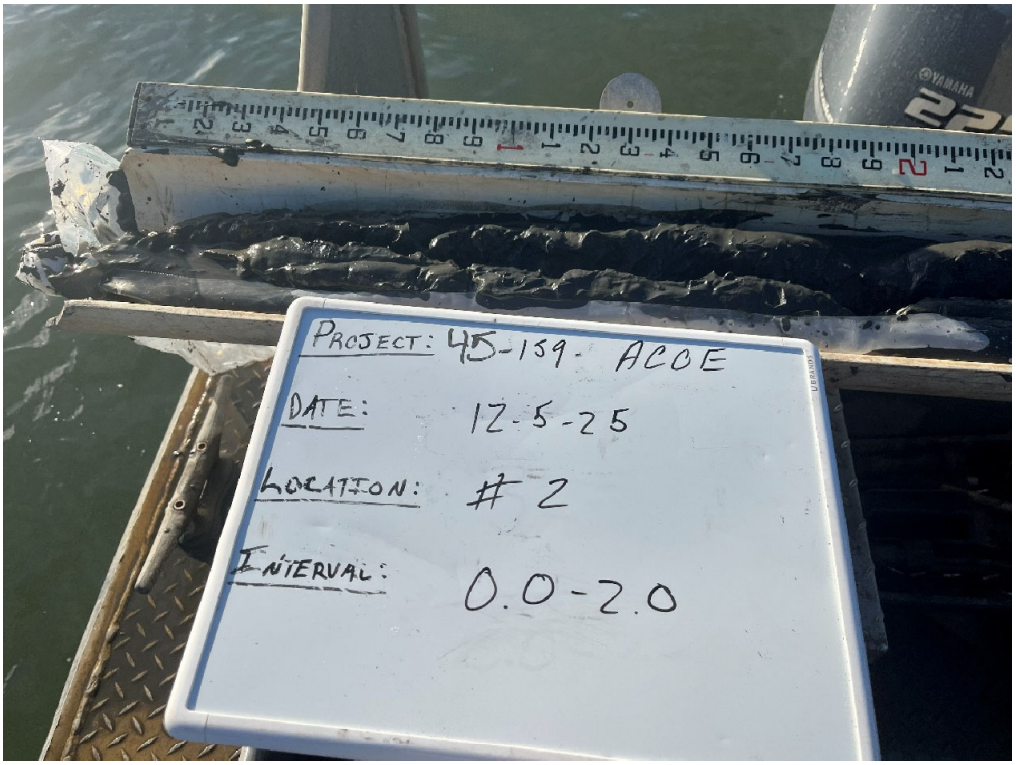
# Appendix B

# Photographs

Core 1, 0 – 2.0’, 12/05/25, ASI ID # 20251086

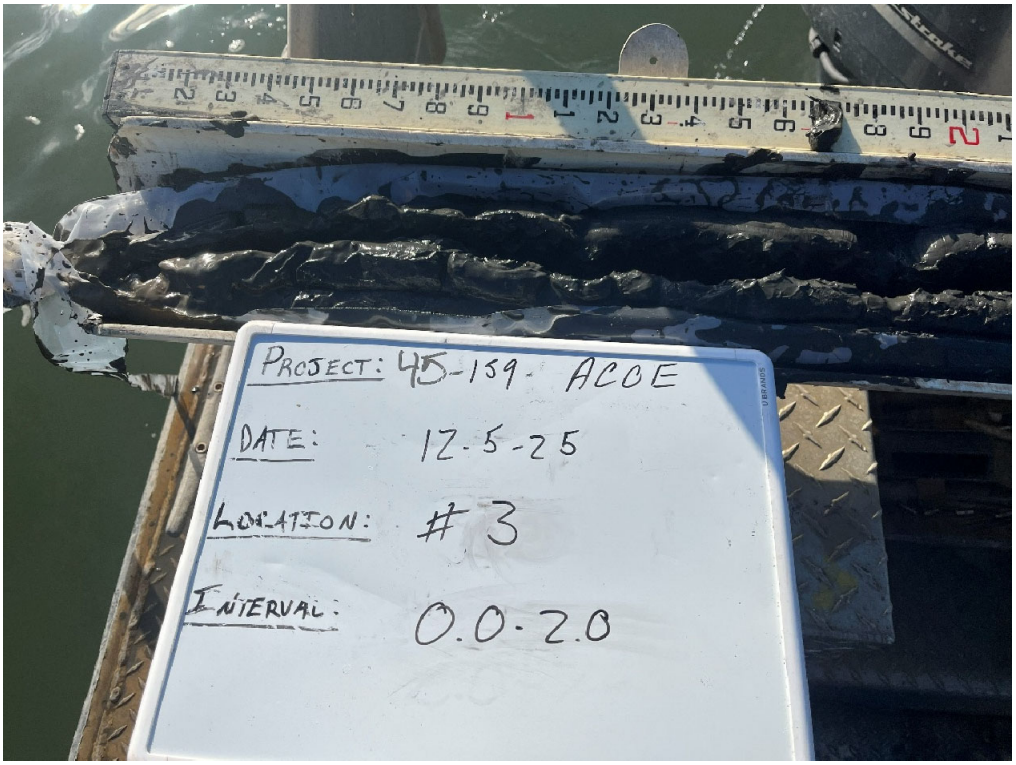



Core 1, 2.0’ – 2.6’, 12/05/25, ASI ID # 20251086



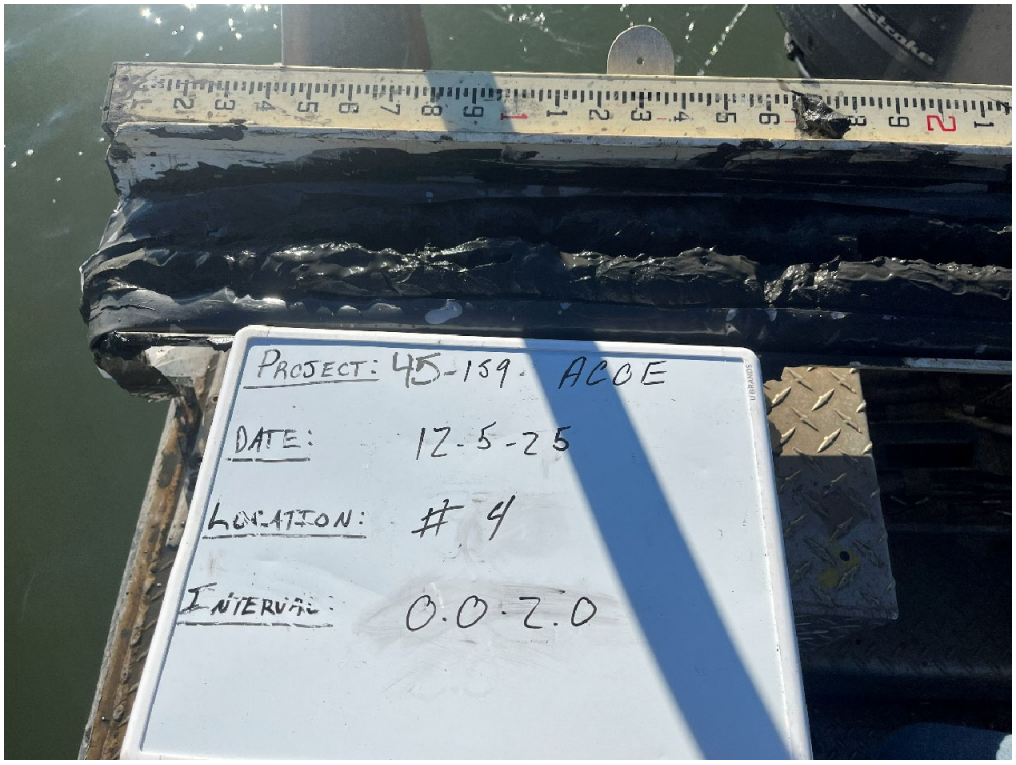

Core 2, 0 – 2.0’, 12/05/25, ASI ID # 20251087

Core 2, 2.0’ – 2.6’, 12/05/25, ASI ID # 20251087

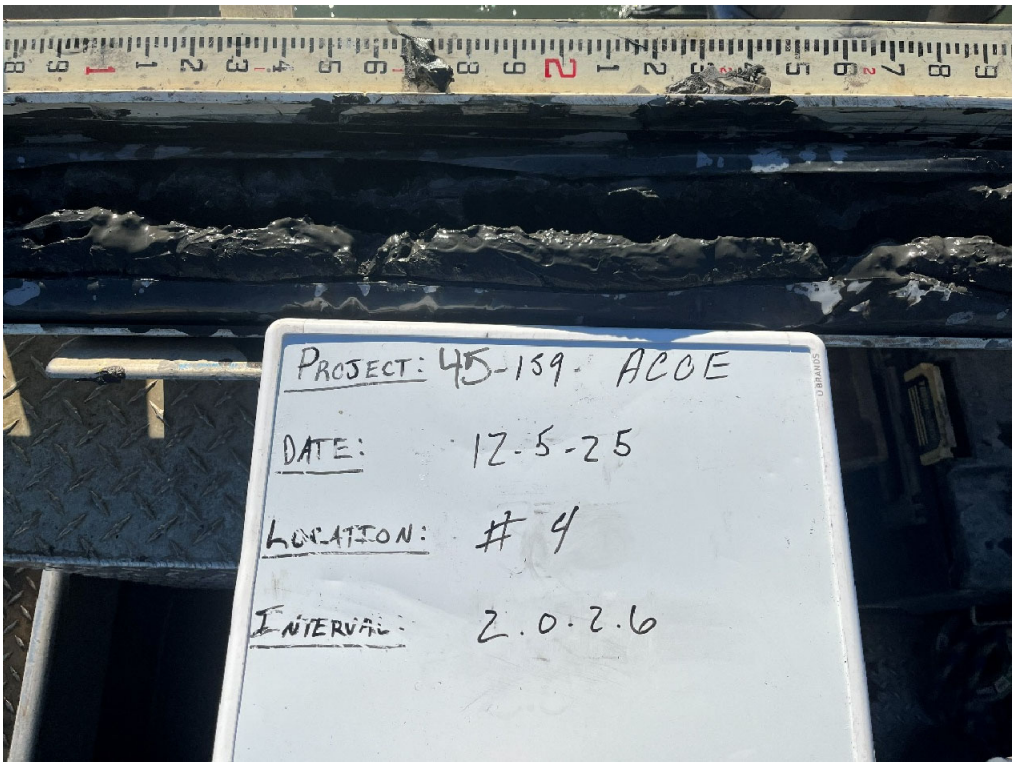



Core 3, 0 – 2.0’, 12/05/25, ASI ID # 20251088

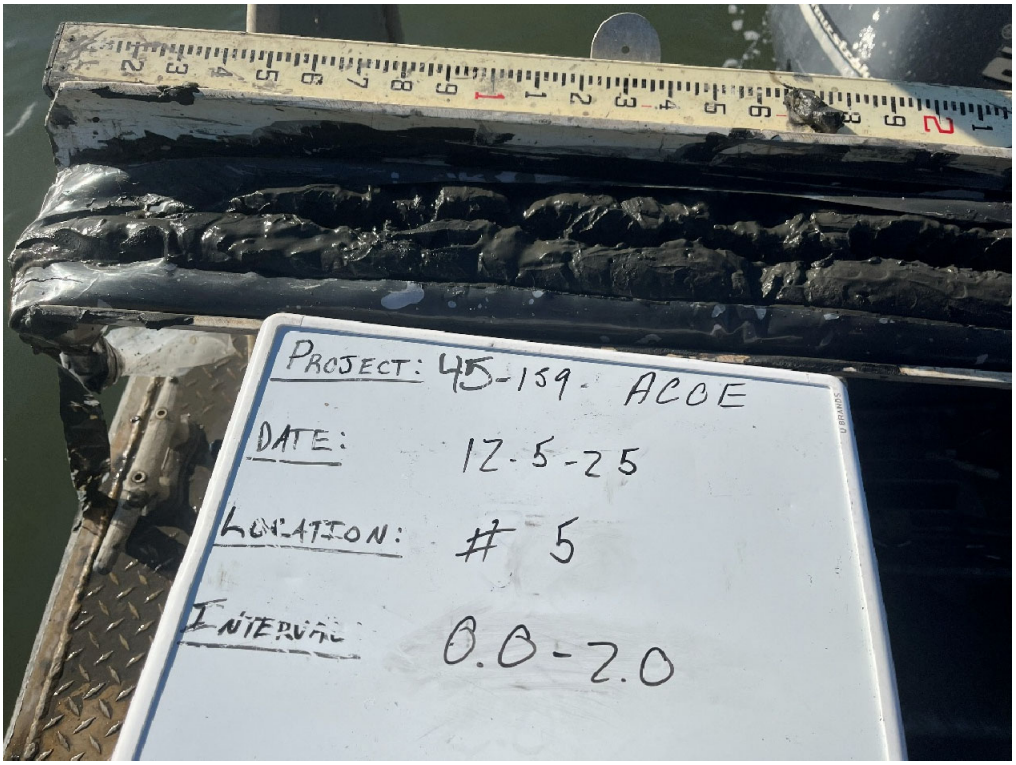
Core 3, 2.0’ – 2.5’, 12/05/25, ASI ID # 20251088




Core 4, 0 – 2.0’, 12/05/25, ASI ID # 20251089

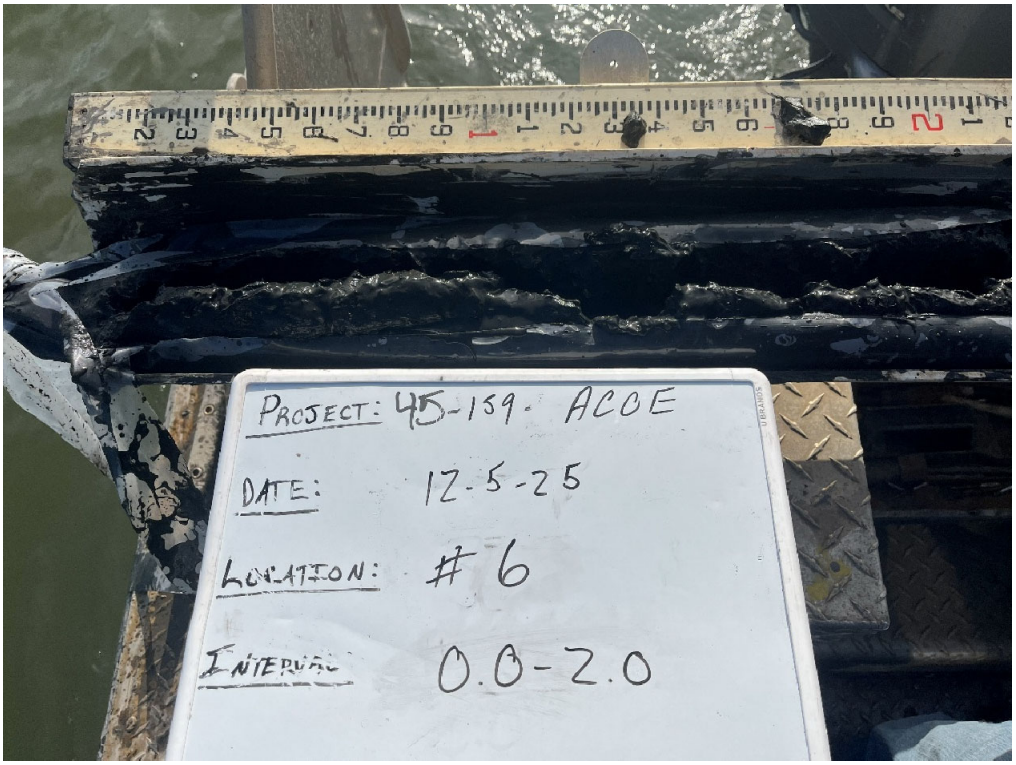



Core 4, 2.0’ – 2.6’, 12/05/25, ASI ID # 20251089

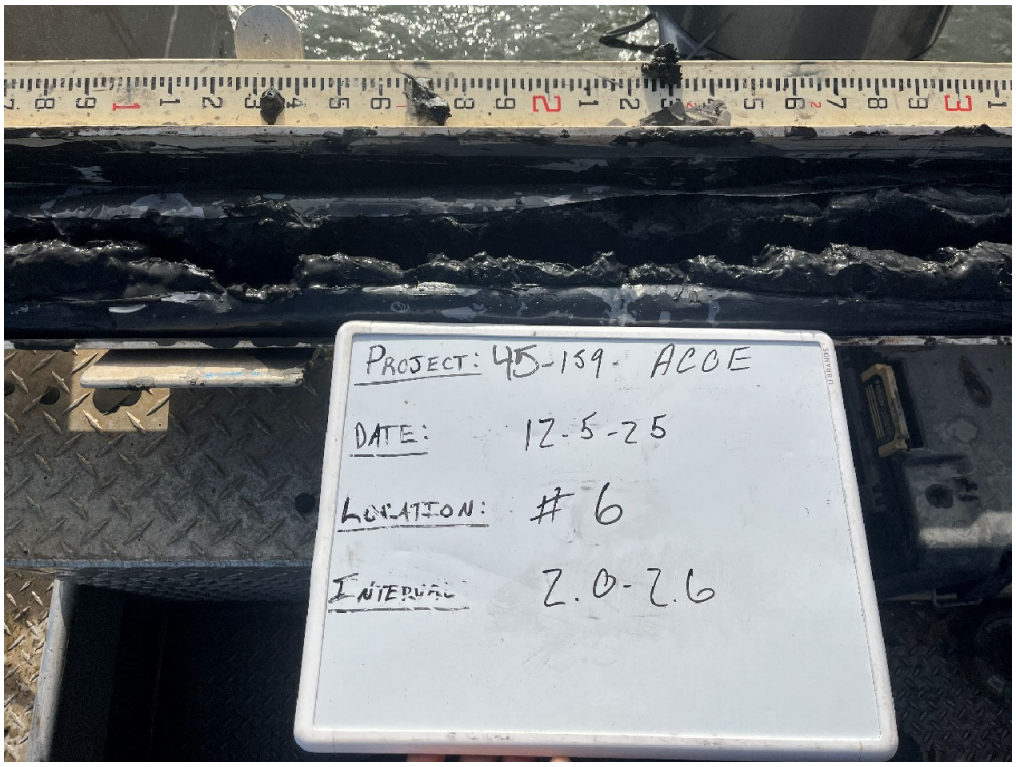



Core 5, 0 – 2.0’, 12/05/25, ASI ID # 20251090

Core 5, 2.0’ – 2.4’, 12/05/25, ASI ID # 20251090



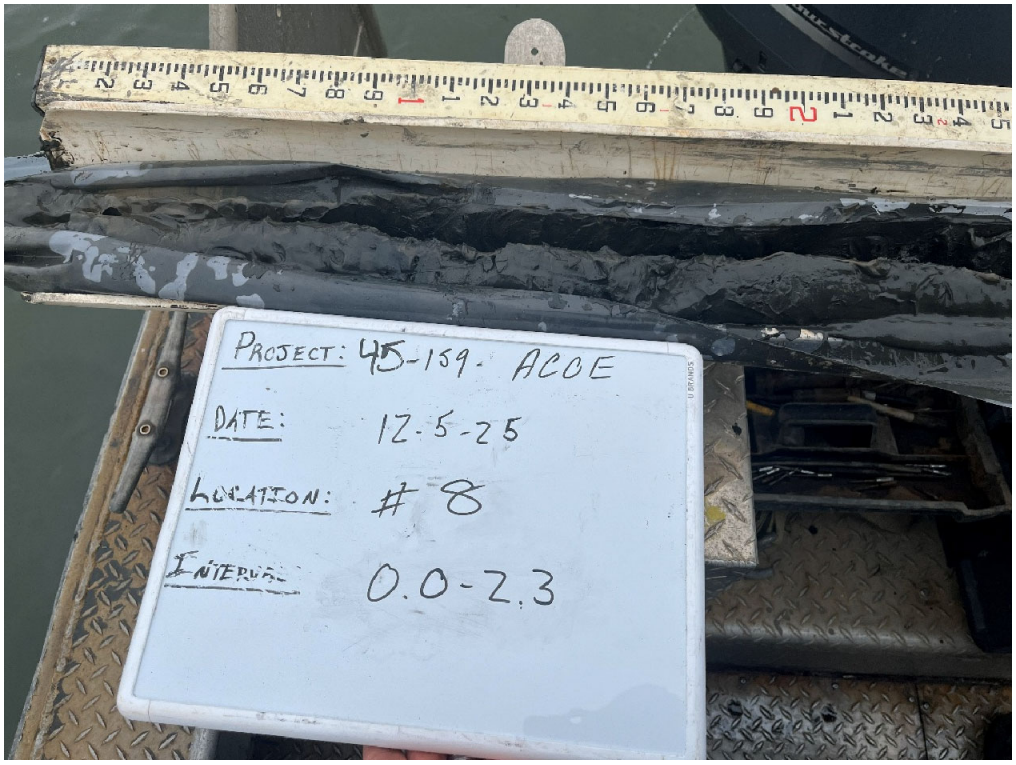

Core 6, 0 – 2.0’, 12/05/25, ASI ID # 20251091



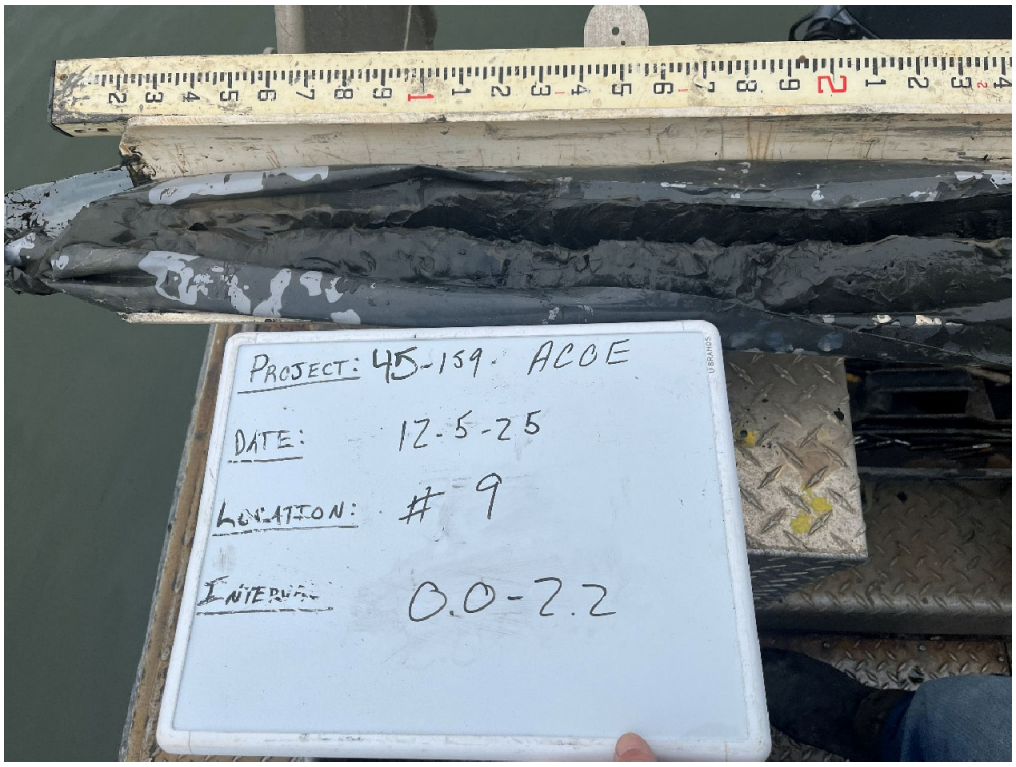

Core 6, 2.0’ – 2.6’, 12/05/25, ASI ID # 20251091

Core 7, 0 – 2.0’, 12/05/25, ASI ID # 20251092

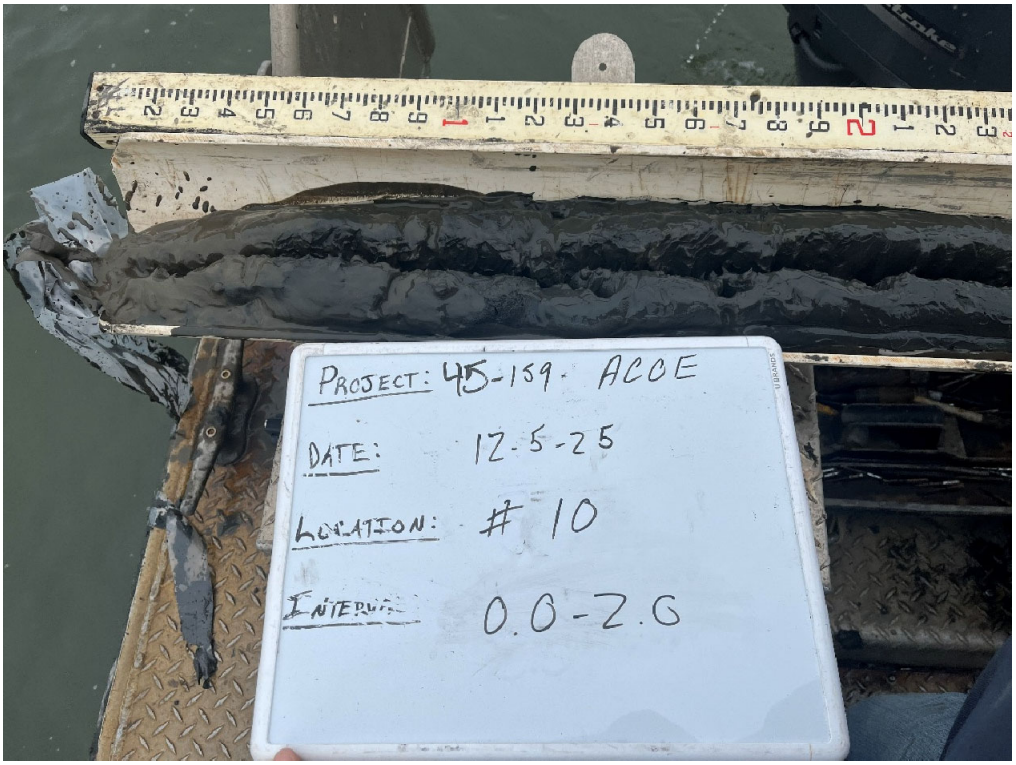
Core 7, 2.0’ – 2.5’, 12/05/25, ASI ID # 20251092




Core 8, 0 – 2.3’, 12/05/25, ASI ID # 20251093




Core 9, 0 – 2.2’, 12/05/25, ASI ID # 20251094




Core 10, 0 – 2.0’, 12/05/25, ASI ID # 20251095

Core 10, 2.0’ – 2.7’, 12/05/25, ASI ID # 20251095

Core 11, 0 – 2.3’, 12/09/25, ASI ID # 20251096

Core 12, 0 – 2.2’, 12/09/25, ASI ID # 20251097

Core 13, 0 – 2.0’, 12/09/25, ASI ID # 20251098

Core 13, 2.0’ – 2.6’, 12/09/25, ASI ID # 20251098

Core 14, 0 – 1.8’, 12/09/25, ASI ID # 20251099

Core 15, 0 – 2.0’, 12/09/25, ASI ID # 20251100

Core 15, 2.0’ – 2.8’, 12/09/25, ASI ID # 20251100

Core 16, 0– 2.0’, 12/09/25, ASI ID # 20251101

Core 16, 2.0’ – 3.1’, 12/09/25, ASI ID # 20251101

Core 17, 0 – 2.0’, 12/09/25, ASI ID # 20251102

Core 17, 2.0’ – 2.8’, 12/09/25, ASI ID # 20251102

Core 18, 0– 2.0’, 12/09/25, ASI ID # 20251103

Core 18, 2.0’ – 3.2’, 12/09/25, ASI ID # 20251103

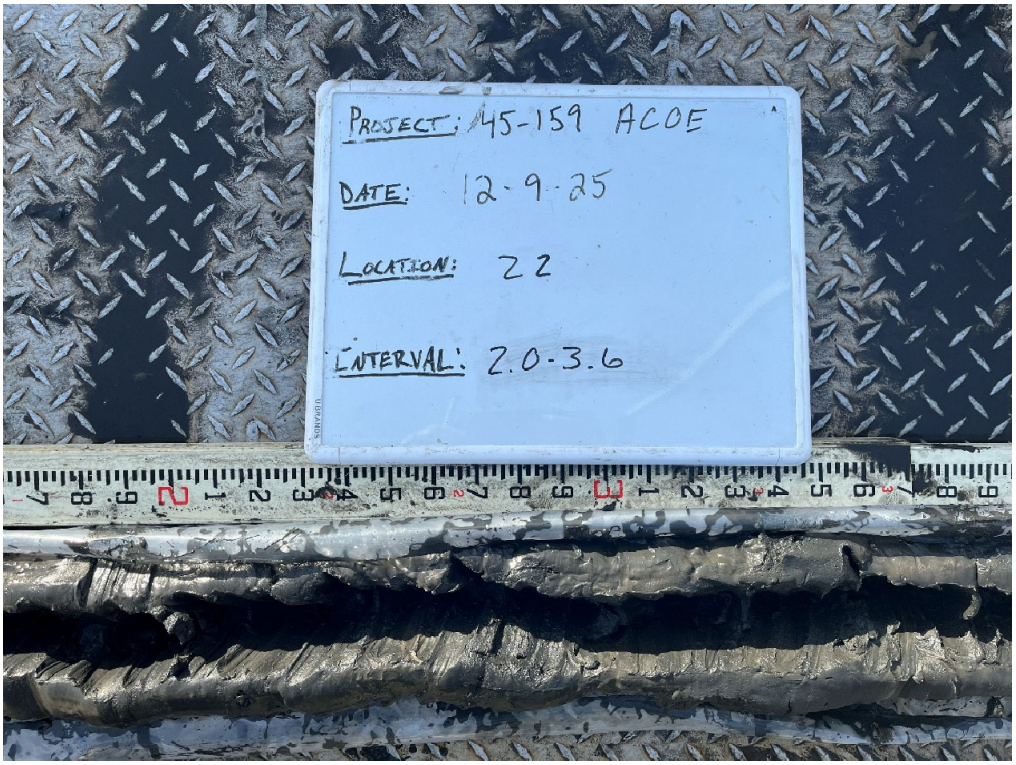
Core 19, 0 – 2.3’, 12/09/25, ASI ID # 20251104

Core 20, 0 – 2.0’, 12/09/25, ASI ID # 20251105

Core 20, 2.0’ – 2.9’, 12/09/25, ASI ID # 20251105

Core 21, 0 – 2.2’, 12/09/25, ASI ID # 20251106

Core 22, 0 – 2.0’, 12/09/25, ASI ID # 20251107




Core 22, 2.0’ – 3.6’, 12/09/25, ASI ID # 20251107

Core 23, 0 – 2.0’, 12/09/25, ASI ID # 20251108

Core 23, 2.0’ – 4.4’, 12/09/25, ASI ID # 20251108

# Appendix C

# Chains of Custody

# CHAIN OF CUSTODY RECORD

## AQUA SURVEY, INC.

www.aquasurvey.com

469 POINT BREEZE ROAD
FLEMINGTON, NJ 08822
(908) 788-8700 OFFICE
(908) 788-9165 FAX

| | |
|---|---|
| CLIENT: ACOE | METHOD OF SHIPMENT: Truck |
| PROJECT/SITE NAME: Newark Bay | TO: Flemington NJ |
| ASI JOB NUMBER: 45-159 | FROM: Elizabeth NJ |
| SAMPLING & ANALYSIS AUTHORIZED BY: | DATE: 12-5-25 |

| SAMPLE NUMBER | SAMPLING LOCATION AND DESCRIPTION | DATE | TIME | SAMPLE TYPE SED | WTR | COM | GRB | | NO. CNT. | ANALYSES REQUIRED * | SEE WORK ORD. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20251086 | 1 | 12/5/25 | 8:46 | X | | | | | 1 | | |
| 20251087 | 2 | | 9:19 | X | | | | | 1 | | |
| 20251088 | 3 | | 9:46 | X | | | | | 1 | | |
| 20251089 | 4 | | 10:04 | 10:04 | | | | | 1 | | |
| 20251090 | 5 | | 10:30 | X | | | | | 1 | | |
| 20251091 | 6 | | 10:46 | 10:43 | | | | | 1 | | |
| 20251092 | 7 | | 11:07 | X | | | | | 1 | | |
| 20251093 | 8 | | 11:33 | X | | | | | 1 | | |
| 20251094 | 9 | | 12:04 | X | | | | | 1 | | |
| 20251095 | 10 | | 12:25 | X | | | | | 1 | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| SAMPLE COLLECTED BY: | | | EXACT SAMPLING LOCATION: | | |
| SAMPLE RELINQUISHED BY: | DATE 12-5-25 | TIME 15:00 | SAMPLE RECEIVED BY: Michelle Thomas | DATE 12/5/25 | TIME 1500 |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
| SPECIAL INSTRUCTIONS: | | | | | |

*Attach Separate Sheet If Necessary

# CHAIN OF CUSTODY RECORD

## AQUA SURVEY, INC.

469 POINT BREEZE ROAD
FLEMINGTON, NJ 08822
(908) 788-8700 OFFICE
(908) 788-9165 FAX

www.aquasurvey.com

CLIENT: ACOE

METHOD OF SHIPMENT: ASI truck

PROJECT/SITE NAME: Newark Bay

TO: ~~Elizabeth~~ Flemington NJ

ASI JOB NUMBER: 45-159

FROM: Elizabeth NJ

SAMPLING & ANALYSIS AUTHORIZED BY:

DATE: 12-9-25

| SAMPLE NUMBER | SAMPLING LOCATION AND DESCRIPTION | DATE | TIME | SAMPLE TYPE: SED | WTR | COM | GRB | | NO. CNT. | ANALYSES REQUIRED * | SEE WORK ORD. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20251099 | 14 | 12/9/25 | 10:21 | X | | | | | 1 | | |
| 20251100 | 15 | 12/9/25 | 11:09 | X | | | | | 1 | | |
| 20251101 | 16 | 12/9/25 | 11:23 | X | | | | | 1 | | |
| 20251102 | 17 | 12/9/25 | 11:44 | X | | | | | 1 | | |
| 20251103 | 18 | 12/9/25 | 12:04 | X | | | | | 1 | | |
| 20251104 | 19 | 12/9/25 | 12:30 | X | | | | | 1 | | |
| 20251105 | 20 | 12/9/25 | 12:47 | X | | | | | 1 | | |
| 20251106 | 21 | 12/9/25 | 13:05 | X | | | | | 1 | | |
| 20251107 | 22 | 12/9/25 | 13:21 | X | | | | | 1 | | |
| 20251108 | 23 | 12/9/25 | 13:49 | X | | | | | 1 | | |
| 20251096 | 11 | 12/9/25 | 0909 | X | | | | | 1 | | |
| 20251097 | 12 | 12/9/25 | 0932 | X | | | | | 1 | | |
| 20251098 | 13 | 12/9/25 | 0952 | X | | | | | 1 | | |
| | | | | | | | | | 13 | | |

SAMPLE COLLECTED BY: Mike Doien JEFF P

EXACT SAMPLING LOCATION:

| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
|---|---|---|---|---|---|
| | 12/9/25 | 1650 | Michelle Jones | 12/10/25 | 0700 |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |
| SAMPLE RELINQUISHED BY: | DATE | TIME | SAMPLE RECEIVED BY: | DATE | TIME |

SPECIAL INSTRUCTIONS:

*Attach Separate Sheet If Necessary

**Eurofins TestAmerica, Pittsburgh**
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238-2907
phone 412.963.7058 fax 412.963.2468

# Chain of Custody Record

eurofins Environment Testing TestAmerica

**Regulatory Program:** ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

**TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica**

**Client Contact**
Carole Peven McCarthy/ Heather Thurston
141 Longwater Dr. Suite 202
Norwell, MA 02061
781-952-5232
781-934-2124
Project Name: Newark, NJ (Newark Bay )
Site:
Project #: 18026674/ PO#: 862316-13

**Project Manager: Carrie L. Gamber**
Email:Carrie.Gamber@et.eurofins.com
Tel/Fax:

**Analysis Turnaround Time**
☐ CALENDAR DAYS ☑ WORKING DAYS
TAT if different from Below _____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact:
Lab Contact:

Date: 12/9/25
Carrier: UPS- Overnight

COC No:
___1___ of ___1___ COCs
TALS Project #:
Sampler: Aqua Survey, Inc.
**For Lab Use Only:**
Walk-in Client:
Lab Sampling:
Job / SDG No.:

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=Grab) | Matrix | # of Cont. | Filtered Sample ( Y / N ) | Perform MS / MSD ( Y / N ) | 4 oz- VOA no headspace | 8 oz- SVOCs,Pests,PCBs,Herbs,CN | 4 oz- Dioxins | 4 oz- EPH Cat 1/Cat 2 | 8 oz- Metals, Hg, Hex Chrom, Herb | 4 oz- VOAs (total and SPLP) | 32 oz- SPLP (organics/ Inorganics | 4 oz- TCLP Lead | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #20251109 Composite A | 12/5/2025 | 0846 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251110 Composite B | 12/5/2025 | 1004 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251111 Composite C | 12/5/2025 | 1046 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251112 Composite D | 12/5/2025 | 1133 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251118 Amended Composite A | 12/5/2025 | 0846 | C | Sed | 9 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251119 Amended Composite B | 12/5/2025 | 1004 | C | Sed | 9 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251120 Amended Composite C | 12/5/2025 | 1046 | C | Sed | 9 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251121 Amended Composite D | 12/5/2025 | 1133 | C | Sed | 9 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____** | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |

**Possible Hazard Identification:**
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

**Special Instructions/QC Requirements & Comments:**

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| [signature] | Aqua Survey, Inc. | 12/9/25 1600 | UPS- Overnight | | 9/24/25; 1600 |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: | Date/Time: |

Form No. CA-C-WI-002, Rev. 4.31, dated 3/5/2020

# Chain of Custody Record

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238-2907
phone 412.963.7058 fax 412.963.2468

eurofins

**Regulatory Program:** DW NPDES RCRA Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

**Client Contact**
Carole Peven McCarthy/ Heather Thurston
141 Longwater Dr Suite 202
Norwell, MA 02061
781-952-5232
781-934-2124
Project Name: Newark, NJ (Newark Bay )
Site
Project # 18026674/ PO# 862316-13

**Project Manager:** Carrie L. Gamber
Email:Carrie.Gamber@et.eurofins.com
Tel/Fax:

**Analysis Turnaround Time**
CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
2 weeks
1 week
2 days
1 day

Site Contact:
Lab Contact:

Date: 12/11/25
Carrier: UPS- Overnight

COC No:
1 of 1 COCs
TALS Project #:
Sampler: Aqua Survey, Inc.
**For Lab Use Only:**
Walk-in Client:
Lab Sampling:
Job / SDG No.:

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=Grab) | Matrix | # of Cont. | Filtered Sample ( Y / N ) | Perform MS / MSD ( Y / N ) | 4 oz- VOA no headspace | 8 oz- SVOCs,Pests,PCBs,Herbs,CN | 4 oz- Dioxins | 4 oz- EPH Cat 1/Cat 2 | 8 oz- Metals, Hg, Hex Chrom, Herbs | 4 oz- VOAs (total and SPLP) | 32 oz- SPLP (organics/ Inorganics | 4 oz- TCLP Lead | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #20251113 Composite E | 12/9/2025 | 0904 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251099 Composite F/ Discrete 14 | 12/9/2025 | 1021 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251114 Composite G | 12/9/2025 | 1123 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251115 Composite H | 12/9/2025 | 1109 | C | Sed | 15 | | Y | 3 | 3 | 3 | 3 | 3 | | | | |
| #20251104 Composite I/ Discrete 19 | 12/9/2025 | 1330 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251116 Composite J | 12/9/2025 | 1247 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251117 Composite K | 12/9/2025 | 1321 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | | | | |
| #20251122 Amended Composite E | 12/9/2025 | 0904 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251123 Amended Composite F/ Discrete 14 | 12/9/2025 | 1021 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251124 Amended Composite G | 12/9/2025 | 1123 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251125 Amended Composite H | 12/9/2025 | 1109 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251126 Amended Composite I/ Discrete 19 | 12/9/2025 | 1330 | C | Sed | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | |
| #20251127 Amended Composite J | 12/9/2025 | 1247 | C | Sed | 19 | | Y | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | MS/MSD- Bulk |
| #20251128 Amended Composite K | 12/9/2025 | 1321 | C | Sed | 17 | | Y | 1 | 1 | 1 | 1 | 1 | 6 | 3 | 3 | MS/MSD- SPLP, TCLP |
| **Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other** | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

**Possible Hazard Identification:**
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
___ Non-Hazard ___ Flammable ___ Skin Irritant ___ Poison B ___ Unknown

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
___ Return to Client ___ Disposal by Lab ___ Archive for ___ Months

**Special Instructions/QC Requirements & Comments:**

Custody Seals Intact: Yes No
Custody Seal No.:
Cooler Temp. (°C): Obs'd: Corr'd: Therm ID No.:

| Relinquished by | Company | Date/Time | Received by | Company | Date/Time |
|---|---|---|---|---|---|
| M Jackie Thomas | Aqua Survey, Inc. | 12/11/25, 1600 | UPS- Overnight | | 9/24/25, 1600 |
| Relinquished by | Company | Date/Time | Received by | Company | Date/Time |
| Relinquished by | Company | Date/Time | Received in Laboratory by | Company | Date/Time |



Form No. CA-C-WI-002, Rev. 4.31, dated 3/5/2020

# Appendix D

# Sample Use Forms

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1086 **Sample ID:** 1

## SEDIMENT CHARACTERIZATION

| **Odor:** | **Color:** | **Consistency:** |
|---|---|---|
| ☑ None | ☑ Black | ☐ Sandy |
| ☐ Slight | ☑ Brown | ☑ Silty |
| ☐ Moderate | ☐ Gray | ☐ Clayey |
| ☐ Strong | ☐ Olive | ☐ Other |
| ☐ Other | ☐ Other | |

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1gallon

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 8 /25 | 2L | | **Composite A** | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1087 **Sample ID:** 2

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other

**Color:** ☑ Black ☐ Brown ☑ Gray ☐ Olive ☐ Other

**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

**HOMOGENIZATION**/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1 gallon

Date/ Initials: 12/ 8 /25

**NOTES:**

**RECORD OF SAMPLE USE**

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500 mL | | **GS/ % Moisture/ TOC*** | |
| 12/ 8 /25 | 2L | | **Composite A** | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1088 **Sample ID:** 3

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other

**Color:** ☑ Black ☐ Brown ☑ Gray ☐ Olive ☐ Other

**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

**HOMOGENIZATION**/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1.5 gallons Date/ Initials: 12/ 8 /25

**NOTES:**

**RECORD OF SAMPLE USE**

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | |
| 12/ 8 /25 | 2L | | **Composite A** | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1109 **Sample ID:** Composite A

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other
**Color:** ☑ Black ☐ Brown ☑ Gray ☐ Olive ☐ Other
**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1086 - 2L | | |
| #2025 1087 - 2L | | |
| #2025 1088 - 2L | | |
| | | |
| | | |

**Method Used:** ☑ Drill ☐ Spoon ☐ Other **Duration of Mixing:** ☑ ~2 mins ☐ ~3 mins ☐ ~5 mins ☐ Other

Total Sample: 6L Date/ Initials: 12/ 8 /25, [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | ~1L | | Chemistry | [illegible] |
| 12/ 8 /25 | ~2.5L | | Amended Composite | [illegible] |
| 12/ 8 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: ☐ No ☐ Yes (if Yes provide date put in freezer and initials)

---

**AMENDING- ASI #:** 2025 1118 **Sample ID:** Amended Composite A

Total 4186.6 x $\frac{0.08}{0.92}$ = 364.1 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/8 /25 | ~2.5L | | Chemistry | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1089 **Sample ID:** 4

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☑ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1.5 gallon

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | 3L | | Composite B | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1090 **Sample ID:** 5

## SEDIMENT CHARACTERIZATION

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other

**Color:** ☑ Black ☐ Brown ☑ Gray ☐ Olive ☐ Other

**Consistency:** ☐ Sandy ☑ Silty w/ snails & rocks ☐ Clayey ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1.5 gallons

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 8 /25 | 3L | | **Composite B** | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1110 **Sample ID:** Composite B

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None □ Slight □ Moderate □ Strong □ Other
**Color:** ☑ Black □ Brown ☑ Gray □ Olive □ Other
**Consistency:** □ Sandy ☑ Silty □ Clayey □ Other w/ some snails & some rocks

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1089 - 3L | | |
| #2025 1090 - 3L | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill □ Spoon □ Other **Duration of Mixing:** ☑ ~2 mins □ ~3 mins □ ~5 mins □ Other

Total Sample: 6L Date/ Initials: 12/ 8 /25

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | |
| 12/ 8 /25 | ~1L | | Chemistry | |
| 12/ 8 /25 | ~2.5L | | Amended Composite | |
| 12/ 8 /25 | ~500mL | | Frozen Archive | |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials)

**AMENDING- ASI #:** 2025 1119 **Sample ID:** Amended Composite B

Total 4158.6 x $\frac{0.08}{0.92}$ = 361.6 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~2.5L | | Chemistry | |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1091 **Sample ID:** 6

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/ Some Shell
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1 gallon

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | 3L | Ø | Composite | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1092 **Sample ID:** 7

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/ Shell
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1 gallon

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 8 /25 | 3L | Ø | **Composite** | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1111 **Sample ID:** Composite C

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☑ Slight □ Moderate □ Strong □ Other
**Color:** ☑ Black □ Brown □ Gray □ Olive □ Other
**Consistency:** □ Sandy ☑ Silty □ Clayey □ Other w/ Shell

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1091-3L | | |
| #2025 1092-3L | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill □ Spoon □ Other_____ **Duration of Mixing:** ☑ ~2 mins □ ~3 mins □ ~5 mins □ Other_____

Total Sample: 6L Date/ Initials: 12/ 8 /25, [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~500 mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | ~1 L | | Chemistry | [illegible] |
| 12/ 8 /25 | ~2.5L | | Amended Composite | [illegible] |
| 12/ 8 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1120 **Sample ID:** Amended Composite C

Total 4566.4 x $\frac{0.08}{0.92}$ = 397.1 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~2.5L | | Chemistry | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1093 **Sample ID:** 8

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☑ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☐ ~2 mins, ☑ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1 gallon

Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | 2L | | Composite D | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1094 **Sample ID:** 9

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☑ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1.25 gallons Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500 mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | 2L | | Composite D | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1095 **Sample ID:** 10

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☑ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1.25 gallons Date/ Initials: 12/ 8 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | ~2L | | Composite | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1112 **Sample ID:** Composite D

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other
**Color:** ☑ Black ☐ Brown ☑ Gray ☐ Olive ☐ Other
**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1093 - 2L | | |
| #2025 1094 - 2L | | |
| #2025 1095 - 2L | | |
| | | |
| | | |

**Method Used:** ☑ Drill ☐ Spoon ☐ Other **Duration of Mixing:** ☑ ~2 mins ☐ ~3 mins ☐ ~5 mins ☐ Other

Total Sample: 6L Date/ Initials: 12/ 8 /25 [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 8 /25 | ~1 L | | Chemistry | [illegible] |
| 12/ 8 /25 | ~2.5L | | Amended Composite | [illegible] |
| 12/ 8 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: ☐ No ☐ Yes (if Yes provide date put in freezer and initials)

**AMENDING- ASI #:** 2025 1121 **Sample ID:** Amended Composite D

Total 4535.0 x $\frac{0.08}{0.92}$ = 394.3 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 8 /25 | ~2.5L | | Chemistry | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1096 **Sample ID:** 11

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~0.75 gallon

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 1500mL | | **Composite** E | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025/097 **Sample ID:** 12

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~0.75 gallons

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 1500mL | | **Composite E** | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1098 **Sample ID:** 13

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~0.75 gallon

Date/ Initials: 12/ 10 /25

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | |
| 12/ 10 /25 | 1500mL | | **Composite** E | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1113 **Sample ID:** Composite E

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other
**Color:** ☑ Black ☑ Brown ☐ Gray ☐ Olive ☐ Other
**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1096 - 1500mL | | |
| #2025 ~~1096~~ 1097 - 1500mL | | |
| #2025 1098 - 1500mL | | |
| | | |
| | | |

**Method Used:** ☑ Drill ☐ Spoon ☐ Other_____ **Duration of Mixing:** ☑ ~2 mins ☐ ~3 mins ☐ ~5 mins ☐ Other_____

Total Sample: 4500mL Date/ Initials: 12/ 10 /25, [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 10 /25 | ~1L | | Chemistry | [illegible] |
| 12/ 10 /25 | ~2.5L | | Amended Composite | [illegible] |
| 12/ 10 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: ☐ No ☐ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1122 **Sample ID:** Amended Composite E

Total 4747.7g x $\frac{0.08}{0.92}$ = 412.8 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~3L | | Chemistry | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1099 **Sample ID:** 14 / CompF

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/organics
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~1.75 gallon

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/10 /25 | | | **Composite** | |
| 12/10/25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 **Sample ID:** Composite

**SEDIMENT CHARACTERIZATION**

**Odor:** □ None □ Slight □ Moderate □ Strong □ Other_____
**Color:** □ Black □ Brown □ Gray □ Olive □ Other_____
**Consistency:** □ Sandy □ Silty □ Clayey □ Other_____

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 | | |
| #2025 | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** □ Drill □ Spoon □ Other_____ **Duration of Mixing:** □ ~2 mins □ ~3 mins □ ~5 mins □ Other_____

Total Sample: _____ Date/ Initials: 12/ /25,

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ /25 | | | GS/ % Moisture/ TOC* | |
| 12/ /25 | | | Chemistry | |
| 12/ /25 | | | Amended Composite | |
| 12/ /25 | | | Frozen Archive | |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1123 **Sample ID:** Amended Composite F / Discrete 14

Total 4625.7g x $\frac{0.08}{0.92}$ = 402.2 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~3L | | Chemistry | |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1101 **Sample ID:** 16

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☐ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/ organics
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4 L

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 3L | | **Composite** G | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1102 **Sample ID:** 17

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☐ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/organics
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~3.5L

Date/ Initials: 12/10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 3L | Ø | **Composite** 6 | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1115 **Sample ID:** Composite H

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other
**Color:** ☑ Black ☐ Brown ☐ Gray ☐ Olive ☐ Other
**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other w/ some organics

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1100 - 3750 mL | | |
| #2025 1103 - 3750 mL | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill ☐ Spoon ☐ Other_____ **Duration of Mixing:** ☑ ~2 mins ☐ ~3 mins ☐ ~5 mins ☐ Other_____

Total Sample: 7.5 L Date/ Initials: 12/ 10 /25, [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 10 /25 | | | Chemistry | [illegible] |
| 12/ 10 /25 | | | Amended Composite | [illegible] |
| 12/ 10 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: ☐ No ☐ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1125 **Sample ID:** Amended Composite H

Total 4660.3g x $\frac{0.08}{0.92}$ = 405.2 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~5.5L | | Chemistry - w/ ms, msd on Raw | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1100 **Sample ID:** 15

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other

**Color:** ☑ Black ☑ Brown ☐ Gray ☐ Olive ☐ Other

**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

**HOMOGENIZATION**/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~4.25 L

Date/ Initials: 12/10/25

**NOTES:**

**RECORD OF SAMPLE USE**

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/10/25 | ~500mL | | **GS/ % Moisture/ TOC*** | |
| 12/10/25 | 3750mL | Ø | **Composite H** | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1103 **Sample ID:** 18

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/organics
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4.25L

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 3750mL | Ø | **Composite** H | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____ (Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1114 **Sample ID:** Composite G

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☑ Slight □ Moderate □ Strong □ Other
**Color:** ☑ Black □ Brown □ Gray □ Olive □ Other
**Consistency:** □ Sandy ☑ Silty □ Clayey □ Other w/organics

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1101 - 3L | | |
| #2025 1102 - 3L | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill □ Spoon □ Other **Duration of Mixing:** ☑ ~2 mins □ ~3 mins □ ~5 mins □ Other

Total Sample: 6L Date/ Initials: 12/ 10 /25

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | GS/ % Moisture/ TOC* | |
| 12/ 10 /25 | | | Chemistry | |
| 12/ 10 /25 | | | Amended Composite | |
| 12/ 10 /25 | ~500mL | | Frozen Archive | |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials)

**AMENDING- ASI #:** 2025 1124 **Sample ID:** Amended Composite G

Total 4612.2 x $\frac{0.08}{0.92}$ = 401.1 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~3L | | Chemistry | |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1104 **Sample ID:** 19 / Comp I

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other

**Color:** ☑ Black ☐ Brown ☐ Gray ☐ Olive ☐ Other

**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other

**HOMOGENIZATION**/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins ☐ Other

Total Sample Volume: ~1.75 gallons

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

**RECORD OF SAMPLE USE**

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | | | **Composite** | |
| 12/10/25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 **Sample ID:** Composite

**SEDIMENT CHARACTERIZATION**

**Odor:** □ None □ Slight □ Moderate □ Strong □ Other_____
**Color:** □ Black □ Brown □ Gray □ Olive □ Other_____
**Consistency:** □ Sandy □ Silty □ Clayey □ Other_____

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 | | |
| #2025 | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** □ Drill □ Spoon □ Other_____ **Duration of Mixing:** □ ~2 mins □ ~3 mins □ ~5 mins □ Other_____

Total Sample: _____ Date/ Initials: 12/ /25,

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ /25 | | | GS/ % Moisture/ TOC* | |
| 12/ /25 | | | Chemistry | |
| 12/ /25 | | | Amended Composite | |
| 12/ /25 | | | Frozen Archive | |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1126 **Sample ID:** Amended Composite I / Discrt 19

Total 4470.9g x $\frac{0.08}{0.92}$ = 388.8 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~3L | | Chemistry | |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1105 **Sample ID:** 20

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty w/ organics
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4.5 L

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 4L | Ø | **Composite** J | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1106 **Sample ID:** 21

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☑ None
- ☐ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4.5L

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500 mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 10 /25 | 4L | Ø | Composite 5 | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1116 **Sample ID:** Composite J

**SEDIMENT CHARACTERIZATION**

**Odor:** ☑ None ☐ Slight ☐ Moderate ☐ Strong ☐ Other
**Color:** ☑ Black ☑ Brown ☐ Gray ☐ Olive ☐ Other
**Consistency:** ☐ Sandy ☑ Silty ☐ Clayey ☐ Other w/ Some organics

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1105 - 4L | | |
| #2025 1106 - 4L | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill ☐ Spoon ☐ Other _____ **Duration of Mixing:** ☑ ~2 mins ☐ ~3 mins ☐ ~5 mins ☐ Other _____

Total Sample: 8L Date/ Initials: 12/ 10 /25, [illegible]

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | GS/ % Moisture/ TOC* | [illegible] |
| 12/ 10 /25 | | | Chemistry | [illegible] |
| 12/ 10 /25 | | | Amended Composite | [illegible] |
| 12/ 10 /25 | ~500mL | | Frozen Archive | [illegible] |
| | | | | |

*TOC sample frozen to preserve hold time: ☐ No ☐ Yes (if Yes provide date put in freezer and initials) _____

**AMENDING- ASI #:** 2025 1127 **Sample ID:** Amended Composite J

Total 6808.6 x $\frac{0.08}{0.92}$ = 592.1 grams cement added

**RECORD OF SAMPLE USE**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~6L | | Chemistry- w/ MS MD on Amended Bulk | [illegible] |
| | | | | |
| | | | | |

**NOTES:**

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1107 **Sample ID:** 22

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☐ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4.5L

Date/ Initials: 12/10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 4L | Ø | **Composite** K | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland **ASI #:** 2025 1108 **Sample ID:** 03

## SEDIMENT CHARACTERIZATION

**Odor:**
- ☐ None
- ☑ Slight
- ☐ Moderate
- ☐ Strong
- ☐ Other

**Color:**
- ☑ Black
- ☑ Brown
- ☐ Gray
- ☐ Olive
- ☐ Other

**Consistency:**
- ☐ Sandy
- ☑ Silty
- ☐ Clayey
- ☐ Other

## HOMOGENIZATION/ COMPOSITING/ AMENDING

**Method Used:** ☑ Drill, ☐ Spoon, ☐ Other

**Duration of Mixing:** ☑ ~2 mins, ☐ ~3 mins, ☐ ~5 mins, ☐ Other

Total Sample Volume: ~4.5L

Date/ Initials: 12/ 10 /25 [illegible]

**NOTES:**

## RECORD OF SAMPLE USE

| DATE | AMOUNT USED | AMOUNT REMAINING | USED FOR | INITIALS |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | **GS/ % Moisture/ TOC*** | [illegible] |
| 12/ 10 /25 | 4L | Ø | **Composite** K | [illegible] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TOC sample frozen to preserve hold time: _____
(Date/Initials)

AQUA SURVEY, INC.
SPECIAL STUDIES DEPARTMENT

SAMPLE USE FORM

**Job #:** 45-159 **Client:** USACE- Newark Bay- Upland

**COMPOSITING- ASI #:** 2025 1117 **Sample ID:** Composite K

**SEDIMENT CHARACTERIZATION**

**Odor:** □ None ☑ Slight □ Moderate □ Strong □ Other
**Color:** □ Black □ Brown □ Gray □ Olive □ Other
**Consistency:** □ Sandy □ Silty □ Clayey □ Other

Samples making up the Composite:

| | | |
|---|---|---|
| #2025 1107 - 4L | | |
| #2025 1108 - 4L | | |
| #2025 | | |
| | | |
| | | |

**Method Used:** ☑ Drill □ Spoon □ Other **Duration of Mixing:** □ ~2 mins ☑ ~3 mins □ ~5 mins □ Other

Total Sample: 8L Date/ Initials: 12/ 10 /25

**RECORD OF SAMPLE USE:**

| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 10 /25 | ~500mL | | GS/ % Moisture/ TOC* | |
| 12/ 10 /25 | | | Chemistry | |
| 12/ 10 /25 | | | Amended Composite | |
| 12/ 10 /25 | ~500mL | | Frozen Archive | |
| | | | | |

*TOC sample frozen to preserve hold time: □ No □ Yes (if Yes provide date put in freezer and initials)

---

**AMENDING- ASI #:** 2025 1128 **Sample ID:** Amended Composite K

Total 8269.8g x $\frac{0.08}{0.92}$ = 719.1 grams cement added

**RECORD OF SAMPLE USE**

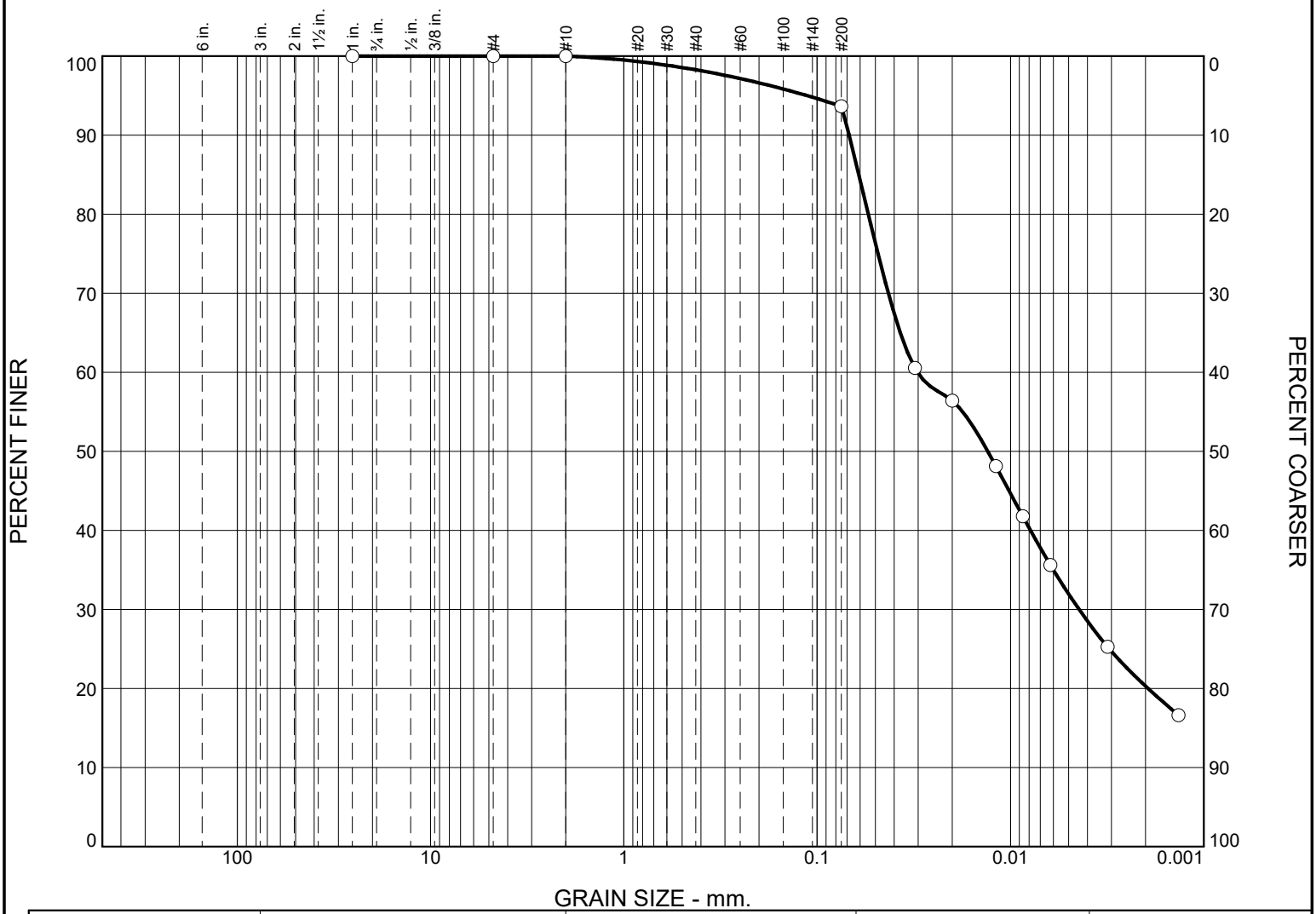
| Date | Used | Remaining | Used For: | Initials |
|---|---|---|---|---|
| 12/ 11 /25 | ~8L | | Chemistry- w/ ms, msD on SPLP | |
| | | | | |
| | | | | |

**NOTES:**

# Appendix E

# Percent Moisture and Grain Size Distribution Raw Data, Calculations and Graphs

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 13.5 | 58.3 | 28.2 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0609 | 0.0303 | 0.0131 | 0.0044 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #1 **Sample Number:** 20251086

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/16/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #1
**Sample Number:** 20251086
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 83.20 | 15.48 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.48 | 15.48 | 100.0 | 0.0 |
| | | #10 | 15.48 | 15.48 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.35 | 115.18 | 93.7 | 6.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 16.74
**Dry weight and tare =** 16.22
**Tare weight =** 1.26
**Hygroscopic moisture =** 3.5%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.3 | 33.0 | 29.2 | 0.0134 | 33.5 | 10.8 | 0.0312 | 60.5 | 39.5 |
| 5.00 | 21.3 | 31.0 | 27.2 | 0.0134 | 31.5 | 11.1 | 0.0200 | 56.4 | 43.6 |
| 15.00 | 21.3 | 27.0 | 23.2 | 0.0134 | 27.5 | 11.8 | 0.0119 | 48.1 | 51.9 |
| 30.00 | 21.0 | 24.0 | 20.2 | 0.0135 | 24.5 | 12.3 | 0.0086 | 41.8 | 58.2 |
| 60.00 | 21.1 | 21.0 | 17.2 | 0.0135 | 21.5 | 12.8 | 0.0062 | 35.6 | 64.4 |
| 250.00 | 21.1 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.3 | 74.7 |
| 1440.00 | 20.3 | 12.0 | 8.0 | 0.0136 | 12.5 | 14.2 | 0.0014 | 16.6 | 83.4 |

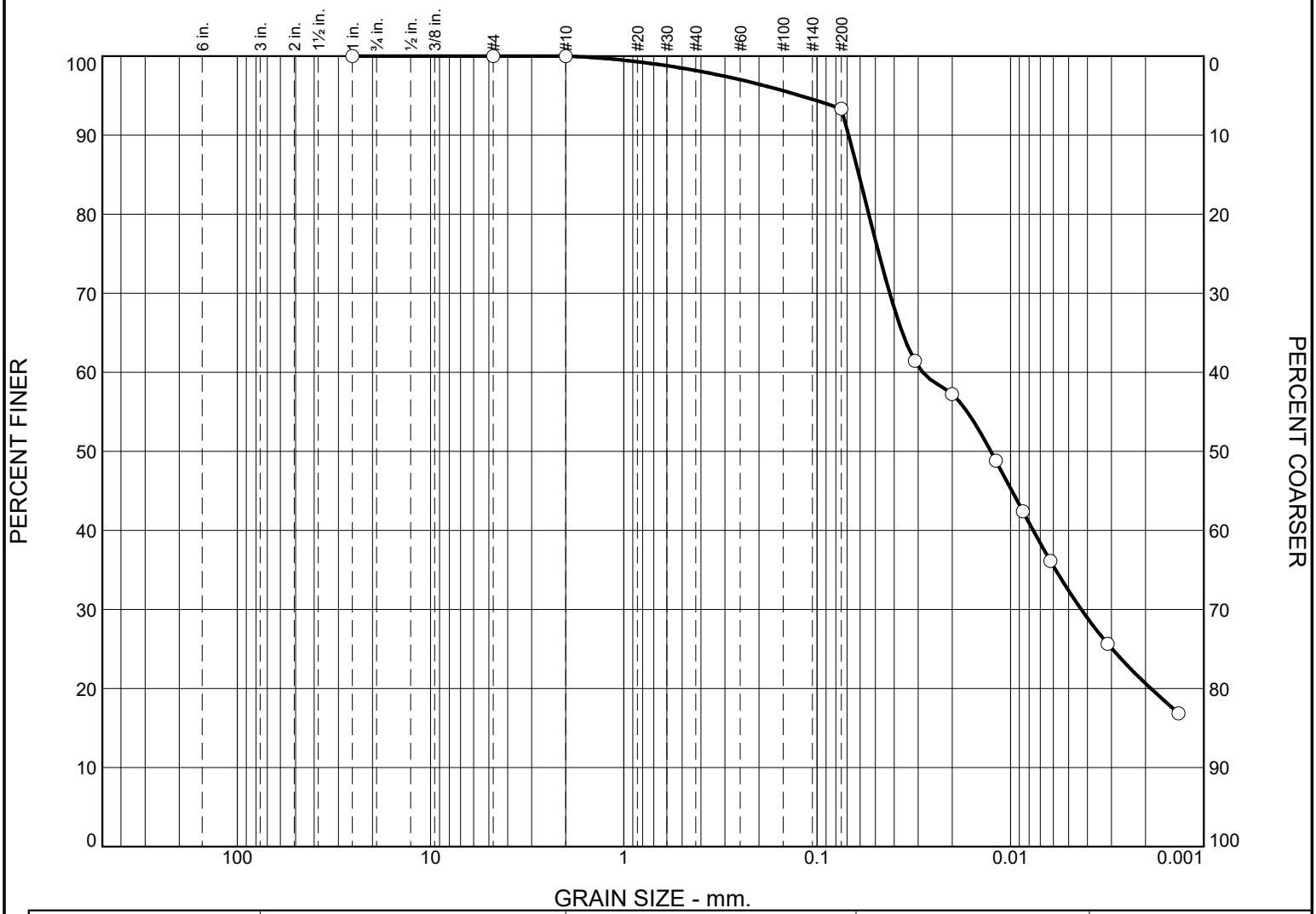
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 13.5 | 58.3 | 28.2 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0019 | 0.0044 | 0.0079 | 0.0131 | 0.0303 | 0.0543 | 0.0609 | 0.0684 | 0.1130 |

| Fineness Modulus |
|---|
| 0.08 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 13.6 | 57.8 | 28.6 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0609 | 0.0284 | 0.0127 | 0.0043 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #2 **Sample Number:** 20251087

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #2
**Sample Number:** 20251087
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 86.35 | 15.63 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.63 | 15.63 | 100.0 | 0.0 |
| | | #10 | 15.63 | 15.63 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 117.37 | 114.04 | 93.3 | 6.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.97
**Dry weight and tare =** 19.06
**Tare weight =** 1.26
**Hygroscopic moisture =** 5.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.2 | 33.0 | 29.2 | 0.0134 | 33.5 | 10.8 | 0.0312 | 61.4 | 38.6 |
| 5.00 | 21.2 | 31.0 | 27.2 | 0.0134 | 31.5 | 11.1 | 0.0201 | 57.2 | 42.8 |
| 15.00 | 21.2 | 27.0 | 23.2 | 0.0134 | 27.5 | 11.8 | 0.0119 | 48.8 | 51.2 |
| 30.00 | 21.0 | 24.0 | 20.2 | 0.0135 | 24.5 | 12.3 | 0.0086 | 42.4 | 57.6 |
| 60.00 | 21.0 | 21.0 | 17.2 | 0.0135 | 21.5 | 12.8 | 0.0062 | 36.1 | 63.9 |
| 250.00 | 21.1 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.6 | 74.4 |
| 1440.00 | 20.3 | 12.0 | 8.0 | 0.0136 | 12.5 | 14.2 | 0.0014 | 16.9 | 83.1 |

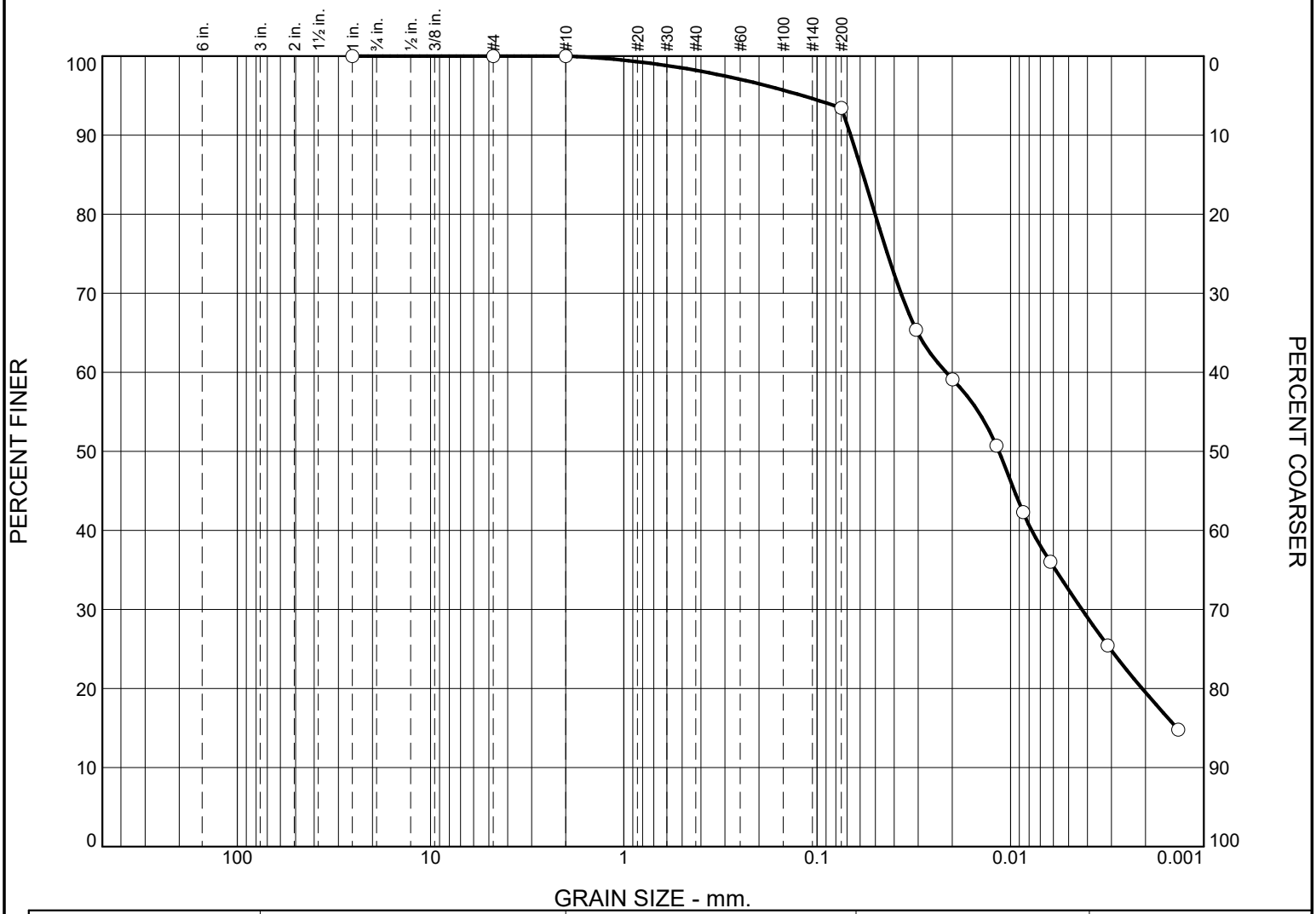
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 13.6 | 57.8 | 28.6 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0019 | 0.0043 | 0.0076 | 0.0127 | 0.0284 | 0.0541 | 0.0609 | 0.0687 | 0.1223 |

| Fineness Modulus |
|---|
| 0.09 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.1 | 59.3 | 28.6 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0579 | 0.0215 | 0.0115 | 0.0043 | 0.0014 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #3 **Sample Number:** 20251088

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/16/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #3
**Sample Number:** 20251088
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 73.32 | 15.65 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.65 | 15.65 | 100.0 | 0.0 |
| | | #10 | 15.65 | 15.65 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.72 | 115.44 | 93.4 | 6.6 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 15.59
**Dry weight and tare =** 14.94
**Tare weight =** 1.25
**Hygroscopic moisture =** 4.7%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.2 | 35.0 | 31.2 | 0.0134 | 35.5 | 10.5 | 0.0308 | 65.4 | 34.6 |
| 5.00 | 21.2 | 32.0 | 28.2 | 0.0134 | 32.5 | 11.0 | 0.0199 | 59.1 | 40.9 |
| 15.00 | 21.2 | 28.0 | 24.2 | 0.0134 | 28.5 | 11.6 | 0.0118 | 50.7 | 49.3 |
| 30.00 | 21.1 | 24.0 | 20.2 | 0.0135 | 24.5 | 12.3 | 0.0086 | 42.3 | 57.7 |
| 60.00 | 21.1 | 21.0 | 17.2 | 0.0135 | 21.5 | 12.8 | 0.0062 | 36.0 | 64.0 |
| 250.00 | 20.9 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.5 | 74.5 |
| 1440.00 | 20.5 | 11.0 | 7.1 | 0.0136 | 11.5 | 14.4 | 0.0014 | 14.8 | 85.2 |

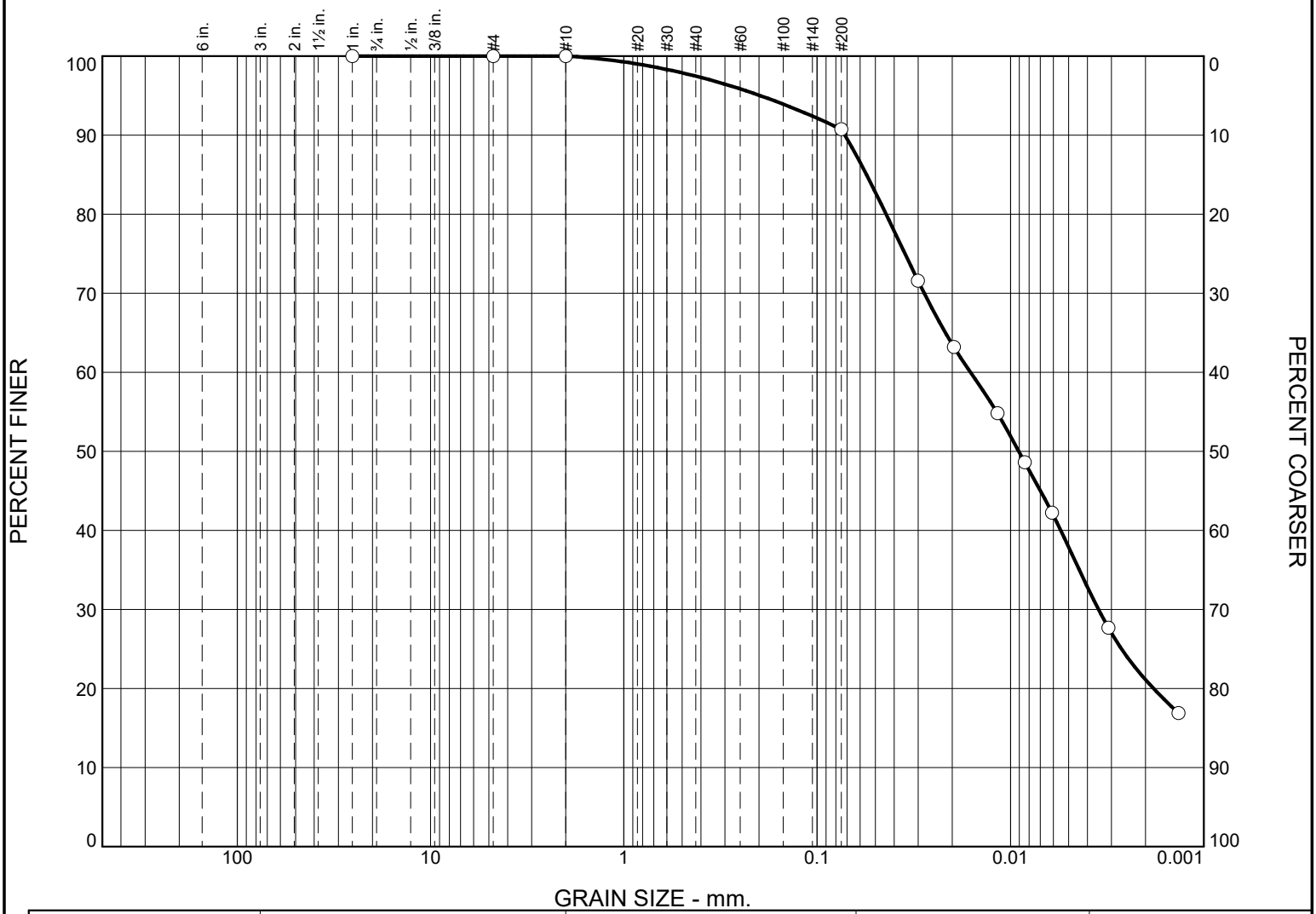
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 12.1 | 59.3 | 28.6 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0014 | 0.0021 | 0.0043 | 0.0078 | 0.0115 | 0.0215 | 0.0502 | 0.0579 | 0.0672 | 0.1194 |

| Fineness Modulus |
|---|
| 0.08 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.5 | 55.2 | 32.3 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0556 | 0.0161 | 0.0091 | 0.0035 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #4 **Sample Number:** 20251089

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #4
**Sample Number:** 20251089
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 93.61 | 15.49 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.49 | 15.49 | 100.0 | 0.0 |
| | | #10 | 15.49 | 15.49 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.48 | 113.85 | 90.7 | 9.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.30
**Dry weight and tare =** 18.50
**Tare weight =** 1.26
**Hygroscopic moisture =** 4.6%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 38.0 | 34.2 | 0.0135 | 38.5 | 10.0 | 0.0301 | 71.6 | 28.4 |
| 5.00 | 21.1 | 34.0 | 30.2 | 0.0135 | 34.5 | 10.6 | 0.0196 | 63.2 | 36.8 |
| 15.00 | 21.1 | 30.0 | 26.2 | 0.0135 | 30.5 | 11.3 | 0.0117 | 54.8 | 45.2 |
| 30.00 | 21.2 | 27.0 | 23.2 | 0.0134 | 27.5 | 11.8 | 0.0084 | 48.6 | 51.4 |
| 60.00 | 21.0 | 24.0 | 20.2 | 0.0135 | 24.5 | 12.3 | 0.0061 | 42.2 | 57.8 |
| 250.00 | 21.2 | 17.0 | 13.2 | 0.0134 | 17.5 | 13.4 | 0.0031 | 27.7 | 72.3 |
| 1440.00 | 20.5 | 12.0 | 8.1 | 0.0136 | 12.5 | 14.2 | 0.0013 | 16.9 | 83.1 |

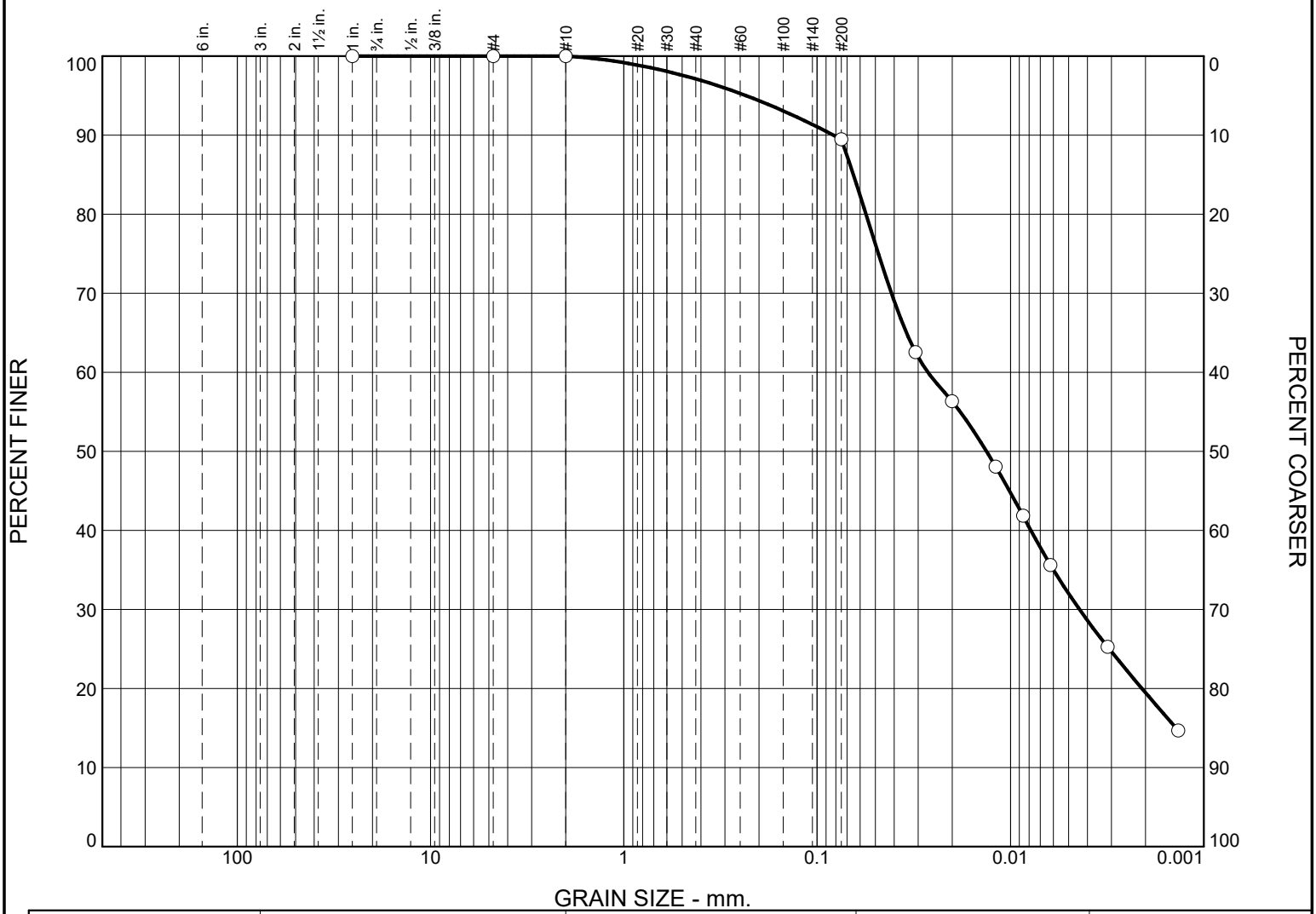
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 12.5 | 55.2 | 32.3 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0018 | 0.0035 | 0.0055 | 0.0091 | 0.0161 | 0.0441 | 0.0556 | 0.0719 | 0.1978 |

| Fineness Modulus |
|---|
| 0.12 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 16.0 | 55.7 | 28.3 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0650 | 0.0268 | 0.0133 | 0.0044 | 0.0014 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #5 **Sample Number:** 20251090

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #5
**Sample Number:** 20251090
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 84.56 | 15.63 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.63 | 15.63 | 100.0 | 0.0 |
| | | #10 | 15.63 | 15.63 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 120.79 | 115.52 | 89.5 | 10.5 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.52
**Dry weight and tare =** 16.96
**Tare weight =** 1.27
**Hygroscopic moisture =** 3.6%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 34.0 | 30.2 | 0.0135 | 34.5 | 10.6 | 0.0310 | 62.6 | 37.4 |
| 5.00 | 21.1 | 31.0 | 27.2 | 0.0135 | 31.5 | 11.1 | 0.0201 | 56.3 | 43.7 |
| 15.00 | 21.1 | 27.0 | 23.2 | 0.0135 | 27.5 | 11.8 | 0.0119 | 48.1 | 51.9 |
| 30.00 | 21.1 | 24.0 | 20.2 | 0.0135 | 24.5 | 12.3 | 0.0086 | 41.8 | 58.2 |
| 60.00 | 21.1 | 21.0 | 17.2 | 0.0135 | 21.5 | 12.8 | 0.0062 | 35.6 | 64.4 |
| 250.00 | 21.1 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.3 | 74.7 |
| 1440.00 | 20.6 | 11.0 | 7.1 | 0.0135 | 11.5 | 14.4 | 0.0014 | 14.7 | 85.3 |

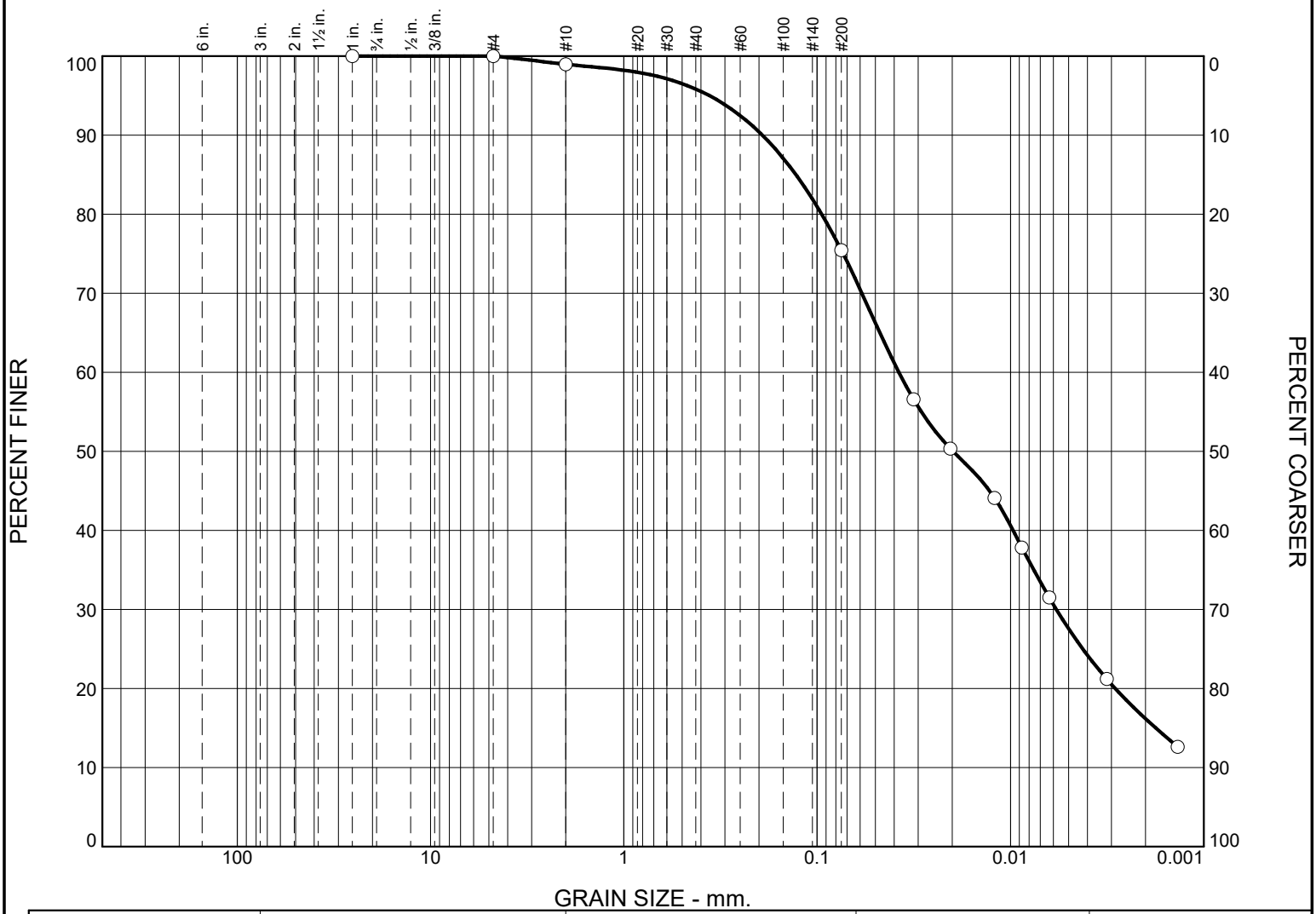
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 16.0 | 55.7 | 28.3 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0014 | 0.0021 | 0.0044 | 0.0078 | 0.0133 | 0.0268 | 0.0559 | 0.0650 | 0.0825 | 0.2339 |

| Fineness Modulus |
|---|
| 0.13 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 1.0 | 27.4 | 47.7 | 23.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1288 | 0.0378 | 0.0199 | 0.0058 | 0.0018 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #6 **Sample Number:** 20251091

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/16/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #6
**Sample Number:** 20251091
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 89.59 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 16.43 | 15.66 | 99.0 | 1.0 |
| 50.00 | 0.00 | #200 | 138.58 | 126.70 | 75.4 | 24.6 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 99.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 20.80
**Dry weight and tare =** 19.87
**Tare weight =** 1.26
**Hygroscopic moisture =** 5.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.2 | 31.0 | 27.2 | 0.0134 | 31.5 | 11.1 | 0.0317 | 56.6 | 43.4 |
| 5.00 | 21.2 | 28.0 | 24.2 | 0.0134 | 28.5 | 11.6 | 0.0205 | 50.3 | 49.7 |
| 15.00 | 21.2 | 25.0 | 21.2 | 0.0134 | 25.5 | 12.1 | 0.0121 | 44.1 | 55.9 |
| 30.00 | 21.1 | 22.0 | 18.2 | 0.0135 | 22.5 | 12.6 | 0.0087 | 37.8 | 62.2 |
| 60.00 | 20.9 | 19.0 | 15.2 | 0.0135 | 19.5 | 13.1 | 0.0063 | 31.5 | 68.5 |
| 250.00 | 21.1 | 14.0 | 10.2 | 0.0135 | 14.5 | 13.9 | 0.0032 | 21.2 | 78.8 |
| 1440.00 | 20.5 | 10.0 | 6.1 | 0.0136 | 10.5 | 14.6 | 0.0014 | 12.6 | 87.4 |

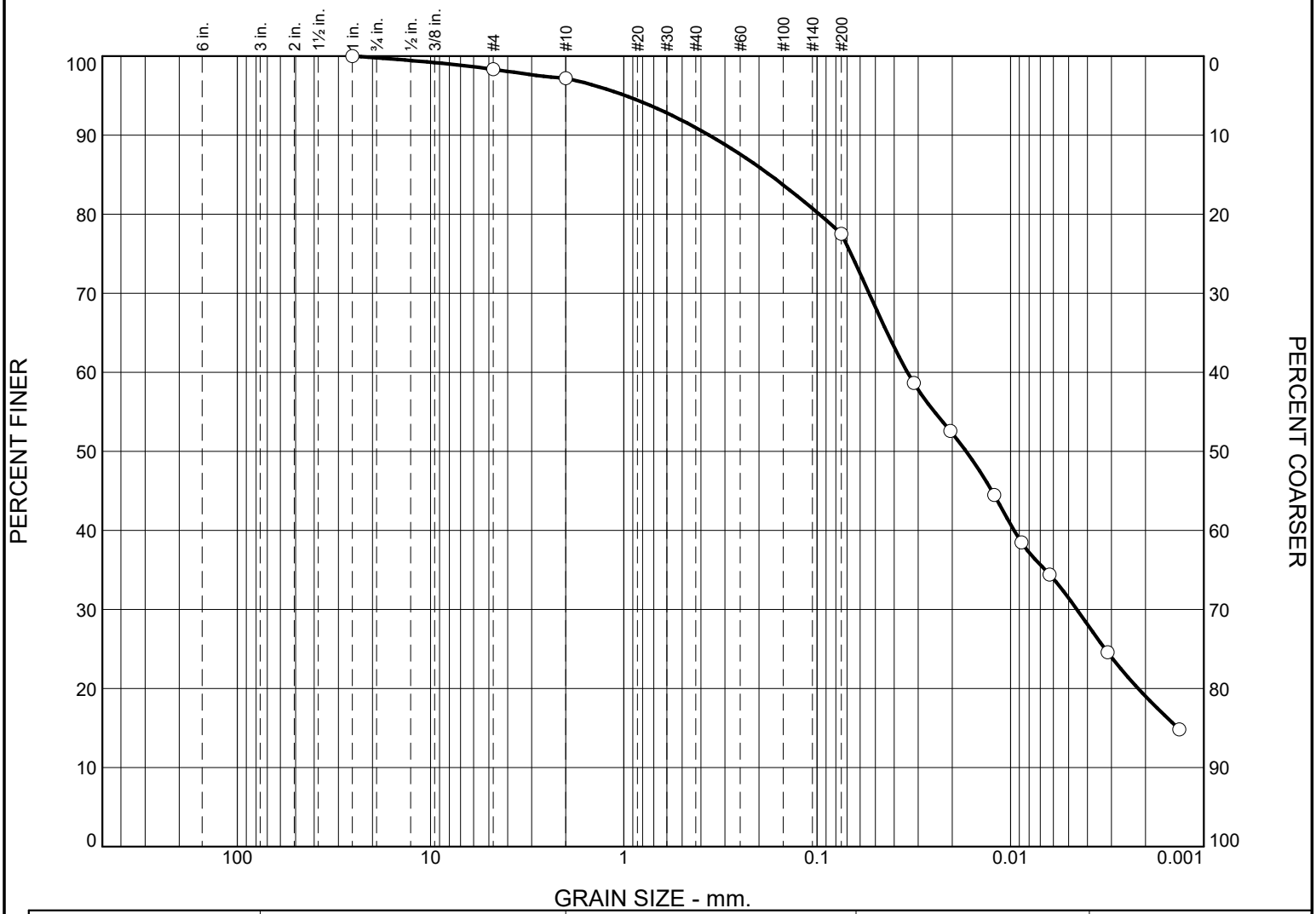
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 1.0 | 27.4 | 47.7 | 23.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0018 | 0.0029 | 0.0058 | 0.0097 | 0.0199 | 0.0378 | 0.0947 | 0.1288 | 0.1925 | 0.3618 |

| Fineness Modulus |
|---|
| 0.24 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 2.8 | 23.5 | 46.0 | 27.7 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1766 | 0.0341 | 0.0170 | 0.0045 | 0.0014 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #7 **Sample Number:** 20251092

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #7
**Sample Number:** 20251092
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 74.64 | 15.49 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 16.48 | 15.49 | 98.3 | 1.7 |
| | | #10 | 16.16 | 15.49 | 97.2 | 2.8 |
| 50.00 | 0.00 | #200 | 125.63 | 115.51 | 77.5 | 22.5 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 97.2
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.17
**Dry weight and tare =** 18.48
**Tare weight =** 1.25
**Hygroscopic moisture =** 4.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 33.0 | 29.0 | 0.0136 | 33.5 | 10.8 | 0.0316 | 58.6 | 41.4 |
| 5.00 | 20.2 | 30.0 | 26.0 | 0.0136 | 30.5 | 11.3 | 0.0205 | 52.6 | 47.4 |
| 15.00 | 20.2 | 26.0 | 22.0 | 0.0136 | 26.5 | 11.9 | 0.0121 | 44.5 | 55.5 |
| 30.00 | 20.3 | 23.0 | 19.0 | 0.0136 | 23.5 | 12.4 | 0.0088 | 38.5 | 61.5 |
| 60.00 | 20.3 | 21.0 | 17.0 | 0.0136 | 21.5 | 12.8 | 0.0063 | 34.4 | 65.6 |
| 250.00 | 20.9 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 24.6 | 75.4 |
| 1440.00 | 21.7 | 11.0 | 7.3 | 0.0134 | 11.5 | 14.4 | 0.0013 | 14.8 | 85.2 |

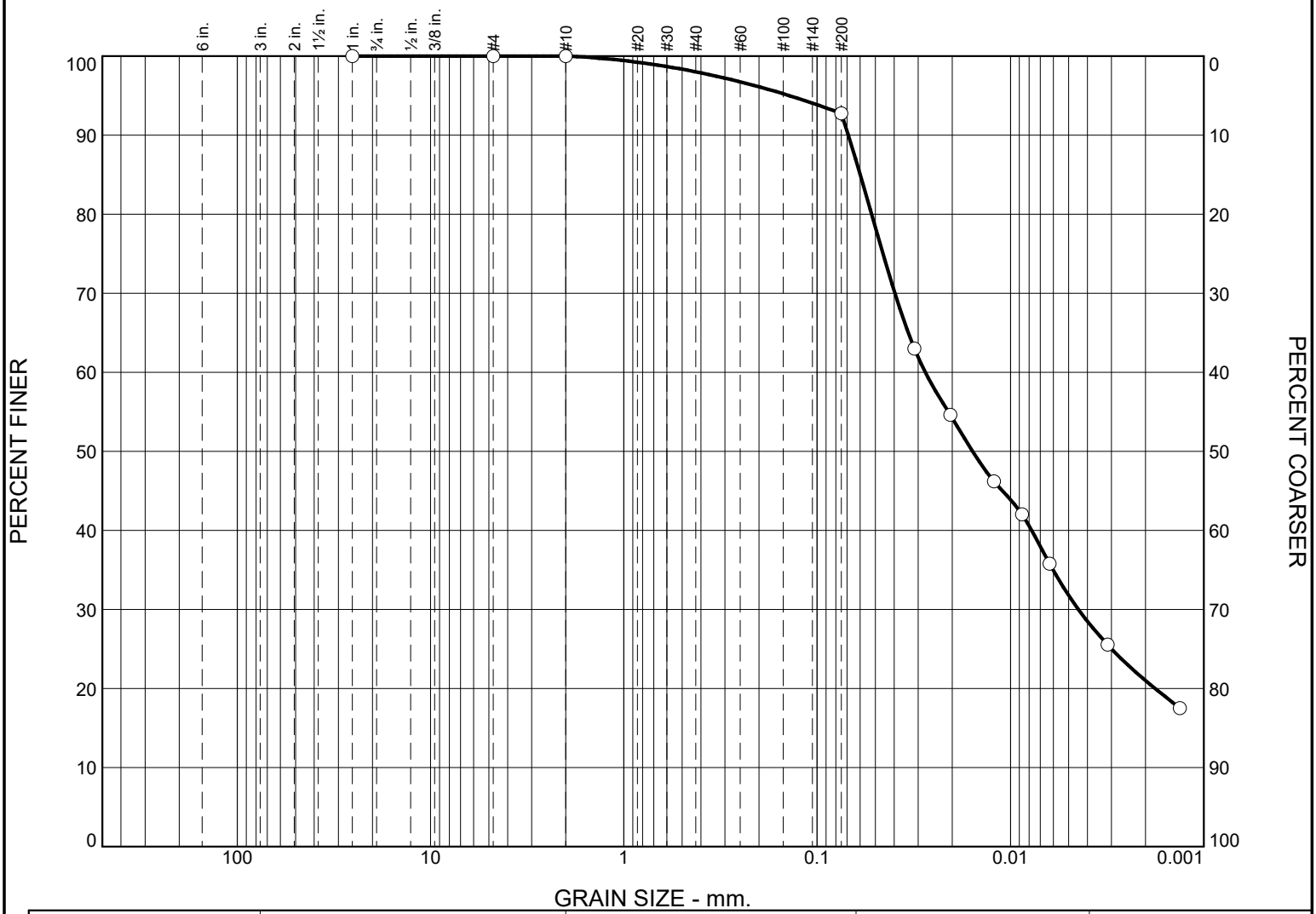
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 2.8 | 23.5 | 46.0 | 27.7 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0014 | 0.0022 | 0.0045 | 0.0096 | 0.0170 | 0.0341 | 0.0976 | 0.1766 | 0.3626 | 0.9828 |

| Fineness Modulus |
|---|
| 0.44 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 13.1 | 58.7 | 28.2 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0598 | 0.0276 | 0.0157 | 0.0045 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #8 **Sample Number:** 20251093

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #8
**Sample Number:** 20251093
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 71.13 | 15.69 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.69 | 15.69 | 100.0 | 0.0 |
| | | #10 | 15.69 | 15.69 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.85 | 115.22 | 92.7 | 7.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.69
**Dry weight and tare =** 18.80
**Tare weight =** 1.26
**Hygroscopic moisture =** 5.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.1 | 34.0 | 30.0 | 0.0136 | 34.5 | 10.6 | 0.0314 | 63.0 | 37.0 |
| 5.00 | 20.1 | 30.0 | 26.0 | 0.0136 | 30.5 | 11.3 | 0.0205 | 54.6 | 45.4 |
| 15.00 | 20.1 | 26.0 | 22.0 | 0.0136 | 26.5 | 11.9 | 0.0122 | 46.2 | 53.8 |
| 30.00 | 20.2 | 24.0 | 20.0 | 0.0136 | 24.5 | 12.3 | 0.0087 | 42.0 | 58.0 |
| 60.00 | 20.3 | 21.0 | 17.0 | 0.0136 | 21.5 | 12.8 | 0.0063 | 35.8 | 64.2 |
| 250.00 | 20.9 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.5 | 74.5 |
| 1440.00 | 21.7 | 12.0 | 8.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 17.5 | 82.5 |

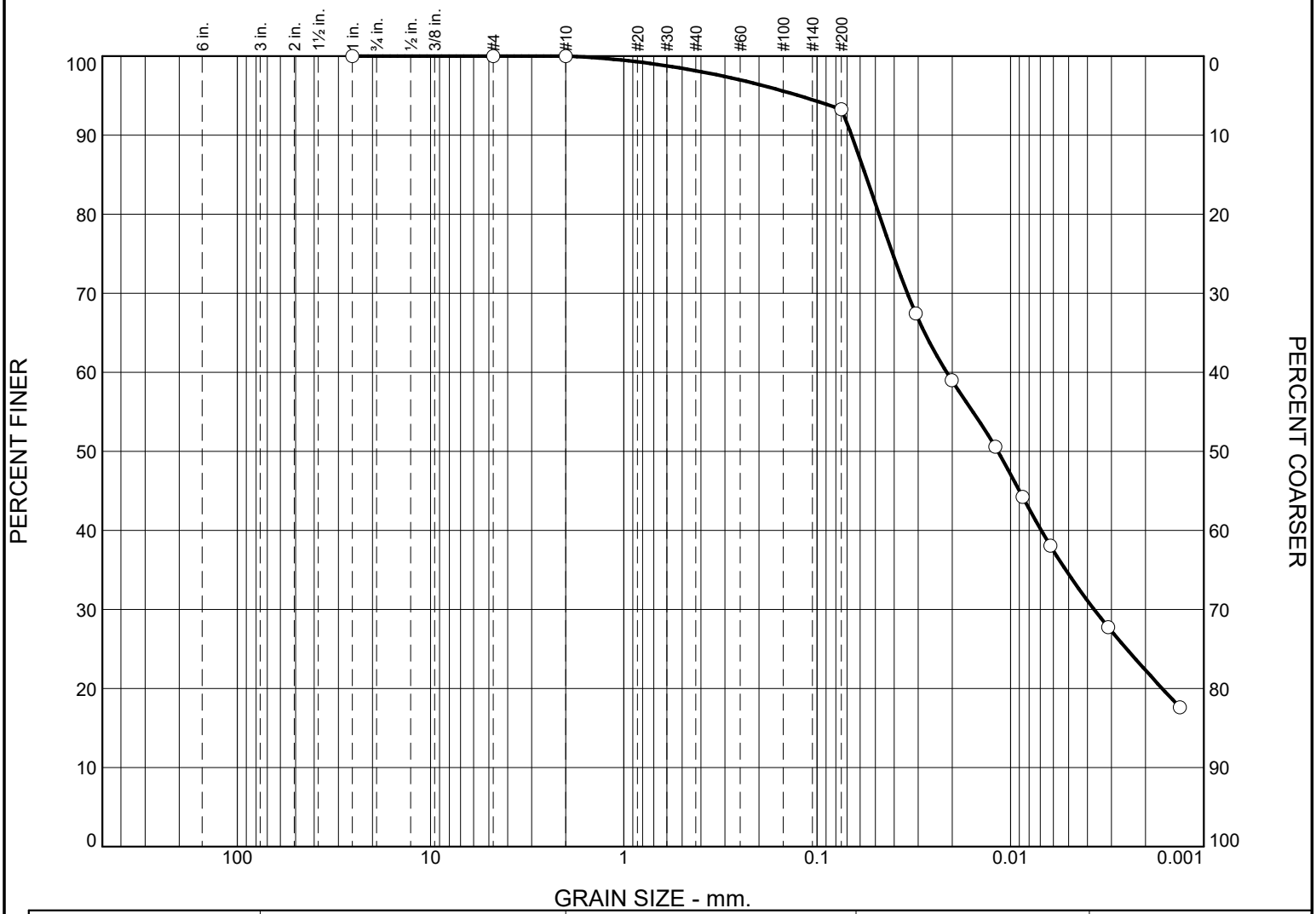
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 13.1 | 58.7 | 28.2 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0018 | 0.0045 | 0.0078 | 0.0157 | 0.0276 | 0.0523 | 0.0598 | 0.0690 | 0.1398 |

| Fineness Modulus |
|---|
| 0.09 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 11.6 | 57.6 | 30.8 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0562 | 0.0214 | 0.0116 | 0.0037 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #9 **Sample Number:** 20251094

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #9
**Sample Number:** 20251094
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 76.42 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 15.66 | 15.66 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 117.36 | 113.99 | 93.3 | 6.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.01
**Dry weight and tare =** 18.11
**Tare weight =** 1.27
**Hygroscopic moisture =** 5.3%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 36.0 | 32.0 | 0.0136 | 36.5 | 10.3 | 0.0309 | 67.4 | 32.6 |
| 5.00 | 20.2 | 32.0 | 28.0 | 0.0136 | 32.5 | 11.0 | 0.0202 | 59.0 | 41.0 |
| 15.00 | 20.2 | 28.0 | 24.0 | 0.0136 | 28.5 | 11.6 | 0.0120 | 50.6 | 49.4 |
| 30.00 | 20.2 | 25.0 | 21.0 | 0.0136 | 25.5 | 12.1 | 0.0086 | 44.2 | 55.8 |
| 60.00 | 20.5 | 22.0 | 18.1 | 0.0136 | 22.5 | 12.6 | 0.0062 | 38.1 | 61.9 |
| 250.00 | 21.0 | 17.0 | 13.2 | 0.0135 | 17.5 | 13.4 | 0.0031 | 27.8 | 72.2 |
| 1440.00 | 21.8 | 12.0 | 8.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 17.6 | 82.4 |

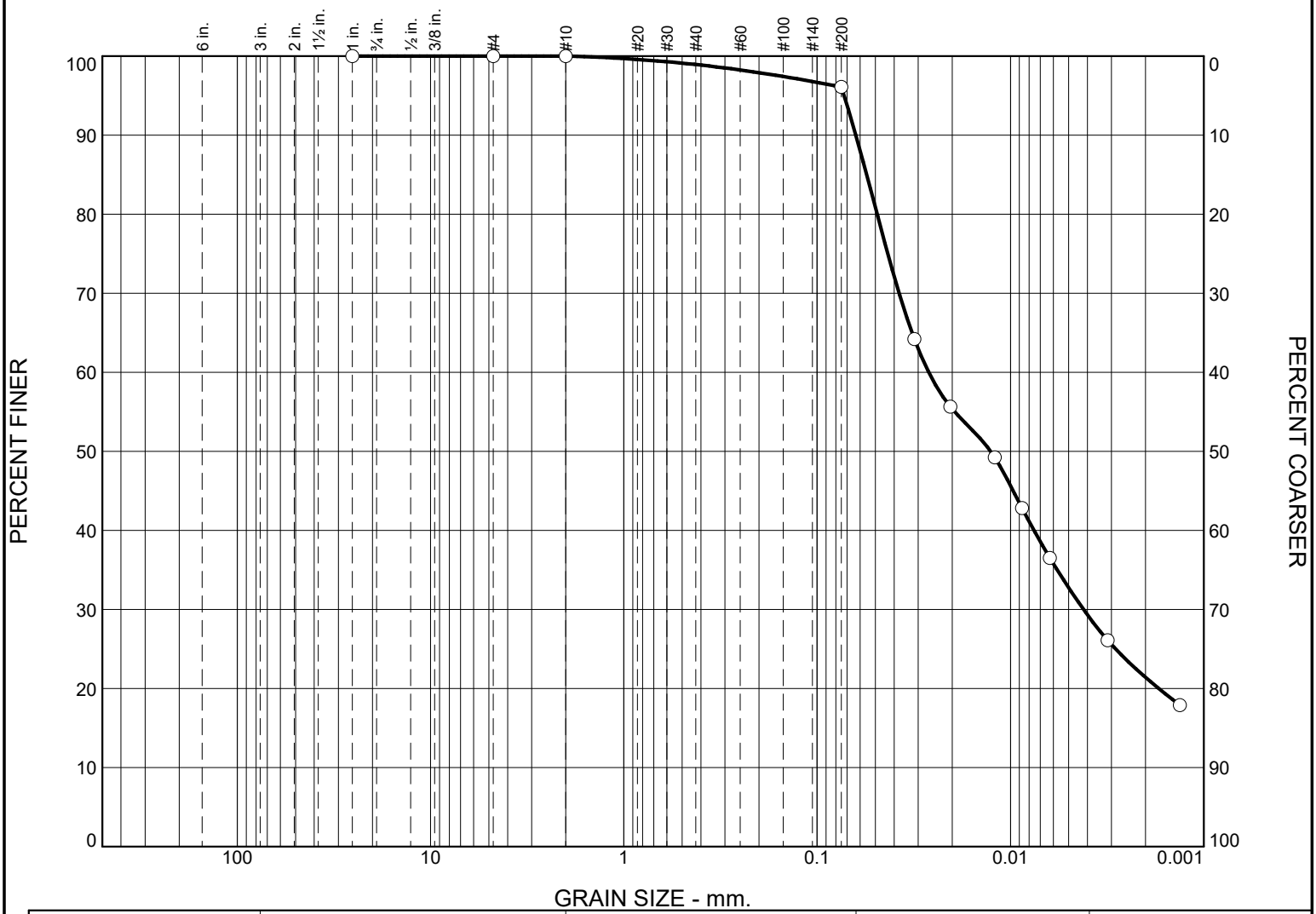
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 11.6 | 57.6 | 30.8 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0037 | 0.0069 | 0.0116 | 0.0214 | 0.0478 | 0.0562 | 0.0665 | 0.1246 |

| Fineness Modulus |
|---|
| 0.09 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 10.1 | 60.9 | 29.0 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0555 | 0.0265 | 0.0127 | 0.0042 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #10 **Sample Number:** 20251095

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #10
**Sample Number:** 20251095
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 68.75 | 15.48 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.48 | 15.48 | 100.0 | 0.0 |
| | | #10 | 15.48 | 15.48 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 129.27 | 127.31 | 96.1 | 3.9 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 16.61
**Dry weight and tare =** 15.61
**Tare weight =** 1.26
**Hygroscopic moisture =** 7.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 34.0 | 30.0 | 0.0136 | 34.5 | 10.6 | 0.0314 | 64.2 | 35.8 |
| 5.00 | 20.2 | 30.0 | 26.0 | 0.0136 | 30.5 | 11.3 | 0.0205 | 55.6 | 44.4 |
| 15.00 | 20.2 | 27.0 | 23.0 | 0.0136 | 27.5 | 11.8 | 0.0121 | 49.2 | 50.8 |
| 30.00 | 20.2 | 24.0 | 20.0 | 0.0136 | 24.5 | 12.3 | 0.0087 | 42.8 | 57.2 |
| 60.00 | 20.5 | 21.0 | 17.1 | 0.0136 | 21.5 | 12.8 | 0.0063 | 36.5 | 63.5 |
| 250.00 | 21.1 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 26.1 | 73.9 |
| 1440.00 | 21.8 | 12.0 | 8.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 17.9 | 82.1 |

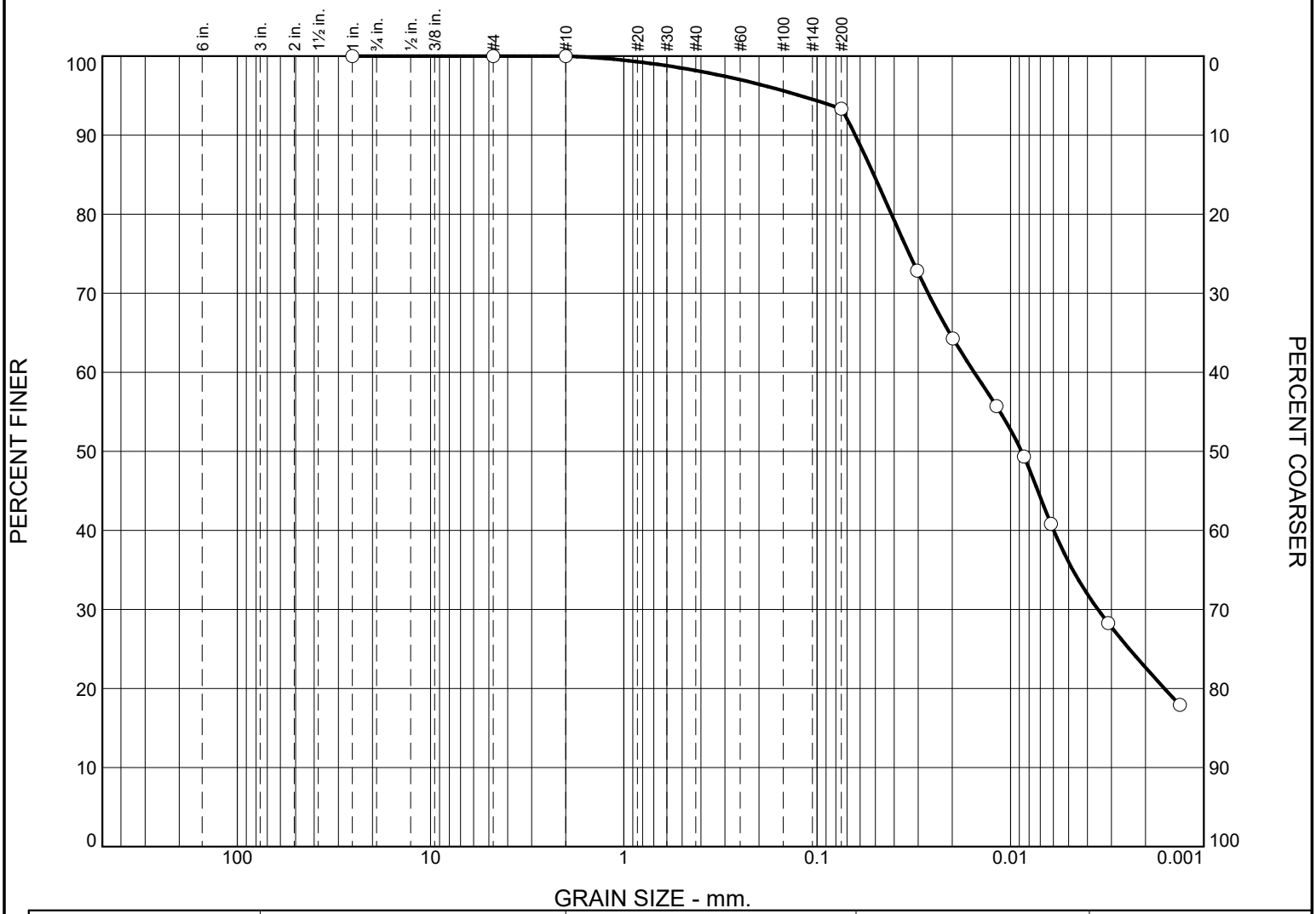
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 10.1 | 60.9 | 29.0 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0017 | 0.0042 | 0.0076 | 0.0127 | 0.0265 | 0.0490 | 0.0555 | 0.0632 | 0.0726 |

| Fineness Modulus |
|---|
| 0.05 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 10.2 | 58.2 | 31.6 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0509 | 0.0154 | 0.0088 | 0.0035 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #11 **Sample Number:** 20251096

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #11
**Sample Number:** 20251096
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 90.70 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 15.66 | 15.66 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.66 | 115.33 | 93.3 | 6.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 20.97
**Dry weight and tare =** 19.66
**Tare weight =** 1.26
**Hygroscopic moisture =** 7.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 38.0 | 34.0 | 0.0136 | 38.5 | 10.0 | 0.0304 | 72.9 | 27.1 |
| 5.00 | 20.2 | 34.0 | 30.0 | 0.0136 | 34.5 | 10.6 | 0.0199 | 64.3 | 35.7 |
| 15.00 | 20.2 | 30.0 | 26.0 | 0.0136 | 30.5 | 11.3 | 0.0118 | 55.7 | 44.3 |
| 30.00 | 20.3 | 27.0 | 23.0 | 0.0136 | 27.5 | 11.8 | 0.0085 | 49.3 | 50.7 |
| 60.00 | 20.4 | 23.0 | 19.0 | 0.0136 | 23.5 | 12.4 | 0.0062 | 40.8 | 59.2 |
| 250.00 | 21.1 | 17.0 | 13.2 | 0.0135 | 17.5 | 13.4 | 0.0031 | 28.3 | 71.7 |
| 1440.00 | 21.8 | 12.0 | 8.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 17.9 | 82.1 |

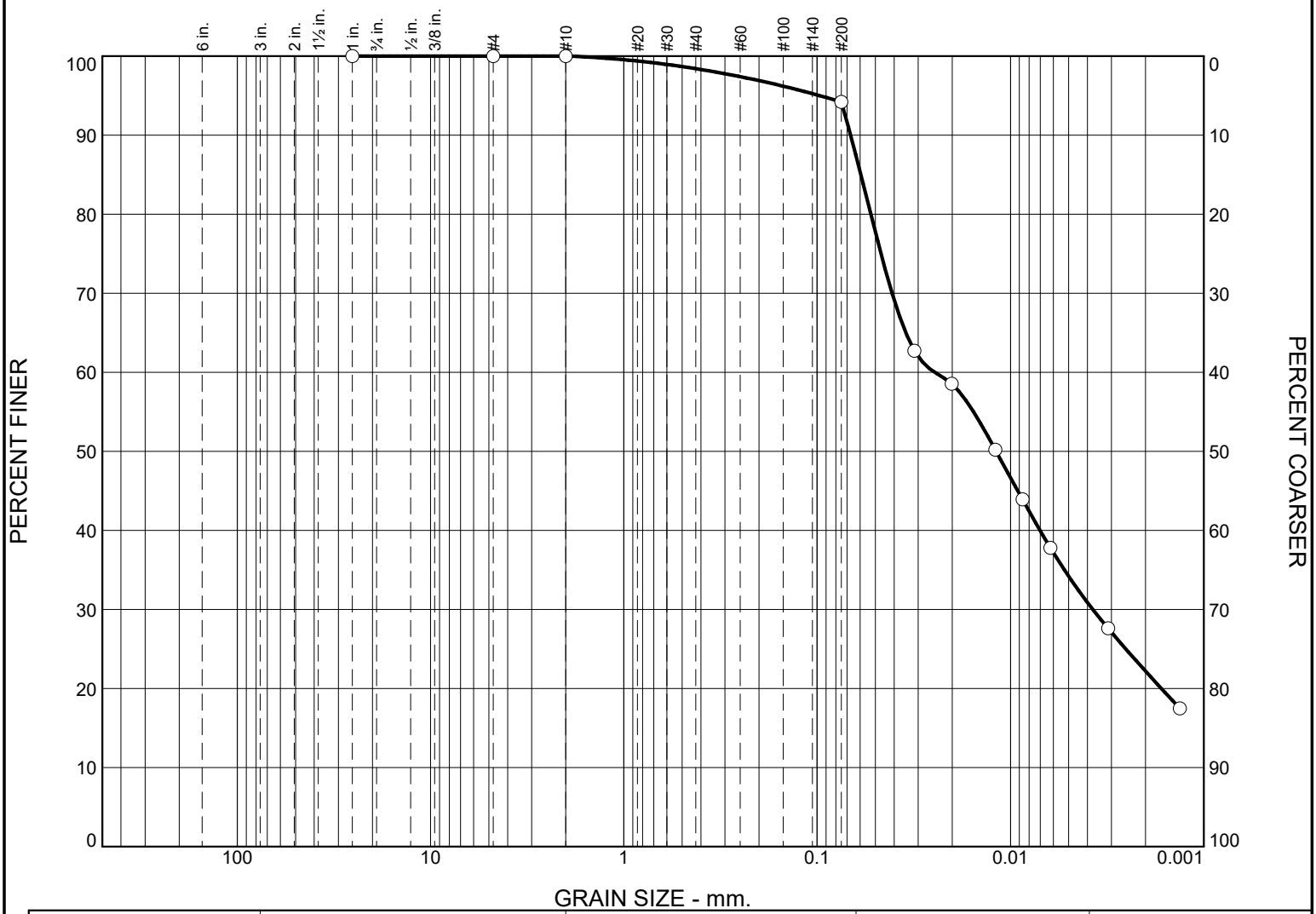
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 10.2 | 58.2 | 31.6 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0035 | 0.0060 | 0.0088 | 0.0154 | 0.0413 | 0.0509 | 0.0635 | 0.1223 |

| Fineness Modulus |
|---|
| 0.09 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.6 | 56.8 | 30.6 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0595 | 0.0247 | 0.0119 | 0.0037 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #12 **Sample Number:** 20251097

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #12
**Sample Number:** 20251097
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 83.58 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 15.66 | 15.66 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.13 | 115.23 | 94.2 | 5.8 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.07
**Dry weight and tare =** 16.38
**Tare weight =** 1.26
**Hygroscopic moisture =** 4.5%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 34.0 | 30.0 | 0.0136 | 34.5 | 10.6 | 0.0314 | 62.7 | 37.3 |
| 5.00 | 20.2 | 32.0 | 28.0 | 0.0136 | 32.5 | 11.0 | 0.0202 | 58.5 | 41.5 |
| 15.00 | 20.2 | 28.0 | 24.0 | 0.0136 | 28.5 | 11.6 | 0.0120 | 50.2 | 49.8 |
| 30.00 | 20.2 | 25.0 | 21.0 | 0.0136 | 25.5 | 12.1 | 0.0086 | 43.9 | 56.1 |
| 60.00 | 20.5 | 22.0 | 18.1 | 0.0136 | 22.5 | 12.6 | 0.0062 | 37.8 | 62.2 |
| 250.00 | 21.1 | 17.0 | 13.2 | 0.0135 | 17.5 | 13.4 | 0.0031 | 27.6 | 72.4 |
| 1440.00 | 21.8 | 12.0 | 8.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 17.5 | 82.5 |

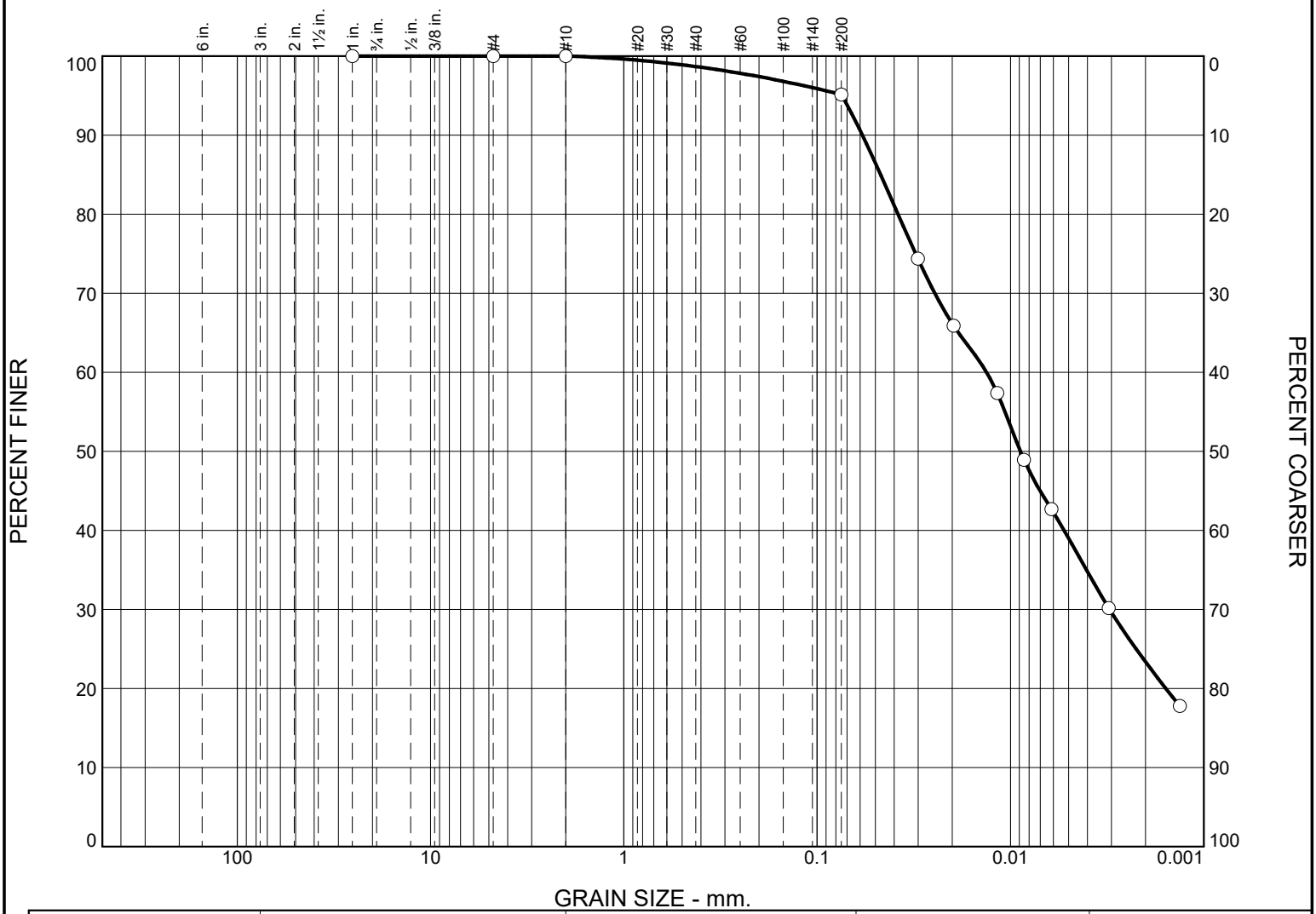
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 12.6 | 56.8 | 30.6 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0017 | 0.0037 | 0.0070 | 0.0119 | 0.0247 | 0.0528 | 0.0595 | 0.0672 | 0.0975 |

| Fineness Modulus |
|---|
| 0.07 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 8.3 | 57.4 | 34.3 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0470 | 0.0133 | 0.0089 | 0.0031 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #13 **Sample Number:** 20251098

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #13
**Sample Number:** 20251098
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 83.16 | 15.52 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.52 | 15.52 | 100.0 | 0.0 |
| | | #10 | 15.52 | 15.52 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 117.97 | 115.54 | 95.1 | 4.9 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.23
**Dry weight and tare =** 16.29
**Tare weight =** 1.26
**Hygroscopic moisture =** 6.3%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.2 | 39.0 | 35.0 | 0.0136 | 39.5 | 9.8 | 0.0302 | 74.4 | 25.6 |
| 5.00 | 20.2 | 35.0 | 31.0 | 0.0136 | 35.5 | 10.5 | 0.0197 | 65.9 | 34.1 |
| 15.00 | 20.2 | 31.0 | 27.0 | 0.0136 | 31.5 | 11.1 | 0.0117 | 57.4 | 42.6 |
| 30.00 | 20.3 | 27.0 | 23.0 | 0.0136 | 27.5 | 11.8 | 0.0085 | 48.9 | 51.1 |
| 60.00 | 20.6 | 24.0 | 20.1 | 0.0135 | 24.5 | 12.3 | 0.0061 | 42.7 | 57.3 |
| 250.00 | 21.1 | 18.0 | 14.2 | 0.0135 | 18.5 | 13.3 | 0.0031 | 30.2 | 69.8 |
| 1440.00 | 21.8 | 12.0 | 8.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 17.8 | 82.2 |

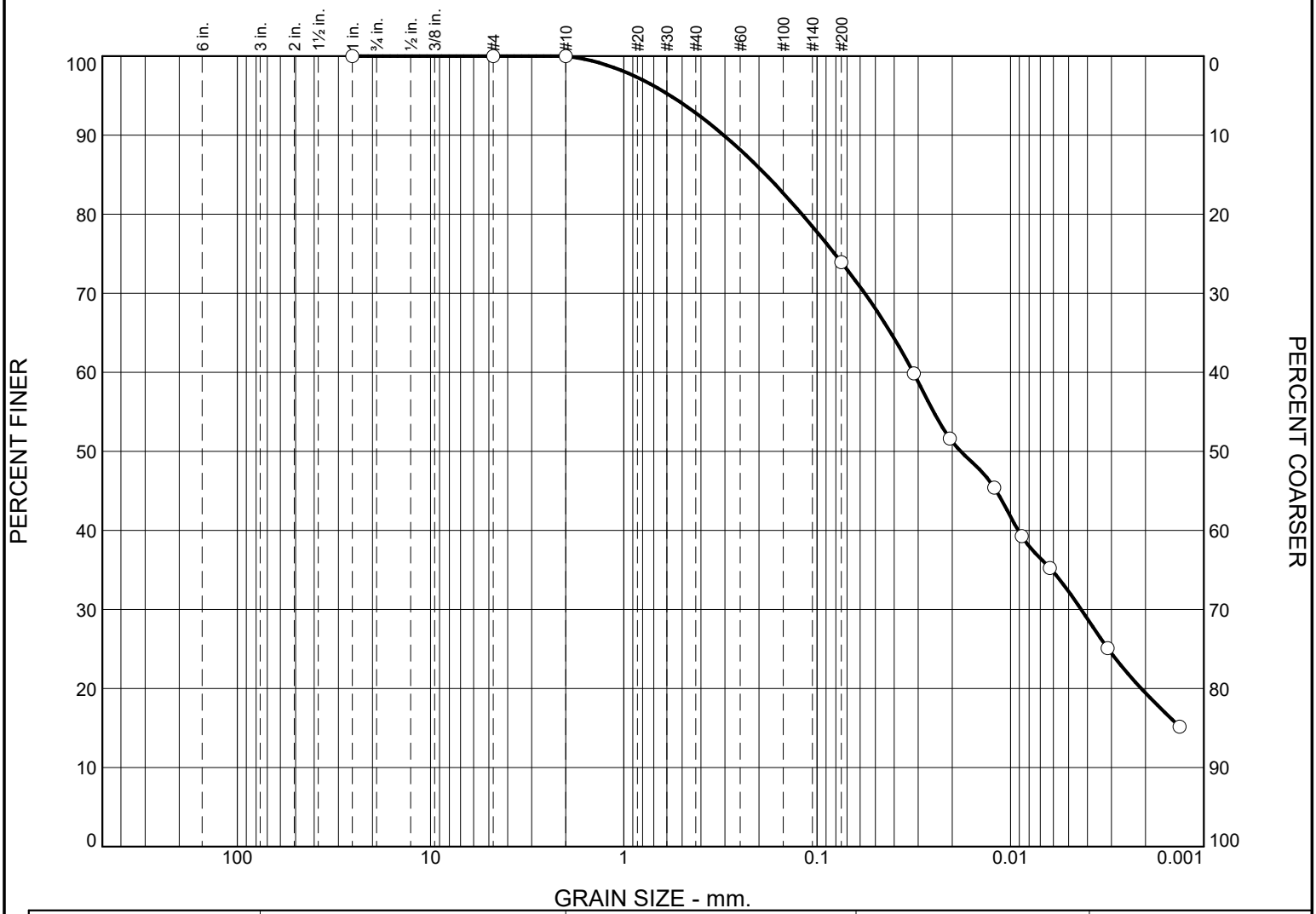
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 8.3 | 57.4 | 34.3 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0031 | 0.0053 | 0.0089 | 0.0133 | 0.0382 | 0.0470 | 0.0583 | 0.0744 |

| Fineness Modulus |
|---|
| 0.06 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 28.5 | 43.1 | 28.4 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1848 | 0.0318 | 0.0181 | 0.0043 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #14/ Comp F **Sample Number:** 20251099

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #14/ Comp F
**Sample Number:** 20251099
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 88.73 | 15.49 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.49 | 15.49 | 100.0 | 0.0 |
| | | #10 | 15.49 | 15.49 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 128.55 | 115.51 | 73.9 | 26.1 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 20.65
**Dry weight and tare =** 20.06
**Tare weight =** 1.25
**Hygroscopic moisture =** 3.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -4
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.3 | 33.0 | 29.0 | 0.0136 | 33.5 | 10.8 | 0.0316 | 59.9 | 40.1 |
| 5.00 | 20.3 | 29.0 | 25.0 | 0.0136 | 29.5 | 11.5 | 0.0206 | 51.6 | 48.4 |
| 15.00 | 20.3 | 26.0 | 22.0 | 0.0136 | 26.5 | 11.9 | 0.0121 | 45.4 | 54.6 |
| 30.00 | 20.4 | 23.0 | 19.0 | 0.0136 | 23.5 | 12.4 | 0.0087 | 39.3 | 60.7 |
| 60.00 | 20.6 | 21.0 | 17.1 | 0.0135 | 21.5 | 12.8 | 0.0062 | 35.2 | 64.8 |
| 250.00 | 21.0 | 16.0 | 12.2 | 0.0135 | 16.5 | 13.6 | 0.0031 | 25.1 | 74.9 |
| 1440.00 | 21.8 | 11.0 | 7.4 | 0.0133 | 11.5 | 14.4 | 0.0013 | 15.2 | 84.8 |

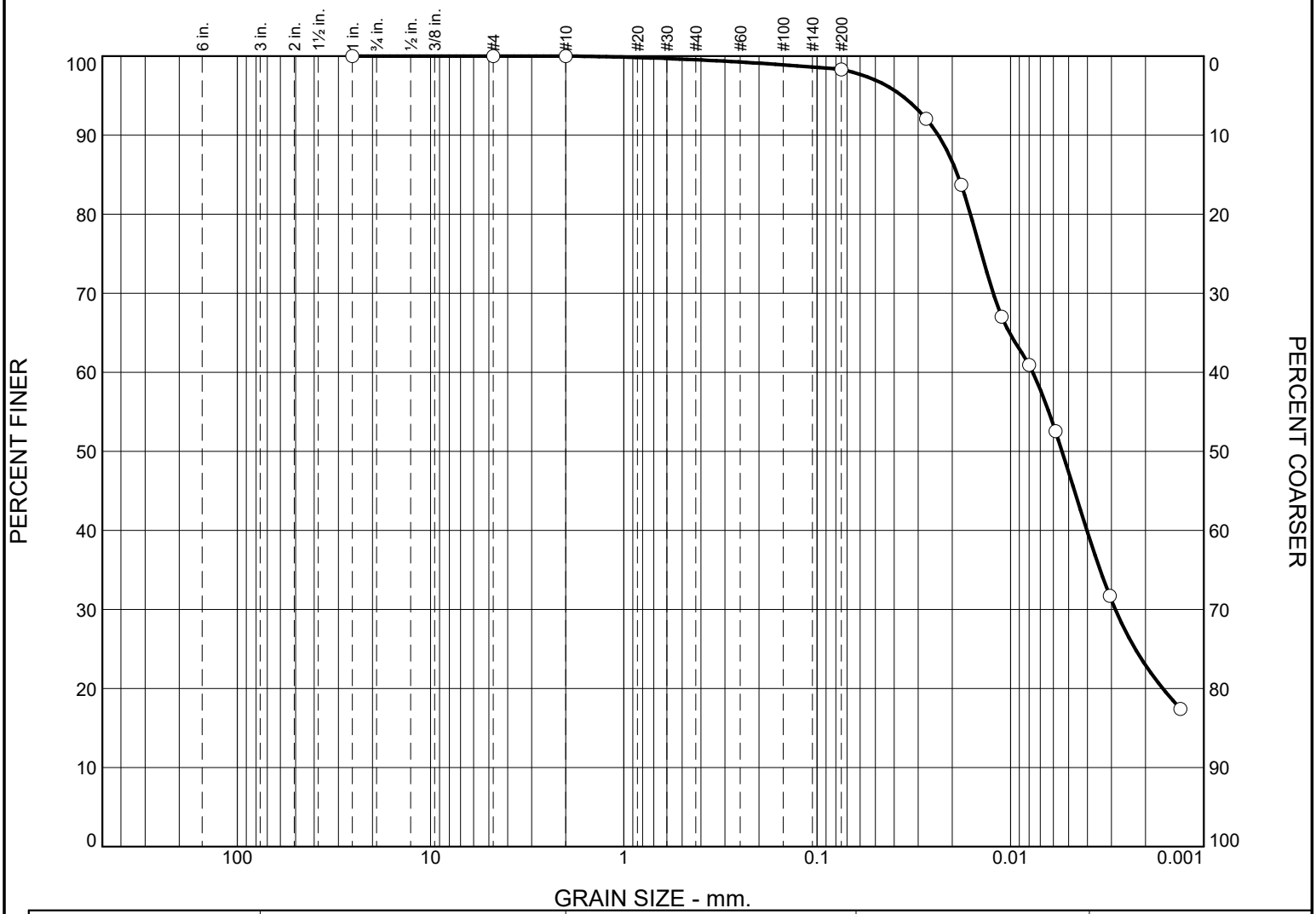
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 28.5 | 43.1 | 28.4 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0021 | 0.0043 | 0.0091 | 0.0181 | 0.0318 | 0.1199 | 0.1848 | 0.3052 | 0.5756 |

| Fineness Modulus |
|---|
| 0.34 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 2.2 | 58.8 | 39.0 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0187 | 0.0077 | 0.0054 | 0.0029 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #15 **Sample Number:** 20251100

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #15
**Sample Number:** 20251100
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 72.90 | 15.69 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.69 | 15.69 | 100.0 | 0.0 |
| | | #10 | 15.69 | 15.69 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.20 | 117.36 | 98.3 | 1.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 20.04
**Dry weight and tare =** 19.26
**Tare weight =** 1.25
**Hygroscopic moisture =** 4.3%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.8 | 49.0 | 44.1 | 0.0135 | 49.5 | 8.2 | 0.0273 | 92.1 | 7.9 |
| 5.00 | 20.8 | 45.0 | 40.1 | 0.0135 | 45.5 | 8.8 | 0.0180 | 83.7 | 16.3 |
| 15.00 | 20.8 | 37.0 | 32.1 | 0.0135 | 37.5 | 10.1 | 0.0111 | 67.0 | 33.0 |
| 30.00 | 21.1 | 34.0 | 29.2 | 0.0135 | 34.5 | 10.6 | 0.0080 | 60.9 | 39.1 |
| 60.00 | 21.0 | 30.0 | 25.2 | 0.0135 | 30.5 | 11.3 | 0.0058 | 52.5 | 47.5 |
| 250.00 | 21.1 | 20.0 | 15.2 | 0.0135 | 20.5 | 12.9 | 0.0031 | 31.7 | 68.3 |
| 1440.00 | 21.7 | 13.0 | 8.3 | 0.0134 | 13.5 | 14.1 | 0.0013 | 17.4 | 82.6 |

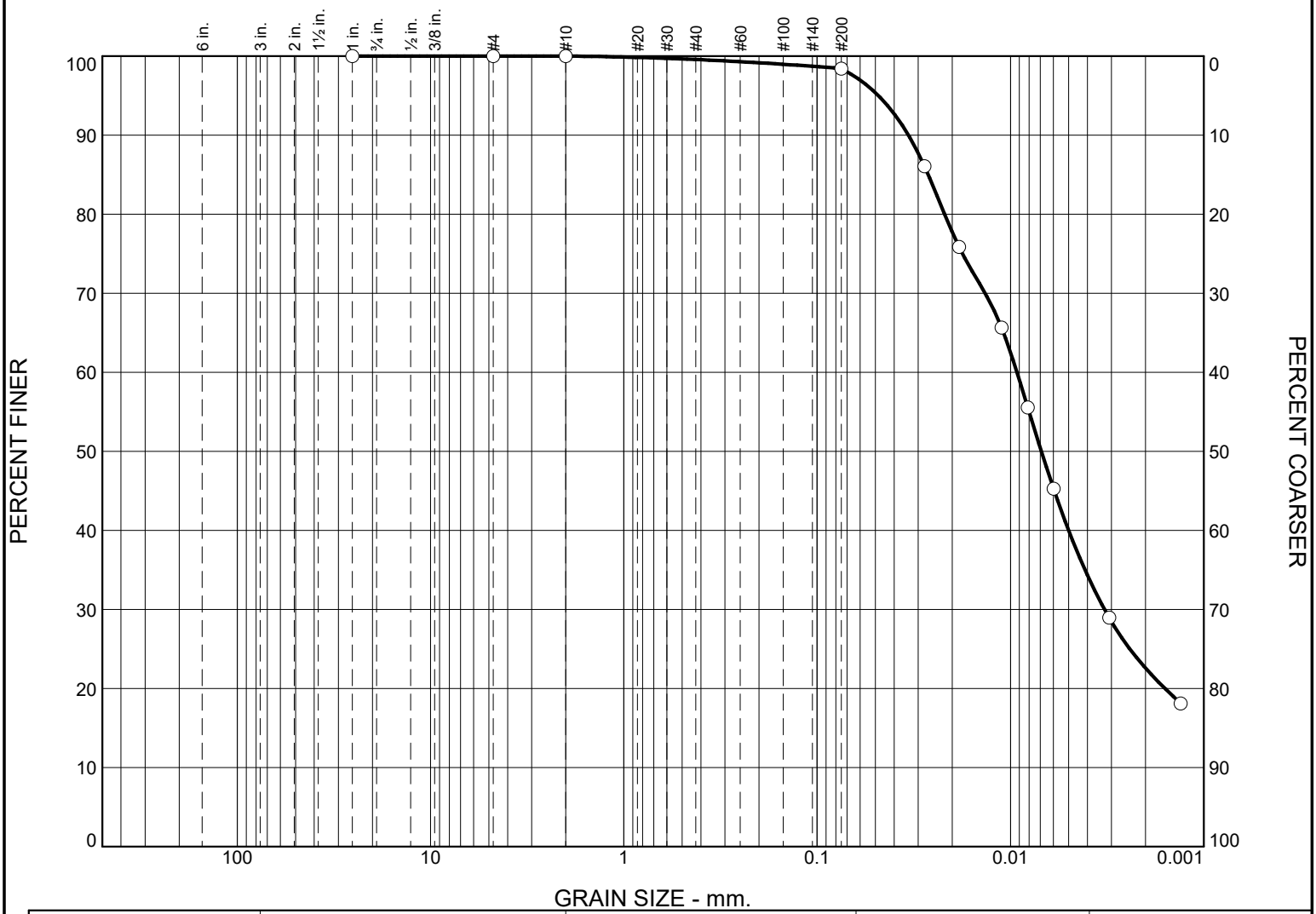
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 2.2 | 58.8 | 39.0 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0029 | 0.0040 | 0.0054 | 0.0077 | 0.0161 | 0.0187 | 0.0236 | 0.0364 |

| Fineness Modulus |
|---|
| 0.02 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 2.7 | 63.6 | 33.7 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0266 | 0.0093 | 0.0069 | 0.0033 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #16 **Sample Number:** 20251101

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/16/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #16
**Sample Number:** 20251101
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 74.68 | 15.64 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.64 | 15.64 | 100.0 | 0.0 |
| | | #10 | 15.64 | 15.64 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.08 | 117.29 | 98.4 | 1.6 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.33
**Dry weight and tare =** 16.99
**Tare weight =** 1.26
**Hygroscopic moisture =** 2.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.8 | 47.0 | 42.1 | 0.0135 | 47.5 | 8.5 | 0.0279 | 86.1 | 13.9 |
| 5.00 | 20.8 | 42.0 | 37.1 | 0.0135 | 42.5 | 9.3 | 0.0185 | 75.9 | 24.1 |
| 15.00 | 20.8 | 37.0 | 32.1 | 0.0135 | 37.5 | 10.1 | 0.0111 | 65.6 | 34.4 |
| 30.00 | 21.1 | 32.0 | 27.2 | 0.0135 | 32.5 | 11.0 | 0.0081 | 55.6 | 44.4 |
| 60.00 | 20.9 | 27.0 | 22.2 | 0.0135 | 27.5 | 11.8 | 0.0060 | 45.3 | 54.7 |
| 250.00 | 21.0 | 19.0 | 14.2 | 0.0135 | 19.5 | 13.1 | 0.0031 | 29.0 | 71.0 |
| 1440.00 | 21.8 | 13.5 | 8.9 | 0.0133 | 14.0 | 14.0 | 0.0013 | 18.1 | 81.9 |

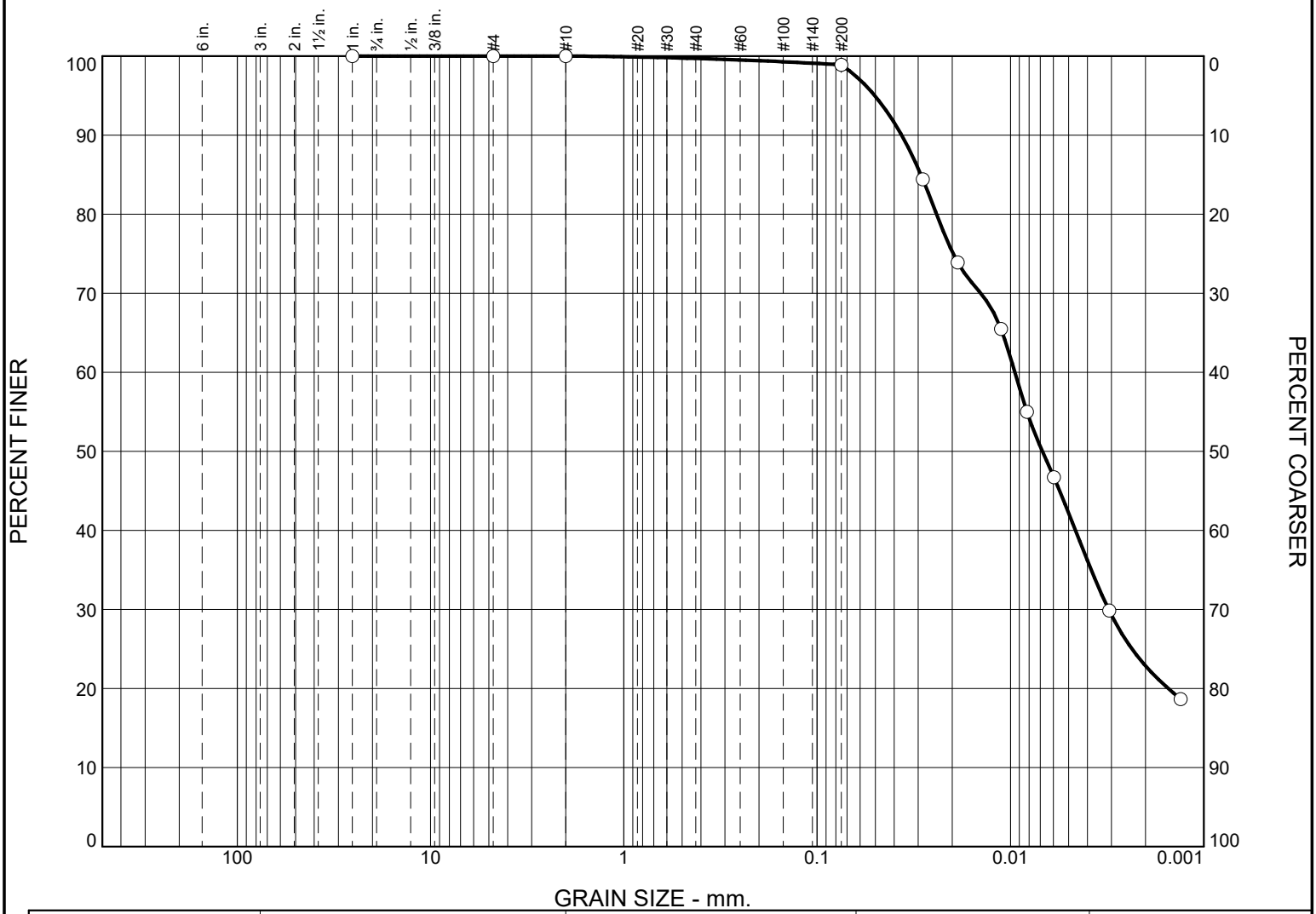
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 2.7 | 63.6 | 33.7 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0033 | 0.0050 | 0.0069 | 0.0093 | 0.0219 | 0.0266 | 0.0337 | 0.0482 |

| Fineness Modulus |
|---|
| 0.02 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 2.6 | 61.8 | 35.6 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0291 | 0.0095 | 0.0068 | 0.0031 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #17 **Sample Number:** 20251102

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #17
**Sample Number:** 20251102
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 67.39 | 15.62 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.62 | 15.62 | 100.0 | 0.0 |
| | | #10 | 15.62 | 15.62 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 114.58 | 114.03 | 98.9 | 1.1 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 16.44
**Dry weight and tare =** 15.70
**Tare weight =** 1.27
**Hygroscopic moisture =** 5.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 20.8 | 45.0 | 40.1 | 0.0135 | 45.5 | 8.8 | 0.0284 | 84.4 | 15.6 |
| 5.00 | 20.8 | 40.0 | 35.1 | 0.0135 | 40.5 | 9.7 | 0.0188 | 73.9 | 26.1 |
| 15.00 | 20.8 | 36.0 | 31.1 | 0.0135 | 36.5 | 10.3 | 0.0112 | 65.5 | 34.5 |
| 30.00 | 20.9 | 31.0 | 26.2 | 0.0135 | 31.5 | 11.1 | 0.0082 | 55.0 | 45.0 |
| 60.00 | 21.2 | 27.0 | 22.2 | 0.0134 | 27.5 | 11.8 | 0.0060 | 46.7 | 53.3 |
| 250.00 | 21.1 | 19.0 | 14.2 | 0.0135 | 19.5 | 13.1 | 0.0031 | 29.9 | 70.1 |
| 1440.00 | 21.8 | 13.5 | 8.9 | 0.0133 | 14.0 | 14.0 | 0.0013 | 18.6 | 81.4 |

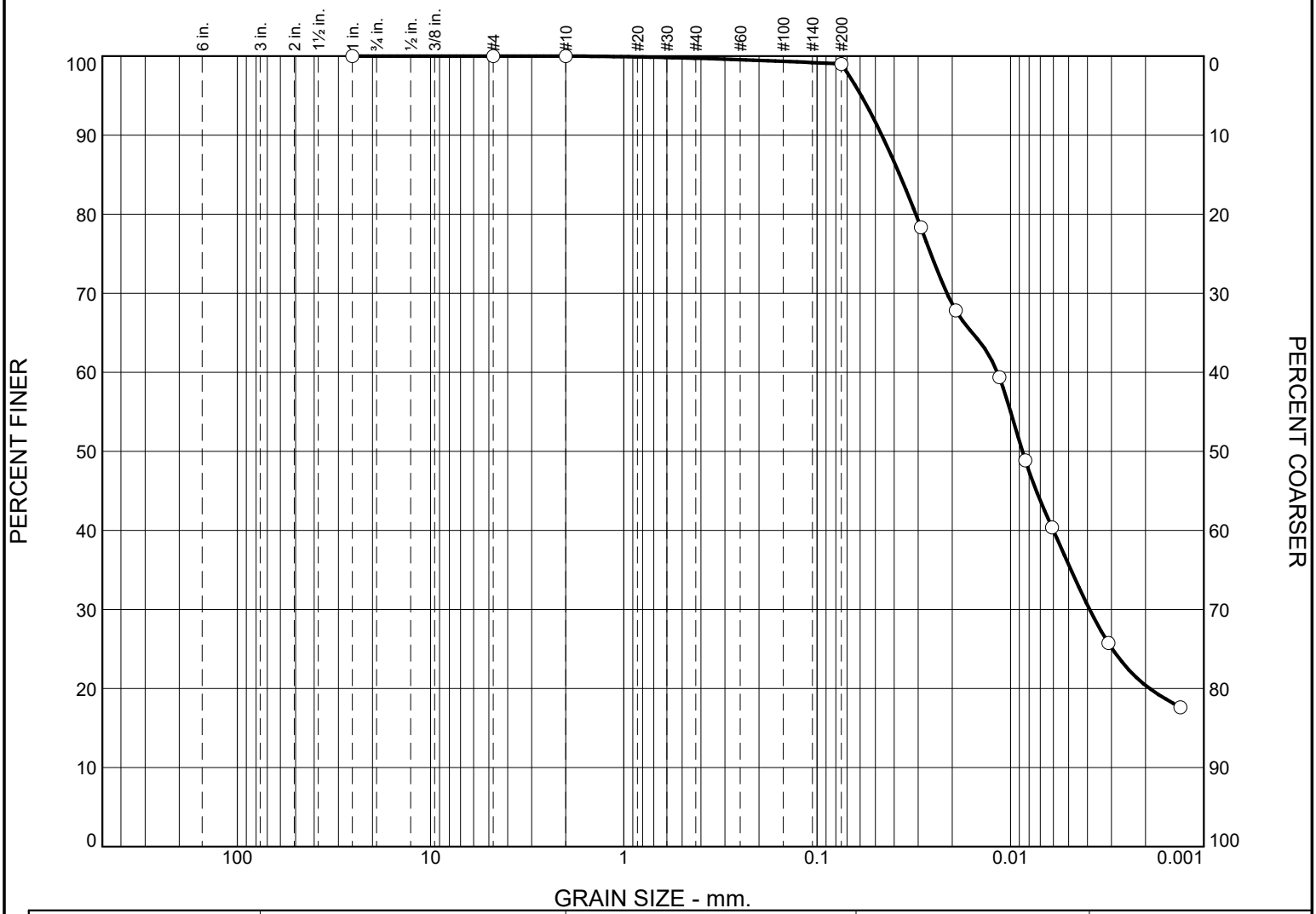
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 2.6 | 61.8 | 35.6 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0015 | 0.0031 | 0.0046 | 0.0068 | 0.0095 | 0.0241 | 0.0291 | 0.0365 | 0.0503 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 3.8 | 66.2 | 30.0 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0374 | 0.0117 | 0.0087 | 0.0039 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #18 **Sample Number:** 20251103

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #18
**Sample Number:** 20251103
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.43 | 15.70 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.70 | 15.70 | 100.0 | 0.0 |
| | | #10 | 15.70 | 15.70 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.25 | 117.75 | 99.0 | 1.0 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 18.07
**Dry weight and tare =** 17.23
**Tare weight =** 1.26
**Hygroscopic moisture =** 5.3%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 42.0 | 37.2 | 0.0135 | 42.5 | 9.3 | 0.0291 | 78.3 | 21.7 |
| 5.00 | 21.1 | 37.0 | 32.2 | 0.0135 | 37.5 | 10.1 | 0.0192 | 67.8 | 32.2 |
| 15.00 | 21.1 | 33.0 | 28.2 | 0.0135 | 33.5 | 10.8 | 0.0114 | 59.4 | 40.6 |
| 30.00 | 21.1 | 28.0 | 23.2 | 0.0135 | 28.5 | 11.6 | 0.0084 | 48.9 | 51.1 |
| 60.00 | 21.0 | 24.0 | 19.2 | 0.0135 | 24.5 | 12.3 | 0.0061 | 40.4 | 59.6 |
| 250.00 | 21.2 | 17.0 | 12.2 | 0.0134 | 17.5 | 13.4 | 0.0031 | 25.7 | 74.3 |
| 1440.00 | 21.8 | 13.0 | 8.4 | 0.0133 | 13.5 | 14.1 | 0.0013 | 17.6 | 82.4 |

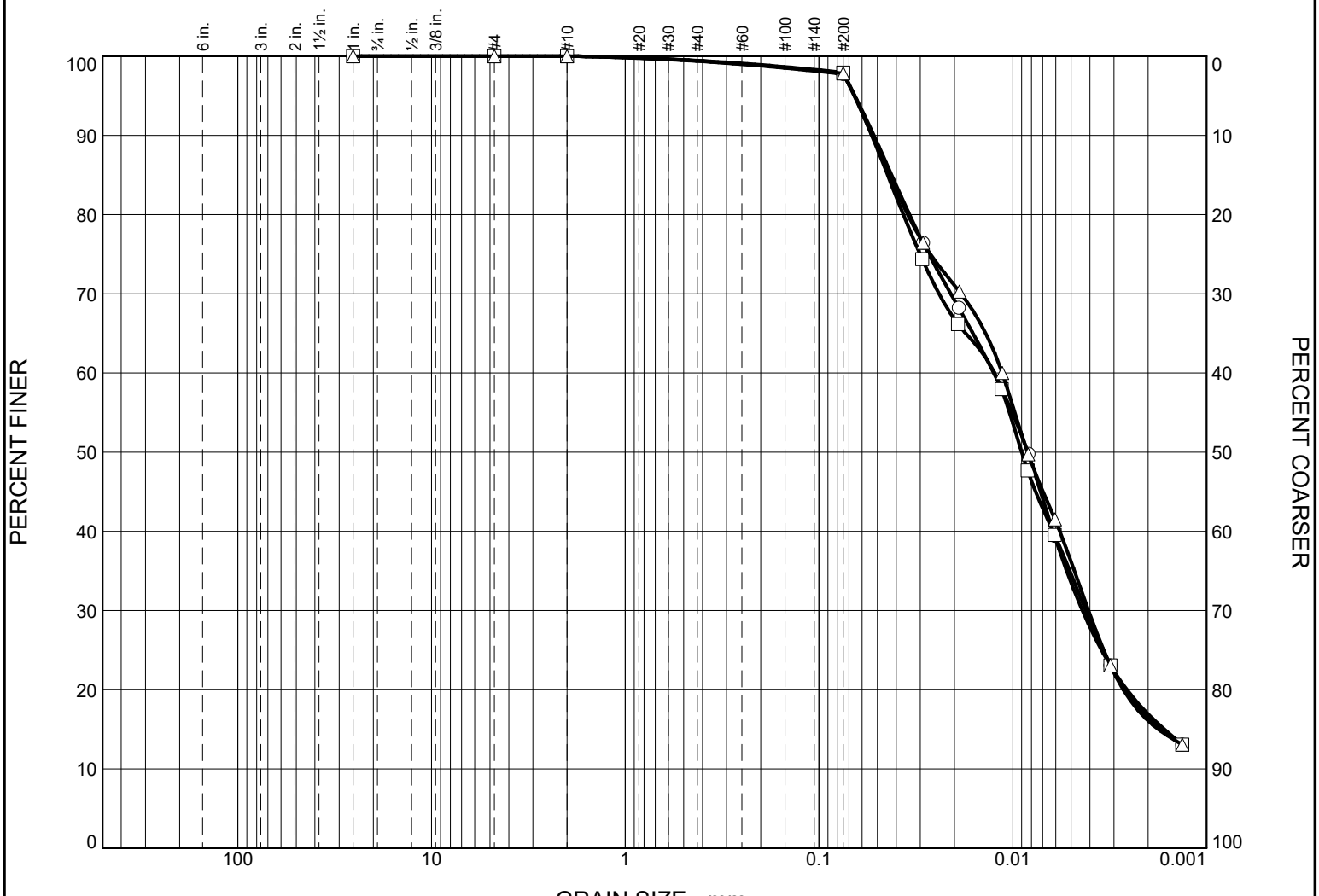
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 3.8 | 66.2 | 30.0 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0019 | 0.0039 | 0.0060 | 0.0087 | 0.0117 | 0.0309 | 0.0374 | 0.0463 | 0.0591 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 5.7 | 66.9 | 27.4 |
| □ | 0.0 | 0.0 | 5.9 | 66.0 | 28.1 |
| △ | 0.0 | 0.0 | 5.9 | 65.3 | 28.8 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0422 | 0.0126 | 0.0084 | 0.0044 | 0.0017 | | | |
| □ | | | 0.0443 | 0.0124 | 0.0090 | 0.0042 | 0.0017 | | | |
| △ | | | 0.0433 | 0.0113 | 0.0084 | 0.0041 | 0.0018 | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |
| □ Sediment | | |
| △ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #19/ Comp I **Sample Number:** 20251104

□ **Source of Sample:** #19/ Comp I **Sample Number:** 20251104 dup

△ **Source of Sample:** #19/ Comp I **Sample Number:** 20251104 trp

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #19/ Comp I
**Sample Number:** 20251104
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.62 | 15.62 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.62 | 15.62 | 100.0 | 0.0 |
| | | #10 | 15.62 | 15.62 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.37 | 115.24 | 97.7 | 2.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.59
**Dry weight and tare =** 17.16
**Tare weight =** 1.25
**Hygroscopic moisture =** 2.7%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 42.0 | 37.2 | 0.0135 | 42.5 | 9.3 | 0.0291 | 76.4 | 23.6 |
| 5.00 | 21.1 | 38.0 | 33.2 | 0.0135 | 38.5 | 10.0 | 0.0190 | 68.2 | 31.8 |
| 15.00 | 21.1 | 33.0 | 28.2 | 0.0135 | 33.5 | 10.8 | 0.0114 | 57.9 | 42.1 |
| 30.00 | 21.2 | 29.0 | 24.2 | 0.0134 | 29.5 | 11.5 | 0.0083 | 49.8 | 50.2 |
| 60.00 | 21.1 | 24.0 | 19.2 | 0.0135 | 24.5 | 12.3 | 0.0061 | 39.4 | 60.6 |
| 250.00 | 21.2 | 16.0 | 11.2 | 0.0134 | 16.5 | 13.6 | 0.0031 | 23.1 | 76.9 |
| 1440.00 | 21.8 | 11.0 | 6.4 | 0.0133 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 5.7 | 66.9 | 27.4 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0017 | 0.0026 | 0.0044 | 0.0062 | 0.0084 | 0.0126 | 0.0341 | 0.0422 | 0.0521 | 0.0652 |

| Fineness Modulus |
|---|
| 0.03 |

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #19/ Comp I
**Sample Number:** 20251104 dup
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.00 | 15.50 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.50 | 15.50 | 100.0 | 0.0 |
| | | #10 | 15.50 | 15.50 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.22 | 115.19 | 97.9 | 2.1 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.59
**Dry weight and tare =** 17.16
**Tare weight =** 1.25
**Hygroscopic moisture =** 2.7%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 41.0 | 36.2 | 0.0135 | 41.5 | 9.5 | 0.0293 | 74.4 | 25.6 |
| 5.00 | 21.1 | 37.0 | 32.2 | 0.0135 | 37.5 | 10.1 | 0.0192 | 66.2 | 33.8 |
| 15.00 | 21.1 | 33.0 | 28.2 | 0.0135 | 33.5 | 10.8 | 0.0114 | 57.9 | 42.1 |
| 30.00 | 21.1 | 28.0 | 23.2 | 0.0135 | 28.5 | 11.6 | 0.0084 | 47.7 | 52.3 |
| 60.00 | 21.3 | 24.0 | 19.2 | 0.0134 | 24.5 | 12.3 | 0.0061 | 39.5 | 60.5 |
| 250.00 | 21.2 | 16.0 | 11.2 | 0.0134 | 16.5 | 13.6 | 0.0031 | 23.1 | 76.9 |
| 1440.00 | 21.8 | 11.0 | 6.4 | 0.0133 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 5.9 | 66.0 | 28.1 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0017 | 0.0026 | 0.0042 | 0.0062 | 0.0090 | 0.0124 | 0.0367 | 0.0443 | 0.0535 | 0.0656 |

| Fineness Modulus |
|---|
| 0.03 |

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #19/ Comp I
**Sample Number:** 20251104 trp
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.75 | 15.50 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.50 | 15.50 | 100.0 | 0.0 |
| | | #10 | 15.50 | 15.50 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.62 | 115.53 | 97.8 | 2.2 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.59
**Dry weight and tare =** 17.16
**Tare weight =** 1.25
**Hygroscopic moisture =** 2.7%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.1 | 42.0 | 37.2 | 0.0135 | 42.5 | 9.3 | 0.0291 | 76.4 | 23.6 |
| 5.00 | 21.1 | 39.0 | 34.2 | 0.0135 | 39.5 | 9.8 | 0.0189 | 70.3 | 29.7 |
| 15.00 | 21.1 | 34.0 | 29.2 | 0.0135 | 34.5 | 10.6 | 0.0113 | 60.0 | 40.0 |
| 30.00 | 21.1 | 29.0 | 24.2 | 0.0135 | 29.5 | 11.5 | 0.0083 | 49.7 | 50.3 |
| 60.00 | 21.1 | 25.0 | 20.2 | 0.0135 | 25.5 | 12.1 | 0.0060 | 41.5 | 58.5 |
| 250.00 | 21.2 | 16.0 | 11.2 | 0.0134 | 16.5 | 13.6 | 0.0031 | 23.1 | 76.9 |
| 1440.00 | 21.8 | 11.0 | 6.4 | 0.0133 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

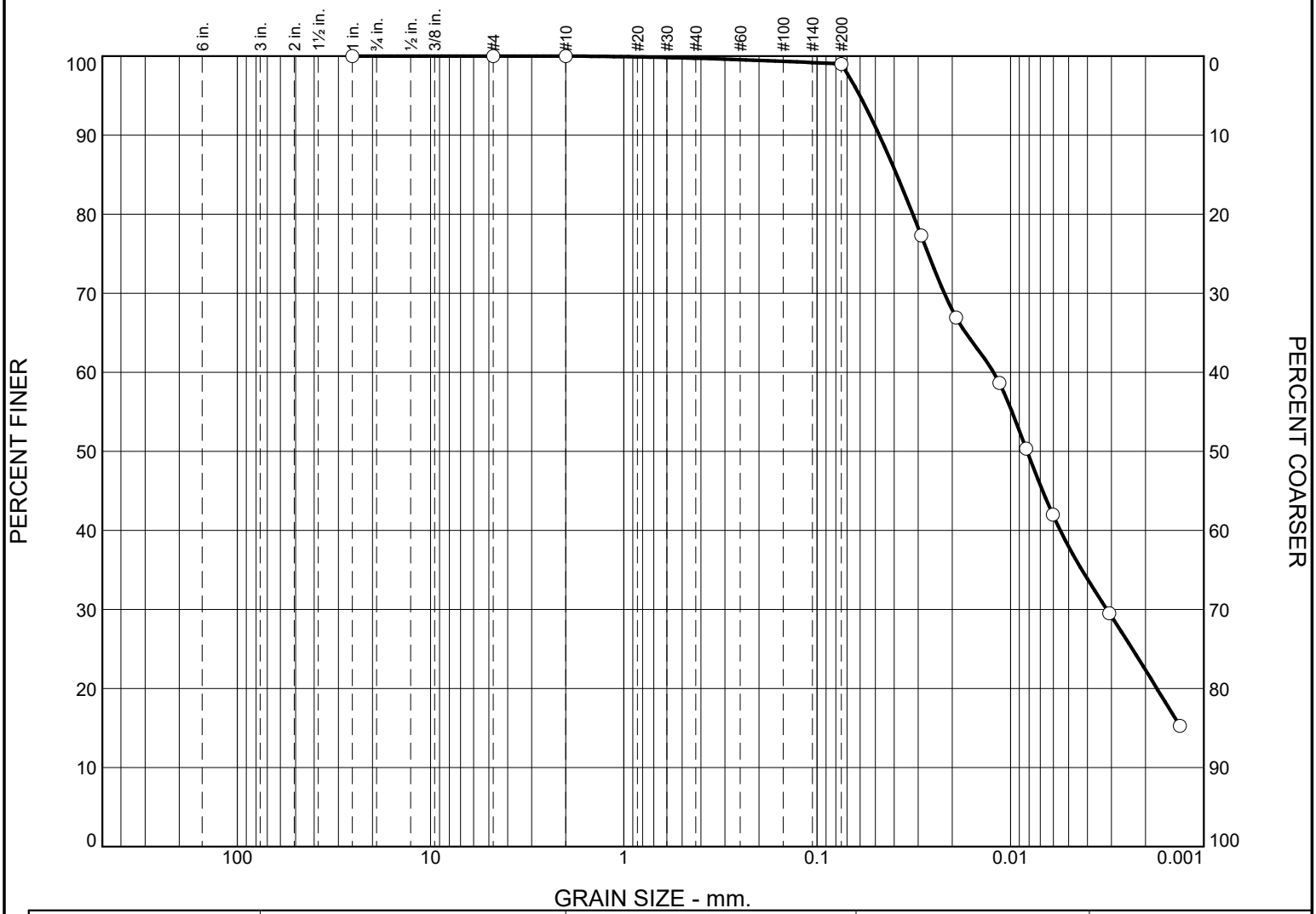
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 5.9 | 65.3 | 28.8 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0018 | 0.0027 | 0.0041 | 0.0057 | 0.0084 | 0.0113 | 0.0349 | 0.0433 | 0.0531 | 0.0657 |

| Fineness Modulus |
|---|
| 0.03 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 4.1 | 62.5 | 33.4 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0388 | 0.0122 | 0.0082 | 0.0032 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #20 **Sample Number:** 20251105

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #20
**Sample Number:** 20251105
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 67.85 | 15.64 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.64 | 15.64 | 100.0 | 0.0 |
| | | #10 | 15.64 | 15.64 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 115.91 | 115.41 | 99.0 | 1.0 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 14.29
**Dry weight and tare =** 13.82
**Tare weight =** 1.26
**Hygroscopic moisture =** 3.8%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.3 | 42.0 | 37.2 | 0.0134 | 42.5 | 9.3 | 0.0290 | 77.3 | 22.7 |
| 5.00 | 21.3 | 37.0 | 32.2 | 0.0134 | 37.5 | 10.1 | 0.0191 | 66.9 | 33.1 |
| 15.00 | 21.3 | 33.0 | 28.2 | 0.0134 | 33.5 | 10.8 | 0.0114 | 58.6 | 41.4 |
| 30.00 | 21.3 | 29.0 | 24.2 | 0.0134 | 29.5 | 11.5 | 0.0083 | 50.3 | 49.7 |
| 60.00 | 21.2 | 25.0 | 20.2 | 0.0134 | 25.5 | 12.1 | 0.0060 | 42.0 | 58.0 |
| 250.00 | 21.2 | 19.0 | 14.2 | 0.0134 | 19.5 | 13.1 | 0.0031 | 29.5 | 70.5 |
| 1440.00 | 21.8 | 12.0 | 7.4 | 0.0133 | 12.5 | 14.2 | 0.0013 | 15.3 | 84.7 |

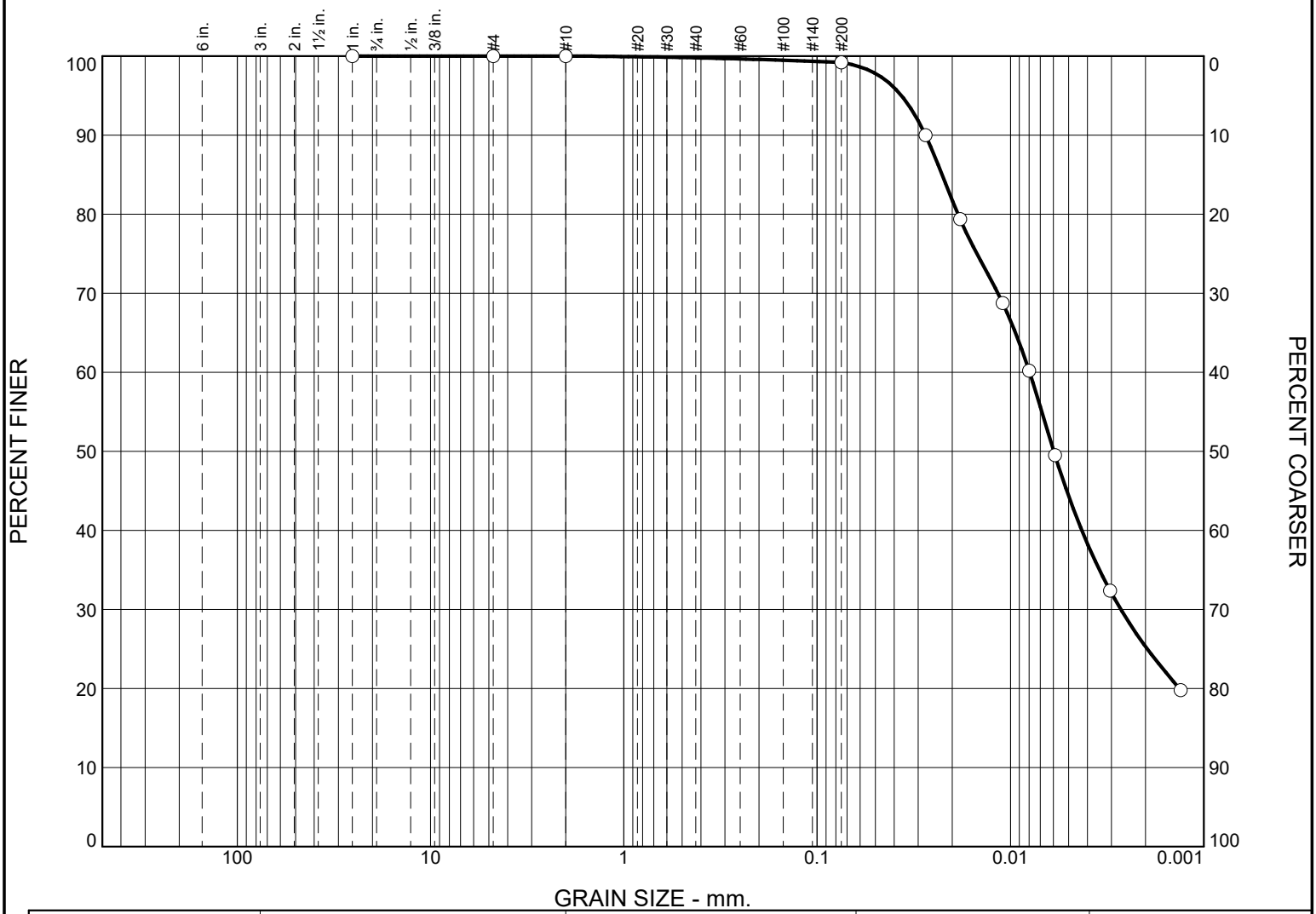
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 4.1 | 62.5 | 33.4 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0017 | 0.0032 | 0.0055 | 0.0082 | 0.0122 | 0.0320 | 0.0388 | 0.0477 | 0.0602 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 1.2 | 61.1 | 37.7 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0226 | 0.0080 | 0.0060 | 0.0027 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #21 **Sample Number:** 20251106

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #21
**Sample Number:** 20251106
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 71.53 | 15.62 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.62 | 15.62 | 100.0 | 0.0 |
| | | #10 | 15.62 | 15.62 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 115.73 | 115.33 | 99.2 | 0.8 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.22
**Dry weight and tare =** 16.29
**Tare weight =** 1.26
**Hygroscopic moisture =** 6.2%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.8 | 47.0 | 42.4 | 0.0133 | 47.5 | 8.5 | 0.0275 | 90.0 | 10.0 |
| 5.00 | 21.8 | 42.0 | 37.4 | 0.0133 | 42.5 | 9.3 | 0.0182 | 79.4 | 20.6 |
| 15.00 | 21.8 | 37.0 | 32.4 | 0.0133 | 37.5 | 10.1 | 0.0110 | 68.7 | 31.3 |
| 30.00 | 21.7 | 33.0 | 28.3 | 0.0134 | 33.5 | 10.8 | 0.0080 | 60.2 | 39.8 |
| 60.00 | 21.6 | 28.0 | 23.3 | 0.0134 | 28.5 | 11.6 | 0.0059 | 49.5 | 50.5 |
| 250.00 | 21.3 | 20.0 | 15.2 | 0.0134 | 20.5 | 12.9 | 0.0031 | 32.4 | 67.6 |
| 1440.00 | 21.6 | 14.0 | 9.3 | 0.0134 | 14.5 | 13.9 | 0.0013 | 19.8 | 80.2 |

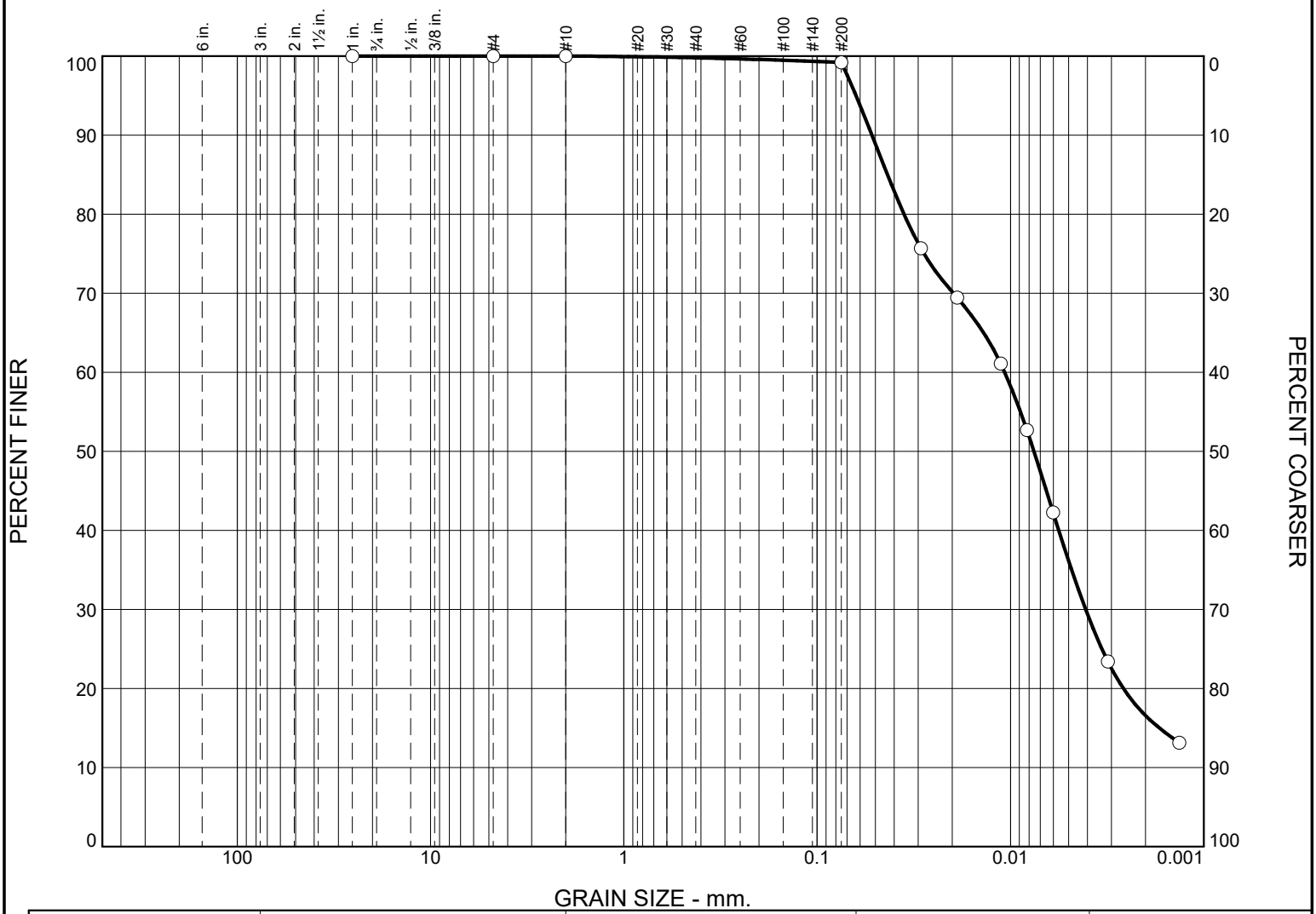
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 1.2 | 61.1 | 37.7 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0013 | 0.0027 | 0.0043 | 0.0060 | 0.0080 | 0.0187 | 0.0226 | 0.0275 | 0.0367 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 5.0 | 66.2 | 28.8 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0433 | 0.0107 | 0.0076 | 0.0041 | 0.0017 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #22 **Sample Number:** 20251107

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #22
**Sample Number:** 20251107
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 77.65 | 15.65 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.65 | 15.65 | 100.0 | 0.0 |
| | | #10 | 15.65 | 15.65 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.13 | 117.73 | 99.2 | 0.8 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 18.07
**Dry weight and tare =** 17.41
**Tare weight =** 1.27
**Hygroscopic moisture =** 4.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.8 | 41.0 | 36.4 | 0.0133 | 41.5 | 9.5 | 0.0291 | 75.7 | 24.3 |
| 5.00 | 21.8 | 38.0 | 33.4 | 0.0133 | 38.5 | 10.0 | 0.0189 | 69.4 | 30.6 |
| 15.00 | 21.8 | 34.0 | 29.4 | 0.0133 | 34.5 | 10.6 | 0.0112 | 61.1 | 38.9 |
| 30.00 | 21.6 | 30.0 | 25.3 | 0.0134 | 30.5 | 11.3 | 0.0082 | 52.7 | 47.3 |
| 60.00 | 21.6 | 25.0 | 20.3 | 0.0134 | 25.5 | 12.1 | 0.0060 | 42.3 | 57.7 |
| 250.00 | 21.3 | 16.0 | 11.2 | 0.0134 | 16.5 | 13.6 | 0.0031 | 23.4 | 76.6 |
| 1440.00 | 21.6 | 11.0 | 6.3 | 0.0134 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

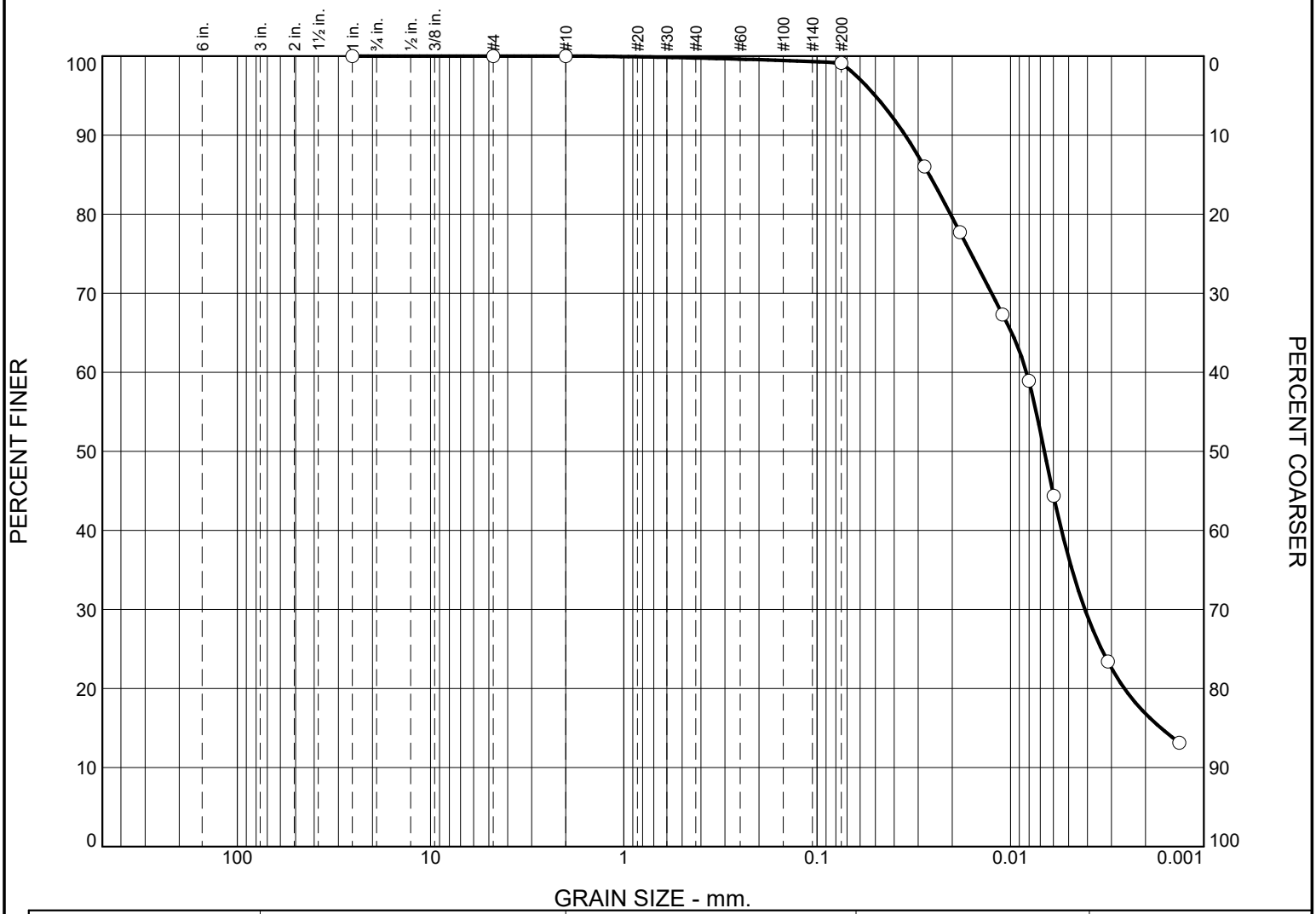
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 5.0 | 66.2 | 28.8 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0017 | 0.0026 | 0.0041 | 0.0056 | 0.0076 | 0.0107 | 0.0355 | 0.0433 | 0.0521 | 0.0629 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 2.5 | 69.0 | 28.5 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0263 | 0.0083 | 0.0067 | 0.0041 | 0.0017 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Sediment | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** #23 **Sample Number:** 20251108

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** #23
**Sample Number:** 20251108
**Material Description:** Sediment
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 69.85 | 15.48 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.48 | 15.48 | 100.0 | 0.0 |
| | | #10 | 15.48 | 15.48 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.70 | 116.27 | 99.1 | 0.9 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 15.57
**Dry weight and tare =** 15.01
**Tare weight =** 1.27
**Hygroscopic moisture =** 4.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 46.0 | 41.3 | 0.0134 | 46.5 | 8.7 | 0.0278 | 86.0 | 14.0 |
| 5.00 | 21.7 | 42.0 | 37.3 | 0.0134 | 42.5 | 9.3 | 0.0182 | 77.7 | 22.3 |
| 15.00 | 21.7 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0110 | 67.3 | 32.7 |
| 30.00 | 21.6 | 33.0 | 28.3 | 0.0134 | 33.5 | 10.8 | 0.0080 | 58.9 | 41.1 |
| 60.00 | 21.6 | 26.0 | 21.3 | 0.0134 | 26.5 | 11.9 | 0.0060 | 44.4 | 55.6 |
| 250.00 | 21.3 | 16.0 | 11.2 | 0.0134 | 16.5 | 13.6 | 0.0031 | 23.4 | 76.6 |
| 1440.00 | 21.6 | 11.0 | 6.3 | 0.0134 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 2.5 | 69.0 | 28.5 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0017 | 0.0026 | 0.0041 | 0.0054 | 0.0067 | 0.0083 | 0.0204 | 0.0263 | 0.0351 | 0.0502 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report

| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 11.5 | 59.6 | 28.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0563 | 0.0183 | 0.0110 | 0.0042 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp A **Sample Number:** 20251109

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

200

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp A
**Sample Number:** 20251109
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 81.47 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 15.66 | 15.66 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 118.06 | 114.90 | 93.7 | 6.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 16.10
**Dry weight and tare =** 15.48
**Tare weight =** 1.26
**Hygroscopic moisture =** 4.4%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0301 | 67.5 | 32.5 |
| 5.00 | 21.7 | 34.0 | 29.3 | 0.0134 | 34.5 | 10.6 | 0.0195 | 61.2 | 38.8 |
| 15.00 | 21.7 | 29.0 | 24.3 | 0.0134 | 29.5 | 11.5 | 0.0117 | 50.8 | 49.2 |
| 30.00 | 21.7 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0084 | 46.6 | 53.4 |
| 60.00 | 21.6 | 23.0 | 18.3 | 0.0134 | 23.5 | 12.4 | 0.0061 | 38.2 | 61.8 |
| 250.00 | 21.3 | 17.0 | 12.2 | 0.0134 | 17.5 | 13.4 | 0.0031 | 25.6 | 74.4 |
| 1440.00 | 21.7 | 12.0 | 7.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 15.3 | 84.7 |

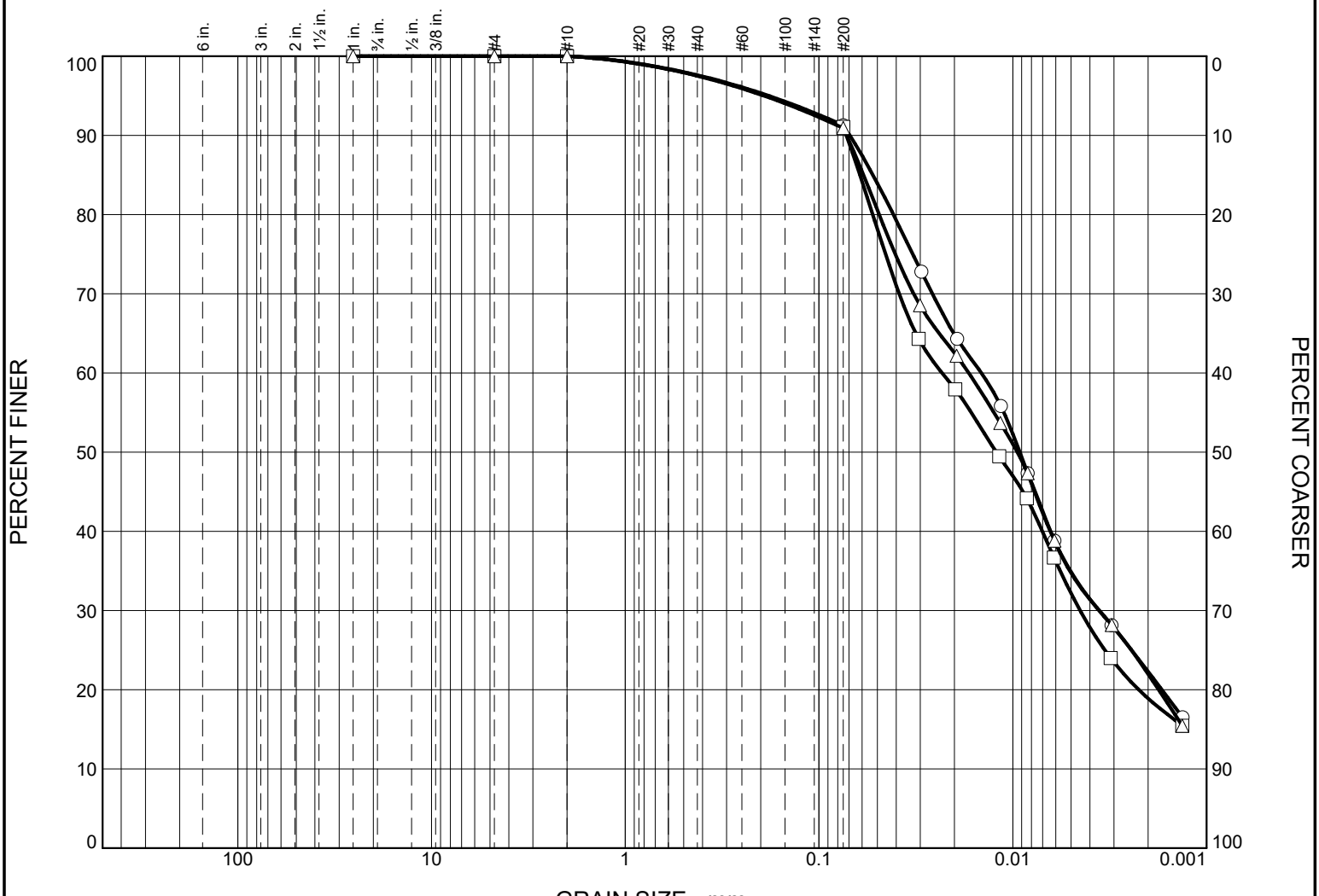
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 11.5 | 59.6 | 28.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0020 | 0.0042 | 0.0065 | 0.0110 | 0.0183 | 0.0482 | 0.0563 | 0.0661 | 0.1124 |

| Fineness Modulus |
|---|
| 0.08 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 11.7 | 57.2 | 31.1 |
| □ | 0.0 | 0.0 | 14.3 | 58.2 | 27.5 |
| △ | 0.0 | 0.0 | 13.3 | 55.6 | 31.1 |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0528 | 0.0145 | 0.0092 | 0.0036 | | | | |
| □ | | | 0.0616 | 0.0231 | 0.0122 | 0.0045 | | | | |
| △ | | | 0.0590 | 0.0169 | 0.0095 | 0.0036 | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite<br>□ Composite<br>△ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp B **Sample Number:** 20251110

□ **Source of Sample:** Comp B **Sample Number:** 20251110 dup

△ **Source of Sample:** Comp B **Sample Number:** 20251110 trp

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**



**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp B
**Sample Number:** 20251110
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.28 | 15.49 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.49 | 15.49 | 100.0 | 0.0 |
| | | #10 | 15.49 | 15.49 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 119.96 | 115.60 | 91.3 | 8.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.21
**Dry weight and tare =** 18.20
**Tare weight =** 1.25
**Hygroscopic moisture =** 6.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 39.0 | 34.3 | 0.0134 | 39.5 | 9.8 | 0.0296 | 72.8 | 27.2 |
| 5.00 | 21.7 | 35.0 | 30.3 | 0.0134 | 35.5 | 10.5 | 0.0193 | 64.3 | 35.7 |
| 15.00 | 21.7 | 31.0 | 26.3 | 0.0134 | 31.5 | 11.1 | 0.0115 | 55.8 | 44.2 |
| 30.00 | 21.7 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0084 | 47.3 | 52.7 |
| 60.00 | 21.6 | 23.0 | 18.3 | 0.0134 | 23.5 | 12.4 | 0.0061 | 38.8 | 61.2 |
| 250.00 | 21.4 | 18.0 | 13.3 | 0.0134 | 18.5 | 13.3 | 0.0031 | 28.1 | 71.9 |
| 1440.00 | 21.5 | 12.5 | 7.8 | 0.0134 | 13.0 | 14.2 | 0.0013 | 16.5 | 83.5 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 11.7 | 57.2 | 31.1 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0017 | 0.0036 | 0.0064 | 0.0092 | 0.0145 | 0.0414 | 0.0528 | 0.0693 | 0.1823 |

| Fineness Modulus |
|---|
| 0.11 |

# GRAIN SIZE DISTRIBUTION TEST DATA

1/16/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp B
**Sample Number:** 20251110 dup
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.75 | 15.64 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.64 | 15.64 | 100.0 | 0.0 |
| | | #10 | 15.64 | 15.64 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 117.02 | 112.55 | 91.1 | 8.9 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.21
**Dry weight and tare =** 18.20
**Tare weight =** 1.25
**Hygroscopic moisture =** 6.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 35.0 | 30.3 | 0.0134 | 35.5 | 10.5 | 0.0306 | 64.3 | 35.7 |
| 5.00 | 21.7 | 32.0 | 27.3 | 0.0134 | 32.5 | 11.0 | 0.0198 | 57.9 | 42.1 |
| 15.00 | 21.7 | 28.0 | 23.3 | 0.0134 | 28.5 | 11.6 | 0.0118 | 49.5 | 50.5 |
| 30.00 | 21.7 | 25.5 | 20.8 | 0.0134 | 26.0 | 12.0 | 0.0085 | 44.2 | 55.8 |
| 60.00 | 21.6 | 22.0 | 17.3 | 0.0134 | 22.5 | 12.6 | 0.0061 | 36.7 | 63.3 |
| 250.00 | 21.6 | 16.0 | 11.3 | 0.0134 | 16.5 | 13.6 | 0.0031 | 24.0 | 76.0 |
| 1440.00 | 21.5 | 12.0 | 7.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 15.4 | 84.6 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 14.3 | 58.2 | 27.5 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0022 | 0.0045 | 0.0070 | 0.0122 | 0.0231 | 0.0529 | 0.0616 | 0.0723 | 0.1886 |

| Fineness Modulus |
|---|
| 0.11 |

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp B
**Sample Number:** 20251110 trp
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 66.86 | 15.65 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.65 | 15.65 | 100.0 | 0.0 |
| | | #10 | 15.65 | 15.65 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 131.34 | 126.80 | 90.9 | 9.1 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.21
**Dry weight and tare =** 18.20
**Tare weight =** 1.25
**Hygroscopic moisture =** 6.0%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0301 | 68.5 | 31.5 |
| 5.00 | 21.7 | 34.0 | 29.3 | 0.0134 | 34.5 | 10.6 | 0.0195 | 62.2 | 37.8 |
| 15.00 | 21.7 | 30.0 | 25.3 | 0.0134 | 30.5 | 11.3 | 0.0116 | 53.7 | 46.3 |
| 30.00 | 21.7 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0084 | 47.3 | 52.7 |
| 60.00 | 21.6 | 23.0 | 18.3 | 0.0134 | 23.5 | 12.4 | 0.0061 | 38.8 | 61.2 |
| 250.00 | 21.5 | 18.0 | 13.3 | 0.0134 | 18.5 | 13.3 | 0.0031 | 28.2 | 71.8 |
| 1440.00 | 21.5 | 12.0 | 7.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 15.4 | 84.6 |

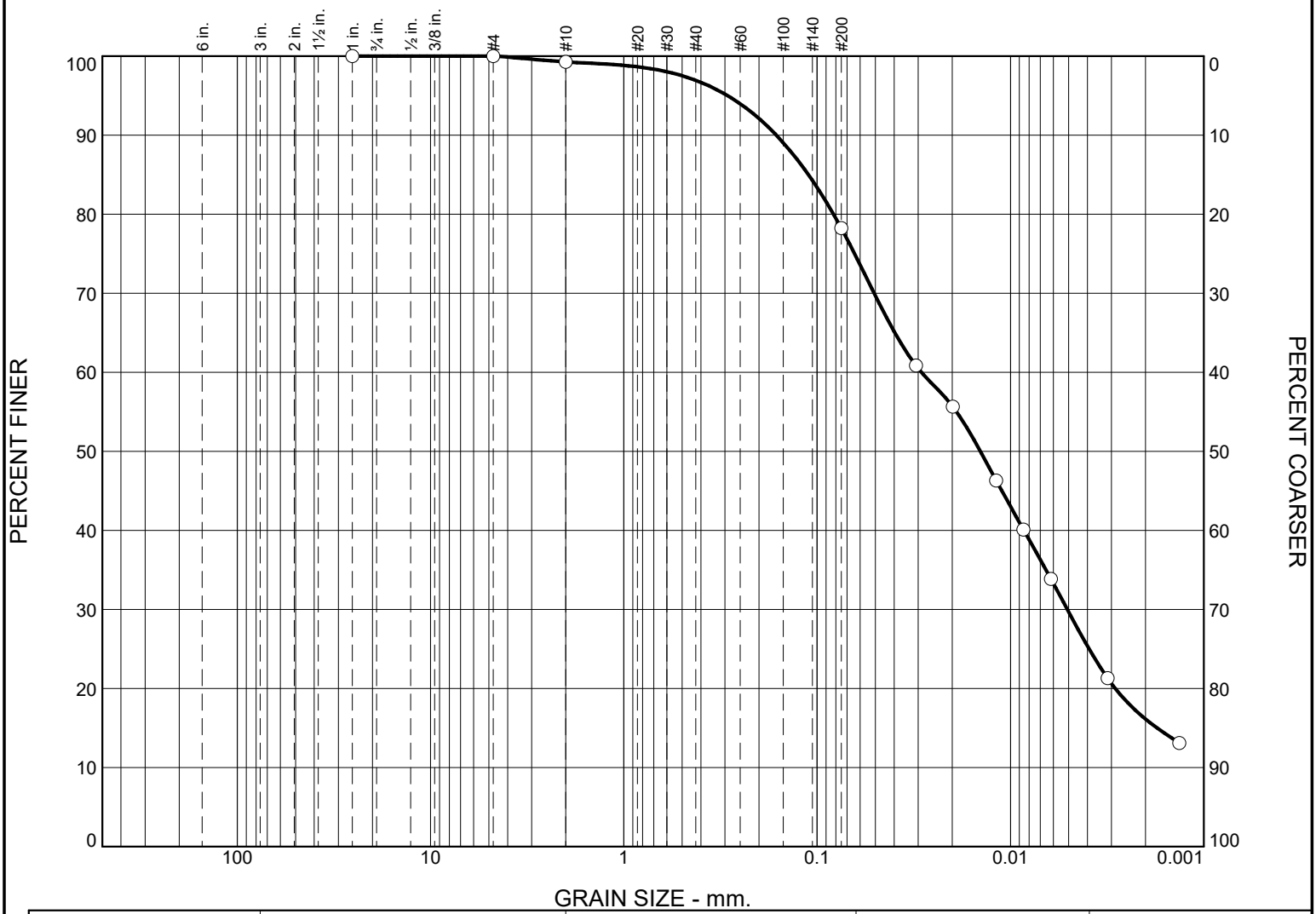
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 13.3 | 55.6 | 31.1 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0018 | 0.0036 | 0.0064 | 0.0095 | 0.0169 | 0.0489 | 0.0590 | 0.0721 | 0.1926 |

| Fineness Modulus |
|---|
| 0.12 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.7 | 24.7 | 49.7 | 24.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.1110 | 0.0289 | 0.0143 | 0.0051 | 0.0017 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp C **Sample Number:** 20251111

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp C
**Sample Number:** 20251111
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 76.61 | 15.48 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.48 | 15.48 | 100.0 | 0.0 |
| | | #10 | 15.93 | 15.48 | 99.3 | 0.7 |
| 50.00 | 0.00 | #200 | 137.04 | 126.44 | 78.2 | 21.8 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 99.3
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 19.67
**Dry weight and tare =** 18.87
**Tare weight =** 1.26
**Hygroscopic moisture =** 4.6%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.6 | 34.0 | 29.3 | 0.0134 | 34.5 | 10.6 | 0.0309 | 60.8 | 39.2 |
| 5.00 | 21.6 | 31.5 | 26.8 | 0.0134 | 32.0 | 11.0 | 0.0199 | 55.7 | 44.3 |
| 15.00 | 21.6 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0119 | 46.3 | 53.7 |
| 30.00 | 21.6 | 24.0 | 19.3 | 0.0134 | 24.5 | 12.3 | 0.0086 | 40.1 | 59.9 |
| 60.00 | 21.6 | 21.0 | 16.3 | 0.0134 | 21.5 | 12.8 | 0.0062 | 33.9 | 66.1 |
| 250.00 | 21.4 | 15.0 | 10.3 | 0.0134 | 15.5 | 13.8 | 0.0031 | 21.3 | 78.7 |
| 1440.00 | 21.6 | 11.0 | 6.3 | 0.0134 | 11.5 | 14.4 | 0.0013 | 13.1 | 86.9 |

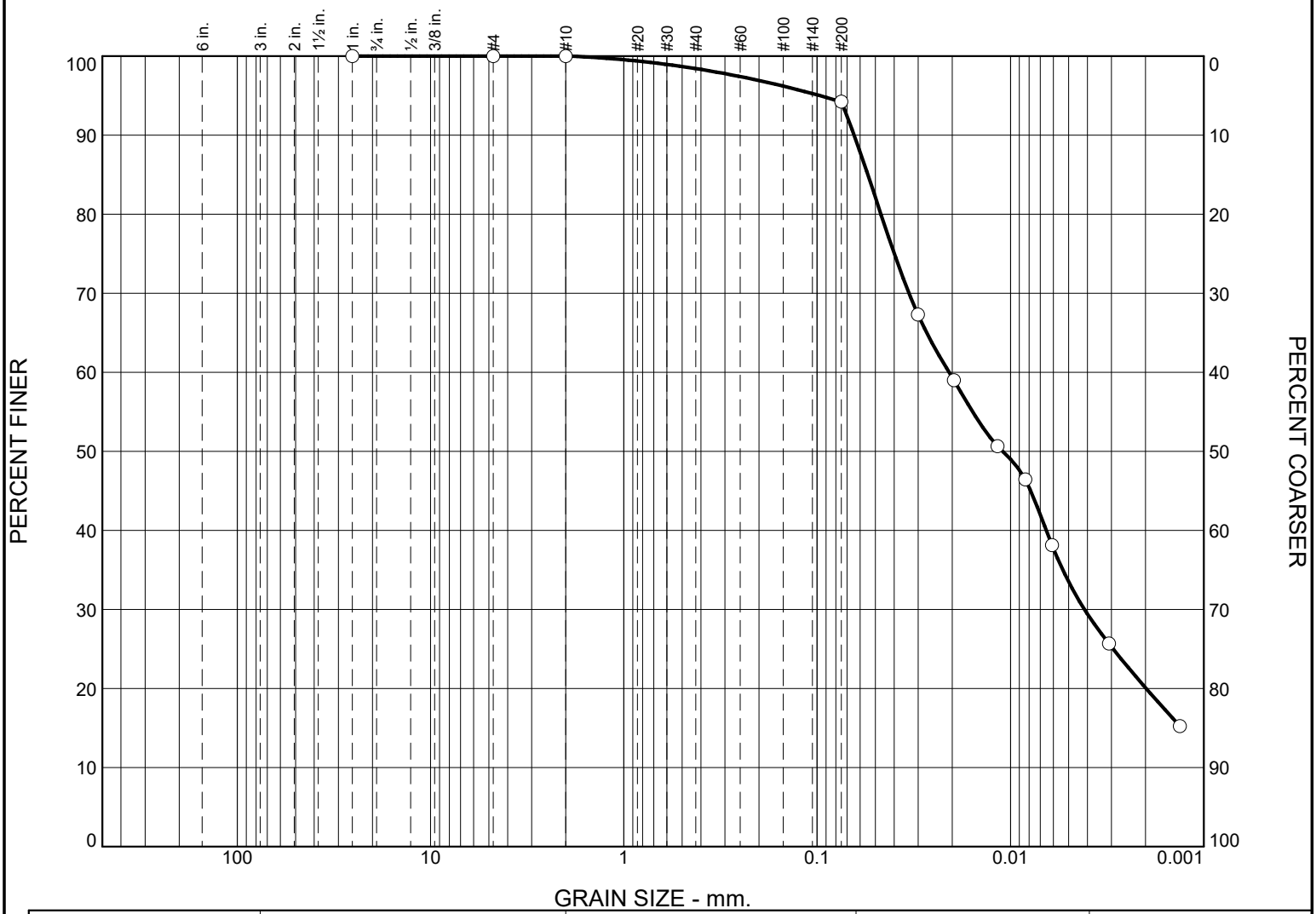
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.7 | 24.7 | 49.7 | 24.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0017 | 0.0029 | 0.0051 | 0.0085 | 0.0143 | 0.0289 | 0.0823 | 0.1110 | 0.1630 | 0.2915 |

| Fineness Modulus |
|---|
| 0.19 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 10.7 | 60.3 | 29.0 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0548 | 0.0208 | 0.0110 | 0.0041 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp D **Sample Number:** 20251112

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp D
**Sample Number:** 20251112
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 90.20 | 15.46 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.46 | 15.46 | 100.0 | 0.0 |
| | | #10 | 15.46 | 15.46 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.90 | 114.01 | 94.2 | 5.8 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 18.92
**Dry weight and tare =** 18.23
**Tare weight =** 1.26
**Hygroscopic moisture =** 4.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0301 | 67.3 | 32.7 |
| 5.00 | 21.7 | 33.0 | 28.3 | 0.0134 | 33.5 | 10.8 | 0.0196 | 59.0 | 41.0 |
| 15.00 | 21.7 | 29.0 | 24.3 | 0.0134 | 29.5 | 11.5 | 0.0117 | 50.7 | 49.3 |
| 30.00 | 21.6 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0084 | 46.4 | 53.6 |
| 60.00 | 21.6 | 23.0 | 18.3 | 0.0134 | 23.5 | 12.4 | 0.0061 | 38.1 | 61.9 |
| 250.00 | 21.7 | 17.0 | 12.3 | 0.0134 | 17.5 | 13.4 | 0.0031 | 25.7 | 74.3 |
| 1440.00 | 21.6 | 12.0 | 7.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 15.2 | 84.8 |

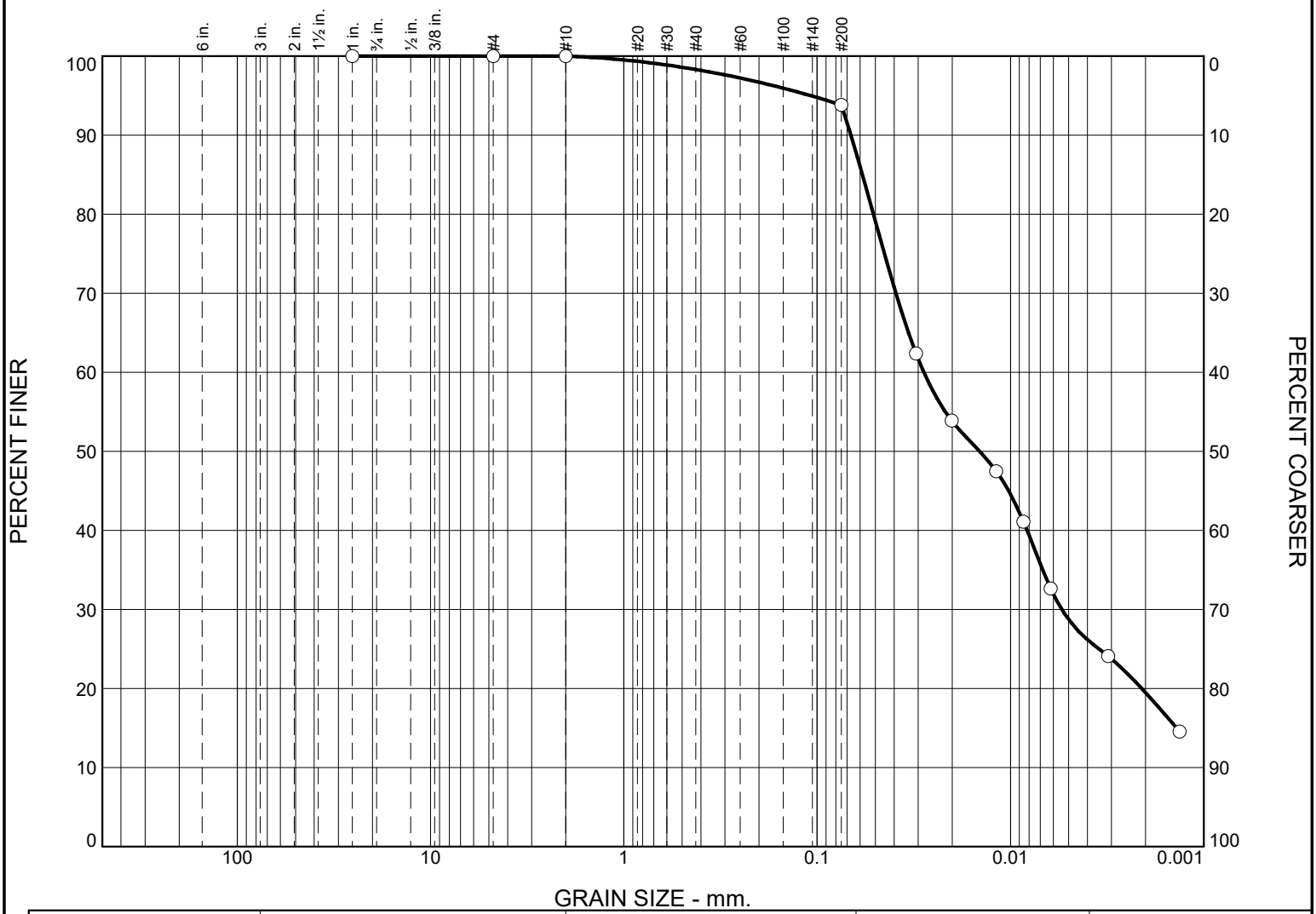
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 10.7 | 60.3 | 29.0 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0020 | 0.0041 | 0.0065 | 0.0110 | 0.0208 | 0.0468 | 0.0548 | 0.0645 | 0.0969 |

| Fineness Modulus |
|---|
| 0.07 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 12.2 | 61.8 | 26.0 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0584 | 0.0281 | 0.0144 | 0.0054 | 0.0014 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp E **Sample Number:** 20251113

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp E
**Sample Number:** 20251113
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 73.11 | 15.45 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.45 | 15.45 | 100.0 | 0.0 |
| | | #10 | 15.45 | 15.45 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 130.25 | 127.16 | 93.8 | 6.2 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 18.29
**Dry weight and tare =** 17.26
**Tare weight =** 1.27
**Hygroscopic moisture =** 6.4%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.6 | 34.0 | 29.3 | 0.0134 | 34.5 | 10.6 | 0.0309 | 62.4 | 37.6 |
| 5.00 | 21.6 | 30.0 | 25.3 | 0.0134 | 30.5 | 11.3 | 0.0201 | 53.9 | 46.1 |
| 15.00 | 21.6 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0119 | 47.5 | 52.5 |
| 30.00 | 21.6 | 24.0 | 19.3 | 0.0134 | 24.5 | 12.3 | 0.0086 | 41.1 | 58.9 |
| 60.00 | 21.7 | 20.0 | 15.3 | 0.0134 | 20.5 | 12.9 | 0.0062 | 32.6 | 67.4 |
| 250.00 | 21.6 | 16.0 | 11.3 | 0.0134 | 16.5 | 13.6 | 0.0031 | 24.1 | 75.9 |
| 1440.00 | 21.7 | 11.5 | 6.8 | 0.0134 | 12.0 | 14.3 | 0.0013 | 14.6 | 85.4 |

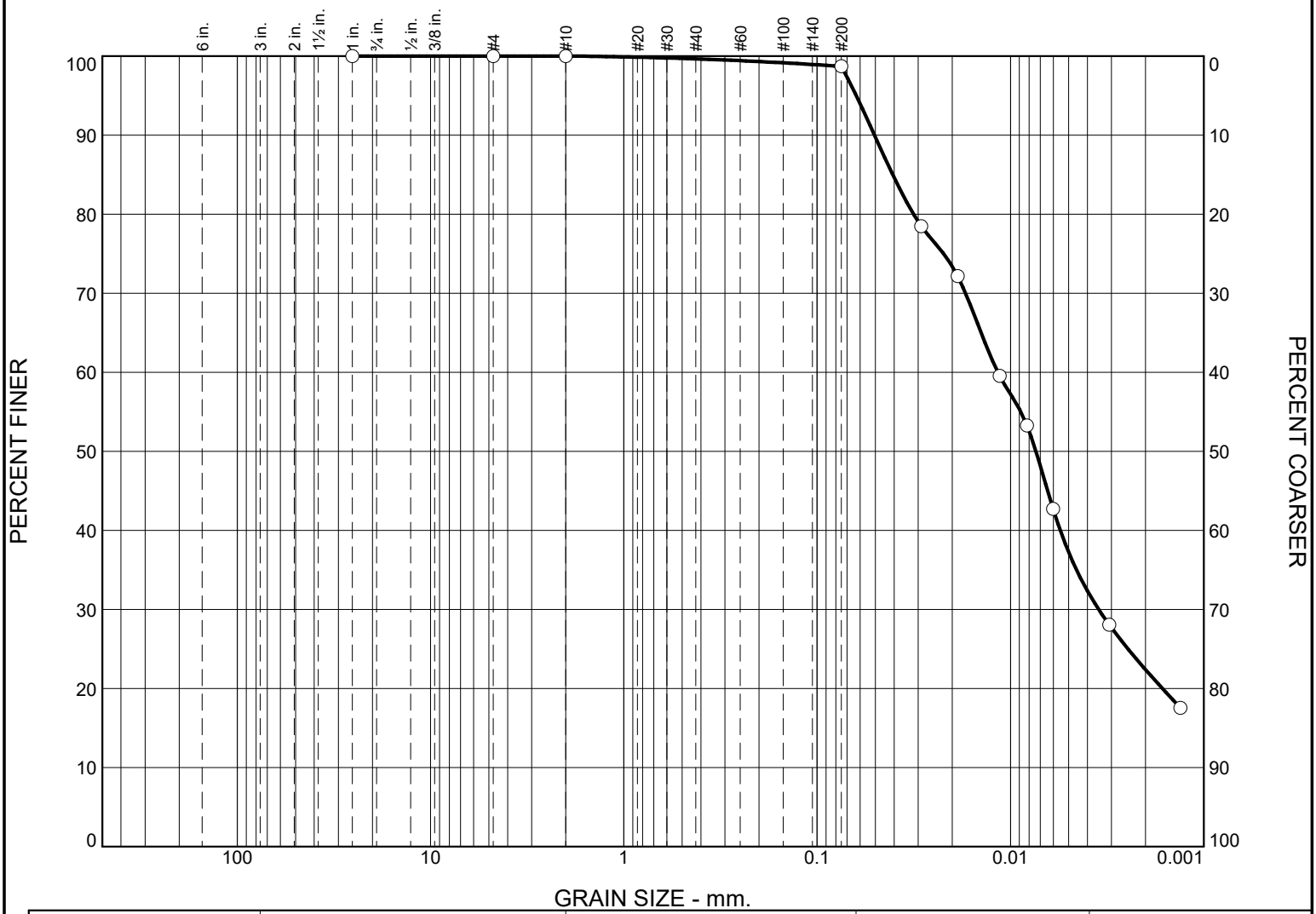
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 12.2 | 61.8 | 26.0 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0014 | 0.0021 | 0.0054 | 0.0082 | 0.0144 | 0.0281 | 0.0512 | 0.0584 | 0.0669 | 0.1084 |

| Fineness Modulus |
|---|
| 0.08 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 4.9 | 63.2 | 31.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0407 | 0.0116 | 0.0074 | 0.0035 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp G **Sample Number:** 20251114

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp G
**Sample Number:** 20251114
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 73.00 | 15.48 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.48 | 15.48 | 100.0 | 0.0 |
| | | #10 | 15.48 | 15.48 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.31 | 115.66 | 98.7 | 1.3 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 18.57
**Dry weight and tare =** 17.70
**Tare weight =** 1.27
**Hygroscopic moisture =** 5.2%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.5 | 42.0 | 37.3 | 0.0134 | 42.5 | 9.3 | 0.0289 | 78.5 | 21.5 |
| 5.00 | 21.5 | 39.0 | 34.3 | 0.0134 | 39.5 | 9.8 | 0.0188 | 72.2 | 27.8 |
| 15.00 | 21.5 | 33.0 | 28.3 | 0.0134 | 33.5 | 10.8 | 0.0114 | 59.5 | 40.5 |
| 30.00 | 21.6 | 30.0 | 25.3 | 0.0134 | 30.5 | 11.3 | 0.0082 | 53.3 | 46.7 |
| 60.00 | 21.5 | 25.0 | 20.3 | 0.0134 | 25.5 | 12.1 | 0.0060 | 42.7 | 57.3 |
| 250.00 | 21.7 | 18.0 | 13.3 | 0.0134 | 18.5 | 13.3 | 0.0031 | 28.1 | 71.9 |
| 1440.00 | 21.7 | 13.0 | 8.3 | 0.0134 | 13.5 | 14.1 | 0.0013 | 17.5 | 82.5 |

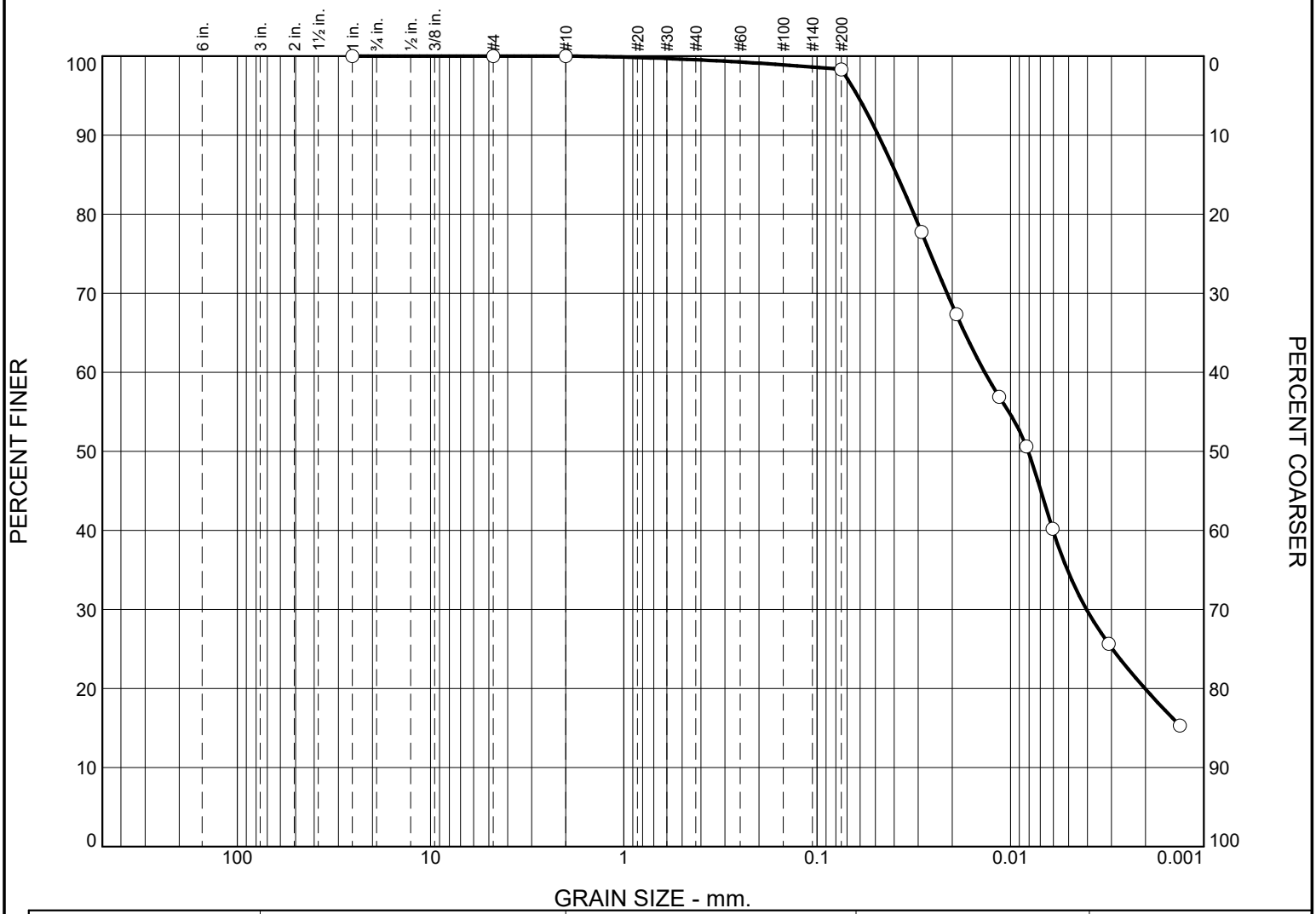
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 4.9 | 63.2 | 31.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0016 | 0.0035 | 0.0055 | 0.0074 | 0.0116 | 0.0317 | 0.0407 | 0.0506 | 0.0628 |

| Fineness Modulus |
|---|
| 0.02 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 4.6 | 66.0 | 29.4 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0388 | 0.0136 | 0.0081 | 0.0040 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp H **Sample Number:** 20251115

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

222

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp H
**Sample Number:** 20251115
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 81.14 | 15.65 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.65 | 15.65 | 100.0 | 0.0 |
| | | #10 | 15.65 | 15.65 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 113.57 | 112.73 | 98.3 | 1.7 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 17.15
**Dry weight and tare =** 16.51
**Tare weight =** 1.27
**Hygroscopic moisture =** 4.2%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.6 | 42.0 | 37.3 | 0.0134 | 42.5 | 9.3 | 0.0289 | 77.7 | 22.3 |
| 5.00 | 21.6 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0191 | 67.3 | 32.7 |
| 15.00 | 21.6 | 32.0 | 27.3 | 0.0134 | 32.5 | 11.0 | 0.0114 | 56.9 | 43.1 |
| 30.00 | 21.5 | 29.0 | 24.3 | 0.0134 | 29.5 | 11.5 | 0.0083 | 50.6 | 49.4 |
| 60.00 | 21.5 | 24.0 | 19.3 | 0.0134 | 24.5 | 12.3 | 0.0061 | 40.2 | 59.8 |
| 250.00 | 21.6 | 17.0 | 12.3 | 0.0134 | 17.5 | 13.4 | 0.0031 | 25.7 | 74.3 |
| 1440.00 | 21.7 | 12.0 | 7.3 | 0.0134 | 12.5 | 14.2 | 0.0013 | 15.3 | 84.7 |

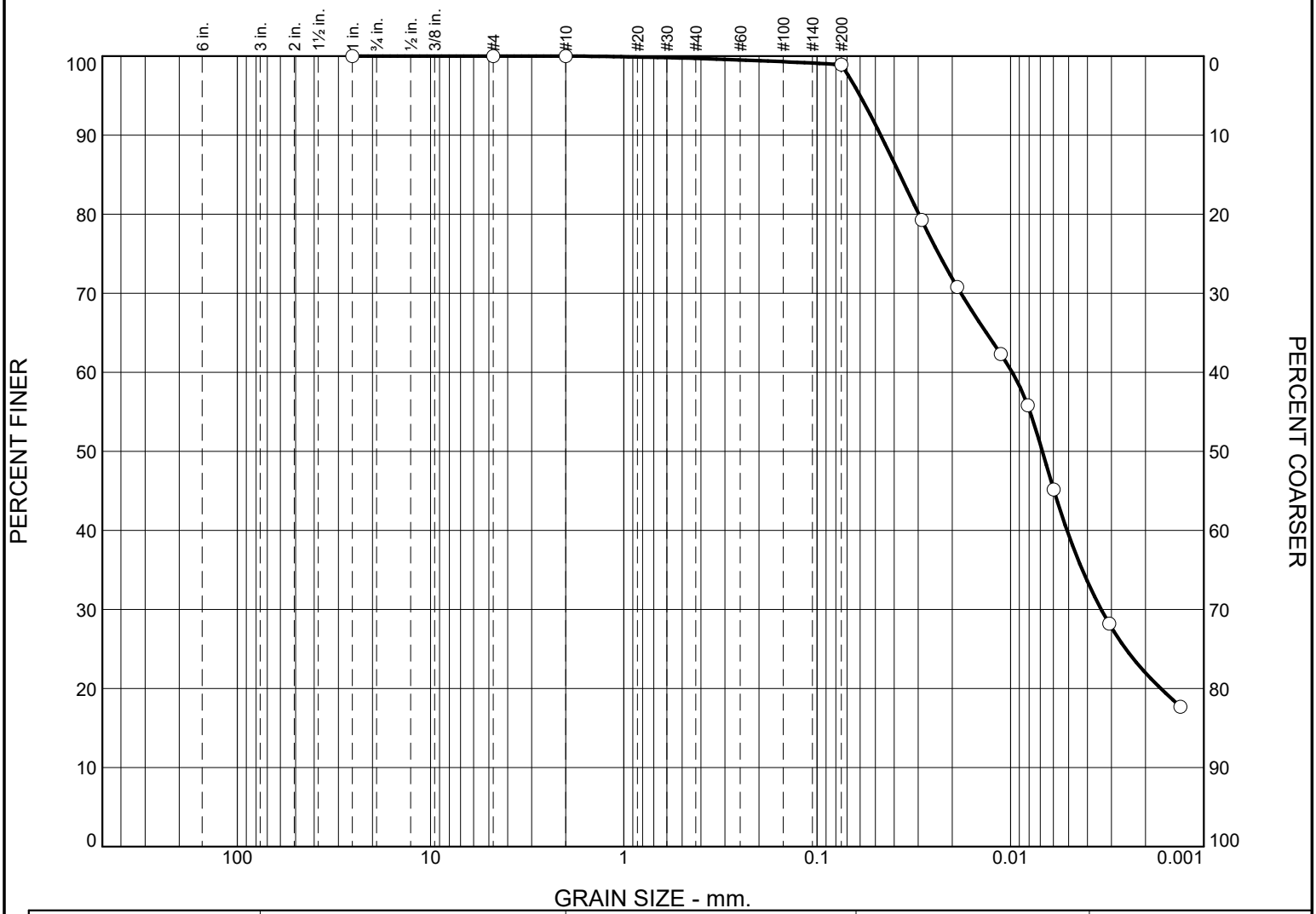
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 4.6 | 66.0 | 29.4 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0020 | 0.0040 | 0.0060 | 0.0081 | 0.0136 | 0.0316 | 0.0388 | 0.0483 | 0.0618 |

| Fineness Modulus |
|---|
| 0.02 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 4.1 | 63.0 | 32.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0374 | 0.0098 | 0.0068 | 0.0034 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp J **Sample Number:** 20251116

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp J
**Sample Number:** 20251116
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 76.70 | 15.66 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.66 | 15.66 | 100.0 | 0.0 |
| | | #10 | 15.66 | 15.66 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 117.54 | 117.00 | 98.9 | 1.1 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 16.36
**Dry weight and tare =** 15.50
**Tare weight =** 1.26
**Hygroscopic moisture =** 6.1%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.8 | 42.0 | 37.4 | 0.0133 | 42.5 | 9.3 | 0.0288 | 79.3 | 20.7 |
| 5.00 | 21.8 | 38.0 | 33.4 | 0.0133 | 38.5 | 10.0 | 0.0189 | 70.8 | 29.2 |
| 15.00 | 21.8 | 34.0 | 29.4 | 0.0133 | 34.5 | 10.6 | 0.0112 | 62.3 | 37.7 |
| 30.00 | 21.6 | 31.0 | 26.3 | 0.0134 | 31.5 | 11.1 | 0.0081 | 55.8 | 44.2 |
| 60.00 | 21.5 | 26.0 | 21.3 | 0.0134 | 26.5 | 11.9 | 0.0060 | 45.2 | 54.8 |
| 250.00 | 21.5 | 18.0 | 13.3 | 0.0134 | 18.5 | 13.3 | 0.0031 | 28.2 | 71.8 |
| 1440.00 | 21.7 | 13.0 | 8.3 | 0.0134 | 13.5 | 14.1 | 0.0013 | 17.7 | 82.3 |

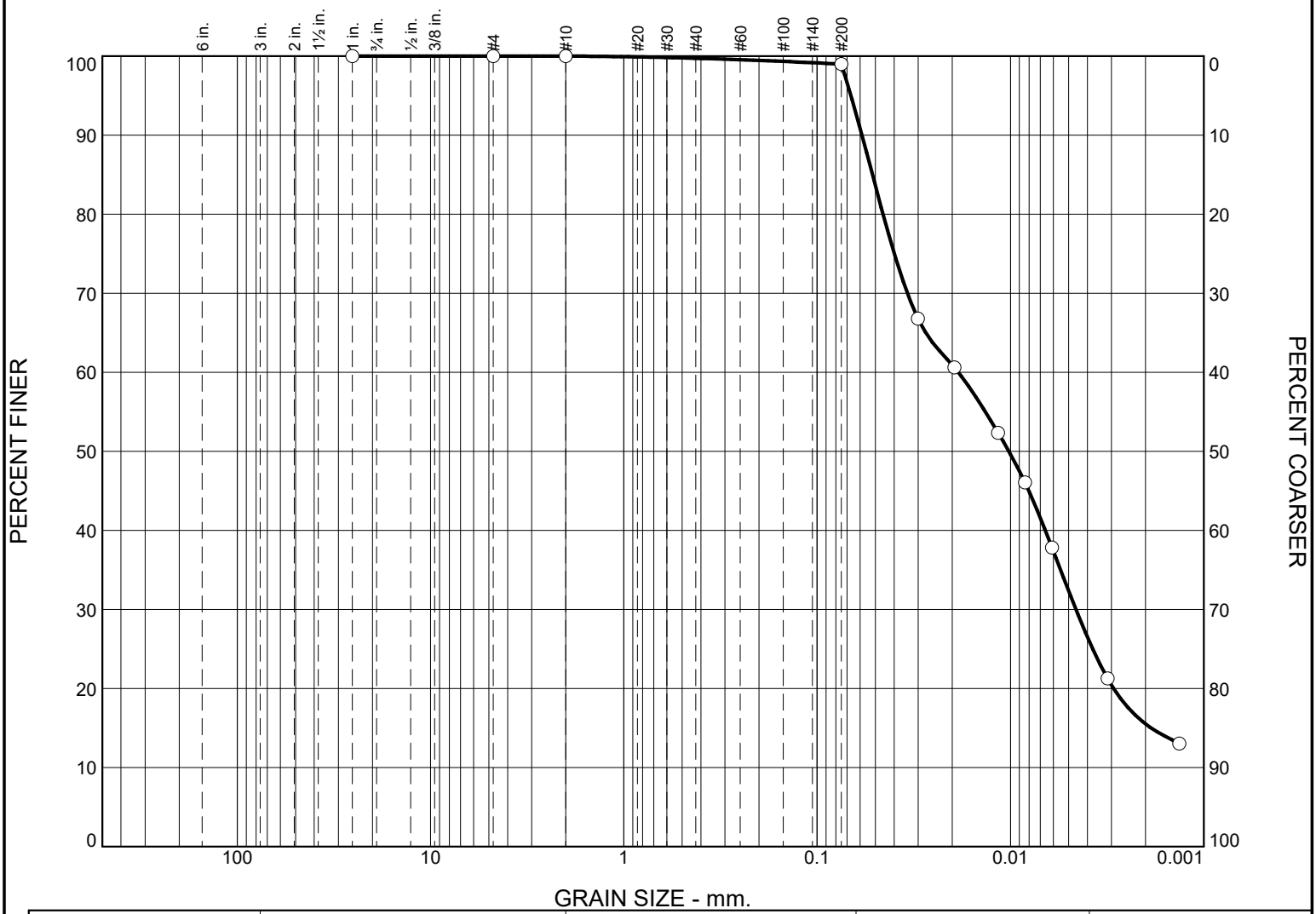
## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 4.1 | 63.0 | 32.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.0017 | 0.0034 | 0.0051 | 0.0068 | 0.0098 | 0.0298 | 0.0374 | 0.0470 | 0.0600 |

| Fineness Modulus |
|---|
| 0.01 |

# Particle Size Distribution Report




| | % +3" | % Gravel | % Sand | % Silt | % Clay |
|---|---|---|---|---|---|
| ○ | 0.0 | 0.0 | 7.3 | 66.8 | 25.9 |
| | | | | | |
| | | | | | |

| | LL | PL | $D_{85}$ | $D_{60}$ | $D_{50}$ | $D_{30}$ | $D_{15}$ | $D_{10}$ | $C_c$ | $C_u$ |
|---|---|---|---|---|---|---|---|---|---|---|
| ○ | | | 0.0518 | 0.0186 | 0.0102 | 0.0046 | 0.0019 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Material Description | USCS | AASHTO |
|---|---|---|
| ○ Composite | | |

**Project No.** 45-159 **Client:** USACE-NYD

**Project:** Newark Bay

○ **Source of Sample:** Comp K **Sample Number:** 20251117

**Remarks:**

**Aqua Survey, Inc.**

**Flemington, NJ**

**Figure**

**Tested By:** M. Thomas **Checked By:** C. Hall

# GRAIN SIZE DISTRIBUTION TEST DATA

1/14/2026

**Client:** USACE-NYD
**Project:** Newark Bay
**Project Number:** 45-159
**Location:** Comp K
**Sample Number:** 20251117
**Material Description:** Composite
**Tested by:** M. Thomas **Checked by:** C. Hall

## Sieve Test Data

| Dry Sample and Tare (grams) | Tare (grams) | Sieve Opening Size | Weight Retained (grams) | Sieve Weight (grams) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|
| 79.34 | 15.49 | 1 | 0.00 | 0.00 | 100.0 | 0.0 |
| | | #4 | 15.49 | 15.49 | 100.0 | 0.0 |
| | | #10 | 15.49 | 15.49 | 100.0 | 0.0 |
| 50.00 | 0.00 | #200 | 116.06 | 115.55 | 99.0 | 1.0 |

## Hydrometer Test Data

**Hydrometer test uses material passing** #10
**Percent passing #10 based upon complete sample =** 100.0
**Weight of hydrometer sample =**50.00
**Hygroscopic moisture correction:**
**Moist weight and tare =** 12.82
**Dry weight and tare =** 12.45
**Tare weight =** 1.27
**Hygroscopic moisture =** 3.3%
**Automatic temperature correction**
**Composite correction (fluid density and meniscus height) at 20 deg. C =** -5
**Meniscus correction only =** 0.5
**Specific gravity of solids =** 2.65
**Hydrometer type =** 152H
**Hydrometer effective depth equation: L =** 16.294964 **-** 0.164 **x Rm**

| Elapsed Time (min.) | Temp. (deg. C.) | Actual Reading | Corrected Reading | K | Rm | Eff. Depth | Diameter (mm.) | Percent Finer | Percent Retained |
|---|---|---|---|---|---|---|---|---|---|
| 2.00 | 21.7 | 37.0 | 32.3 | 0.0134 | 37.5 | 10.1 | 0.0301 | 66.8 | 33.2 |
| 5.00 | 21.7 | 34.0 | 29.3 | 0.0134 | 34.5 | 10.6 | 0.0195 | 60.6 | 39.4 |
| 15.00 | 21.7 | 30.0 | 25.3 | 0.0134 | 30.5 | 11.3 | 0.0116 | 52.3 | 47.7 |
| 30.00 | 21.5 | 27.0 | 22.3 | 0.0134 | 27.5 | 11.8 | 0.0084 | 46.0 | 54.0 |
| 60.00 | 21.6 | 23.0 | 18.3 | 0.0134 | 23.5 | 12.4 | 0.0061 | 37.8 | 62.2 |
| 250.00 | 21.5 | 15.0 | 10.3 | 0.0134 | 15.5 | 13.8 | 0.0031 | 21.3 | 78.7 |
| 1440.00 | 21.6 | 11.0 | 6.3 | 0.0134 | 11.5 | 14.4 | 0.0013 | 13.0 | 87.0 |

## Fractional Components

| Cobbles | Gravel | Sand | Silt | Clay |
|---|---|---|---|---|
| 0.0 | 0.0 | 7.3 | 66.8 | 25.9 |

| $D_5$ | $D_{10}$ | $D_{15}$ | $D_{20}$ | $D_{30}$ | $D_{40}$ | $D_{50}$ | $D_{60}$ | $D_{80}$ | $D_{85}$ | $D_{90}$ | $D_{95}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.0019 | 0.0029 | 0.0046 | 0.0066 | 0.0102 | 0.0186 | 0.0456 | 0.0518 | 0.0588 | 0.0670 |

| Fineness Modulus |
|---|
| 0.01 |

**AQUA SURVEY, INC**

**GRAIN SIZE BENCHSHEET**
**PRE-HYDROMETER SEPARATION SIEVING**

**Job #:** 45-159
**Client:** USACE- Newark Bay
**Balance:** AND GF 8K2

**Calibration: Yes:** ✓ **No:** ____

| Sample ID | Container Mass (g) | Sample Mass and Container (g) | Sample Mass Retained on #4 Sieve (4.75mm) and Container (g) | Sample Mass Retained on #10 Sieve (2.0mm) and Container (g) | Sample Mass to Hydrometer (g) |
|---|---|---|---|---|---|
| 2025/1086 | 15.48 | 83.20 | | | 50.00 |
| 2025/1087 | 15.63 | 86.35 | | | ↓ |
| 2025/1088 | 15.65 | 73.32 | | | ↓ |
| 2025/1089 | 15.49 | 93.61 | | | ↓ |
| 2025/1090 | 15.63 | 84.56 | | | ↓ |
| 2025/1091 | 15.66 | 89.59 | | 16.43 | ↓ |
| 2025/1092 | 15.49 | 74.64 | 16.48 | 16.16 | ↓ |
| 2025/1093 | 15.69 | 71.13 | | | ↓ |
| 2025/1094 | 15.66 | 76.42 | | | ↓ |
| 2025/1095 | 15.48 | 68.75 | | | ↓ |
| 2025/1096 | 15.66 | 90.70 | | | ↓ |
| 2025/1097 | 15.66 | 83.58 | | | ↓ |
| 2025/1098 | 15.52 | 83.16 | | | ↓ |
| 2025/1099 | 15.49 | 88.73 | | | ↓ |
| 2025/1100 | 15.69 | 72.90 | | | ↓ |
| 2025/1101 | 15.64 | 74.68 | | | ↓ |
| 2025/1102 | 15.62 | 67.39 | | | ↓ |
| 2025/1103 | 15.70 | 66.43 | | | ↓ |
| 2025/1104 | 15.62 | 66.62 | | | ↓ |
| 2025/1104 dup | 15.50 | 66.00 | | | ↓ |
| 2025/1104 trip | 15.50 | 66.75 | | | ↓ |
| 2025/1105 | 15.64 | 67.85 | | | ↓ |
| **Date/ Initials** | 12/26/25 | → | | | → |

AQUA SURVEY, INC

# GRAIN SIZE BENCHSHEET
# PRE-HYDROMETER SEPARATION SIEVING

**Job #:** 45-159
**Client:** USACE - Newark Bay
**Balance:** AND GF 8KA

**Calibration: Yes:** ✓ **No:** ____

| Sample ID | Container Mass (g) | Sample Mass and Container (g) | Sample Mass Retained on #4 Sieve (4.75mm) and Container (g) | Sample Mass Retained on #10 Sieve (2.0mm) and Container (g) | Sample Mass to Hydrometer (g) |
|---|---|---|---|---|---|
| 2025 1106 | 15.62 | 71.53 | | | 50.00 |
| 2025 1107 | 15.65 | 77.65 | | | |
| 2025 1108 | 15.48 | 69.85 | | | |
| 2025 1109 | 15.66 | 81.47 | | | |
| 2025 1110 | 15.49 | 66.28 | | | |
| 2025 1110 dup | 15.64 | 66.75 | | | |
| 2025 1110 trp | 15.65 | 66.86 | | | |
| 2025 1111 | 15.48 | 76.61 | | 15.93 | |
| 2025 1112 | 15.46 | 90.20 | | | |
| 2025 1113 | 15.45 | 73.11 | | | |
| 2025 1114 | 15.48 | 73.00 | | | |
| 2025 1115 | 15.65 | 81.14 | | | |
| 2025 1116 | 15.66 | 76.70 | | | |
| 2025 1117 | 15.49 | 79.34 | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| 2025 | | | | | |
| Date/ Initials | 1/5/26 | | | | |

# AQUA SURVEY, INC

## POST HYDROMETER BENCHSHEET

**Job #:** 45-159
**Client:** USACE- Newark Bay
**Balance:** AND GF 8K·2

**Calibration: Yes:** ✓ **No:** ____

**Oven:** QL Model 40 GC

**Date In:** 1/9/26 **Oven Temp:** 110°C
**Date Out:** 1/12/26 **Oven Temp:** 110°C

| Sample ID | Container Mass (g) | Sample Mass and Container (g) | Sample Mass retained on #200 Sieve (g) |
|---|---|---|---|
| 2025 1086 | 115.18 | 118.35 | |
| 2025 1087 | 114.04 | 117.37 | |
| 2025 1088 | 115.44 | 118.72 | |
| 2025 1089 | 113.85 | 118.48 | |
| 2025 1090 | 115.52 | 120.79 | |
| 2025 1091 | 126.70 | 138.58 | |
| 2025 1092 | 115.51 | 125.63 | |
| 2025 1093 | 115.22 | 118.85 | |
| 2025 1094 | 113.99 | 117.36 | |
| 2025 1095 | 127.31 | 129.27 | |
| 2025 1096 | 115.33 | 118.66 | |
| 2025 1097 | 115.23 | 118.13 | |
| 2025 1098 | 115.54 | 117.97 | |
| 2025 1099 | 115.51 | 128.55 | |
| 2025 1100 | 117.36 | 118.20 | |
| 2025 1101 | 117.29 | 118.08 | |
| 2025 1102 | 114.03 | 114.58 | |
| 2025 1103 | 117.75 | 118.25 | |
| 2025 1104 | 115.24 | 116.37 | |
| 2025 1104 dup | 115.19 | 116.22 | |
| 2025 1104 trp | 115.53 | 116.62 | |
| 2025 1105 | 115.41 | 115.91 | |
| **Date/ Initials** | 1/5/26 | 1/12/26 | |

AQUA SURVEY, INC

POST HYDROMETER BENCHSHEET

Job #: 45-159
Client: USACE- Newark Bay
Balance: AND GF8K2

Calibration: Yes: ✓ No: ____

Oven: QL Model 40 GC

Date In: 1/9/26 Oven Temp: 110°C
Date Out: 1/12/26 Oven Temp: 110°C

| Sample ID | Container Mass (g) | Sample Mass and Container (g) | Sample Mass retained on #200 Sieve (g) |
|---|---|---|---|
| 2025 1106 | 115.33 | 115.73 | |
| 2025 1107 | 117.73 | 118.13 | |
| 2025 1108 | 116.27 | 116.70 | |
| 2025 1109 | 114.90 | 118.06 | |
| 2025 1110 | 115.60 | 119.96 | |
| 2025 1110 dup | 112.55 | 117.02 | |
| 2025 1110 trp | 126.80 | 131.34 | |
| 2025 1111 | 126.44 | 137.04 | |
| 2025 1112 | 114.01 | 116.90 | |
| 2025 1113 | 127.16 | 130.25 | |
| 2025 1114 | 115.66 | 116.31 | |
| 2025 1115 | 112.73 | 113.57 | |
| 2025 1116 | 117.00 | 117.54 | |
| 2025 1117 | 115.55 | 116.06 | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| 2025 | | | |
| Date/ Initials | 1/20/26 | 1/12/26 | |

# HYDROMETRIC READINGS FOR GRAIN SIZE ANALYSIS

Job #: 45-159

Client: USACE-Newark Bay

Sample: 2025/086 Grams Used: 50.00 DC: 4.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:00 | 0 | XXXX | 12/29/25 | 21.3 |
| 9:02 | 2 | 33.0 | | |
| 9:05 | 5 | 31.0 | | |
| 9:15 | 15 | 27.0 | | |
| 9:30 | 30 | 24.0 | | 21.0 |
| 10:00 | 60 | 21.0 | | 21.1 |
| 1:10 | 250 | 16.0 | | 21.1 |
| 9:00 | 1440 | 12.0 | 12/30/25 | 20.3 |

Sample: 2025/087 Grams Used: 50.00 DC: 4.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:04 | 0 | XXXX | 12/29/25 | 21.2 |
| 9:06 | 2 | 33.0 | | |
| 9:09 | 5 | 31.0 | | |
| 9:19 | 15 | 27.0 | | |
| 9:34 | 30 | 24.0 | | 21.0 |
| 10:04 | 60 | 21.0 | | 21.0 |
| 1:14 | 250 | 16.0 | | 21.1 |
| 9:04 | 1440 | 12.0 | 12/30/25 | 20.3 |

Sample: 2025/088 Grams Used: 50.00 DC: 4.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:08 | 0 | XXXX | 12/29/25 | 21.2 |
| 9:10 | 2 | 35.0 | | |
| 9:13 | 5 | 32.0 | | |
| 9:23 | 15 | 28.0 | | |
| 9:38 | 30 | 24.0 | | 21.1 |
| 10:08 | 60 | 21.0 | | 21.1 |
| 1:18 | 250 | 16.0 | | 20.9 |
| 9:08 | 1440 | 11.0 | 12/30/25 | 20.5 |

Sample: 2025/089 Grams Used: 50.00 DC: 4.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:12 | 0 | XXXX | 12/29/25 | 21.1 |
| 9:14 | 2 | 38.0 | | |
| 9:17 | 5 | 34.0 | | |
| 9:27 | 15 | 30.0 | | |
| 9:42 | 30 | 27.0 | | 21.2 |
| 10:12 | 60 | 24.0 | | 21.0 |
| 1:22 | 250 | 17.0 | | 21.2 |
| 9:12 | 1440 | 12.0 | 12/30/25 | 20.5 |

Sample: 2025/090 Grams Used: 50.00 DC: 4.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:16 | 0 | XXXX | 12/29/25 | 21.1 |
| 9:18 | 2 | 34.0 | | |
| 9:21 | 5 | 31.0 | | |
| 9:31 | 15 | 27.0 | | |
| 9:46 | 30 | 24.0 | | 21.1 |
| 10:16 | 60 | 21.0 | | ~~20.9~~ 21.1 |
| 1:26 | 250 | 16.0 | | 21.1 |
| 9:16 | 1440 | 11.0 | 12/30/25 | 20.6 |

Sample: 2025/091 Grams Used: 50.00 DC: 4.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:20 | 0 | XXXX | 12/29/25 | 21.2 |
| 9:22 | 2 | 31.0 | | |
| 9:25 | 5 | 28.0 | | |
| 9:35 | 15 | 25.0 | | |
| 9:50 | 30 | 22.0 | | 21.1 |
| 10:20 | 60 | 19.0 | | 20.9 |
| 1:30 | 250 | 14.0 | | 21.1 |
| 9:20 | 1440 | 10.0 | 12/30/25 | 20.5 |

DC= Dispersant Constant M= Time in minutes after initial mixing $R_h$= Hydrometer Reading T=Water Temp (°C)

# HYDROMETRIC READINGS FOR GRAIN SIZE ANALYSIS

Job #: 45-159

Client: USACE. Newark Bay

Sample: 20251092 Grams Used: 50.00 DC: 40

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:00 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:02 | 2 | 33.0 | | |
| 8:05 | 5 | 30.0 | | |
| 8:15 | 15 | 26.0 | | |
| 8:30 | 30 | 23.0 | | 20.3 |
| 9:00 | 60 | 21.0 | | 20.3 |
| 12:10 | 250 | 16.0 | | 20.9 |
| 8:00 | 1440 | 11.0 | 12/31/25 | 21.7 |

Sample: 20251093 Grams Used: 50.00 DC: 40

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:04 | 0 | XXXX | 12/30/25 | 20.1 |
| 8:06 | 2 | 34.0 | | |
| 8:09 | 5 | 30.0 | | |
| 8:19 | 15 | 26.0 | | |
| 8:34 | 30 | 24.0 | | 20.2 |
| 9:04 | 60 | 21.0 | | 20.3 |
| 12:14 | 250 | 16.0 | | 20.9 |
| 8:04 | 1440 | 12.0 | 12/31/25 | 21.7 |

Sample: 20251094 Grams Used: 50.00 DC: 40

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:08 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:10 | 2 | 36.0 | | |
| 8:13 | 5 | 32.0 | | |
| 8:23 | 15 | 28.0 | | |
| 8:38 | 30 | 25.0 | | 20.2 |
| 9:08 | 60 | 22.0 | | 20.5 |
| 12:18 | 250 | 17.0 | | 21.0 |
| 8:08 | 1440 | 12.0 | 12/31/25 | 21.8 |

Sample: 20251095 Grams Used: 50.00 DC: 40

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:12 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:14 | 2 | 34.0 | | |
| 8:17 | 5 | 30.0 | | |
| 8:27 | 15 | 27.0 | | |
| 8:42 | 30 | 24.0 | | 20.2 |
| 9:12 | 60 | 21.0 | | 20.5 |
| 12:22 | 250 | 16.0 | | 21.1 |
| 8:12 | 1440 | 12.0 | 12/31/25 | 21.8 |

Sample: 20251096 Grams Used: 50.00 DC: 40

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:16 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:18 | 2 | 38.0 | | |
| 8:21 | 5 | 34.0 | | |
| 8:31 | 15 | 30.0 | | |
| 8:46 | 30 | 27.0 | | 20.3 |
| 9:16 | 60 | 23.0 | | 20.4 |
| 12:26 | 250 | 17.0 | | 21.1 |
| 8:16 | 1440 | 12.0 | 12/31/25 | 21.8 |

Sample: 20251097 Grams Used: 50.00 DC: 40

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:20 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:22 | 2 | 34.0 | | |
| 8:25 | 5 | 32.0 | | |
| 8:35 | 15 | 28.0 | | |
| 8:50 | 30 | 25.0 | | 20.2 |
| 9:20 | 60 | 22.0 | | 20.5 |
| 12:30 | 250 | 17.0 | | ~~20.9~~ 21.1 |
| 8:20 | 1440 | 12.0 | 12/31/25 | 21.8 |

Sample: 20251098 Grams Used: 50.00 DC: 40

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:24 | 0 | XXXX | 12/30/25 | 20.2 |
| 8:26 | 2 | 39.0 | | |
| 8:29 | 5 | 35.0 | | |
| 8:39 | 15 | 31.0 | | |
| 8:54 | 30 | 27.0 | | 20.3 |
| 9:24 | 60 | 24.0 | | 20.6 |
| 12:34 | 250 | 18.0 | | 21.1 |
| 8:24 | 1440 | 12.0 | 12/31/25 | 21.8 |

Sample: 20251099 Grams Used: 50.00 DC: 40

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:28 | 0 | XXXX | 12/30/25 | 20.3 |
| 8:30 | 2 | 33.0 | | |
| 8:33 | 5 | 29.0 | | |
| 8:43 | 15 | 26.0 | | |
| 8:58 | 30 | 23.0 | | 20.4 |
| 9:28 | 60 | 21.0 | | 20.6 |
| 12:38 | 250 | 16.0 | | 21.0 |
| 8:28 | 1440 | 11.0 | 12/31/25 | 21.8 |

DC= Dispersant Constant M= Time in minutes after initial mixing $R_h$= Hydrometer Reading T= Water Temp (°C)

# HYDROMETRIC READINGS FOR GRAIN SIZE ANALYSIS

Job #: 45-159

Client: USACE- Newark Bay

Sample: 20251100 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:36 | 0 | XXXX | N 12/30/25 | 20.8 |
| 9:38 | 2 | 49.0 | | |
| 9:41 | 5 | 45.0 | | |
| 9:51 | 15 | 37.0 | | |
| 10:06 | 30 | 34.0 | | 21.1 |
| 10:36 | 60 | 30.0 | | 21.0 |
| 1:46 | 250 | 20.0 | | 21.1 |
| 9:36 | 1440 | 13.0 | N 12/31/25 | 21.7 |

Sample: 20251101 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:40 | 0 | XXXX | N 12/30/25 | 20.8 |
| 9:42 | 2 | 47.0 | | |
| 9:45 | 5 | 42.0 | | |
| 9:55 | 15 | 37.0 | | |
| 10:10 | 30 | 32.0 | | 21.1 |
| 10:40 | 60 | 27.0 | | 20.9 |
| 1:50 | 250 | 19.0 | | 21.0 |
| 9:40 | 1440 | 13.5 | N 12/31/25 | 21.8 |

Sample: 20251102 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:44 | 0 | XXXX | N 12/30/25 | 20.8 |
| 9:46 | 2 | 45.0 | | |
| 9:49 | 5 | 40.0 | | |
| 9:59 | 15 | 36.0 | | |
| 10:14 | 30 | 31.0 | | 20.9 |
| 10:44 | 60 | 27.0 | | 21.2 |
| 1:54 | 250 | 19.0 | | 21.1 |
| 9:44 | 1440 | ~~14.0~~ 13.5 | N 12/31/25 | 21.8 |

Sample: 20251103 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:48 | 0 | XXXX | N 12/30/25 | 21.1 |
| 9:50 | 2 | 42.0 | | |
| 9:53 | 5 | 37.0 | | |
| 10:03 | 15 | 33.0 | | |
| 10:18 | 30 | 28.0 | | 21.1 |
| 10:48 | 60 | 24.0 | | 21.0 |
| 1:58 | 250 | 17.0 | | 21.2 |
| 9:48 | 1440 | 13.0 | N 12/31/25 | 21.8 |

Sample: 20251104 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:52 | 0 | XXXX | N 12/30/25 | 21.1 |
| 9:54 | 2 | 42.0 | | |
| 9:57 | 5 | 38.0 | | |
| 10:07 | 15 | 33.0 | | |
| 10:22 | 30 | 29.0 | | 21.2 |
| 10:52 | 60 | 24.0 | | 21.1 |
| 2:02 | 250 | 16.0 | | 21.2 |
| 9:52 | 1440 | 11.0 | N 12/31/25 | 21.8 |

Sample: 20251104 dup Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:56 | 0 | XXXX | N 12/30/25 | 21.1 |
| 9:58 | 2 | 41.0 | | |
| 10:01 | 5 | 37.0 | | |
| 10:11 | 15 | 33.0 | | |
| 10:26 | 30 | 28.0 | | 21.1 |
| 10:56 | 60 | 24.0 | | 21.3 |
| 2:06 | 250 | 16.0 | | 21.2 |
| 9:56 | 1440 | 11.0 | N 12/31/25 | 21.8 |

Sample: 20251104 trip Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 10:00 | 0 | XXXX | N 12/30/25 | 21.31 |
| 10:02 | 2 | 42.0 | | |
| 10:05 | 5 | 39.0 | | |
| 10:15 | 15 | 34.0 | | |
| 10:30 | 30 | 29.0 | | 21.1 |
| 11:00 | 60 | 25.0 | | 21.1 |
| 2:10 | 250 | 16.0 | | 21.2 |
| 10:00 | 1440 | 11.0 | N 12/31/25 | 21.8 |

Sample: 20251105 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 10:04 | 0 | XXXX | N 12/30/25 | 21.3 |
| 10:06 | 2 | 42.0 | | |
| 10:09 | 5 | 37.0 | | |
| 10:19 | 15 | 33.0 | | |
| 10:34 | 30 | 29.0 | | 21.3 |
| 11:04 | 60 | 25.0 | | 21.2 |
| 2:14 | 250 | 19.0 | | 21.2 |
| 10:04 | 1440 | 12.0 | N 12/31/25 | 21.8 |

DC= Dispersant Constant M= Time in minutes after initial mixing $R_h$= Hydrometer Reading T= Water Temp (°C)

# HYDROMETRIC READINGS FOR GRAIN SIZE ANALYSIS

Job #: 45-159

Client: USACE- Newark Bay

Sample: 20251106 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:36 | 0 | XXXX | 1/7/26 | 21.8 |
| 7:38 | 2 | 47.0 | | |
| 7:41 | 5 | 42.0 | | |
| 7:51 | 15 | 37.0 | | |
| 8:06 | 30 | 33.0 | | 21.7 |
| 8:36 | 60 | 28.0 | | 21.6 |
| 11:46 | 250 | 20.0 | | 21.3 |
| 7:36 | 1440 | 14.0 | 1/8/26 | 21.6 |

Sample: 20251107 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:40 | 0 | XXXX | 1/7/26 | 21.7 |
| 7:42 | 2 | 41.0 | | |
| 7:45 | 5 | 38.0 | | |
| 7:55 | 15 | 34.0 | | |
| 8:10 | 30 | 30.0 | | 21.6 |
| 8:40 | 60 | 25.0 | | 21.6 |
| 11:50 | 250 | 16.0 | | 21.3 |
| 7:40 | 1440 | 11.0 | 1/8/26 | 21.6 |

Sample: 20251108 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:44 | 0 | XXXX | 1/7/26 | 21.7 |
| 7:46 | 2 | 46.0 | | |
| 7:49 | 5 | 42.0 | | |
| 7:59 | 15 | 37.0 | | |
| 8:14 | 30 | 33.0 | | 21.6 |
| 8:44 | 60 | 26.0 | | 21.6 |
| 11:54 | 250 | 16.0 | | 21.3 |
| 7:44 | 1440 | 11.0 | 1/8/26 | 21.6 |

Sample: 20251109 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:48 | 0 | XXXX | 1/7/26 | 21.7 |
| 7:50 | 2 | 37.0 | | |
| 7:53 | 5 | 34.0 | | |
| 8:03 | 15 | 29.0 | | |
| 8:18 | 30 | 27.0 | | 21.7 |
| 8:48 | 60 | 23.0 | | 21.6 |
| 11:58 | 250 | 17.0 | | 21.3 |
| 7:48 | 1440 | 12.0 | 1/8/26 | 21.7 |

Sample: 20251110 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:52 | 0 | XXXX | 1/7/26 | 21.7 |
| 7:54 | 2 | 39.0 | | |
| 7:57 | 5 | 35.0 | | |
| 8:07 | 15 | 31.0 | | |
| 8:22 | 30 | 27.0 | | 21.7 |
| 8:52 | 60 | 23.0 | | 21.6 |
| 12:02 | 250 | 18.0 | | 21.4 |
| 7:52 | 1440 | 12.5 | 1/8/26 | 21.5 |

Sample: 20251110 dup Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 7:56 | 0 | XXXX | 1/7/26 | 21.7 |
| 7:58 | 2 | 35.0 | | |
| 8:01 | 5 | 32.0 | | |
| 8:11 | 15 | 28.0 | | |
| 8:26 | 30 | 25.5 | | 21.7 |
| 8:56 | 60 | 22.0 | | 21.6 |
| 12:06 | 250 | 16.0 | | 21.6 |
| 7:56 | 1440 | 12.0 | 1/8/26 | 21.5 |

Sample: 20251110 trip Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:00 | 0 | XXXX | 1/7/26 | 21.7 |
| 8:02 | 2 | 37.0 | | |
| 8:05 | 5 | 34.0 | | |
| 8:15 | 15 | 30.0 | | |
| 8:30 | 30 | 27.0 | | 21.7 |
| 9:00 | 60 | 23.0 | | 21.6 |
| 12:10 | 250 | 18.0 | | 21.5 |
| 8:00 | 1440 | 12.0 | 1/8/26 | 21.5 |

Sample: 20251111 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 8:04 | 0 | XXXX | 1/7/26 | 21.6 |
| 8:06 | 2 | 34.0 | | |
| 8:09 | 5 | 31.5 | | |
| 8:19 | 15 | 27.0 | | |
| 8:34 | 30 | 24.0 | | 21.6 |
| 9:04 | 60 | 21.0 | | 21.6 |
| 12:14 | 250 | 15.0 | | 21.4 |
| 8:04 | 1440 | 11.0 | 1/8/26 | 21.6 |

DC= Dispersant Constant M= Time in minutes after initial mixing $R_h$= Hydrometer Reading T= Water Temp (°C)

# HYDROMETRIC READINGS FOR GRAIN SIZE ANALYSIS

Job #: 45-159

Client: USACE. Newark Bay

Sample: 20251112 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:00 | 0 | XXXX | 1/7/26 | 21.7 |
| 9:02 | 2 | 37.0 | | |
| 9:05 | 5 | 33.0 | | |
| 9:15 | 15 | 29.0 | | |
| 9:30 | 30 | 27.0 | | 21.6 |
| 10:00 | 60 | 23.0 | | 21.6 |
| 1:10 | 250 | 17.0 | | 21.7 |
| 9:00 | 1440 | 12.0 | 1/8/26 | 21.6 |

Sample: 20251113 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:04 | 0 | XXXX | 1/7/26 | 21.6 |
| 9:06 | 2 | 34.0 | | |
| 9:09 | 5 | 30.0 | | |
| 9:19 | 15 | 27.0 | | |
| 9:34 | 30 | 24.0 | | 21.6 |
| 10:04 | 60 | 20.0 | | 21.7 |
| 1:14 | 250 | 16.0 | | 21.6 |
| 9:04 | 1440 | 11.5 | 1/8/26 | 21.7 |

Sample: 20251114 Grams Used: 50.00 DC: 5.0

| Clock Time | M | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:08 | 0 | XXXX | 1/7/26 | 21.5 |
| 9:10 | 2 | 42.0 | | |
| 9:13 | 5 | 39.0 | | |
| 9:23 | 15 | 33.0 | | |
| 9:38 | 30 | 30.0 | | 21.6 |
| 10:08 | 60 | 25.0 | | 21.5 |
| 1:18 | 250 | 18.0 | | 21.7 |
| 9:08 | 1440 | 13.0 | 1/8/26 | 21.7 |

Sample: 20251115 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:12 | 0 | XXXX | 1/7/26 | 21.6 |
| 9:14 | 2 | 42.0 | | |
| 9:17 | 5 | 37.0 | | |
| 9:27 | 15 | 32.0 | | |
| 9:42 | 30 | 29.0 | | 21.5 |
| 10:12 | 60 | 24.0 | | 21.5 |
| 1:22 | 250 | 17.0 | | 21.6 |
| 9:12 | 1440 | 12.0 | 1/8/26 | 21.7 |

Sample: 20251116 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:16 | 0 | XXXX | 1/7/26 | 21.8 |
| 9:18 | 2 | 42.0 | | |
| 9:21 | 5 | 38.0 | | |
| 9:31 | 15 | 34.0 | | |
| 9:46 | 30 | 31.0 | | 21.6 |
| 10:16 | 60 | 26.0 | | 21.5 |
| 1:26 | 250 | 18.0 | | 21.5 |
| 9:16 | 1440 | 13.0 | 1/8/26 | 21.7 |

Sample: 20251117 Grams Used: 50.00 DC: 5.0

| Clock Time | T | $R_h$ | Initials/Date | T(°C) |
|---|---|---|---|---|
| 9:20 | 0 | XXXX | 1/7/26 | 21.7 |
| 9:22 | 2 | 37.0 | | |
| 9:25 | 5 | 34.0 | | |
| 9:35 | 15 | 30.0 | | |
| 9:50 | 30 | 27.0 | | 21.5 |
| 10:20 | 60 | 23.0 | | 21.6 |
| 1:30 | 250 | 15.0 | | 21.5 |
| 9:20 | 1440 | 11.0 | 1/8/26 | 21.6 |

DC= Dispersant Constant M= Time in minutes after initial mixing $R_h$= Hydrometer Reading T=Water Temp (°C)

# PERCENT MOISTURE

**Balance: Mettler** **Calibration: x Yes No** **Client: USAE- NYD: Newark Bay Upland**
**Drying Oven: Fisher 255G** **Temperature: 110 degrees C** **ASI Job #: 45-159**

| Sample ID# | Pan Weight g | Wet Sample + Pan g | Air Dry Sample +Pan Weight g | First Oven Dry Sample +Pan Weight g | Final Oven Dry Weight +Pan Weight g | % Moisture* |
|---|---|---|---|---|---|---|
| 20251086 | 1.2644 | 35.0805 | 16.7446 | 16.2473 | 16.2179 | 55.78 |
| 20251087 | 1.2553 | 40.3608 | 19.9746 | 19.0899 | 19.0618 | 54.47 |
| 20251088 | 1.2473 | 34.6910 | 15.5885 | 14.9689 | 14.9439 | 59.05 |
| 20251089 | 1.2634 | 39.3583 | 19.2969 | 18.5313 | 18.4970 | 54.76 |
| 20251090 | 1.2655 | 34.3232 | 17.5197 | 16.9844 | 16.9588 | 52.53 |
| 20251091 | 1.2581 | 40.2951 | 20.8041 | 19.8984 | 19.8721 | 52.32 |
| 20251092 | 1.2541 | 37.9830 | 19.1677 | 18.5064 | 18.4780 | 53.11 |
| 20251093 | 1.2601 | 39.9446 | 19.6864 | 18.8243 | 18.7950 | 54.67 |
| 20251094 | 1.2671 | 38.5280 | 19.0148 | 18.1393 | 18.1140 | 54.79 |
| 20251095 | 1.2583 | 37.0577 | 16.6108 | 15.6329 | 15.6051 | 59.92 |
| 20251096 | 1.2554 | 43.4105 | 20.9713 | 19.6916 | 19.6592 | 56.34 |
| 20251097 | 1.2625 | 36.6145 | 17.0670 | 16.4014 | 16.3800 | 57.24 |
| 20251098 | 1.2631 | 37.4674 | 17.2300 | 16.3073 | 16.2890 | 58.50 |
| 20251099 | 1.2547 | 40.3490 | 20.6487 | 20.0891 | 20.0632 | 51.89 |
| 20251100 | 1.2507 | 38.8779 | 20.0407 | 19.2858 | 19.2625 | 52.13 |
| 20251101 | 1.2646 | 34.6462 | 17.3263 | 17.0136 | 16.9902 | 52.89 |
| 20251102 | 1.2674 | 35.9054 | 16.4382 | 15.7131 | 15.6964 | 58.34 |
| 20251103 | 1.2637 | 38.0900 | 18.0748 | 17.2459 | 17.2292 | 56.65 |
| 20251104 | 1.2519 | 35.0223 | 17.5915 | 17.1849 | 17.1554 | 52.91 |
| 20251105 | 1.2640 | 31.9633 | 14.2929 | 13.8360 | 13.8166 | 59.11 |
| 20251105 dup | 1.2718 | 37.0873 | 16.7214 | 15.9338 | 15.9144 | 59.12 |
| 20251105 trp | 1.2627 | 35.1143 | 15.6640 | 15.1308 | 15.1167 | 59.07 |

$$* \% \text{ Moisture} = \frac{[(\text{wet weight} + \text{pan}) - (\text{oven dry weight} + \text{pan})]}{[(\text{wet weight} + \text{pan}) - \text{pan}]}$$

# PERCENT MOISTURE

**Balance: Mettler** **Calibration: x Yes No** **Client: USAE- NYD: Newark Bay Upland**
**Drying Oven: Fisher 255G** **Temperature: 110 degrees C** **ASI Job #: 45-159**

| Sample ID# | Pan Weight g | Wet Sample + Pan g | Air Dry Sample +Pan Weight g | First Oven Dry Sample +Pan Weight g | Final Oven Dry Weight +Pan Weight g | % Moisture* |
|---|---|---|---|---|---|---|
| 20251106 | 1.2607 | 38.3093 | 17.2233 | 16.3438 | 16.2902 | 59.43 |
| 20251107 | 1.2656 | 39.5884 | 18.0660 | 17.4482 | 17.4111 | 57.87 |
| 20251108 | 1.2685 | 33.9564 | 15.5695 | 15.0526 | 15.0102 | 57.96 |
| 20251109 | 1.2582 | 34.2538 | 16.0979 | 15.5351 | 15.4753 | 56.91 |
| 20251110 | 1.2514 | 39.0503 | 19.2139 | 18.2442 | 18.2025 | 55.15 |
| 20251111 | 1.2648 | 38.8507 | 19.6717 | 18.9077 | 18.8702 | 53.16 |
| 20251112 | 1.2601 | 39.8736 | 18.9198 | 18.2558 | 18.2295 | 56.05 |
| 20251113 | 1.2689 | 38.6823 | 18.2873 | 17.3081 | 17.2610 | 57.26 |
| 20251114 | 1.2726 | 38.9010 | 18.5650 | 17.7436 | 17.7049 | 56.33 |
| 20251115 | 1.2661 | 34.7755 | 17.1501 | 16.5473 | 16.5138 | 54.50 |
| 20251116 | 1.2576 | 36.6028 | 16.3647 | 15.5074 | 15.4988 | 59.71 |
| 20251117 | 1.2712 | 28.2907 | 12.8197 | 12.4901 | 12.4520 | 58.62 |
| 20251117 dup | 1.2693 | 26.3185 | 11.9716 | 11.6529 | 11.6204 | 58.68 |
| 20251117 trp | 1.2574 | 27.8596 | 12.6856 | 12.2960 | 12.2693 | 58.61 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

$$* \% \text{ Moisture} = \frac{[(\text{wet weight + pan}) - (\text{oven dry weight + pan})]}{[(\text{wet weight + pan}) - \text{pan}]}$$

# AQUA SURVEY, INC.
## PERCENT MOISTURE & HYDROSCOPIC CORRECTION FACTOR BENCHSHEET

Balance: Mettler

Calibration: (YES) NO

Client: USACE - Newark Bay - Upland

Drying Oven: Fisher 255G

Temperature: 110 °C

Job #: 45-159

| Sample # | A | B | C | D | E | F | G | H | I | % Moisture* | HMCF** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20251086 | 1.2644 | 35.0805 | 16.7446 | 16.2473 | 16.2179 | | | | | | |
| 20251087 | 1.2553 | 40.3608 | 19.9746 | 19.0899 | 19.0618 | | | | | | |
| 20251088 | 1.2473 | 34.6910 | 15.5885 | 14.9689 | 14.9439 | | | | | | |
| 20251089 | 1.2634 | 39.3583 | 19.2969 | 18.5313 | 18.4970 | | | | | | |
| 20251090 | 1.2655 | 34.3232 | 17.5197 | 16.9844 | 16.9588 | | | | | | |
| 20251091 | 1.2581 | 40.2951 | 20.8041 | 19.8984 | 19.8721 | | | | | | |
| 20251092 | 1.2541 | 37.9830 | 19.1677 | 18.5064 | 18.4780 | | | | | | |
| 20251093 | 1.2601 | 39.9446 | 19.6864 | 18.8243 | 18.7950 | | | | | | |
| 20251094 | 1.2671 | 38.5280 | 19.0148 | 18.1393 | 18.1140 | | | | | | |
| 20251095 | 1.2583 | 37.0577 | 16.6108 | 15.6329 | 15.6051 | | | | | | |
| 20251096 | 1.2554 | 43.4105 | 20.9713 | 19.6916 | 19.6592 | | | | | | |
| 20251097 | 1.2625 | 36.6145 | 17.0670 | 16.4014 | 16.3800 | | | | | | |
| 20251098 | 1.2631 | 37.4674 | 17.2300 | 16.3073 | 16.2890 | | | | | | |
| 20251099 | 1.2547 | 40.3490 | 20.6487 | 20.0891 | 20.0632 | | | | | | |
| 20251100 | 1.2507 | 38.8779 | 20.0407 | 19.2858 | 19.2625 | | | | | | |
| 20251101 | 1.2646 | 34.6462 | 17.3263 | 17.0136 | 16.9902 | | | | | | |
| 20251102 | 1.2674 | 35.9054 | 16.4382 | 15.7131 | 15.6964 | | | | | | |
| 20251103 | 1.2637 | 38.0900 | 18.0748 | 17.2459 | 17.2292 | | | | | | |
| 20251104 | 1.2519 | 35.0223 | 17.5915 | 17.1849 | 17.1554 | | | | | | |
| 20251105 | 1.2640 | 31.9633 | 14.2929 | 13.8360 | 13.8166 | | | | | | |
| 20251105Dup | 1.2718 | 37.0873 | 16.7214 | 15.9338 | 15.9144 | | | | | | |
| 20251105trp | 1.2627 | 35.1143 | 15.6640 | 15.1308 | 15.1167 | | | | | | |
| Initials/ Date | 12/19/25 → | | 12/23/25 | 12/24/25 | 1/6/26 | | | | | | |

A= Empty Pan (g)
B= Wet Sample + Pan (g)
C= Air Dry Sample + Pan (g)
D= First Oven Dry Sample + Pan (g)
E= Second Oven Dry Sample + Pan (g)

* % moisture = $\frac{\text{B- Final oven dry wt.}}{\text{B-A}}$ X100

** HMCF= (Final oven dry wt.- A)/ (C-A)

If oven dried sample is not ± 0.05g or at a constant weight after second oven dry, return samples to oven and use F, G, H, and I until requirement is met.

# AQUA SURVEY, INC.
## PERCENT MOISTURE & HYDROSCOPIC CORRECTION FACTOR BENCHSHEET

Balance: Mettler

Calibration: (YES) NO

Client: USACE-Newark Bay-Upland

Drying Oven: Fisher 255G

Temperature: 110 °C

Job #: 45-159

| Sample # | A | B | C | D | E | F | G | H | I | % Moisture* | HMCF** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20251106 | 1.2607 | 38.3093 | 17.2233 | 16.3438 | 16.2902 | | | | | | |
| 20251107 | 1.2656 | 39.5884 | 18.0660 | 17.4482 | 17.4111 | | | | | | |
| 20251108 | 1.2685 | 33.9564 | 15.5695 | 15.0526 | 15.0102 | | | | | | |
| 20251109 | 1.2582 | 34.2538 | 16.0979 | 15.5351 | 15.4753 | | | | | | |
| 20251110 | 1.2514 | 39.0503 | 19.2139 | 18.2442 | 18.2025 | | | | | | |
| 20251111 | 1.2648 | 38.8507 | 19.6717 | 18.9077 | 18.8702 | | | | | | |
| 20251112 | 1.2601 | 39.8736 | 18.9198 | 18.2558 | 18.2295 | | | | | | |
| 20251113 | 1.2689 | 38.6823 | 18.2873 | 17.3081 | 17.2610 | | | | | | |
| 20251114 | 1.2726 | 38.9010 | 18.5650 | 17.7436 | 17.7049 | | | | | | |
| 20251115 | 1.2661 | 34.7755 | 17.1501 | 16.5473 | 16.5138 | | | | | | |
| 20251116 | 1.2576 | 36.6028 | 16.3647 | 15.5074 | 15.4988 | | | | | | |
| 20251117 | 1.2712 | 28.2907 | 12.8197 | 12.4901 | 12.4520 | | | | | | |
| 20251117Dup | 1.2693 | 26.3185 | 11.9716 | 11.6529 | 11.6204 | | | | | | |
| 20251117 trip | 1.2574 | 27.8596 | 12.6856 | 12.2960 | 12.2693 | | | | | | |
| Initials/ Date | 12/19/25 | → | 12/23/25 | 12/24/25 | 1/6/26 | | | | | | |

A= Empty Pan (g)
B= Wet Sample + Pan (g)
C= Air Dry Sample + Pan (g)
D= First Oven Dry Sample + Pan (g)
E= Second Oven Dry Sample + Pan (g)

* % moisture = $\frac{\text{B- Final oven dry wt.}}{\text{B-A}}$ X100

** HMCF= (Final oven dry wt.- A)/ (C-A)

If oven dried sample is not ± 0.05g or at a constant weight after second oven dry, return samples to oven and use F, G, H, and I until requirement is met.

# Appendix F

# Total Organic Carbon Raw Data and SRM Control Charts

# Report Information

**Schedule:** 120925 45-159 Samples
**Report Date:** 12/9/2025 9:40:49 AM
**Instrument:** Lotix - 1
**Method:** Solids TC
**Sample Source:** Solids Module
**Calibration:** 12/9/2025 9:34:10 AM
**Software Ver:** 3.3.7431.18150
**Comment:** Disregard first rep of 20251088. Used as a clean. LH

# Schedule Summary

| Sample Type | ID | µg/g (ppm) | Std Dev | %RSD |
|---|---|---|---|---|
| Clean | Clean | | | |
| Sample (TC) | USGS | 95781.036 | 5845.370 | 6.103 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1001.237 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Blank (TC) | Blank | 1283.205 (ABS) | 136.339 | 10.625 |
| Sample (TC) | 20251086 1 45-159 | 27655.960 | 802.172 | 2.901 |
| Clean | Clean | | | |
| Sample (TC) | 20251086 SPK 45-159 | 46221.948 | 3453.454 | 7.471 |
| Clean | Clean | | | |
| Sample (TC) | 20251087 2 45-159 | 27429.183 | 2221.075 | 8.097 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1043.840 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Sample (TC) | 20251088 3 45-159 | 1351.090 | 0.000 | 0.000 |
| Sample (TC) | 20251088 3 45-159 | 30335.533 | 616.329 | 2.032 |
| Clean | Clean | | | |
| Sample (TC) | 20251089 4 45-159 | 27931.258 | 502.090 | 1.798 |
| Clean | Clean | | | |
| Sample (TC) | 20251090 5 45-159 | 33046.742 | 5016.920 | 15.181 |
| Clean | Clean | | | |
| Sample (TC) | 20251091 6 45-159 | 26086.235 | 1596.687 | 6.121 |
| Clean | Clean | | | |
| Sample (TC) | 20251092 7 45-159 | 24021.333 | 35.208 | 0.147 |
| Clean | Clean | | | |
| Sample (TC) | 20251093 8 45-159 | 27780.878 | 888.110 | 3.197 |
| Clean | Clean | | | |
| Sample (TC) | 20251094 9 45-159 | 28131.943 | 1342.800 | 4.773 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1041.253 Passed | 16.096 | 1.546 |

# Sample Details

# Lotix Report: Samples Schedule

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 09:41 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:07 |
| 2 | TC | | | | | | 03:29 |
| 3 | TC | | | | | | 04:10 |
| 4 | TC | | | | | | 04:38 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | USGS | 95781.036 | 34214.681 | 5845.370 | 6.103 | 09:56 | 1429.438 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 0.740 | 69.81290 | 94341.759 | 34633.838 | 37.940 | 04:39 |
| 2 | TC | 0.990 | 87.70434 | 88590.239 | 43143.359 | 40.202 | 05:15 |
| 3 | TC | 0.610 | 62.52050 | 102492.622 | 31165.427 | 40.877 | 05:16 |
| 4 | TC | 0.570 | 55.68873 | 97699.522 | 27916.101 | 40.157 | 05:09 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:17 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:38 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1001.237 Passed | 20105.904 | 0.000 | 0.000 | 10:20 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 40.04950 | 1001.237 | 20105.904 | 39.081 | 05:03 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:26 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 04:13 |
| 2 | TC | | | | | | 02:55 |

| Sample Type | ID | ABS | Std Dev | %RSD | Start-Time |
|---|---|---|---|---|---|
| Blank (TC) | Blank | 1283.205 | 136.339 | 10.625 | 10:33 |

| Rep # | Analysis Type | Weight mg (Volume µl) | | | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 50.000 | | | 1379.611 | 39.879 | 05:11 |
| 2 | TC | 50.000 | | | 1186.799 | 37.837 | 04:12 |

# Lotix Report: Samples Schedule

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251086 1 45-159 | 27655.960 | 27485.764 | 802.172 | 2.901 | 10:43 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.850 | 52.21288 | 28223.181 | 26116.688 | 42.800 | 10:28 |
| 2 | TC | 2.140 | 57.96990 | 27088.738 | 28854.839 | 40.068 | 05:59 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:00 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:06 |
| 2 | TC | | | | | | 02:47 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251086 SPK 45-159 | 46221.948 | 38527.540 | 3453.454 | 7.471 | 11:06 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.410 | 68.61611 | 48663.909 | 33918.388 | 45.240 | 12:40 |
| 2 | TC | 2.010 | 87.99778 | 43779.988 | 43136.691 | 40.805 | 06:20 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:26 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:41 |
| 2 | TC | | | | | | 02:42 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251087 2 45-159 | 27429.183 | 25836.520 | 2221.075 | 8.097 | 11:31 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.340 | 38.85962 | 28999.720 | 19765.613 | 44.483 | 11:20 |
| 2 | TC | 2.490 | 64.38803 | 25858.646 | 31907.428 | 39.817 | 05:35 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:49 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 14:47 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1043.840 Passed | 20916.416 | 0.000 | 0.000 | 13:04 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 41.75361 | 1043.840 | 20916.416 | 38.350 | 05:48 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 13:10 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 52:02 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251088 3 45-159 | 1351.090 | 2883.293 | 0.000 | 0.000 | 14:02 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.490 | 3.36422 | 1351.090 | 2883.293 | 39.838 | 05:53 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251088 3 45-159 | 30335.533 | 28169.999 | 616.329 | 2.032 | 14:08 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.760 | 54.15757 | 30771.344 | 27041.617 | 43.628 | 10:37 |
| 2 | TC | 1.970 | 58.90245 | 29899.723 | 29298.380 | 40.432 | 05:57 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:26 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:45 |
| 2 | TC | | | | | | 02:57 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251089 4 45-159 | 27931.258 | 26419.643 | 502.090 | 1.798 | 14:31 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.670 | 47.23810 | 28286.290 | 23750.584 | 44.951 | 11:43 |
| 2 | TC | 2.120 | 58.46160 | 27576.227 | 29088.701 | 40.642 | 05:43 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:49 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:00 |
| 2 | TC | | | | | | 03:25 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251090 5 45-159 | 33046.742 | 38339.634 | 5016.920 | 15.181 | 14:56 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.130 | 77.94573 | 36594.240 | 38355.740 | 43.076 | 10:10 |
| 2 | TC | 2.640 | 77.87800 | 29499.243 | 38323.527 | 42.390 | 06:17 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 15:13 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:24 |
| 2 | TC | | | | | | 02:40 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251091 6 45-159 | 26086.235 | 25365.752 | 1596.687 | 6.121 | 15:19 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.760 | 68.88189 | 24957.207 | 34044.798 | 43.948 | 10:35 |
| 2 | TC | 1.190 | 32.38616 | 27215.263 | 16686.706 | 40.567 | 06:08 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 15:37 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:13 |
| 2 | TC | | | | | | 02:55 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251092 7 45-159 | 24021.333 | 21558.772 | 35.208 | 0.147 | 15:43 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.100 | 50.39252 | 23996.438 | 25250.886 | 43.244 | 09:58 |
| 2 | TC | 1.450 | 34.86703 | 24046.229 | 17866.657 | 39.946 | 06:03 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 16:00 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:51 |
| 2 | TC | | | | | | 02:43 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251093 8 45-159 | 27780.878 | 23496.208 | 888.110 | 3.197 | 16:05 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.630 | 44.25921 | 27152.889 | 22333.762 | 43.231 | 10:18 |
| 2 | TC | 1.730 | 49.14734 | 28408.866 | 24658.654 | 43.869 | 05:19 |

| Sample Type | | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|---|
| Clean | | Clean | | | | | 16:22 |
| **Rep #** | **Analysis Type** | | | | | | **Run Time (mm:ss)** |
| 1 | TC | | | | | | 02:44 |
| 2 | TC | | | | | | 02:49 |

| Sample Type | | ID | | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|---|---|
| Sample (TC) | | 20251094 9 45-159 | | 28131.943 | 27783.437 | 1342.800 | 4.773 | 16:27 | 1283.205 |
| **Rep #** | **Analysis Type** | **Weight mg (Volume µl)** | **µg** | **µg/g (ppm)** | **NDIR (ABS)** | **Baseline (ABS)** | **Run Time (mm:ss)** | | |
| 1 | TC | 2.140 | 62.23430 | 29081.446 | 30883.070 | 42.931 | 09:57 | | |
| 2 | TC | 1.810 | 49.20022 | 27182.440 | 24683.804 | 40.424 | 05:47 | | |

| Sample Type | | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|---|
| Clean | | Clean | | | | | 16:44 |
| **Rep #** | **Analysis Type** | | | | | | **Run Time (mm:ss)** |
| 1 | TC | | | | | | 02:19 |

| Sample Type | | ID | | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|---|---|
| Chk Std (TC) | | 1000.0000 ppmC | | 1041.253 Passed | 20867.189 | 16.096 | 1.546 | 16:46 | 900.000 / 1100.000 |
| **Rep #** | **Analysis Type** | **Weight mg (Volume µl)** | **µg** | **µg/g (ppm)** | **NDIR (ABS)** | **Baseline (ABS)** | **Run Time (mm:ss)** | | |
| 1 | TC | 40.000 | 42.08082 | 1052.020 | 21072.039 | 39.606 | 05:05 | | |
| 2 | TC | 40.000 | 40.90996 | 1022.749 | 20515.157 | 39.900 | 05:02 | | |
| 3 | TC | 40.000 | 41.95957 | 1048.989 | 21014.370 | 39.712 | 05:04 | | |

# Calibration Curve

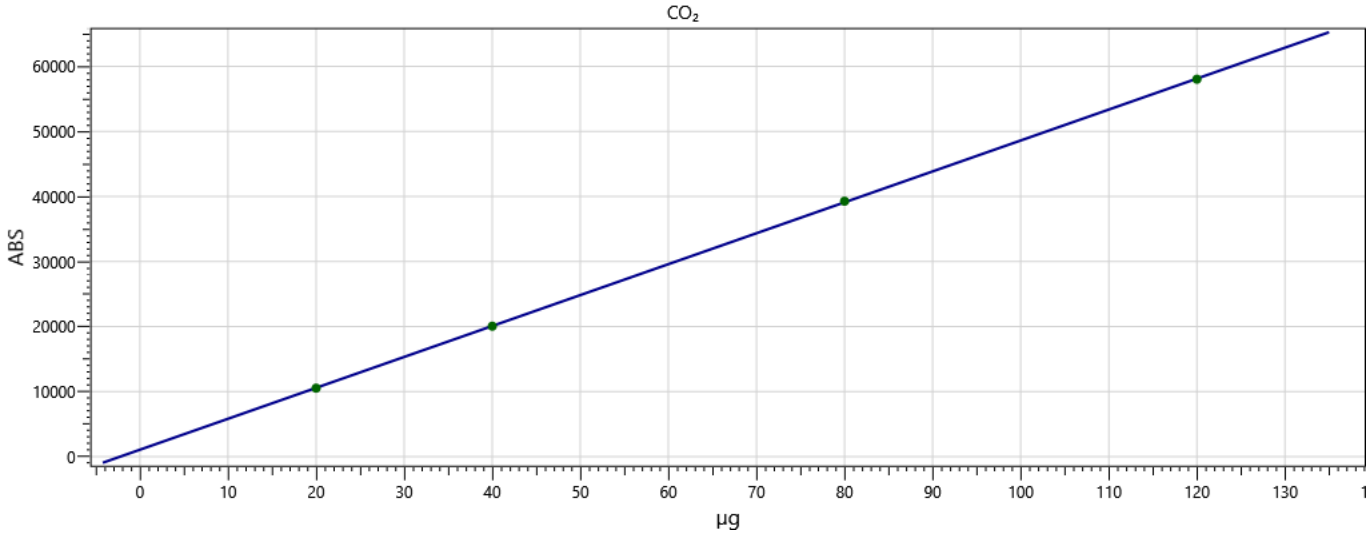
**Date:** 12/9/2025 9:34:10 AM
**Instrument Name:** Lotix - 1
**Method:** Solids TC
**Schedule:** from schedule 120925 STD
**Sample ppm Calculation Uses:** Latest Method Blank
**Software Ver:** 3.3.7431.18150
**Sample Source:** Solids Module

## TC

**Linear Curve:** y = 475.620x + 1057.569
**Coefficient of Determination ($r^2$):** 0.99997

## Standard Results

| Actual µgC/g (ppmC) | Weight mg (Volume µl) | µg | ABS | Measured µgC | When |
|---|---|---|---|---|---|
| 500.00 | 40.000 | 20.00000 | 10524.741 | 19.90491 | 12/9/2025 9:01:36 AM |
| 1000.00 | 40.000 | 40.00000 | 20053.640 | 39.93961 | 12/9/2025 9:11:35 AM |
| 2000.00 | 40.000 | 80.00000 | 39277.659 | 80.35849 | 12/9/2025 9:22:02 AM |
| 3000.00 | 40.000 | 120.00000 | 58035.389 | 119.79698 | 12/9/2025 9:33:03 AM |



# Report Information

**Schedule:** 121225 45-159 Samples
**Report Date:** 12/12/2025 10:06:50 AM
**Instrument:** Lotix - 1
**Method:** Solids TC
**Sample Source:** Solids Module
**Calibration:** 12/12/2025 10:02:05 AM
**Software Ver:** 3.3.7431.18150
**Comment:**

# Schedule Summary

| Sample Type | ID | µg/g (ppm) | Std Dev | %RSD |
|---|---|---|---|---|
| Clean | Clean | | | |
| Sample (TC) | USGS | 95110.406 | 2305.022 | 2.424 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1028.373 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Blank (TC) | Blank | 1241.178 (ABS) | 72.228 | 5.819 |
| Sample (TC) | 20251095 10 45-159 | 28955.953 | 1696.930 | 5.860 |
| Clean | Clean | | | |
| Sample (TC) | 20251095 SPK 45-159 | 45220.097 | 1088.681 | 2.408 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1059.851 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Sample (TC) | 20251096 11 45-159 | 29590.099 | 2780.668 | 9.397 |
| Clean | Clean | | | |
| Sample (TC) | 20251097 12 45-159 | 28615.123 | 772.613 | 2.700 |
| Clean | Clean | | | |
| Sample (TC) | 20251098 13 45-159 | 30474.134 | 9.886 | 0.032 |
| Clean | Clean | | | |
| Sample (TC) | 20251099 14/Comp F 45-159 | 20147.484 | 1925.877 | 9.559 |
| Clean | Clean | | | |
| Sample (TC) | 20251100 15 45-159 | 24969.008 | 271.153 | 1.086 |
| Clean | Clean | | | |
| Sample (TC) | 20251101 16 45-159 | 25405.334 | 620.745 | 2.443 |
| Clean | Clean | | | |
| Sample (TC) | 20251102 17 45-159 | 34847.458 | 280.750 | 0.806 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1050.429 Passed | 3.523 | 0.335 |

# Sample Details

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 10:07 |

# Lotix Report: Samples Schedule

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:33 |
| 2 | TC | | | | | | 04:14 |
| 3 | TC | | | | | | 05:18 |
| 4 | TC | | | | | | 04:17 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | USGS | 95110.406 | 33179.070 | 2305.022 | 2.424 | 10:24 | 1283.205 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 0.900 | 84.18794 | 93542.157 | 41166.661 | 38.884 | 05:46 |
| 2 | TC | 0.710 | 66.14618 | 93163.629 | 32619.499 | 42.046 | 06:45 |
| 3 | TC | 0.550 | 54.00622 | 98193.123 | 26868.278 | 40.259 | 05:08 |
| 4 | TC | 0.680 | 64.96905 | 95542.717 | 32061.843 | 41.988 | 07:18 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:50 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:12 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1028.373 Passed | 20242.634 | 0.000 | 0.000 | 10:53 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 41.13492 | 1028.373 | 20242.634 | 39.026 | 04:43 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:58 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:54 |
| 2 | TC | | | | | | 03:03 |

| Sample Type | ID | ABS | Std Dev | %RSD | Start-Time |
|---|---|---|---|---|---|
| Blank (TC) | Blank | 1241.178 | 72.228 | 5.819 | 11:05 |

| Rep # | Analysis Type | Weight mg (Volume µl) | | | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 50.000 | | | 1190.105 | 40.578 | 07:27 |
| 2 | TC | 50.000 | | | 1292.251 | 37.718 | 04:31 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251095 10 45-159 | 28955.953 | 31374.603 | 1696.930 | 5.860 | 11:18 | 1241.178 |

# Lotix Report: Samples Schedule

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.120 | 63.93043 | 30155.863 | 31527.777 | 43.298 | 11:23 |
| 2 | TC | 2.280 | 63.28378 | 27756.042 | 31221.429 | 41.370 | 05:58 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 11:36 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:00 |
| 2 | TC | | | | | | 02:45 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251095 SPK 45-159 | 45220.097 | 43952.129 | 1088.681 | 2.408 | 11:42 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.920 | 88.30063 | 45989.910 | 43072.990 | 43.825 | 11:08 |
| 2 | TC | 2.070 | 92.01209 | 44450.283 | 44831.267 | 40.513 | 05:54 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 12:00 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 10:21 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1059.851 Passed | 20839.132 | 0.000 | 0.000 | 13:10 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 42.39404 | 1059.851 | 20839.132 | 38.179 | 05:02 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 13:16 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 04:34 |
| 2 | TC | | | | | | 03:23 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251096 11 45-159 | 29590.099 | 21924.601 | 2780.668 | 9.397 | 13:24 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 0.850 | 26.82288 | 31556.328 | 13948.331 | 43.873 | 11:35 |
| 2 | TC | 2.190 | 60.49628 | 27623.870 | 29900.870 | 39.902 | 05:21 |

# Lotix Report: Samples Schedule

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 13:41 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:52 |
| 2 | TC | | | | | | 02:38 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251097 12 45-159 | 28615.123 | 33347.901 | 772.613 | 2.700 | 13:47 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.030 | 59.19773 | 29161.443 | 29285.692 | 42.974 | 10:03 |
| 2 | TC | 2.720 | 76.34714 | 28068.803 | 37410.109 | 40.037 | 05:41 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 14:03 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:43 |
| 2 | TC | | | | | | 02:45 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251098 13 45-159 | 30474.134 | 28383.165 | 9.886 | 0.032 | 14:10 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.060 | 62.79112 | 30481.124 | 30988.035 | 44.137 | 11:21 |
| 2 | TC | 1.700 | 51.79414 | 30467.144 | 25778.296 | 39.293 | 05:55 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 14:28 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:57 |
| 2 | TC | | | | | | 02:45 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251099 14/Comp F 45-159 | 20147.484 | 16059.993 | 1925.877 | 9.559 | 14:34 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.670 | 31.37209 | 18785.683 | 16103.489 | 44.587 | 12:41 |
| 2 | TC | 1.450 | 31.18846 | 21509.285 | 16016.497 | 39.699 | 05:42 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 14:53 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 42:53 |
| 2 | TC | | | | | | 02:48 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251100 15 45-159 | 24969.008 | 22574.621 | 271.153 | 1.086 | 15:38 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.000 | 49.55455 | 24777.274 | 24717.303 | 41.821 | 09:56 |
| 2 | TC | 1.610 | 40.50880 | 25160.742 | 20431.940 | 39.744 | 05:59 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 15:55 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:33 |
| 2 | TC | | | | | | 02:38 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251101 16 45-159 | 25405.334 | 24968.863 | 620.745 | 2.443 | 16:00 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.770 | 45.74435 | 25844.267 | 22912.249 | 45.338 | 14:07 |
| 2 | TC | 2.180 | 54.42675 | 24966.401 | 27025.476 | 40.109 | 05:49 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 16:21 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:33 |
| 2 | TC | | | | | | 02:40 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251102 17 45-159 | 34847.458 | 36798.238 | 280.750 | 0.806 | 16:26 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.950 | 68.33966 | 35045.978 | 33616.618 | 42.070 | 09:27 |
| 2 | TC | 2.360 | 81.77149 | 34648.937 | 39979.857 | 40.209 | 06:17 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 16:43 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:06 |

## Lotix Report: Samples Schedule

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1050.429 Passed | 20660.595 | 3.523 | 0.335 | 16:46 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 41.90291 | 1047.573 | 20606.464 | 38.439 | 04:39 |
| 2 | TC | 40.000 | 42.17461 | 1054.365 | 20735.181 | 39.799 | 04:45 |
| 3 | TC | 40.000 | 41.97400 | 1049.350 | 20640.140 | 39.400 | 04:44 |

# Calibration Curve

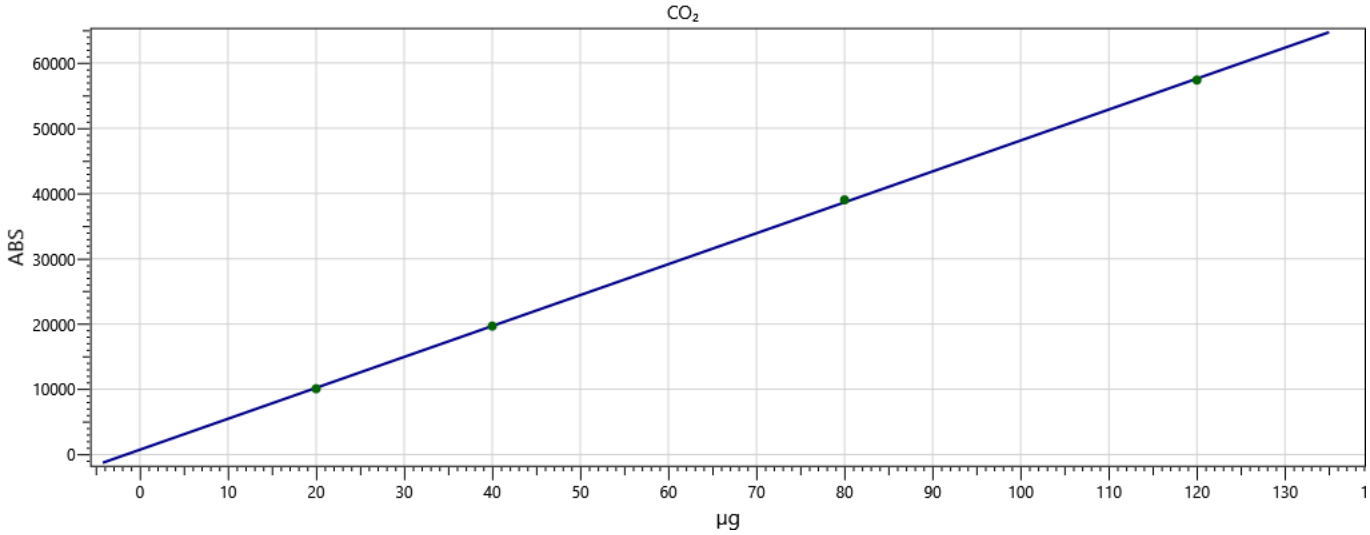
**Date:** 12/12/2025 10:02:05 AM
**Instrument Name:** Lotix - 1
**Method:** Solids TC
**Schedule:** from schedule 121225 STD
**Sample ppm Calculation Uses:** Latest Method Blank
**Software Ver:** 3.3.7431.18150
**Sample Source:** Solids Module

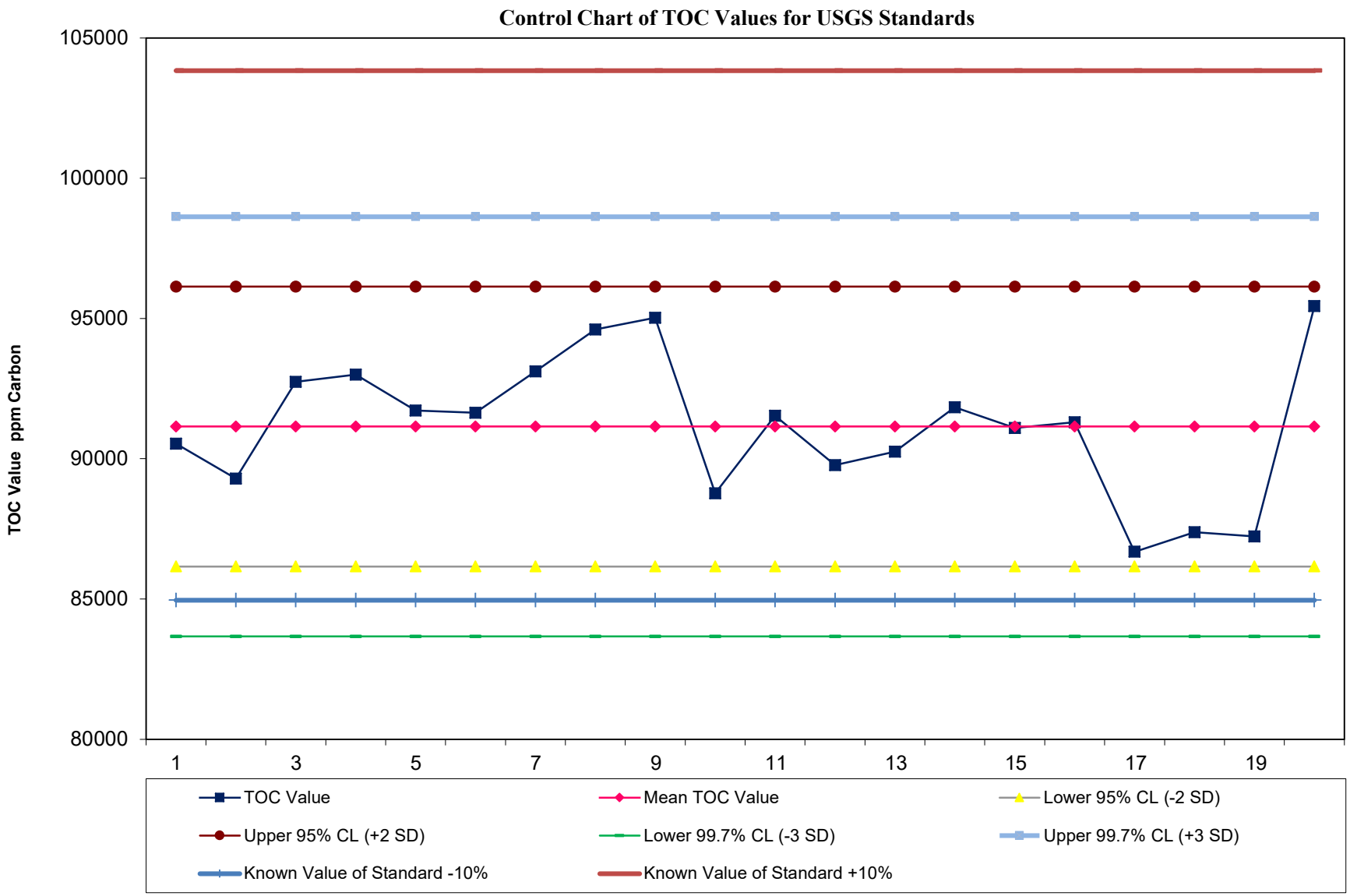
## TC

**Linear Curve:** y = 473.743x + 755.250
**Coefficient of Determination ($r^2$):** 0.99985

## Standard Results

| Actual µgC/g (ppmC) | Weight mg (Volume µl) | µg | ABS | Measured µgC | When |
|---|---|---|---|---|---|
| 500.00 | 40.000 | 20.00000 | 10094.726 | 19.71422 | 12/12/2025 9:28:12 AM |
| 1000.00 | 40.000 | 40.00000 | 19688.786 | 39.96583 | 12/12/2025 9:38:13 AM |
| 2000.00 | 40.000 | 80.00000 | 39025.537 | 80.78279 | 12/12/2025 9:48:50 AM |
| 3000.00 | 40.000 | 120.00000 | 57385.154 | 119.53716 | 12/12/2025 10:00:34 AM |






(Updated: 12/15/25)

# Report Information

**Schedule:** 121525 45-159 Samples
**Report Date:** 12/15/2025 10:34:16 AM
**Instrument:** Lotix - 1
**Method:** Solids TC
**Sample Source:** Solids Module
**Calibration:** 12/15/2025 9:59:14 AM
**Software Ver:** 3.3.7431.18150
**Comment:**

# Schedule Summary

| Sample Type | ID | µg/g (ppm) | Std Dev | %RSD |
|---|---|---|---|---|
| Clean | Clean | | | |
| Sample (TC) | USGS | 92434.970 | 1498.709 | 1.621 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1039.057 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Blank (TC) | Blank | 1614.816 (ABS) | 494.602 | 30.629 |
| Sample (TC) | 20251103 18 45-159 | 32450.979 | 380.478 | 1.172 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1061.549 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Sample (TC) | 20251103 SPK 45-159 | 48100.297 | 925.443 | 1.924 |
| Clean | Clean | | | |
| Sample (TC) | 20251104 19/Comp I 45-159 | 29065.694 | 8.734 | 0.030 |
| Clean | Clean | | | |
| Sample (TC) | 20251105 20 45-159 | 30961.213 | 92.227 | 0.298 |
| Clean | Clean | | | |
| Sample (TC) | 20251106 21 45-159 | 31047.942 | 1601.528 | 5.158 |
| Clean | Clean | | | |
| Sample (TC) | 20251107 22 45-159 | 29441.725 | 1543.598 | 5.243 |
| Clean | Clean | | | |
| Sample (TC) | 20251108 23 45-159 | 29976.867 | 690.299 | 2.303 |
| Clean | Clean | | | |
| Sample (TC) | 20251109 Composite A 45-159 | 28217.319 | 1677.508 | 5.945 |
| Clean | Clean | | | |
| Sample (TC) | 20251110 Composite B 45-159 | 27972.567 | 2169.527 | 7.756 |
| Clean | Clean | | | |
| Sample (TC) | 20251111 Composite C 45-159 | 21544.262 | 2526.846 | 11.729 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1062.343 Passed | 7.741 | 0.729 |

# Sample Details

# Lotix Report: Samples Schedule

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:35 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 01:54 |
| 2 | TC | | | | | | 01:43 |
| 3 | TC | | | | | | 01:43 |
| 4 | TC | | | | | | 01:40 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | USGS | 92434.970 | 33642.900 | 1498.709 | 1.621 | 10:42 | 1241.178 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 0.920 | 87.01422 | 94580.676 | 42253.068 | 37.319 | 04:17 |
| 2 | TC | 0.510 | 47.00595 | 92168.521 | 23396.208 | 40.220 | 05:21 |
| 3 | TC | 0.850 | 78.09889 | 91881.045 | 38051.058 | 40.205 | 06:02 |
| 4 | TC | 0.690 | 62.86565 | 91109.638 | 30871.267 | 39.775 | 05:20 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:04 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:43 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1039.057 Passed | 20239.361 | 0.000 | 0.000 | 11:07 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 41.56228 | 1039.057 | 20239.361 | 38.443 | 04:51 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:12 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:15 |
| 2 | TC | | | | | | 02:41 |

| Sample Type | ID | ABS | Std Dev | %RSD | Start-Time |
|---|---|---|---|---|---|
| Blank (TC) | Blank | 1614.816 | 494.602 | 30.629 | 11:18 |

| Rep # | Analysis Type | Weight mg (Volume µl) | | | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 50.000 | | | 1964.553 | 40.747 | 07:56 |
| 2 | TC | 50.000 | | | 1265.079 | 38.023 | 04:17 |

# Lotix Report: Samples Schedule

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251103 18 45-159 | 32450.979 | 27345.554 | 380.478 | 1.172 | 11:31 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.010 | 64.68570 | 32181.941 | 32102.739 | 43.036 | 10:53 |
| 2 | TC | 1.360 | 44.49922 | 32720.018 | 22588.368 | 39.589 | 06:26 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:49 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 14:26 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1061.549 Passed | 20663.399 | 0.000 | 0.000 | 13:04 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 42.46196 | 1061.549 | 20663.399 | 38.310 | 05:07 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 13:09 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:10 |
| 2 | TC | | | | | | 03:47 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251103 SPK 45-159 | 48100.297 | 46173.002 | 925.443 | 1.924 | 13:16 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.360 | 115.06105 | 48754.683 | 55845.851 | 42.434 | 10:08 |
| 2 | TC | 1.560 | 74.01562 | 47445.910 | 36500.154 | 40.512 | 06:10 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 13:33 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:42 |
| 2 | TC | | | | | | 03:17 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251104 19/Comp I 45-159 | 29065.694 | 27437.744 | 8.734 | 0.030 | 13:39 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.010 | 58.40963 | 29059.519 | 29144.678 | 44.678 | 12:14 |
| 2 | TC | 1.760 | 51.16649 | 29071.870 | 25730.811 | 40.713 | 06:19 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 13:59 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:55 |
| 2 | TC | | | | | | 03:55 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251105 20 45-159 | 30961.213 | 23510.415 | 92.227 | 0.298 | 14:06 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.710 | 53.05519 | 31026.427 | 26621.000 | 43.439 | 10:18 |
| 2 | TC | 1.290 | 39.85584 | 30895.999 | 20399.829 | 40.706 | 06:44 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:23 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 05:10 |
| 2 | TC | | | | | | 03:12 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251106 21 45-159 | 31047.942 | 19792.555 | 1601.528 | 5.158 | 14:32 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.300 | 41.83451 | 32180.393 | 21332.425 | 42.136 | 09:21 |
| 2 | TC | 1.180 | 35.30028 | 29915.490 | 18252.685 | 40.218 | 06:04 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:48 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:22 |
| 2 | TC | | | | | | 02:44 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251107 22 45-159 | 29441.725 | 24290.048 | 1543.598 | 5.243 | 14:54 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.350 | 41.21984 | 30533.214 | 21042.716 | 44.672 | 12:30 |
| 2 | TC | 1.940 | 54.99946 | 28350.237 | 27537.381 | 39.726 | 05:28 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 15:13 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:53 |
| 2 | TC | | | | | | 02:43 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251108 23 45-159 | 29976.867 | 35081.231 | 690.299 | 2.303 | 15:18 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.590 | 78.90430 | 30464.982 | 38804.307 | 42.952 | 10:07 |
| 2 | TC | 2.140 | 63.10593 | 29488.751 | 31358.154 | 40.820 | 05:48 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 15:35 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 04:27 |
| 2 | TC | | | | | | 03:50 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251109 Composite A 45-159 | 28217.319 | 26403.224 | 1677.508 | 5.945 | 15:43 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.610 | 47.33963 | 29403.497 | 23927.120 | 42.951 | 10:07 |
| 2 | TC | 2.140 | 57.84664 | 27031.142 | 28879.328 | 39.576 | 05:33 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 16:00 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:46 |
| 2 | TC | | | | | | 02:38 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251110 Composite B 45-159 | 27972.567 | 23805.866 | 2169.527 | 7.756 | 16:05 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.910 | 56.35771 | 29506.654 | 28177.557 | 42.530 | 09:44 |
| 2 | TC | 1.430 | 37.80703 | 26438.479 | 19434.175 | 41.266 | 05:56 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 16:22 |

# Lotix Report: Samples Schedule

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:37 |
| 2 | TC | | | | | | 02:36 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251111 Composite C 45-159 | 21544.262 | 21535.115 | 2526.846 | 11.729 | 16:27 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.760 | 41.06258 | 23331.012 | 20968.596 | 41.816 | 09:04 |
| 2 | TC | 2.200 | 43.46653 | 19757.512 | 22101.633 | 39.483 | 05:32 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 16:42 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:08 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1062.343 Passed | 20678.374 | 7.741 | 0.729 | 16:44 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 42.74863 | 1068.716 | 20798.518 | 38.263 | 04:40 |
| 2 | TC | 40.000 | 42.14918 | 1053.729 | 20515.978 | 39.453 | 04:59 |
| 3 | TC | 40.000 | 42.58337 | 1064.584 | 20720.625 | 38.709 | 05:04 |

# Calibration Curve

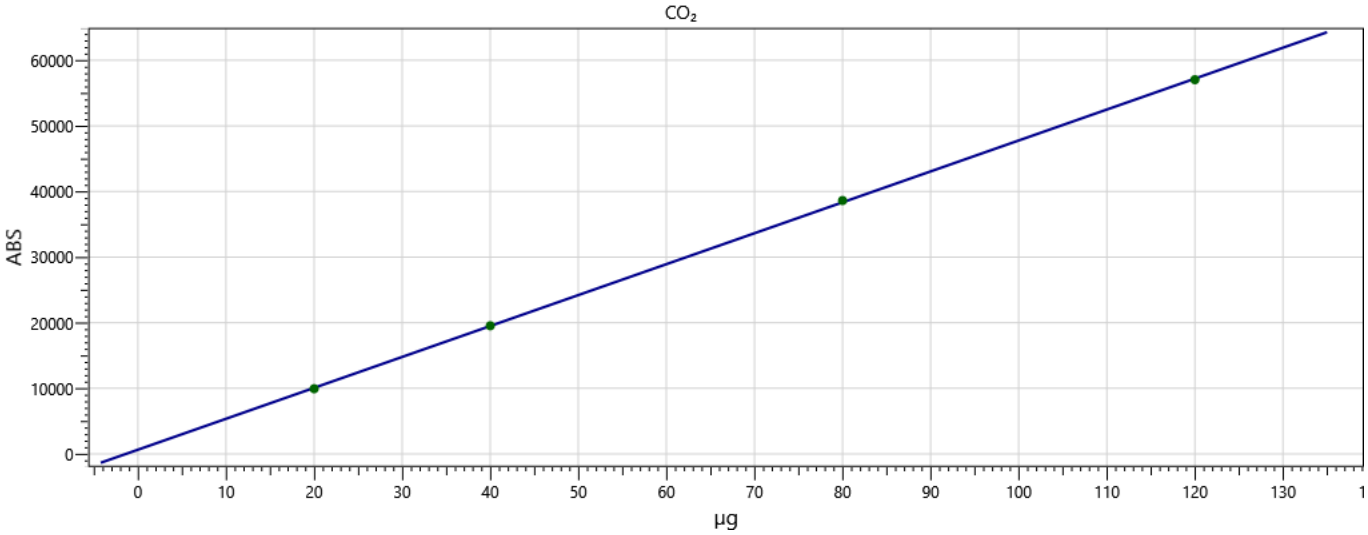
**Date:** 12/15/2025 9:59:14 AM
**Instrument Name:** Lotix - 1
**Method:** Solids TC
**Schedule:** from schedule 121525 STD
**Sample ppm Calculation Uses:** Latest Method Blank
**Software Ver:** 3.3.7431.18150
**Sample Source:** Solids Module

## TC

**Linear Curve:** y = 471.324x + 650.060
**Coefficient of Determination ($r^2$):** 0.99991

## Standard Results

| Actual µgC/g (ppmC) | Weight mg (Volume µl) | µg | ABS | Measured µgC | When |
|---|---|---|---|---|---|
| 500.00 | 40.000 | 20.00000 | 9940.830 | 19.71207 | 12/15/2025 9:27:22 AM |
| 1000.00 | 40.000 | 40.00000 | 19535.134 | 40.06814 | 12/15/2025 9:37:02 AM |
| 2000.00 | 40.000 | 80.00000 | 38631.029 | 80.58357 | 12/15/2025 9:47:22 AM |
| 3000.00 | 40.000 | 120.00000 | 57037.488 | 119.63623 | 12/15/2025 9:58:08 AM |



# Report Information

**Schedule:** 121625 45-159 45-170 Samples
**Report Date:** 12/16/2025 9:32:48 AM
**Instrument:** Lotix - 1
**Method:** Solids TC
**Sample Source:** Solids Module
**Calibration:** 12/16/2025 9:25:59 AM
**Software Ver:** 3.3.7431.18150
**Comment:**

# Schedule Summary

| Sample Type | ID | µg/g (ppm) | Std Dev | %RSD |
|---|---|---|---|---|
| Clean | Clean | | | |
| Sample (TC) | USGS | 90131.209 | 7759.182 | 8.609 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1012.564 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Blank (TC) | Blank | 1647.298 (ABS) | 269.186 | 16.341 |
| Sample (TC) | 20251112 Composite D 45-159 | 26982.012 | 83.268 | 0.309 |
| Clean | Clean | | | |
| Sample (TC) | 20251112 SPK 45-159 | 48292.411 | 7184.391 | 14.877 |
| Clean | Clean | | | |
| Sample (TC) | 20251113 Composite E 45-159 | 28376.126 | 340.445 | 1.200 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1044.613 Passed | 0.000 | 0.000 |
| Clean | Clean | | | |
| Sample (TC) | 20251114 Composite G 45-159 | 30404.082 | 1037.532 | 3.412 |
| Clean | Clean | | | |
| Sample (TC) | 20251115 Composite H 45-159 | 27927.104 | 1285.505 | 4.603 |
| Clean | Clean | | | |
| Sample (TC) | 20251116 Composite J 45-159 | 31851.238 | 219.026 | 0.688 |
| Clean | Clean | | | |
| Sample (TC) | 20251117 Composite K 45-159 | 32189.946 | 3893.795 | 12.096 |
| Clean | Clean | | | |
| Sample (TC) | 20251014A 2A 45-170 | 32423.349 | 1465.064 | 4.519 |
| Clean | Clean | | | |
| Sample (TC) | 20251014B 2B 45-170 | 31179.016 | 662.057 | 2.123 |
| Clean | Clean | | | |
| Sample (TC) | 20251014C 2C 45-170 | 31951.341 | 4376.596 | 13.698 |
| Clean | Clean | | | |
| Chk Std (TC) | 1000.0000 ppmC | 1037.275 Passed | 11.166 | 1.076 |

# Sample Details

# Lotix Report: Samples Schedule

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 09:33 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:36 |
| 2 | TC | | | | | | 03:02 |
| 3 | TC | | | | | | 05:01 |
| 4 | TC | | | | | | 04:47 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | USGS | 90131.209 | 30576.350 | 7759.182 | 8.609 | 09:50 | 1614.816 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 0.560 | 52.95671 | 94565.556 | 27999.310 | 38.371 | 04:59 |
| 2 | TC | 0.590 | 46.35705 | 78571.271 | 24711.177 | 40.716 | 06:05 |
| 3 | TC | 0.630 | 58.40801 | 92711.125 | 30715.297 | 39.820 | 05:23 |
| 4 | TC | 0.790 | 74.79474 | 94676.885 | 38879.618 | 40.218 | 05:23 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:13 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 04:02 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1012.564 Passed | 21427.569 | 0.000 | 0.000 | 10:17 | 900.000 / 1100.000 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 40.50256 | 1012.564 | 21427.569 | 38.816 | 05:06 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 10:23 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:58 |
| 2 | TC | | | | | | 02:59 |

| Sample Type | ID | ABS | Std Dev | %RSD | Start-Time |
|---|---|---|---|---|---|
| Blank (TC) | Blank | 1647.298 | 269.186 | 16.341 | 10:30 |

| Rep # | Analysis Type | Weight mg (Volume µl) | | | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 50.000 | | | 1837.641 | 38.092 | 04:41 |
| 2 | TC | 50.000 | | | 1456.955 | 39.899 | 06:14 |

# Lotix Report: Samples Schedule

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251112 Composite D 45-159 | 26982.012 | 39145.563 | 83.268 | 0.309 | 10:41 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.510 | 67.87264 | 27040.892 | 35463.318 | 45.704 | 13:01 |
| 2 | TC | 3.070 | 82.65402 | 26923.133 | 42827.809 | 44.798 | 06:05 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:01 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:53 |
| 2 | TC | | | | | | 02:16 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251112 SPK 45-159 | 48292.411 | 46381.440 | 7184.391 | 14.877 | 11:06 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.640 | 87.53097 | 53372.543 | 45257.641 | 45.626 | 11:10 |
| 2 | TC | 2.130 | 92.04216 | 43212.280 | 47505.238 | 41.574 | 06:11 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:24 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:16 |
| 2 | TC | | | | | | 03:30 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251113 Composite E 45-159 | 28376.126 | 37783.089 | 340.445 | 1.200 | 11:31 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.670 | 76.40701 | 28616.857 | 39715.377 | 45.558 | 10:37 |
| 2 | TC | 2.440 | 68.65036 | 28135.395 | 35850.802 | 44.297 | 08:21 |

| Sample Type | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|
| Clean | Clean | | | | | 11:51 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 38:47 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|
| Chk Std (TC) | 1000.0000 ppmC | 1044.613 Passed | 22066.272 | 0.000 | 0.000 | 13:30 | 900.000 / 1100.000 |

# Lotix Report: Samples Schedule

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 40.000 | 41.78451 | 1044.613 | 22066.272 | 38.314 | 05:09 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 13:35 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:27 |
| 2 | TC | | | | | | 03:08 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251114 Composite G 45-159 | 30404.082 | 27038.518 | 1037.532 | 3.412 | 13:42 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.320 | 41.10180 | 31137.728 | 22125.349 | 46.314 | 11:50 |
| 2 | TC | 2.050 | 60.82439 | 29670.435 | 31951.688 | 40.351 | 06:15 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:01 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:56 |
| 2 | TC | | | | | | 02:52 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251115 Composite H 45-159 | 27927.104 | 35327.738 | 1285.505 | 4.603 | 14:07 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.290 | 66.03465 | 28836.093 | 34547.583 | 47.745 | 13:26 |
| 2 | TC | 2.560 | 69.16637 | 27018.114 | 36107.892 | 44.024 | 09:31 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 14:30 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 15:40 |
| 2 | TC | | | | | | 02:57 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251116 Composite J 45-159 | 31851.238 | 33354.763 | 219.026 | 0.688 | 14:49 | 1647.298 |

# Lotix Report: Samples Schedule

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.600 | 51.20978 | 32006.112 | 27161.423 | 44.887 | 12:11 |
| 2 | TC | 2.400 | 76.07127 | 31696.363 | 39548.103 | 40.045 | 05:50 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 15:08 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:59 |
| 2 | TC | | | | | | 02:36 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251117 Composite K 45-159 | 32189.946 | 44520.190 | 3893.795 | 12.096 | 15:13 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.280 | 79.67067 | 34943.274 | 41341.421 | 43.683 | 10:57 |
| 2 | TC | 3.140 | 92.43098 | 29436.617 | 47698.959 | 41.719 | 05:17 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 15:30 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 02:58 |
| 2 | TC | | | | | | 02:49 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251014A 2A 45-170 | 32423.349 | 32827.223 | 1465.064 | 4.519 | 15:36 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 2.410 | 75.64361 | 31387.392 | 39335.032 | 44.138 | 10:30 |
| 2 | TC | 1.480 | 49.51977 | 33459.305 | 26319.414 | 40.835 | 06:22 |

| Sample Type | ID | | | | Start-Time |
|---|---|---|---|---|---|
| Clean | Clean | | | | 15:54 |

| Rep # | Analysis Type | | | | | | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | | | | | | 03:30 |
| 2 | TC | | | | | | 02:31 |

| Sample Type | ID | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|
| Sample (TC) | 20251014B 2B 45-170 | 31179.016 | 30610.503 | 662.057 | 2.123 | 16:00 | 1647.298 |

| Rep # | Analysis Type | Weight mg (Volume µl) | µg | µg/g (ppm) | NDIR (ABS) | Baseline (ABS) | Run Time (mm:ss) |
|---|---|---|---|---|---|---|---|
| 1 | TC | 1.830 | 57.91431 | 31647.162 | 30501.802 | 43.554 | 10:53 |
| 2 | TC | 1.900 | 58.35066 | 30710.871 | 30719.204 | 40.926 | 06:34 |

| Sample Type | | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|---|
| Clean | | Clean | | | | | 16:18 |
| **Rep #** | **Analysis Type** | | | | | | **Run Time (mm:ss)** |
| 1 | TC | | | | | | 02:54 |
| 2 | TC | | | | | | 02:52 |

| Sample Type | | ID | | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Blank Contrib |
|---|---|---|---|---|---|---|---|---|---|
| Sample (TC) | | 20251014C 2C 45-170 | | 31951.341 | 31970.156 | 4376.596 | 13.698 | 16:24 | 1647.298 |
| **Rep #** | **Analysis Type** | **Weight mg (Volume µl)** | **µg** | **µg/g (ppm)** | **NDIR (ABS)** | **Baseline (ABS)** | **Run Time (mm:ss)** | | |
| 1 | TC | 1.670 | 58.52692 | 35046.062 | 30807.025 | 43.340 | 10:03 | | |
| 2 | TC | 2.190 | 63.19600 | 28856.620 | 33133.287 | 41.412 | 06:47 | | |

| Sample Type | | ID | | | | | Start-Time |
|---|---|---|---|---|---|---|---|
| Clean | | Clean | | | | | 16:41 |
| **Rep #** | **Analysis Type** | | | | | | **Run Time (mm:ss)** |
| 1 | TC | | | | | | 02:54 |

| Sample Type | | ID | | µg/g (ppm) | ABS | Std Dev | %RSD | Start-Time | Min/Max |
|---|---|---|---|---|---|---|---|---|---|
| Chk Std (TC) | | 1000.0000 ppmC | | 1037.275 Passed | 21920.044 | 11.166 | 1.076 | 16:44 | 900.000 / 1100.000 |
| **Rep #** | **Analysis Type** | **Weight mg (Volume µl)** | **µg** | **µg/g (ppm)** | **NDIR (ABS)** | **Baseline (ABS)** | **Run Time (mm:ss)** | | |
| 1 | TC | 40.000 | 41.33555 | 1033.389 | 21842.587 | 37.942 | 04:51 | | |
| 2 | TC | 40.000 | 41.14287 | 1028.572 | 21746.590 | 39.889 | 04:56 | | |
| 3 | TC | 40.000 | 41.99462 | 1049.865 | 22170.954 | 40.429 | 04:49 | | |

# Calibration Curve

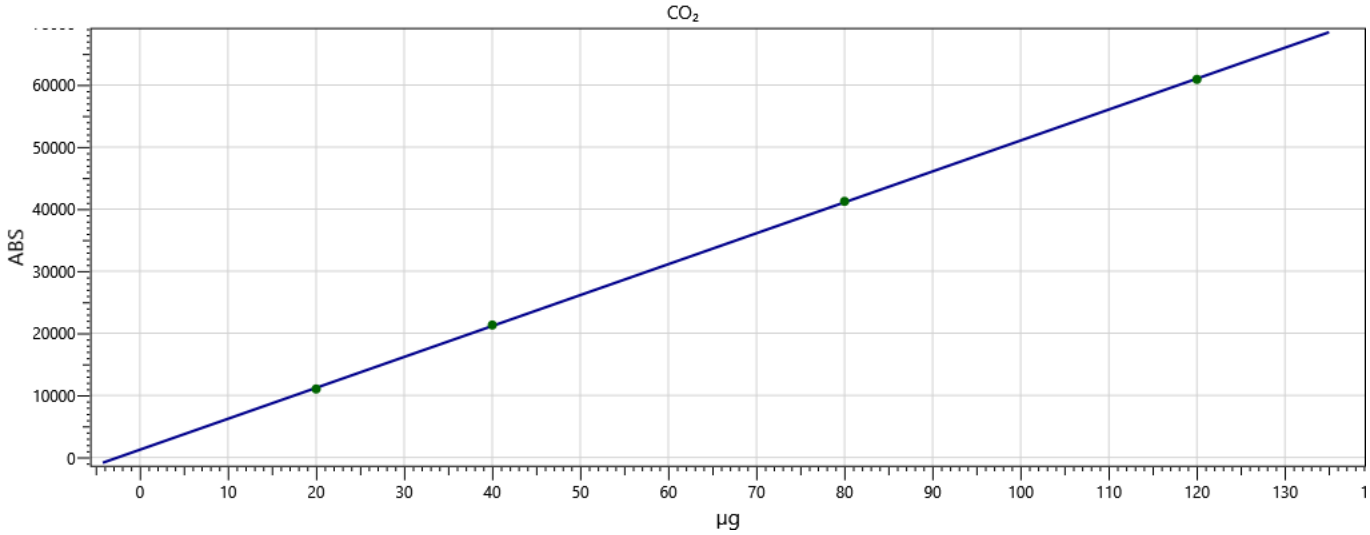
**Date:** 12/16/2025 9:25:59 AM
**Instrument Name:** Lotix - 1
**Method:** Solids TC
**Schedule:** from schedule 121625 STD
**Sample ppm Calculation Uses:** Latest Method Blank
**Software Ver:** 3.3.7431.18150
**Sample Source:** Solids Module

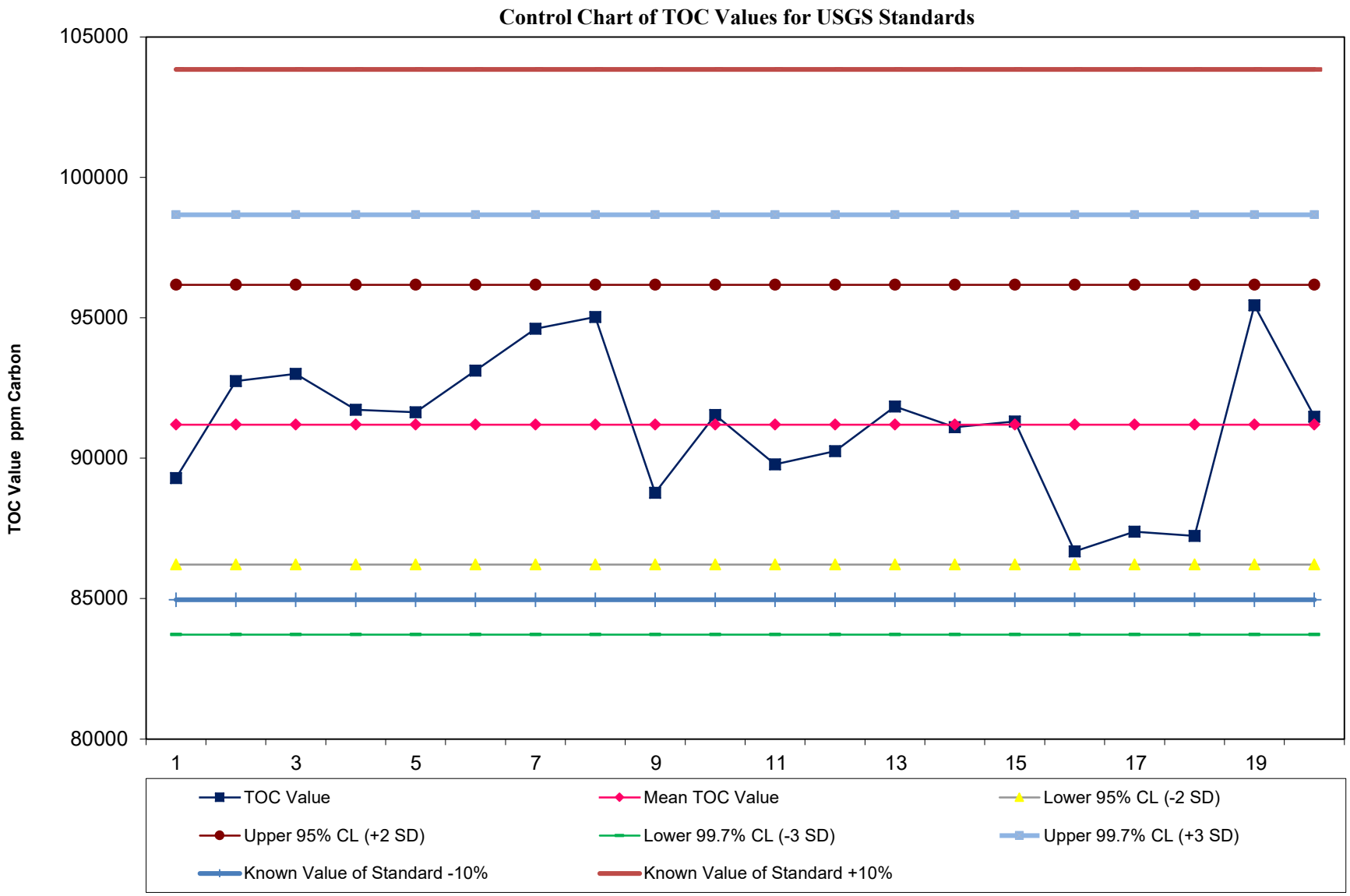
## TC

**Linear Curve:** y = 498.228x + 1248.078
**Coefficient of Determination ($r^2$):** 0.99994

## Standard Results

| Actual µgC/g (ppmC) | Weight mg (Volume µl) | µg | ABS | Measured µgC | When |
|---|---|---|---|---|---|
| 500.00 | 40.000 | 20.00000 | 11029.072 | 19.63158 | 12/16/2025 8:49:32 AM |
| 1000.00 | 40.000 | 40.00000 | 21332.486 | 40.31171 | 12/16/2025 9:00:51 AM |
| 2000.00 | 40.000 | 80.00000 | 41254.569 | 80.29763 | 12/16/2025 9:11:47 AM |
| 3000.00 | 40.000 | 120.00000 | 60915.355 | 119.75908 | 12/16/2025 9:22:45 AM |






(Updated: 12/22/25)