

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the South Fork Wind Farm Site Assessment

DATA REPORT

*Survey Conducted November 11-15, 2017
and November 20, 2018*

Prepared for:



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and

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LIST OF ACRONYMS

BOEM	Bureau of Ocean Energy Management
CMECS	Coastal and Marine Ecological Classification Standard
COP	Construction and Operations Plan
DSLR	Digital single-lens reflex
DWSF	Deepwater Wind South Fork
Fugro	Fugro Marine GeoServices, Inc.
FGDC	Federal Geographic Data Committee
G&G	Geological and Geophysical
GPS	Global Positioning System
INSPIRE	INSPIRE Environmental, LLC
NEF	Nikon Electronic Format
OCS	Outer Continental Shelf
OSS	Offshore Sub-station
PSD	Photoshop Document
PV	Plan View
R/V	Research Vessel
SFEC	South Fork Export Cable
SFEC-NYS	South Fork Export Cable - New York State
SFEC-OCS	South Fork Export Cable - Outer Continental Shelf
SFWF	South Fork Wind Farm
SPI	Sediment Profile Imaging
WTG	Wind Turbine Generator

EXECUTIVE SUMMARY

As part of Fugro's Geological and Geophysical survey for the South Fork Wind Farm (SFWF), proposed by Deepwater Wind South Fork (DWSF), scientists from INSPIRE Environmental performed combined Sediment Profile and Plan View Imaging (SPI/PV) surveys at stations inside the SFWF, along the proposed South Fork Export Cable (SFEC), and at reference stations. The SPI/PV surveys provide an interpretive assessment of discrete sampling stations to support interpretation of the remote sampling of the Geological and Geophysical (G&G) surveys.

The SFWF is near Cox Ledge on the southern New England outer continental shelf. To ground-truth the sediment types, bedform dynamics, and presence of sensitive habitats and taxa in the SFWF and along the SFEC, the Fugro/INSPIRE project team designed a survey of 98 stations within the SFWF, 60 stations along the SFEC, and three stations within a potential reference area to the east of the SFWF. The reference stations may be compared with stations inside the SFWF in the future if needed. A total of 161 SPI/PV stations were sampled throughout the project. A 141-station SPI/PV survey was conducted November 11-15, 2017 aboard the vessel *R/V Fugro Enterprise* and a 20-station SPI/PV survey was conducted on November 20, 2018 aboard the vessel *R/V Jamie Hanna*.

Four primary spatial areas were considered for interpretation purposes: the SFWF, the section of the SFEC that is in Federal waters on the outer continental shelf (SFEC-OCS), the section of the SFEC that is within New York State waters (SFEC-NYS), and the reference station area to the east of the SFWF. Interpretation of the SPI/PV data provided detail on the physical sediment characteristics. Sediments within the SFWF were spatially heterogenous ranging from fine silt/clay to cobbles and boulders on sand. This range of grain-sizes is typical of OCS glacial moraine depositional environments that include Holocene marine transgressive deposits. The physical sediment characteristics within the SFEC-OCS and SFEC-NYS were spatially heterogenous with types ranging from fine silt/clay to pebbles and pebbles on sand. SFEC-OCS Stations immediately adjacent to the SFWF were more heterogenous than the remainder of the SFEC, with larger grain-sizes occasionally present within and close to the SFWF. The sediment-water interface was often shaped by physical activity within the surveyed area. The physical sediment characteristics within the reference area were spatially heterogenous ranging from silt/clay to large cobbles.

The dominant Coastal and Marine Ecological Classification Standard (CMECS) Biotic Subclass across the SFWF was Soft Sediment Fauna. Attached Fauna were present as the CMECS Biotic Subclass or Co-occurring Biotic Subclass at approximately one-third of the stations sampled within the SFWF. Attached Fauna were present as the Co-occurring Biotic Subclass at six of the stations sampled along the SFEC-OCS but were not present along the SFEC-NYS. Sensitive taxa were not observed in the SFWF, along the SFEC, or at the reference area.

Collection of SPI/PV imagery from the reference stations provided data on pre-construction physical and biological conditions outside the SFWF at standard distance intervals. These data

may be used to support a baseline reference to evaluate future construction and operation impacts to the benthic environment. Results indicate that the surficial sediments and Biotic Subclasses in the reference area proved to be representative of those found in the SFWF and along the SFEC.

The results and images from this survey will allow accurate ground-truthing of G&G survey results and establishment of a baseline of both large- and small-scale physical and biological features within the SFWF and along the SFEC. These results will also allow Fugro to broadly communicate the results of the G&G survey using seafloor and seabed images of pre-development conditions. Contributions from this survey will provide valuable information to address the Bureau of Ocean Energy Management (BOEM) guidelines and regulations, as well as stakeholder concerns.

The primary conclusions of the SPI/PV survey were:

1. Surficial sediments were spatially heterogenous with some layering of coarse mobile sediment over finer sediments (and fine over coarse), within the upper few centimeters of the sediment column. These results suggest small-scale sediment transport dynamics sufficient to transport sand in bedload across habitats that also periodically receive deposition of fine sediments, evident as thin surface deposits of fine-grained and organic-rich material.
2. Sediments observed within the SFWF were more varied than along the SFEC and in the reference area, due largely to variable and highly patchy coverage of very coarse grains, ranging from granules to boulders, throughout the SFWF. No rock outcrops were observed, but boulders were present with very patchy distribution in and near the SFWF and the reference area.
3. Rippled sand and gravelly sands were prevalent along the SFEC and in the SFWF. These sands are likely influenced by tidal energies as well as by storm events. Ripples were the primary bedform observed in the SPI/PV data throughout the surveyed area, indicating frequent small-scale physical forcing at the seafloor surface.
4. Areas near the northern boundary and from northwest corner through the center to the far eastern edge of the SFWF were generally characterized by finer sands, limited presence of gravel, low relief bedforms, and the absence of attached fauna.
5. Patchy presence of cobbles and boulders with attached fauna indicate that there is likely greater relative areal coverage of these features than was captured in SPI/PV images. Presence of these features should be considered in construction micro-siting, operation planning and related monitoring.
6. Soft Sediment Fauna was the dominant CMECS Biotic Subclass observed, characterized by infaunal burrows and occasional tubes and by sand dollars and mobile epifauna.

7. Sensitive taxa were not observed in the SPI/PV data collected at the SFWF, along the SFEC, or at the reference area.

8. The physical and biological characteristics of the reference area were within similar ranges observed across the SFWF and SFEC and may be used to support future monitoring efforts and serve as a baseline for comparison to changes that may occur as a result of construction and operation at the SFWF.

1.0 INTRODUCTION

1.1 South Fork Wind Farm Geological & Geophysical Investigations Background

Deepwater Wind South Fork, LLC (DWSF) and the United States Department of Interior's Bureau of Ocean Energy Management (BOEM) executed a commercial lease for the development of a wind energy installation in the Outer Continental Shelf (OCS) waters offshore Rhode Island and Massachusetts (Lease OCS-A 0486, effective October 1, 2013). DWSF awarded Fugro Marine GeoServices, Inc. (Fugro) the Geological & Geophysical (G&G) investigations as part of the preparation of the Construction and Operation Plan (COP) for the Lease Area. The South Fork Wind Farm (SFWF) will be located within the Lease Area and will consist of up to 16 wind turbine generators (WTGs), one offshore sub-station (OSS), inter-array cables and an export cable from the OSS to a location on Long Island, NY (Figure 1-1). The WTGs would be placed on monopile foundations. The water depths measured by Fugro in the surveyed area were in the range of 30- 45 meters mean lower low water. Based on available information from neighboring sites, the expected stratigraphy in the survey area may be comprised of dense to very dense silica sand with thick layers of very stiff to hard clay at around 20 m below seafloor. The data available for the SFWF area suggest that the surficial sediment cover is comprised of mostly sandy sediments with some areas of coarser material (gravel or small cobble) and boulder fields, but there is very little site-specific data available (McMaster, 1960; Poppe et al., 2014; McMullen et al., 2009; LaFrance et al., 2010).

The southern New England OCS is an ideal area for offshore wind exploration and development. A slowly sloping shelf in concert with relatively high average wind conditions and large urban population centers provide a prime location for offshore wind energy production. BOEM has produced regulations and guidelines for preparing a COP for the proposed development of all offshore wind projects in U.S. Federal waters. The SPI/PV survey was conducted to provide Fugro and DWSF with data contributing to:

- BOEM's Guidelines for Information Requirements for a Renewable Energy Construction and Operation Plan (COP) (BOEM, 2016),
- Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585 (BOEM, 2015),
- Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585, prepared by BOEM July 2015 and March 2017 (BOEM, 2017), and
- Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 (BOEM, 2013).

Fugro conducted the G&G survey and sub-contracted INSPIRE Environmental to conduct a sediment profile and plan view imaging (SPI/PV) survey to provide fine-scale ground-truthing of G&G survey data. SPI/PV is a proven technique to document baseline benthic conditions

(physical and biological) as well as any pre-existing pollution or other environmental damage (Germano et al., 2011). This approach can accurately detect and document changes in sediment profiles due to alteration of sedimentary structures resulting from exploration, construction, and operation activities. Furthermore, the imagery is well-suited to inform constituents and stakeholders of baseline and post-construction/operation conditions using a photographic format. These capabilities allow the SPI/PV survey to provide fine-scale ground-truthing of geological and geophysical survey data. SPI/PV imagery is also accepted by BOEM for supporting biological surveys. INSPIRE used the imagery to support Deepwater Wind's Block Island Wind Farm project in RI State waters during pre-construction, construction, and post-construction biological and benthic monitoring (Deepwater Wind, 2012; INSPIRE, 2016; INSPIRE, 2017a).

INSPIRE Environmental scientists conducted a 161-station SPI/PV survey within the SFWF, along the South Fork Export Cable (SFEC), and at potential reference stations east of the SFWF on the southern New England OCS (Figure 1-2). The 161 stations across the three survey areas are jointly referred to as the 'surveyed area' throughout the report. Four primary spatial areas were considered for interpretative purposes: the SFWF, the section of the SFEC that is in Federal waters on the OCS (SFEC-OCS), and the section that is within New York State waters (SFEC-NYS), and the reference area to the east of the SFWF (Figures 1-3 and 1-4). The survey was conducted in partnership with Fugro and contributed to Fugro's COP Survey for its client, DWSF. The SPI/PV survey was conducted November 11-15, 2017 aboard the vessel *R/V Fugro Enterprise* and on November 20, 2018 aboard the vessel *R/V Jamie Hanna*.

1.2 Project Objectives

The purpose of the SPI/PV survey was to provide data about surficial sediments that can be used to ground-truth interpreted geological and geophysical data from the Fugro G&G survey at the SFWF and along the SFEC. Results from the SPI/PV survey are intended to contribute to DWSF's ability to satisfy multiple BOEM COP guidelines. This SPI/PV study provides a secondary line of data for the assessment of the physical, geological, and biological conditions of the surficial sediments within the study area. Pursuant to several BOEM guidelines (2013), the Coastal and Marine Ecological Classification Standard (CMECS) (Federal Geographic Data Committee [FGDC], 2012) was used to classify surficial sediments and associated fauna. "The Coastal and Marine Ecological Classification Standard (CMECS) is a catalog of terms that provides a means for classifying ecological units using a simple, standard format and common terminology. CMECS offers a way to organize and interpret data about the marine environment, and it provides a common platform for inter-relating data. It builds upon approaches from published national, regional, and local habitat classification procedures, and it offers an umbrella under which a national coastal and marine ecological classification can grow and evolve". (FGDC, 2012)

The specific objectives of this SPI/PV survey, derived in part from BOEM G&G guidelines (BOEM, 2015), were to occupy and sample stations within the proposed development site and at a potential reference area to:

- Identify surficial seafloor conditions
 - Identification/confirmation of rock outcrops and boulders
 - Identification of bedforms
 - Identification of distinct horizons in subsurface sediments
 - Identify occurrence of notable features such as corals, gas seepage, clay, silt, sand, gravel, cobbles, rock, and hardground with very dense or consolidated sediments.
- Classify sediment types
 - Grain size major mode on the phi scale, expressed in phi units of the Udden-Wentworth classification system and classified to the CMECS Substrate Subgroup (SPI)
 - Surface sediment composition classified to the CMECS Substrate Group level (PV)
- Identify potentially sensitive seafloor habitats, such as corals, submerged aquatic vegetation beds, and valuable cobble and boulder habitat (BOEM, 2013). Cobble and boulder habitat can serve as nursery ground for juvenile lobster and as preferable habitat for squid to deposit their eggs. Both lobster and squid are specific in their habitat requirements and are also economically important species in New England. For these reasons, federal and state agencies consider evidence of these taxa to indicate potentially sensitive habitats.

SPI/PV parameters collected as part of this survey were 'mapped' to corresponding BOEM guidelines (BOEM, 2013; 2015) (Table 1-1.). This allows for a clear representation of how data collected as part of this survey contribute to the completion of the SFWF COP and satisfaction of BOEM recommended guidelines.

Table 1-1. SPI/PV Survey Parameters with Corresponding BOEM COP Requirements and Guidelines

Equipment	Parameter	BOEM COP Guideline
SPI	Grain Size	Grain size analysis Classification of CMECS sediment type Identification of distinct horizons in subsurface sediment
	Penetration Depth	Classification of sediment type
	Boundary Roughness	Identification of rock outcrops and boulders Identification of bedforms
PV	Sediment Type	Identification of rock outcrops and boulders Classification of CMECS sediment type Identification of bedforms
	Bedform	Identification of bedforms
	Boulder Presence	Identification of rock outcrops and boulders Identification of bedforms
	CMECS Biotic Subclass	Identification of potentially sensitive seafloor habitat
	Sensitive Taxa	Identification of potentially sensitive seafloor habitat

2.0 METHODS

2.1 Field Data Collection and Methods

SPI/PV imaging is a monitoring technique used to provide data on the physical characteristics of the seafloor and the status of the benthic biological community (Germano et al., 2011). SPI has been shown to be a powerful reconnaissance tool that can efficiently map gradients in sediment type, biological communities, or disturbances from physical forces, anthropogenic input, or organic enrichment (Germano et al., 2011). Results and interpretations from SPI/PV data are about dynamic processes that have been deduced from imaged structures; as such, they should be considered hypotheses available for further testing/confirmation.

The 161-station SPI/PV survey (Figure 1-2) was conducted November 11-15, 2017 aboard the vessel *R/V Fugro Enterprise* and on November 20, 2018 aboard the vessel *R/V Jamie Hanna*. Although located outside of the final SFWF, results from Stations 201 and 202 are provided for regional context due to their proximity to the survey area. SPI/PV station locations are provided in Appendix A. The methodology for data acquisition and analysis for these images was consistent with the sampling methods described in detail in the INSPIRE standard operating procedures (INSPIRE, 2017b).

At each station, the vessel was positioned at the target coordinates and the camera was deployed within a defined station tolerance and replicate images were collected. Navigation for the November 2017 survey was provided by Fugro and for the November 2018 survey was provided by INSPIRE. Station positions were recorded onboard by documenting the GPS coordinates of the vessel each time the camera frame was determined to be in contact with the seafloor. Seafloor contact was determined visually when the winch cable was observed to go slack.

Within the SFWF and along the SFEC, a station tolerance of 7.5 meters was used. A minimum of four replicate image pairs (SPI and PV) were collected at each of these stations (Appendix B) and the three replicate images with the best quality (adequate prism penetration, no or minimal sampling artifacts) were selected for analysis (Appendices C and D). Station 101 is at the far eastern end of the SFEC and is located in the southwestern corner of the Maximum Work Area for the SFWF. For presentation of results this station is considered part of the SFEC-OCS; however, the spatial data for this station are best viewed on the maps presenting the SFWF results.

At the reference area to the east of the SFWF, a 300-m diameter watch circle was established at each station and six replicate image pairs were collected within the watch circle. The five replicates with the best quality images from each station were chosen for analysis (Appendices C and D). Two stations sampled in November 2017 survey (Stations C01 and C02) were sampled as reference stations as they were east of the SFWF defined at the time. Subsequent to conducting the 2017 surveys, the SFWF was expanded. Results from all 5 replicates analyzed at Stations C01 and C02 are included with the results for the SFWF.

2.1.1 Sediment Profile Imaging

The SPI technique involves deploying an underwater camera system to photograph a cross-section of the sediment–water interface. High-resolution SPI images were acquired using a Nikon® D7100 digital single-lens reflex (DSLR) camera mounted inside an Ocean Imaging® Model 3731 pressure housing. The pressure housing sat atop a wedge-shaped steel prism with a plexiglass front faceplate and a back mirror, that was mounted at a 45° angle. The camera lens looked down at the mirror, which reflected the image from the faceplate. The prism had an internal strobe mounted inside at the back of the wedge to provide illumination for the image; this chamber was filled with distilled water, so the camera always had an optically clear path. The descent of the prism into the sediment was controlled by a hydraulic piston. As the prism penetrated the seafloor, a trigger activated a time-delayed circuit that fired the internal strobe to obtain a cross-sectional image of the upper 15–20 cm of the sediment column (Figure 2-1). The camera remained on the seafloor for approximately 20 seconds to ensure that successful images were obtained.

Test exposures of a Color Calibration Target were made on deck at the beginning of the survey to verify that all internal electronic systems were working to design specifications and to provide a color standard against which final images could be checked for proper white balance. Test images were also captured to confirm proper camera settings for site conditions. For this survey, the ISO-equivalent was set at 640, shutter speed was 1/250, and the f-stop was f11. Images were stored in compressed raw Nikon Electronic Format (NEF) files (approximately 30 MB each). Images were checked periodically throughout the survey to confirm that the initial camera settings were still resulting in the highest quality images possible. All camera settings and any setting changes were recorded in the field log (Appendix B). Details of the camera settings for each digital image also are available in the associated parameters file embedded in each electronic image file.

Whenever the camera was brought back on board (typically every fifth to eight stations during the November 2017 survey and after every station during the November 2018 survey), the frame counter was checked to ensure that the requisite number of replicates had been obtained. In addition, a prism penetration depth indicator on the camera frame was checked to verify that the optical prism had penetrated the bottom to a sufficient depth. If images were missed or the penetration depth was insufficient, the camera frame stop collars were adjusted and/or weights were added or removed, and additional replicate images were taken. Such adjustments were not necessary during this survey, a stop collar setting of 18 inches and 5 weights per side were used on the camera frame for all images collected. Frame counts, time of image acquisition, water depth, frame stop-collar position, and the number of weights used were recorded in the field log for each replicate image (Appendix B). Visual checks and hand tightening checks of all nuts and bolts on the SPI/PV camera frame were conducted periodically to make sure nothing vibrated loose during the survey.

Prior to field operations, the internal clock in the digital SPI system was synchronized with the vessel's navigation. Each image was assigned a unique time stamp in the digital file attributes

by the camera's data logger and cross-checked with the time stamp in the navigation system's computer data file. Images were downloaded periodically to verify successful sample acquisition and/or to assess the type(s) of sediment and other relevant features present at a given station. Digital image files were renamed with the appropriate station names immediately after downloading as a further quality assurance step.

2.1.2 Plan View Imaging

An Ocean Imaging® Model DSC24000 plan view underwater camera system with two Ocean Imaging® Model 400-37 Deep Sea Scaling lasers was attached to the sediment profile camera frame and used to collect plan view images of the seafloor surface. Both SPI and PV images were collected during each "drop" of the system. The PV system consisted of a Nikon® D-7100 DSLR camera encased in a pressure housing, a 24 VDC autonomous power pack, a 500 W strobe, and a bounce trigger. A weight was attached to the bounce trigger with a stainless-steel cable so that the weight hung below the camera frame; the scaling lasers projected two red dots that were separated by a constant distance (26 cm) regardless of the field of view of the PV system. The field of view can be varied by increasing or decreasing the length of the trigger wire and, thereby, the camera height above the bottom when the picture is taken. As the SPI/PV camera system was lowered to the seafloor, the weight attached to the bounce trigger contacted the seafloor prior to the camera frame reaching the seafloor and triggered the PV camera (Figure 2-1).

During set-up and testing of the PV camera, the positions of lasers on the PV camera were checked and calibrated to ensure separation of 26 cm. Test images were also captured to confirm proper camera settings for site conditions. For this survey, the ISO-equivalent was set at 640, shutter speed was 1/15; the shutter speed and aperture were both adjusted a couple times on the first day before selecting the following for the remainder of the survey: a shutter speed of 1/15, an aperture f18. Images were stored in compressed raw NEF files (approximately 30 MB each). Images were checked periodically throughout the survey to confirm that the initial camera settings were still resulting in the highest quality images possible. All camera settings and any setting changes were recorded in the field log (Appendix B). Details of the camera settings for each digital image also are available in the associated parameters file embedded in each electronic image file.

Prior to field operations, the internal clock in the digital PV system was synchronized with the vessel's navigation system and the SPI camera. Each image was assigned a unique time stamp in the digital file attributes by the camera's data logger and cross-checked with the time stamp in the navigation system's computer data file. In addition, the field crew kept redundant written sample logs (Appendix B). Throughout the survey, PV images were downloaded at the same time as SPI images and were evaluated for successful image acquisition and image clarity. Digital image files were renamed with the appropriate station names immediately after downloading as a further quality assurance step.

The ability of the PV system to collect usable images is dependent on the clarity of the water column. Water conditions during this survey allowed use of a 0.9 m trigger wire, resulting in a mean image width of 1.0 m and a mean field of view of 0.6 m².

2.1.3 Image Conversion and Calibration

Following completion of field operations, quality control checks were conducted of filenames, date/time stamps, and the field log. After these procedures, the NEF raw image files were color calibrated in Adobe Camera Raw® by synchronizing the raw color profiles to the Color Calibration Target that was photographed prior to field operations with the SPI camera. The raw SPI and PV images were then converted to high-resolution Photoshop Document (PSD) format files, using a lossless conversion file process and maintaining an Adobe RGB (1998) color profile. The PSD images were then calibrated and analyzed in Adobe Photoshop®. Length and area measurements were recorded as number of pixels and converted to scientific units using the calibration information.

2.1.4 SPI and PV Data Analysis

Computer-aided analysis of SPI/PV images provided a set of standard measurements to allow comparisons among different locations and surveys.

Measured parameters for SPI and PV images were recorded in Microsoft Excel® spreadsheets. These data were subsequently checked by INSPIRE's senior scientists as an independent quality assurance/quality control review before final image interpretation was performed. Spatial distributions of SPI/PV parameters were mapped using ESRI ArcGIS 10.5. Map backgrounds use a regional bathymetric mosaic compiled using NOAA Open File Report and/or client-provided bathymetric data (NOAA, 2019; Green et al., 2010).

2.2 Sediment Profile Image Analysis Parameters

The parameters discussed below were assessed and/or measured for each replicate SPI image. Descriptive comments were also made for each replicate image.

2.2.1 Sediment Type

Grain size major mode is defined as the grain size fraction that comprised the largest percentage of grain sizes observed within each image. The sediment grain-size major mode and range were visually estimated from the color images by overlaying a grain-size comparator that was at the same scale. This comparator was prepared by photographing a series of Udden-Wentworth size classes (equal to or less than coarse silt up to granule and larger sizes) with the SPI camera: silt-clay (>4 phi), very fine sand (4 to 3 phi), fine sand (3 to 2 phi), medium sand (2 to 1 phi), coarse sand (1 to 0 phi), very coarse sand (0 to -1 phi), and granule and larger (< 1 phi). The lower limit of optical resolution of the photographic system is about 62 microns, allowing recognition of grain sizes equal to, or greater than, coarse silt (>4 phi). The accuracy of this method has been documented by comparing SPI estimates with grain size statistics

determined from laboratory sieve analyses (Germano et al., 2011). Udden-Wentworth grain size classes are also applicable to CMECS Substrate¹ Subgroup classifications (Table 2-1).

The comparison of the SPI images with Udden-Wentworth sediment standards photographed through the SPI optical system was also used to map near-surface stratigraphy such as sand-over-mud and mud-over-sand, where observed. When mapped on a local scale, this stratigraphy can provide information on relative transport magnitude and frequency.

Intra-station sediment type heterogeneity was determined by comparing the sediment type of each replicate within each SPI/PV station. Sediment heterogeneity provides a qualitative measure of how variable sediment type is at small (several meter) scales within the surveyed area. Stations having different sediment types for each replicate were defined as having high sediment heterogeneity. Stations having the same sediment type at all replicates were defined as having low sediment heterogeneity.

2.2.2 Prism Penetration Depth

The SPI prism penetration depth was measured from the bottom of the image to the sediment-water interface. The area of the entire cross-sectional sedimentary portion of the image was digitized; the number of pixels within this area was divided by the calibrated linear width of the image to determine the mean penetration depth. Linear maximum and minimum depths of penetration were also measured. All three measurements (maximum, minimum, and mean penetration depths) were recorded in the data file.

If the stop collar settings and the number of weights used in the camera frame are held constant throughout the survey, the camera functions as a static-load penetrometer. Comparative penetration values from sites of similar grain size give an indication of the relative water content of the sediment. Highly bioturbated sediments and rapidly accumulating sediments tend to have the highest water contents and greatest prism penetration depths.

The depth of penetration also reflects the bearing capacity and shear strength of the sediments. Over-consolidated or relic sediments and shell-bearing sands resist camera penetration. Highly bioturbated, sulfidic, or methanogenic muds are the least consolidated and deep penetration is typical. Seasonal changes in camera prism penetration have been observed at the same station in other studies and are related to the control of sediment geotechnical properties by bioturbation (Rhoads and Boyer, 1982). The effect of water temperature on bioturbation rates appears to be important in controlling both biogenic surface relief and prism penetration depth (Rhoads and Germano, 1982).

¹ CMECS uses the term 'substrate' for both a geological substratum (a layer of sediment or rock) and for biological or anthropogenic substrates (solid surfaces on which plants or animals grow). For CMECS descriptions we adopt this convention, but for SPI descriptions of sediments we use the geological term, i.e., substratum.

2.2.3 Small-Scale Surface Boundary Topography

Surface boundary roughness was determined by measuring the vertical distance between the highest and lowest points of the sediment–water interface. The camera must be level to record accurate boundary roughness measurements. The surface boundary roughness (sediment surface relief) measured over the width of sediment profile images typically ranges from 0 to 4 cm and may be related to either physical structures (ripples, rip-up structures) or biogenic features (burrow openings, fecal mounds, foraging depressions). Biogenic roughness typically changes seasonally and is related to the interaction of bottom turbulence and bioturbation.

In sandy sediments, boundary roughness can be a measure of sand wave height. On silt–clay bottoms, boundary roughness values often reflect biogenic features such as fecal mounds or surface burrows. The size and scale of boundary roughness values can have dramatic effects on both sediment erodibility and localized oxygen penetration into subsurface sediments (Huettel et al., 1996).

2.3 Plan View Image Analysis Parameters

Plan view images provide a much larger field of view than SPI images and provide valuable information about the landscape ecology and sediment topography in the area where the pinpoint “optical core” of the sediment profile was taken (Figure 2-2). Unusual surface sediment layers, textures, or structures detected in any of the sediment profile images can be interpreted by considering the larger context of surface sediment features; i.e., whether a surface layer or topographic feature is a regularly occurring feature and typical of the seafloor in this general vicinity or an isolated anomaly. The scale information provided by the underwater lasers allows accurate density counts of attached epifaunal colonies, sediment burrow openings, or larger macrofauna or fish which may have been missed in the sediment profile cross section, as well as measurements of the percent cover of features of interest. Information on sediment transport dynamics and bedform wavelength is also available from PV image analysis.

2.3.1 Field-of-View

For each replicate PV image, the field of view was measured. The scale information provided by the underwater lasers allows accurate density counts of attached epifaunal colonies, sediment burrow openings, or larger macrofauna or fish which may not have been captured in the sediment profile cross section, as well as measurements of the percent cover or presence/absence of features of interest observed in the image.

2.3.2 Substrate Group/Sediment Type

Substrate² is defined in CMECS as the non-living materials that form an aquatic bottom or seafloor or that provide a surface (e.g., floating objects, buoys) for growth of attached biota.

² CMECS uses the term ‘substrate’ for both a geological substratum (a layer of sediment or rock) and for biological or anthropogenic substrates (solid surfaces on which plants or animals grow). For CMECS descriptions we adopt this convention, but for SPI descriptions of sediments we use the geological term, i.e., substratum.

Substrate may be composed of any substance, natural or manmade. Describing the composition of the substrate is a fundamental part of any ecological classification scheme. Substrate provides context and setting for many aquatic processes and it provides living space for benthic and attached biota. The Substrate Component (SC) is a characterization of the composition and particle size of the surface layers of the substrate; this component is designed to be compatible with a range of sampling tools (FGDC, 2012).

PV images were assigned one of eight Substrate Subgroups where gravel was present:

- Boulder - Geologic Substrate contains >80% Gravel, with a median Gravel size of 256 mm to <4,096 mm.
- Cobble - Geologic Substrate contains >80% Gravel, with a median Gravel size of 64 mm to <256 mm.
- Pebble - Geologic Substrate contains >80% Gravel, with a median Gravel size of 4 mm to <64 mm.
- Granule - Geologic Substrate contains >80% Gravel, with a median Gravel size of 2 mm to <4 mm.
- Sandy Gravel - Geologic Substrate is 30% to <80% Gravel, with Sand composing 90% or more of the remaining Sand-Mud mix.
- Gravelly Sand - Geologic Substrate is 5% to <30% Gravel, and the remaining Sand-Mud mix is 90% or more Sand.
- Slightly Gravelly Sand - Geologic Substrate is 0.01% to <5% Gravel, and the remaining Sand-Mud mix is 90% or more Sand.
- Where no gravel was present, one of three Substrate Groups were assigned:
 - Sand - Geologic Substrate surface layer contains no trace of Gravel and is composed of >90% Sand (particles 0.0625 mm to <2 mm in diameter).
 - Muddy Sand - Geologic Substrate surface layer contains no trace of Gravel and is composed of 50% to <90% Sand (particles 0.0625 mm to 2 mm in diameter); the remainder is composed of Mud (particles less than 0.0625 mm in diameter).
 - Sandy Mud - Geologic Substrate surface layer contains no trace of Gravel and is composed of 10% to <50% Sand; the remainder is composed of Mud (particles less than 0.0625 mm in diameter).

2.3.3 Boulders

The occurrence of boulders on the OCS of southern New England is often an indicator of the presence of glacial moraine. The CMECS size definition of boulders was utilized for this survey;

gravel larger than 256 mm. Sensitive taxa and attached fauna (e.g., hydroids, barnacles) are often associated with boulders. Further, the presence of boulders in mixed bottom types has been noted as an important feature for understanding the distribution of lobsters (*Homarus americanus*) and Jonah crab (*Cancer borealis*) in the region of the SFWF (Collie and King, 2016). The presence/absence of boulders in each replicate was noted.

2.3.4 Bedforms

Seafloor bedforms are indicative of seafloor hydrodynamics and are physical features visible on the surface of the seafloor. These features can give an indication of the physical energy of the system (ripples) or of biotic activity (feeding pits). Sediment bedforms such as sand waves, sand bars, and ripples develop as a response of the seafloor to hydrodynamic conditions. For example, short wavelength sediment ripples indicate mobile sands and active bedload transport. In contrast, soft silt/clay sediments often lack surficial bedforms and indicate quiescent depositional environments. The view of the seafloor provided in the PV images was (<1 m²), the scope of this view limits the ability to distinguish bedforms that exist over larger scales. Bedforms, where present, were noted in each replicate PV images.

2.3.5 CMECS Biotic Subclass

The Biotic Component of CMECS is a classification of the living organisms of the seabed and water column together with their physical associations at a variety of spatial scales. The Biotic Component is organized into a branched hierarchy of five nested levels: Biotic Setting, Biotic Class, Biotic Subclass, Biotic Group, and Biotic Community. The Biotic Subclass is a key CMECS classifier that presents valuable information about the surveyed area in terms of physical habitat and the potential presence of sensitive habitats or those that might otherwise preclude turbine installation; therefore, it was identified as a parameter for PV image analysis. Biotic Component classifications are defined by the dominance of life forms, taxa, or other classifiers in the observation. In the case of PV images dominance is assigned to the taxa with the greatest percent cover in the observational footprint (FGDC, 2012).

Biotic subclasses describe dominant biota at a coarse level. Within the Benthic/Attached Biota BC setting, there are eight classes, of which the Faunal Bed class is of most relevance to the OCS. Three subclasses fall under the Faunal Bed hierarchy: Attached Fauna, Soft Sediment Fauna, and Inferred Fauna. Inferred Fauna (e.g., tracks and trails, egg masses) are often present, but in this study, were primarily used to inform or confirm the selection of either the Attached or Soft Sediment fauna subclass. Although the Biotic Subclass is not directly based on sediment grain size distributions, it reflects them at the scale of relevance to the dominant fauna present, thus serving as an integrator of physical and biological characteristics of the seafloor. CMECS expressly states that “substrate type is such a defining aspect of the Faunal Bed class that CMECS Faunal Bed subclasses are assigned as physical-biological associations involving both biota and substrate (FGDC, 2012).”

Plan view images were assigned one of three biotic subclasses (definitions from FGDC, 2012):

- Attached Fauna – “Areas characterized by rock substrates, gravel substrates, other hard substrates, or mixed substrates that are dominated by fauna which maintain contact with the substrate surface, including firmly attached, crawling, resting, interstitial, or clinging fauna. Fauna may be found on, between, or under rocks or other hard substrates or substrate mixes. These fauna use pedal discs, cement, byssal threads, feet, claws, appendages, spines, suction, negative density, or other means to stay in contact with the (generally) hard substrate and may or may not be capable of slow movement over the substrate. Many attached fauna are suspension feeders and feed from the water column. Other attached fauna are benthic feeders, including herbivores, predators, detritivores, and omnivores.”
- Soft Sediment Fauna – “Areas that are characterized by fine unconsolidated substrates (sand, mud) and that are dominated in percent cover or in estimated biomass by infauna, sessile epifauna, mobile epifauna, mobile fauna that create semi-permanent burrows as homes, or by structures or evidence associated with these fauna (e.g., tilefish burrows, lobster burrows). These animals may tunnel freely within the sediment or embed themselves wholly or partially in the sediment. In many cases, they will regularly leave their burrows, and may move rapidly or swim actively after doing so, but any animal that creates a semi-permanent home in the sediment can be classified as Soft Sediment Fauna. These animals may also move slowly over the sediment surface but are not capable of moving outside of the boundaries of the classification unit within one day. Most of these fauna possess specialized organs for burrowing, digging, embedding, tube-building, anchoring, or locomotory activities in soft substrates.”
- IND – an indeterminate biotic subclass

The Biotic Component subclasses of Attached and Soft Sediment Fauna are excellent broad-brush tools for screening-level assessments of seafloor habitats for offshore wind development. Mapping proposed development areas with this CMECS classifier can highlight locations, that from a benthic habitat perspective, might be considered suitable for offshore wind development (Soft Sediment Fauna) and those that may be less suitable or require further detailed study to determine suitability (Attached Fauna). Depending on the results and scale of reconnaissance surveys, additional studies will likely be needed as specific siting alternatives are examined.

2.3.6 Sensitive Taxa

While multibeam echosounder and side scan sonar data provide high quality remote imaging of the seafloor, they do not provide adequate resolution for the identification of sensitive taxa. The image resolution of the SPI/PV survey allows for the identification of sensitive taxa. Sensitive seafloor habitats include corals, submerged aquatic vegetation beds, and valuable cobble and boulder habitat (BOEM, 2013). Cobble and boulder habitat can serve as nursery ground for juvenile lobster and as preferable benthic habitat for squid to deposit their eggs. Both lobster and squid are specific in their habitat requirements and are also economically important species

in New England. For these reasons, federal and state agencies consider evidence of these taxa to indicate potentially sensitive habitats. Taxa considered sensitive for this survey included corals, seagrasses, squid eggs, and American lobster. Presence/absence of each sensitive taxa was noted for each replicate PV image.

Table 2-1. CMECS Classification Levels Used in Analysis and Classifications for the SFWF Survey

CMECS Term	Scale of Classification	Classifications
<i>Geoform Component</i>		
Tectonic Setting	Site	Passive Continental Margin
Physiographic Setting	Site	Continental Shelf
Geoform Origin	Site	Geologic
<i>Substrate Component</i>		
Substrate Origin	Site	Geologic Substrate
Substrate Class	SPI/PV	Unconsolidated Mineral Substrate
+Substrate Subclass	SPI/PV	Fine Unconsolidated Substrate; Coarse Unconsolidated Substrate
+Substrate Group	PV	Sandy Mud; Muddy Sand; Sand; Slightly Gravelly; Gravelly Sand; Sandy Gravel; Boulder
+Substrate Subgroup	SPI	Silt-Clay; Very Fine Sand; Fine Sand; Medium Sand; Coarse Sand; Very Coarse Sand; Granule; Pebble; Cobble
<i>Biotic Component</i>		
Biotic Setting	SPI/PV	Benthic/Attached Biota
Biotic Class	SPI/PV	Faunal Bed
+Biotic Subclass	SPI/PV	Soft Sediment Fauna ; Attached Fauna

* Indicates variability within the surveyed area at this level of the hierarchy
Bold text indicates an overwhelming dominant classification across the surveyed area

3.0 RESULTS

A complete set of all the data measured and assessed from each analyzed SPI image is presented in Appendix C; data measured and assessed from each PV image are in Appendix D. Station summary data grouped by spatial area of interest (SFWF, SFEC-OCS, SFEC-NYS, the reference area) are presented in Tables 3-1 through 3-4. Sections 3.1 and 3.2 summarize results for the entire surveyed area. Section 3.3 reports results from the SFWF, Section 3.4 reports results from the SFEC-OCS, Section 3.5 reports results the SFEC-NYS, and Section 3.6 reports results from the reference area.

3.1 Types of Sediment and Bedforms Observed

Surface sediment types observed in both the SPI and PV images across the surveyed areas were diverse and spatially variable (Figures 3-1, 3-2, and 3-3). Sediments ranged from fine silt/clay to sand to scattered cobbles and boulders on sand (Figures 3-4, 3-5, and 3-6). Surficial sediments (up to 20 cm below the sediment–water interface) were assessed from SPI images and assigned phi size classes for the grain size major mode parameter (Appendix C). Many sediments imaged exhibited a surface layer of coarse sediment over a range of finer grain size classes. For interpretive purposes, these images have been aggregated into “coarse sediment over fine sediment” groupings, such as “Pebble over finer sediment”, “Granule over sand”, and “Very coarse sand over sand” (Table 3-5, Figure 3-7).

The larger field-of-view and aerial coverage of the PV images provided data on the composition of surface sediments, which were mixed in distribution. For example, the three replicate images from single stations in gravelly areas were often classified into two or three different CMECS Substrate categories (Tables 3-1b, 3-2b, and 3-3b) based on the variable percent cover of gravel (granule to boulder) visible on the seafloor surface (Figures 3-8 and 3-9). Rarely was a single gravel Substrate Group observed in all three replicate images. In contrast, where observed, Sand and Muddy Sand were typically the classifications for all three replicates (Tables 3-1b, 3-2b, and 3-3b, Figure 3-2). This suggests that gravels (granules to boulders) on the surface of the seafloor were more variable in space and coverage than were finer sandy sediments at the seafloor surface. However, variability was also evident sub-surface in the SPI images with numerous stations exhibiting high or medium sediment type heterogeneity, i.e., two or three replicate images within a station captured different grain size categories (Table 3-5, Figure 3-3).

The prism penetration measurement provides additional information about the bearing capacity and shear strength of sediments sampled. The camera frame stops and weights were held constant throughout the survey; therefore, all prism penetration values are directly comparable. Penetration depth range is not strictly controlled by grain size but is also influenced by compaction/porosity as well as infaunal bioturbation. Penetration values across the surveyed areas ranged from 0.0 cm to 17.2 cm, with a mean of 5.0 cm (Tables 3-1a, 3-2a, 3-3a, and 3-4a). The majority of stations contained medium to high load-bearing strength reflected in the relatively shallow prism penetration depths observed (<6 cm) (Figures 3-10 and 3-11). Numerous stations had low to medium bearing capacity reflected in prism penetration values

between 6 and 10 cm. Five stations (15, 156, 202, 203, 209) with more fine grain sizes had weaker bearing capacity reflected in deeper prism penetrations (Figures 3-10 and 3-11).

Bedforms observed on the sediment surface across the surveyed area included ripples, irregular short period ripples, and mounds/hummocks on low relief topography (Tables 3-1b, 3-2b, 3-3b, and 3-4b, Figure 3-12). Evident ripples indicate regular hydrodynamic forcing on the seafloor surface and were observed with high prevalence across the surveyed area and in a range of sediment types. For example, ripples were observed in sands as well as in gravelly sands (Figure 3-13). Ripples create small-scale topographic relief on the seafloor surface that subsequently influence sediment resuspension, deposition, and sorting. Gravels accumulate in the ripple troughs and ripple crests are composed of sand (Figure 3-13). Additionally, deposition of fine sediment grains and organic material in the ripple troughs is promoted by the structure of the ripple and flaser beds of silt/clay may be found subsurface having been buried by mobile sands (Figures 3-13 and 3-14).

Ripples were by far the most common bedform encountered in the PV images (Tables 3-1b, 3-2b, 3-3b and 3-4b, Figure 3-12). Also observed were short period irregular ripples, resulting from infrequent and irregular hydrodynamic forcing (Figure 3-15) and mounds and/or hummocks on low relief seafloor topography (Figure 3-16). In some cases, these mound/hummock features represent biogenic reworking of surface sediments that at one point in time were rippled. In many images the bedform could not be determined (i.e., indeterminate) due to turbidity in the water column or no clear evidence of bedforms visible in the PV image. Because bedforms exist at varied spatial scales, the identification of bedform was not always possible within the field-of-view of plan view images. Measurement of bedforms was also limited by the field-of-view of both the SPI and PV images (amplitude and wavelength respectively). To assess potential scour, the fine scale assessment of this survey should be compared to the landscape scale of multibeam and side-scan sonar surveys conducted by Fugro.

Small-scale surface boundary roughness measured in SPI images can indicate physical shaping activity related to bedforms and hydrodynamics as well as biological activities such as infaunal burrowing and fish foraging. Station mean boundary roughness across the surveyed area averaged 2.0 cm, with a range of 0.5 to 5.3 cm (Tables 3-1a, 3-2a, 3-3a and 3-4a, Figure 3-17). Physical forcing was the primary shaping variable on small-scale boundary roughness for the majority of the SPI images (Appendix C). Examples of physical boundary roughness related to each bedform observed are presented in Figures 3-13 through 3-16.

3.2 Type of Biota Observed

The CMECS Biotic Subclass of Soft Sediment Fauna was the dominant Biotic Subclass observed across the surveyed area (Tables 3-1b, 3-2b, 3-3b and 3-4b, Figure 3-18). This subclass is defined as “Areas that are characterized by fine unconsolidated substrates (sand, mud) and that are dominated in percent cover or in estimated biomass by infauna, sessile epifauna, mobile epifauna, mobile fauna that create semi-permanent burrows as homes, or by structures or evidence associated with these fauna (e.g., tilefish burrows, lobster burrows)” (see

Section 2.3.5 for a full definition). Observations of the Soft Sediment Fauna Subclass typically were present in the form of infaunal tubes and burrows visible at the sediment–water interface, epifaunal tracks, and pits created by fish foraging on the soft sediment taxa living on and in surficial sediments (Figures 3-19 and 3-20). Sand dollar beds were also observed in some locations (Figure 3-21, Appendix D).

The CMECS Biotic Subclass of Attached Fauna was also observed in the surveyed area, present as either the dominant Subclass for a PV image or, more often, as the Co-occurring Biotic Subclass present (Tables 3-1b, 3-2b, 3-3b and 3-4b, Figure 3-22). This subclass is defined as “Areas characterized by rock substrates, gravel substrates, other hard substrates, or mixed substrates that are dominated by fauna which maintain contact with the substrate surface, including firmly attached, crawling, resting, interstitial, or clinging fauna” (see Section 2.3.5 for a full definition). The primary taxa observed within this subclass were barnacles (or evidence of barnacles that had been grazed by fish), bryozoans, hydroids, and occasional anemones (Figure 3-23).

Cobbles and boulders can provide habitat for a diverse range of taxa and serve as valuable habitat for juvenile lobsters and as a place for squid to lay their eggs. No sensitive taxa were observed in the SPI and PV images captured across the surveyed area (Tables 3-1 through 3-4, Figure 3-24).

3.3 South Fork Wind Farm (SFWF)

Ninety-eight SPI/PV stations were sampled within the SFWF (Figure 1-3). Surficial sediment types varied throughout in the SFWF with observed grain size classes ranging from fine silt/clay to cobbles and boulders on sand (Figures 3-25, 3-26, 3-27, and 3-28). Spatial heterogeneity in sediment type was high on small- and area-wide scales, with variability among replicates at stations as well as among stations (Figures 3-25, 3-26, and 3-27). Intra-station heterogeneity of primary sediments was more apparent in SPI images (Figure 3-27), which provided the ability to more accurately and finely categorize sediment types. Small scale variation within and among stations was widespread throughout the SFWF with a number of stations exhibiting high or medium sediment type heterogeneity, i.e., two or three replicate images captured different grain size categories (Table 3-1a, Figure 3-27). Stations with high intra-station sediment type heterogeneity were found primarily in the middle, southwest quadrant, and along the eastern side of the SFWF (Figure 3-27). Bands of finer sediments were evident near the northern boundary of the SFWF where many stations were fine sand and silt/clay and from northwest corner through the center to the far eastern edge of the SFWF where sediments were primarily medium and fine sands (Figure 3-25). These same stations were generally classified as Muddy Sand or Sand in the PV images (Table 3-1b, Figure 3-26). This band of finer grained sediments is most easily identified as all entirely brown, i.e., Muddy Sand, stations in the PV substrate classification map (Figure 3-26). Stations (14, 15, and 202) located in a topographic depression at the north center of the SFWF were composed entirely of very fine sand and silt/clay. Boulders were observed at five stations across the SFWF with no apparent spatial clustering (Figure 3-28).

Station mean prism penetration values within the SFWF ranged from 0.0 to 17.2 cm, with an average of 5.0 cm (Table 3-1a). The majority of stations contained medium to high load-bearing strength reflected in the relatively shallow prism penetration depths observed (<6 cm) (Figure 3-29). Numerous stations had low to medium bearing capacity reflected in prism penetration values between 6 and 10 cm. Four stations (15, 202, 203, 209) had weaker bearing capacity reflected in deeper prism penetrations (mean of 17.2 cm) (Table 3-1a, Figure 3-29).

Ripples were the predominant bedform observed across the SFWF (Table 3-1b, Figure 3-30). Irregular short period ripples and mound/hummocks on low relief topography were primarily observed in areas characterized by finer-grained sediments found near the northern boundary of the SFWF and from northwest corner through the center to the far eastern edge of the SFWF (Figure 3-30). Station mean small-scale surface boundary roughness ranged from 0.5 to 5.3 cm, with a mean of 2.2 cm (Table 3-1a). Lower values of boundary roughness were concentrated at the northern end, a section characterized by lower amplitude bedforms, and toward the center of the site where ripples were observed (Figures 3-30 and 3-31). Physical forcing was the primary shaping variable on small-scale boundary roughness for the majority of images (Appendix D).

With the exception of four stations (7, 63, 204, 215), the dominant CMECS Biotic Subclass across the SFWF was Soft Sediment Fauna (Figure 3-32). Cobbles and/or boulders with attached fauna covered the majority of the PV field-of-view in at least one replicate image at Stations 7, 63, 204, and 215; and in one image at Station 63 widespread presence of *Polymastia sp.* sponge indicated presence of cobbles or boulders covered with a thin layer of sand (Figure 3-33). Attached Fauna were present as the CMECS Biotic Subclass or Co-occurring Biotic Subclass at approximately one-third of the stations sampled within the SFWF (Table 3-1b, Figure 3-34). Attached fauna were generally absent from those stations near the northern boundary and from northwest corner through the center to the far eastern edge of the SFWF characterized by finer sands and limited presence of gravel. Sensitive taxa were not observed at any stations in the SFWF (Figure 3-35).

3.4 South Fork Export Cable (SFEC) – Outer Continental Shelf (OCS)

Fifty-four SPI/PV stations were sampled along the SFEC-OCS (Figure 1-4). Surficial sediment types varied along the SFEC-OCS, ranging from fine silt/clay to pebbles and pebbles on sand (Figures 3-1, 3-2, and 3-3). Gravels were relatively infrequent along the SFEC-OCS with the highest prevalence of these sediment types observed closer to the SFWF (Figures 3-1 and 3-2). Spatial heterogeneity in sediment type was high on small- and area-wide scales, with variability between replicates at stations as well as between stations (Figures 3-1, 3-2, and 3-3). Intra-station heterogeneity was more apparent in SPI images, which provide the ability to more accurately and finely categorized sediment types (Figure 3-3). Small scale variation within and between stations was widespread throughout the SFEC-OCS with a number of stations exhibiting high or medium sediment type heterogeneity, i.e., two or three replicate images captured different grain size categories at each station (Table 3-2a, Figure 3-3). The majority of the stations had medium sediment type heterogeneity (Figure 3-3). Unlike within the SFWF,

many stations along the SFEC-OCS included abundant, physically reworked shell hash and shell debris (Figure 3-36, Appendix C, Appendix D). Boulders were observed at two stations (102 and 104) along the SFEC-OCS (Figure 3-5), both positioned very close to the SFWF. One replicate at Station 156, just offshore of the Beach Land SFEC landing, featured a thick silt deposit over sand (Figure 3-37).

Station mean prism penetration values along the SFEC-OCS ranged from 0.3 to 14.0 cm, with a mean of 5.0 cm (Table 3-2a). The majority of stations contained medium to high load-bearing strength sediments reflected in the relatively shallow prism penetration depths observed (<6 cm) (Figure 3-10). Less than ten stations had sediments with interpreted low to medium bearing capacity reflected in prism penetration values between 6 and 10 cm. One station (156) located just south of NYS waters had more fine grain sizes and had weaker bearing capacity reflected in deeper prism penetrations (station mean of 14.0 cm) (Table 3-2a, Figure 3-10).

Ripples were the predominant bedform observed along the SFEC-OCS (Table 3-2b, Figure 3-12). Irregular short period ripples and mound/hummocks on low relief topography were primarily observed directly outside of the SFWF, with a single instance of short period ripples directly south of Montauk Point (Figure 3-12). In many images along the SFEC-OCS the bedform could not be determined (i.e., indeterminate) due to turbidity in the water column or no clear evidence of bedforms visible in the PV image. Station mean small-scale surface boundary roughness ranged from 0.6 to 3.9 cm, with a mean of 1.7 cm (Table 3-2a). Boundary roughness values were relatively low and were variable in space with no clear patterns along the SFEC-OCS (Figure 3-17). It was interpreted that physical forcing was the primary shaping variable on small-scale boundary roughness for the majority of images analyzed (Appendix C).

The dominant CMECS Biotic Subclass along the SFEC-OCS was Soft Sediment Fauna at all stations where Biotic Subclass could be determined (Figure 3-18). Attached Fauna were present as the Co-occurring Biotic Subclass at six of the stations sampled along the SFEC-OCS (Table 3-2b, Figure 3-22). Three of these stations occurred directly outside of the SFWF and the other three stations were found on the far western edge of the SFEC-OCS. Sensitive taxa were not observed at any stations along the SFEC-OCS (Figure 3-24).

3.5 South Fork Export Cable (SFEC) – New York State (NYS)

Six SPI/PV stations were sampled along the SFEC-NYS (Figure 1-4). Surficial sediments along the SFEC-NYS were generally homogenous with types ranging from very fine sand to coarse sand (Table 3-3a, Figures 3-1, 3-2, and 3-5). Spatial variability in sediment type on the seafloor surface, observed in PV images, was low on small- and area-wide scales, with minimal variability between replicates at stations as well as between stations (Table 3-3b, Figure 3-2). Intra-station variability was more apparent in SPI images, which provide the ability to more accurately and finely categorized sediment types. Sub-surface sediments were highly variable within stations at half of the SFEC-NYS stations (Figure 3-3). Boulders were not observed at any stations along the SFEC-NYS (Figure 3-5).

Station mean prism penetration values along the SFEC-NYS ranged from 4.4 to 9.8 cm, with a mean of 6.0 cm (Table 3-3a). The majority of the stations contained medium to high load-bearing strength reflected in the relatively shallow prism penetration depths observed. (Table 3-3a, Figure 3-10). Station 159, near the Beach Lane SFEC landing had a thick silt deposit over sand (Figure 3-37).

Ripples were the predominant bedform observed at two stations (144 and 145), while irregular short period ripples were the predominant bedform at one station (158) along the SFEC-NYS (Table 3-3b, Figure 3-12). Turbidity precluded assessment of bedforms at the remaining three SFEC-NYS stations. Station mean small-scale surface boundary roughness ranged from 0.7 to 3.9 cm, with a mean of 1.7 cm (Table 3-3a). Boundary roughness values were generally low and spatially variable with higher values closer to shore (Figure 3-17). Physical forcing was the primary shaping variable on small-scale boundary roughness for the majority of images; just over half of the replicate images were influenced by biological activity, typically in concert with physical forcing mechanisms (Appendix C).

The dominant CMECS Biotic Subclass along the SFEC-NYS was Soft Sediment Fauna at all stations where Biotic Subclass could be determined (Figure 3-18). Attached Fauna were not present as the Biotic Subclass or Co-occurring Biotic Subclass at any SFEC-NYS station (Table 3-3b, Figure 3-22). Sensitive taxa were not observed at any stations along the SFEC-NYS (Figure 3-24).

3.6 Reference Area Stations

Three SPI/PV stations, with five replicates analyzed per station, were sampled in a potential reference area to the east of the SFWF (Figure 1-2). Surficial sediments in the reference area exhibited low to medium heterogeneity (Figure 3-3) and were composed of mostly coarse and medium sands, with sandy gravel present at the eastern end of the area (Figures 3-1 and 3-2). A boulder was observed at the eastern-most reference station (Figure 3-5).

Station mean prism penetration values within the reference area ranged from 3.4 to 6.4 cm, with a mean of 5.1 cm (Table 3-4a). The majority of stations contained medium to high load-bearing strength sediments reflected in the relatively shallow prism penetration depths observed (only one station marginally >6 cm) (Table 3-4a, Figure 3-10).

Ripples were the only bedform observed across the reference area (Table 3-4b, Figure 3-12). Irregular short period ripples and mound/hummocks on low relief topography were not observed. Station mean small-scale surface boundary roughness ranged from 1.7 to 2.5 cm, with a mean of 2.1 cm (Table 3-4a). Boundary roughness values were generally homogenous throughout the reference area (Figure 3-17). Physical forcing was the primary shaping variable on small-scale boundary roughness for all images analyzed from the reference area (Appendix C).

The dominant CMECS Biotic Subclass in the reference area was Soft Sediment Fauna at all stations where Biotic Subclass could be determined (Figure 3-18). Attached Fauna were

present as the Co-occurring Biotic Subclass at two replicates at Station C05, at the eastern end of the area (Table 3-4b, Figure 3-22). Attached fauna included sea pens attached to the seafloor and cobbles, with hydroids directly attached to the sea pens (Figure 3-38). Sensitive taxa were not observed at any stations within the reference area (Figure 3-24).

Table 3-1a. Summary of Sediment Profile Image Analysis Results at the SFWF

Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
SFWF	001	3	34	2.5	3.4	Coarse sand	Pebble	Very coarse sand		
SFWF	002	3	34	6.7	2.3	Medium sand	Medium sand	Medium sand		
SFWF	003	3	36	4.1	1.8	Fine sand	Fine sand	Fine sand		
SFWF	004	3	36	4.6	1.4	Fine sand	Fine sand	Fine sand		
SFWF	005	3	36	3.4	0.9	Fine sand	Fine sand	Fine sand		
SFWF	006	3	36	6.5	1.9	Fine sand	Fine sand	Fine sand		
SFWF	007	3	38	0.0	IND	IND	IND	IND		
SFWF	008	3	37	4.0	2.1	Fine sand	Fine sand	Fine sand		
SFWF	009	3	36	4.5	1.1	Fine sand	Fine sand	Fine sand		
SFWF	010	3	39	5.6	1.5	Medium sand	Medium sand	Medium sand		
SFWF	011	3	37	4.5	1.7	Fine sand	Fine sand	Medium sand		
SFWF	012	3	40	5.9	0.8	Silt/clay & Silt/clay over sand	Very fine sand over silt/clay	Very fine sand over silt/clay		
SFWF	013	3	38	5.1	1.0	Fine sand	Fine sand	Medium sand		
SFWF	014	3	40	6.4	0.9	Silt/clay & Silt/clay over sand	Very fine sand	Very fine sand		
SFWF	015	3	41	17.2	0.5	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand		
SFWF	016	3	36	5.3	5.3	Granule	Granule	Granule		
SFWF	017	3	35	4.1	1.4	Coarse sand	Coarse sand	Coarse sand		
SFWF	018	3	35	0.2	2.0	Cobble & Cobble over sand	IND	IND		
SFWF	019	3	35	5.0	1.4	Coarse sand	Very coarse sand	Very coarse sand		
SFWF	020	3	35	8.0	3.0	Coarse sand	Coarse sand	Coarse sand		
SFWF	021	3	34	6.3	2.0	Medium sand	Medium sand	Medium sand		
SFWF	022	3	35	2.2	1.6	Medium sand	Medium sand	Medium sand		
SFWF	023	3	35	1.8	1.1	Medium sand	Medium sand	Medium sand		
SFWF	024	3	35	4.1	1.8	Medium sand	Medium sand	Medium sand		
SFWF	025	3	37	6.0	3.9	Coarse sand	Coarse sand	Coarse sand		
SFWF	026	3	35	5.0	1.6	Fine sand	Fine sand	Fine sand		
SFWF	027	3	35	5.0	1.9	Fine sand	Fine sand	Medium sand		
SFWF	028	3	34	7.0	2.2	Coarse sand	Medium sand	Medium sand		

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Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
SFWF	029	3	35	9.5	2.9	Coarse sand	Coarse sand	Coarse sand		
SFWF	030	3	36	6.1	1.5	Coarse sand	Coarse sand	Silt/clay & Silt/clay over sand		
SFWF	031	3	36	4.9	1.2	Coarse sand over finer sediment	Medium sand over silt/clay	Silt/clay & Silt/clay over sand		
SFWF	032	3	35	4.6	1.5	Medium sand	Medium sand	Medium sand		
SFWF	033	3	37	5.3	2.5	Coarse sand	Silt/clay & Silt/clay over sand	Very coarse sand		
SFWF	034	3	35	2.8	1.1	Fine sand	Fine sand	Fine sand		
SFWF	035	3	36	4.9	2.9	Medium sand	Medium sand	Medium sand		
SFWF	036	3	37	1.3	1.2	Fine sand	IND	IND		
SFWF	037	3	35	6.1	1.3	Medium sand	Medium sand	Medium sand		
SFWF	038	3	35	8.3	1.4	Coarse sand over finer sediment	Granule over sand	Medium sand		
SFWF	039	3	35	2.4	4.4	Coarse sand	Coarse sand	IND		
SFWF	040	3	36	1.3	2.0	Fine sand	Granule over sand	Pebble over finer sediment		
SFWF	041	3	35	4.6	0.9	Fine sand	Fine sand	Fine sand		
SFWF	042	3	35	0.8	1.1	Coarse sand	Coarse sand	Pebble over finer sediment		
SFWF	043	3	35	5.0	1.4	Fine sand	Fine sand	Fine sand		
SFWF	044	3	35	6.9	2.0	Medium sand	Medium sand	Medium sand		
SFWF	045	3	35	4.4	1.0	Medium sand	Medium sand	Medium sand		
SFWF	046	3	35	8.2	2.3	Coarse sand	Coarse sand	Coarse sand		
SFWF	047	3	35	5.6	1.3	Medium sand	Medium sand	Medium sand		
SFWF	048	3	36	5.3	2.6	Pebble	Very coarse sand over sand	Very coarse sand over sand		
SFWF	049	3	35	5.1	1.4	Medium sand	Medium sand	Medium sand		
SFWF	050	3	36	4.3	1.4	Coarse sand over finer sediment	Fine sand	Fine sand		
SFWF	051	3	36	1.7	2.9	Coarse sand	Pebble over finer sediment	Pebble over finer sediment		
SFWF	052	3	35	4.4	3.3	Coarse sand	Very coarse sand	Very coarse sand over sand		

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Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
SFWF	053	3	36	4.9	1.4	Fine sand	Fine sand	Fine sand		
SFWF	054	3	36	3.5	1.9	Coarse sand over finer sediment	Fine sand	Fine sand		
SFWF	055	3	36	4.6	1.6	Granule	Medium sand	Very coarse sand over sand		
SFWF	056	3	35	0.7	1.6	Pebble	Pebble over finer sediment	Very coarse sand		
SFWF	057	3	36	0.8	3.6	Fine sand	Medium sand	IND		
SFWF	058	3	36	6.9	3.6	Coarse sand	Coarse sand	Coarse sand		
SFWF	059	3	36	4.3	2.4	Coarse sand	Coarse sand	Very coarse sand		
SFWF	060	3	36	2.4	4.6	Medium sand	Medium sand	IND		
SFWF	061	3	36	0.0	IND	Fine sand	Fine sand	Pebble		
SFWF	062	3	36	1.1	2.0	Medium sand	IND	IND		
SFWF	063	3	36	1.1	1.5	Fine sand	Fine sand	IND		
SFWF	064	3	37	1.4	3.9	Coarse sand	Coarse sand	Coarse sand		
SFWF	065	3	37	7.5	1.1	Coarse sand over finer sediment	Coarse sand over finer sediment	Silt/clay & Silt/clay over sand		
SFWF	066	3	36	5.6	2.7	Coarse sand over finer sediment	Medium sand	Silt/clay & Silt/clay over sand		
SFWF	067	3	36	4.5	3.5	Coarse sand over finer sediment	Coarse sand over finer sediment	Coarse sand over finer sediment		
SFWF	068	3	36	4.8	1.5	Cobble & Cobble over sand	Fine sand	Pebble over finer sediment		
SFWF	069	3	35	5.8	2.0	Coarse sand over finer sediment	Coarse sand over finer sediment	Coarse sand over finer sediment		
SFWF	070	3	35	0.5	2.6	Medium sand	IND	IND		
SFWF	071	3	36	5.5	3.1	Coarse sand over finer sediment	Medium sand	Medium sand		
SFWF	072	3	36	6.8	2.6	Coarse sand over finer sediment	Medium sand	Silt/clay & Silt/clay over sand		

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Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
SFWF	073	3	35	9.0	1.6	Coarse sand over finer sediment	Coarse sand over finer sediment	Medium sand		
SFWF	074	3	36	4.9	4.7	Coarse sand	Coarse sand	Coarse sand		
SFWF	075	3	36	7.3	1.5	Coarse sand	Coarse sand	Coarse sand over finer sediment		
SFWF	076	3	37	6.1	3.3	Coarse sand	Coarse sand over finer sediment	Silt/clay & Silt/clay over sand		
SFWF	201	3	35	4.1	1.3	Very coarse sand	Very coarse sand	Very coarse sand		
SFWF	202	3	44	10.2	1.6	Very fine sand	Very fine sand	Very fine sand		
SFWF	203	3	37	10.8	2.1	Very coarse sand	Very coarse sand	Granule		
SFWF	204	3	35	0.0	IND	Cobble over sand ^a	Cobble over sand ^a	Cobble over sand ^a		
SFWF	205	3	35	2.8	3.6	Very coarse sand	Very coarse sand	Medium sand		
SFWF	206	3	36	2.2	1.5	Silt/clay & Silt/clay over sand	Coarse sand	Coarse sand		
SFWF	207	3	37	5.4	1.5	Silt/clay & Silt/clay over sand	Very coarse sand	Coarse sand		
SFWF	208	3	34	5.6	2.1	Fine sand	Fine sand	Fine sand		
SFWF	209	3	37	11.5	2.4	Silt/clay & Silt/clay over sand	Fine sand	Fine sand		
SFWF	210	3	34	6.2	1.3	Medium sand	Fine sand	Fine sand		
SFWF	211	3	35	6.9	2.0	Medium sand	Medium sand	Medium sand		
SFWF	212	3	34	7.3	3.3	Very coarse sand	Very coarse sand	Very coarse sand		
SFWF	213	3	34	2.2	4.0	Coarse sand	IND	IND		
SFWF	214	3	34	7.7	2.9	Coarse sand	Coarse sand	Coarse sand		
SFWF	215	3	35	5.6	3.6	Very coarse sand	Pebble over finer sediment	Pebble over finer sediment		
SFWF	216	3	33	9.5	1.5	Granule	Granule	Granule		
SFWF	217	3	34	7.0	3.2	Coarse sand	Coarse sand	Coarse sand		
SFWF	218	3	33	9.2	3.5	Medium sand	Fine sand	Fine sand		
SFWF	219	3	34	3.3	4.6	Coarse sand	Coarse sand	Coarse sand		

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Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
SFWF	220	2	36	6.2	1.3	Medium sand	Medium sand	-		
SFWF	C01	5	38	4.3	2.2	Coarse sand	Coarse sand	Coarse sand	Medium sand over silt/clay	Pebble over finer sediment
SFWF	C02	5	37	5.8	1.2	Medium sand	Medium sand	Medium sand	Medium sand	Medium sand
SFWF STATION SUMMARY STATISTICS										
n = 98										
Max			44.2	17.2	5.3					
Min			32.9	0.0	0.5					
Mean			35.8	5.0	2.2					
Standard Deviation				2.8	1.0					
OVERALL STATION SUMMARY STATISTICS										
n = 161										
Max			48.0	17.2	5.3					
Min			16.1	0.0	0.5					
Mean			36.1	5.0	2.0					
Standard Deviation				2.5	1.0					

IND=Indeterminate

a Indeterminate due to no penetration, sediment type assigned based on visual assessment of features in replicate images.

"-" in SPI Sediment Type indicates replicate images were not of sufficient quality for analysis.

Table 3-1b. Summary of Plan View Image Analysis Results at the SFWF

Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	001	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	002	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	003	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	004	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	005	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	006	2	Muddy Sand	Muddy Sand	-			No	Mounds/hummocks on low relief topography	Irregular short period ripples	-			Soft Sediment Fauna	None	No
SFWF	007	3	Boulder	Sandy Gravel	Slightly Gravelly Sand			Yes	IND	IND	IND			Soft Sediment Fauna, Attached Fauna	Attached Fauna (2)	No
SFWF	008	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	009	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	010	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	IND			Soft Sediment Fauna	None	No
SFWF	011	2	Muddy Sand	Muddy Sand	-			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	-			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)				Boulder Presence (by station)	Bedforms (by replicate)				Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)		
SFWF	012	3	Muddy Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFWF	013	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	014	3	Sand	Sand	Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	015	3	Sand	Sand	Sand			No	None	None	None			Soft Sediment Fauna	None	No
SFWF	016	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			IND	Attached Fauna (1)	No
SFWF	017	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	018	3	Gravelly Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	None	IND			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	019	3	Sandy Gravel	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			IND	Attached Fauna (1)	No
SFWF	020	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	021	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	022	3	Muddy Sand	Muddy Sand	Slightly Gravelly Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	IND			Soft Sediment Fauna	None	No
SFWF	023	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			Yes	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Ripples			Soft Sediment Fauna	Attached Fauna (3)	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	024	3	Muddy Sand	Muddy Sand	Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	025	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	026	3	Muddy Sand	Sand	Sand			No	Mounds/hummocks on low relief topography	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	027	3	Muddy Sand	Muddy Sand	Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	028	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFWF	029	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	030	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	031	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFWF	032	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	033	3	Sand	Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	034	3	Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	035	3	Muddy Sand	Muddy Sand	Slightly Gravelly Sand			No	Ripples	IND	IND			Soft Sediment Fauna	Attached Fauna (1)	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	036	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	037	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	038	3	Gravelly Sand	Gravelly Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	039	3	Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	040	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	041	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFWF	042	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	043	3	Sand	Sand	Sand			No	Mounds/hummocks on low relief topography	IND	IND			Soft Sediment Fauna	None	No
SFWF	044	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	045	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	046	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	047	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFWF	048	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (2)	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	049	3	Sand	Sand	Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFWF	050	3	Gravelly Sand	Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	051	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	052	3	Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	053	3	Sand	Sand	Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	054	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			Yes	Ripples	IND	IND			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	055	3	Muddy Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	056	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	IND			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	057	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	058	3	Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	059	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFWF	060	3	Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	061	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	062	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	063	3	Gravelly Sand	Gravelly Sand	Sandy Gravel			Yes	IND	IND	IND			Attached Fauna, Soft Sediment Fauna	Attached Fauna (1), Soft Sediment Fauna (2)	No
SFWF	064	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	065	3	Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	066	3	Gravelly Sand	Sand	Slightly Gravelly Sand			Yes	Ripples	Ripples	IND			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	067	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	068	3	Sand	Sandy Gravel	Sandy Gravel			No	Ripples	IND	IND			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	069	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	070	3	Gravelly Sand	Sandy Gravel	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	071	3	Gravelly Sand	Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	072	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	073	3	Sand	Sand	Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFWF	074	3	Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	075	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	076	3	Muddy Sand	Muddy Sand	Slightly Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFWF	201	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	202	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	None	None			Soft Sediment Fauna	None	No
SFWF	203	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	Ripples	None			Soft Sediment Fauna	None	No
SFWF	204	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Mounds/hummocks on low relief topography	None	None			Attached Fauna; Soft Sediment Fauna	Attached Fauna (2), Soft Sediment Fauna (1)	No
SFWF	205	3	Gravelly Sand	Gravelly Sand	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (3)	No
SFWF	206	3	Gravelly Sand	Gravelly Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	207	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	208	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFWF	209	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	210	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	None	No
SFWF	211	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Mounds/hummocks on low relief topography	None	None			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFWF	212	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	213	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	214	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	IND	IND			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	215	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Irregular short period ripples	IND	IND			Attached Fauna; Soft Sediment Fauna; IND	None	No
SFWF	216	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	None	None	None			Soft Sediment Fauna	None	No
SFWF	217	3	Gravelly Sand	Gravelly Sand	Muddy Sand			Yes	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFWF	218	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	219	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Irregular short period ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (2)	No
SFWF	220	3	Muddy Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Irregular short period ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFWF	C01	5	Sandy Gravel	Sandy Gravel	Sandy Gravel	IND	IND	No	Ripples	IND	IND	IND	IND	IND	None	No
SFWF	C02	5	Sand	Sand	Sand	Sand	Sand	No	Ripples	Ripples	IND	IND	IND	Soft Sediment Fauna	None	No

IND=Indeterminate

Table 3-2a. Summary of Sediment Profile Image Analysis Results at the SFEC-OCS

Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)		
SFEC-OCS	101	3	35	0.3	0.6	Granule over sand	Pebble	IND
SFEC-OCS	102	3	35	0.3	1.8	Fine sand	Pebble	IND
SFEC-OCS	103	3	39	6.6	1.1	Silt/clay & Silt/clay over sand	Very fine sand	Very fine sand
SFEC-OCS	104	3	38	1.7	2.6	Fine sand	Medium sand	IND
SFEC-OCS	105	3	41	4.0	1.1	Medium sand	Medium sand	Silt/clay & Silt/clay over sand
SFEC-OCS	106	3	43	4.6	2.3	Coarse sand	Coarse sand	Coarse sand
SFEC-OCS	107	3	43	6.5	2.3	Very coarse sand	Very coarse sand	Very coarse sand
SFEC-OCS	108	3	43	3.3	1.9	Coarse sand	Coarse sand	Coarse sand
SFEC-OCS	109	3	43	5.1	2.3	Pebble over finer sediment	Very coarse sand	Very coarse sand
SFEC-OCS	110	3	45	4.4	1.4	Coarse sand	Coarse sand	Silt/clay & Silt/clay over sand
SFEC-OCS	111	3	47	7.0	1.0	Coarse sand	Coarse sand	Very coarse sand over sand
SFEC-OCS	112	3	46	4.7	2.5	Coarse sand	Very coarse sand	Very coarse sand
SFEC-OCS	113	3	44	5.9	1.9	Coarse sand over finer sediment	Very coarse sand over sand	Very coarse sand over sand
SFEC-OCS	114	3	42	5.4	3.2	Medium sand	Medium sand	Medium sand
SFEC-OCS	115	3	45	4.3	2.0	Coarse sand	Coarse sand	Granule over sand
SFEC-OCS	116	3	45	6.3	1.1	Coarse sand	Coarse sand	Coarse sand
SFEC-OCS	117	3	48	6.3	1.6	Coarse sand	Very coarse sand	Very coarse sand over sand
SFEC-OCS	118	3	48	4.6	1.1	Fine sand	Medium sand	Medium sand
SFEC-OCS	119	3	47	6.0	0.9	Medium sand	Medium sand	Medium sand
SFEC-OCS	120	3	46	4.9	1.6	Fine sand	Fine sand	Fine sand
SFEC-OCS	121	3	44	6.0	0.9	Fine sand	Medium sand	Medium sand
SFEC-OCS	122	3	40	4.3	2.4	Medium sand	Medium sand	Medium sand
SFEC-OCS	123	3	41	5.0	2.0	Coarse sand	Very coarse sand	Very coarse sand over sand
SFEC-OCS	124	3	43	3.6	1.5	Medium sand	Medium sand	Medium sand
SFEC-OCS	125	3	47	5.1	0.9	Fine sand	Fine sand	Fine sand
SFEC-OCS	126	3	41	4.8	1.3	Medium sand	Medium sand	Medium sand
SFEC-OCS	127	3	41	4.4	1.9	Medium sand	Medium sand	Medium sand
SFEC-OCS	128	3	47	4.2	1.8	Coarse sand	Medium sand	Medium sand
SFEC-OCS	129	3	47	8.6	1.1	Very fine sand	Very fine sand	Very fine sand

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Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)		
SFEC-OCS	130	3	46	5.6	0.8	Very fine sand	Very fine sand	Very fine sand
SFEC-OCS	131	3	45	4.3	2.8	Coarse sand	Fine sand	Medium sand
SFEC-OCS	132	3	42	3.6	2.5	Very coarse sand	Very coarse sand	Very coarse sand
SFEC-OCS	133	3	39	6.3	1.9	Coarse sand	Silt/clay & Silt/clay over sand	Very coarse sand over sand
SFEC-OCS	134	3	36	3.7	2.2	Pebble over finer sediment	Very coarse sand	Very coarse sand
SFEC-OCS	135	3	34	3.8	3.9	Coarse sand	Very coarse sand	Very coarse sand
SFEC-OCS	136	3	33	5.7	3.3	Coarse sand	Coarse sand	Medium sand
SFEC-OCS	137	3	33	5.2	0.9	Coarse sand	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand
SFEC-OCS	138	3	32	8.2	1.7	Coarse sand over finer sediment	Coarse sand over finer sediment	Coarse sand over finer sediment
SFEC-OCS	139	3	32	3.9	2.5	Medium sand	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand
SFEC-OCS	140	3	31	5.6	0.9	Medium sand	Medium sand	Medium sand
SFEC-OCS	141	3	30	5.6	3.0	Medium sand	Medium sand	Medium sand
SFEC-OCS	142	3	25	5.7	1.5	Coarse sand	Coarse sand	Coarse sand
SFEC-OCS	146	3	30	5.4	2.2	Coarse sand	Coarse sand	Medium sand
SFEC-OCS	147	3	31	6.4	1.7	Coarse sand	Coarse sand	Coarse sand
SFEC-OCS	148	3	30	4.9	1.4	Medium sand	Medium sand	Medium sand
SFEC-OCS	149	3	29	4.8	1.6	Medium sand	Medium sand	Medium sand
SFEC-OCS	150	3	31	3.4	1.1	Fine sand	Fine sand	Fine sand
SFEC-OCS	151	3	31	2.9	1.9	Fine sand	Pebble over finer sediment	Silt/clay & Silt/clay over sand
SFEC-OCS	152	3	31	3.7	2.3	Medium sand	Medium sand	IND
SFEC-OCS	153	3	31	3.8	0.9	Fine sand	Fine sand	Fine sand
SFEC-OCS	154	3	31	4.8	1.4	Medium sand	Medium sand	Medium sand
SFEC-OCS	155	3	32	3.3	0.7	Fine sand	Fine sand	Fine sand
SFEC-OCS	156	3	32	14.0	1.9	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand
SFEC-OCS	157	3	30	4.3	1.1	Medium sand	Medium sand	Medium sand
SFEC-OCS STATION SUMMARY STATISTICS								
n = 54								
Max			48.0	14.0	3.9			
Min			24.7	0.3	0.6			
Mean			38.4	5.0	1.7			
Standard Deviation				2.0	0.7			

Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)		
OVERALL STATION SUMMARY STATISTICS								
n = 161								
Max			48.0	17.2	5.3			
Min			16.1	0.0	0.5			
Mean			36.1	5.0	2.0			
Standard Deviation				2.5	1.0			

IND=Indeterminate

Table 3-2b. Summary of Plan View Image Analysis Results at the SFEC-OCS

Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFEC-OCS	101	3	Sandy Gravel	Sandy Gravel	Sandy Gravel			No	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	Attached Fauna (3)	No
SFEC-OCS	102	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			Yes	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography	Mounds/hummocks on low relief topography			Soft Sediment Fauna	Attached Fauna (3)	No
SFEC-OCS	103	3	Muddy Sand	Muddy Sand	Muddy Sand			No	Irregular short period ripples	Irregular short period ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	104	3	Gravelly Sand	Sandy Gravel	Slightly Gravelly Sand			Yes	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFEC-OCS	105	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	106	3	Muddy Sand	Sand	Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	107	3	Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-OCS	108	3	Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	109	3	Gravelly Sand	Sandy Gravel	Sandy Gravel			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-OCS	110	3	Sand	Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-OCS	111	3	Gravelly Sand	Gravelly Sand	Sandy Gravel			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	112	3	Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFEC-OCS	113	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	114	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	115	3	Gravelly Sand	Gravelly Sand	Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-OCS	116	3	Sand	Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	117	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	118	3	IND	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	119	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	120	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	121	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	122	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	123	3	Sandy Gravel	Sandy Gravel	Sandy Gravel			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	124	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	125	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	126	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFEC-OCS	127	3	Sand	Sand	Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	128	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	129	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	130	3	Muddy Sand	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	131	3	IND	IND	IND			IND	IND	IND	IND			IND	None	IND
SFEC-OCS	132	3	Gravelly Sand	IND	IND			No	IND	IND	IND			IND	None	IND
SFEC-OCS	133	3	IND	IND	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	IND
SFEC-OCS	134	3	Gravelly Sand	Gravelly Sand	Sandy Gravel			No	IND	IND	IND			IND	None	No
SFEC-OCS	135	3	IND	IND	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	136	3	Sand	Sand	Slightly Gravelly Sand			No	Irregular short period ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	137	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	138	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-OCS	139	3	Sand	Sand	Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	140	3	Sand	Sand	Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	141	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No

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Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
SFEC-OCS	142	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	146	3	IND	IND	Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	147	3	Sand	Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	Attached Fauna (1)	No
SFEC-OCS	148	3	Sand	Sand	Sand			No	Ripples	Ripples	IND			Soft Sediment Fauna	None	No
SFEC-OCS	149	3	IND	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	150	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	151	3	Gravelly Sand	Gravelly Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (3)	No
SFEC-OCS	152	3	Sand	Sand	Sand			No	Ripples	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	153	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	154	3	IND	IND	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	155	3	Sand	Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	156	3	IND	Muddy Sand	Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-OCS	157	3	Sand	Sand	Slightly Gravelly Sand			No	IND	IND	IND			Soft Sediment Fauna	Attached Fauna (1)	No

IND=Indeterminate

Table 3-3a. Summary of Sediment Profile Image Analysis Results at the SFEC-NYS

Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)		
SFEC-NYS	143	3	26	6.4	0.7	Fine sand	Medium sand	Silt/clay & Silt/clay over sand
SFEC-NYS	144	3	23	5.1	1.4	Coarse sand	Coarse sand	Coarse sand
SFEC-NYS	145	3	17	4.5	3.9	Coarse sand	Medium sand	Silt/clay & Silt/clay over sand
SFEC-NYS	158	3	25	4.4	0.9	Medium sand	Medium sand	Medium sand
SFEC-NYS	159	3	21	9.8	1.0	Coarse sand	Silt/clay & Silt/clay over sand	Silt/clay & Silt/clay over sand
SFEC-NYS	160	3	16	6.0	2.1	Fine sand	Fine sand	Fine sand
SFEC-NYS STATION SUMMARY STATISTICS								
n = 6								
Max			26.1	9.8	3.9			
Min			16.1	4.4	0.7			
Mean			21.3	6.0	1.7			
Standard Deviation				2.0	1.2			
OVERALL STATION SUMMARY STATISTICS								
n = 161								
Max			48.0	17.2	5.3			
Min			16.1	0.0	0.5			
Mean			36.1	5.0	2.0			
Standard Deviation				2.5	1.0			

Table 3-3b. Summary of Plan View Image Analysis Results at the SFEC-NYS

Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)				Boulder Presence (by station)	Bedforms (by replicate)				Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)		
SFEC-NYS	143	3	IND	Muddy Sand	Muddy Sand			No	IND	IND	IND			Soft Sediment Fauna	None	No
SFEC-NYS	144	3	Slightly Gravelly Sand	Slightly Gravelly Sand	Slightly Gravelly Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-NYS	145	3	Sand	Sand	Sand			No	Ripples	Ripples	Ripples			Soft Sediment Fauna	None	No
SFEC-NYS	158	3	Sand	Sand	Sand			No	Irregular short period ripples	Irregular short period ripples	Irregular short period ripples			Soft Sediment Fauna	None	No
SFEC-NYS	159	3	IND	IND	IND			IND	IND	IND	IND			IND	None	IND
SFEC-NYS	160	3	IND	IND	IND			IND	IND	IND	IND			IND	None	IND

IND=Indeterminate

Table 3-4a. Summary of Sediment Profile Image Analysis Results at the Reference Stations

Area	Station	SPI Replicate Count (n)	Water Depth (m)	Mean Prism Penetration Depth (cm)	Mean Boundary Roughness (cm)	SPI Sediment Type (by replicate)				
Reference	C03	5	35	6.4	2.5	Coarse sand	Coarse sand	Medium sand	Medium sand	Medium sand
Reference	C04	5	37	5.6	1.7	Medium sand	Medium sand	Medium sand	Medium sand	Medium sand
Reference	C05	5	35	3.4	2.2	Coarse sand	Coarse sand	Medium sand	Medium sand	Medium sand
REFERENCE STATION SUMMARY STATISTICS										
n = 3										
Max			36.6	6.4	2.5					
Min			35.0	3.4	1.7					
Mean			35.7	5.1	2.1					
Standard Deviation				1.5	0.4					
OVERALL STATION SUMMARY STATISTICS										
n = 161										
Max			48.0	17.2	5.3					
Min			16.1	0.0	0.5					
Mean			36.1	5.0	2.0					
Standard Deviation				2.5	1.0					

Table 3-4b. Summary of Plan View Image Analysis Results at the Reference Stations

Area	Station	PV Replicate Count (n)	PV Sediment Type (by replicate)					Boulder Presence (by station)	Bedforms (by replicate)					Dominant Biotic Subclasses (by station)	Co-occurring Biotic Subclasses (# of reps)	Sensitive Taxa Present (by station)
Reference	C03	5	Sand	Sand	Sand	Sand	Sand	No	Ripples	Ripples	Ripples	Ripples	Ripples	Soft Sediment Fauna	None	No
Reference	C04	5	Sand	Sand	Sand	Sand	Sand	No	Ripples	Ripples	Ripples	Ripples	Ripples	Soft Sediment Fauna	None	No
Reference	C05	5	Muddy Sand	Sand	Sand	Sandy Gravel	Sandy Gravel	Yes	Ripples	Ripples	Ripples	IND	IND	Soft Sediment Fauna	Attached Fauna (2)	No

IND=Indeterminate

Table 3-5. SPI Sediment Type to Grain Size (phi)

SPI Sediment Type	Grain Size Major Mode (phi)
Cobble & Cobble over sand	<-8
	<-8 / 3 to 2
Pebble	-4 to -5
	-3 to -4
	-2 to -3
Pebble over finer sediment	-4 to -5 / 0 to -1
	-3 to -4 / 0 to -1
	-3 to -4 / 1 to 0
	-3 to -4 / >4
	-2 to -3 / 1 to 0
	-2 to -3 / 3 to 2
	1 to 0 / -2 to -3*
Granule	-1 to -2
Granule over sand	-1 to -2 / 1 to 0
	-1 to -2 / 2 to 1
	-1 to -2 / 3 to 2
Very coarse sand	0 to -1
Very coarse sand over sand	0 to -1 / 1 to 0
	0 to -1 / 2 to 1
Coarse sand	1 to 0
Coarse sand over finer sediment	1 to 0 / 2 to 1
	1 to 0 / 3 to 2
	1 to 0 / >4
Medium sand	2 to 1
Medium sand over silt/clay	2 to 1 / >4
Fine sand	3 to 2
Very fine sand	4 to 3
Very fine sand over silt/clay	4 to 3/>4
Silt/clay & Silt/clay over sand	>4
	>4 / -1 to -2
	>4 / 0 to -1
	>4 / 1 to 0
	>4 / 2 to 1
	>4 / 3 to 2
	>4 / 4 to 3
Indeterminate	IND

*designation used for a near even distribution of these grain size classes throughout the sediment column

4.0 DISCUSSION

The purpose of the SPI/PV survey was to provide data about surficial sediments that can be used to ground-truth interpreted geophysical data from the Fugro G&G survey at the SFWF and along the SFEC. Results from the SPI/PV survey are intended to contribute to DWSF's ability to satisfy multiple BOEM COP and G&G guidelines. This SPI/PV study provides a secondary line of data for the assessment of the physical, geological, and biological conditions of the surficial sediments within the surveyed area. At this time, no offshore wind farm in federal waters has progressed through all stages of permitting, therefore, it is important to carefully consider all BOEM regulations and guideline recommendations when preparing a COP. By collecting data in consideration of these regulations and guidelines, federal regulators have the best available information for review of the COP. SPI and PV images provide important data pertaining to several of these regulations and guidelines. The SPI and PV images were useful in mapping physical and biological properties of the surface sediments and helped to document and characterize processes structuring surface sediments within the SFWF, along the SFEC, and within the reference area.

Surficial sediments were spatially heterogeneous across the surveyed area at intra- and inter-station scales (Figures 3-1, 3-2, and 3-3). Nearly all base seafloor sediments observed were within the sandy portion of the sediment grain size spectrum (i.e., very fine sands to sands with cobbles/boulders on the surface) and had medium to high bearing capacity, evident in low to moderate SPI camera prism penetration depths (Tables 3-1a, 3-2a, 3-3a, and 3-4a, Figures 3-1, 3-2, and 3-10). Thin surface layers of coarse sediment over fine sediment (e.g., pebbles over sand, very coarse sand over fine sand) were observed throughout the surveyed area and, in many cases, indicated coarse sediments that were subject to frequent hydrodynamic activity over finer base sediments. Ripples were the bedform most commonly observed across the surveyed area. Ripple crests were generally composed of sand and small gravels. Deposition of fine silt/clay organic material was often observed in the ripple troughs (Figure 3-13). Ripples indicate frequent and persistent hydrodynamic forcing at the surface of the seafloor. The size of the largest bedforms (amplitude and wavelength) exceeded the field-of-view of the SPI and PV images and would need to be measured in multibeam and side-scan sonar data.

Sediment types observed in SPI and PV images were more varied within and near the SFWF than along the SFEC. Sediments along the SFEC, both SFEC-OCS and SFEC-NYS, were primarily composed of sands with medium and coarse sands dominating (Tables 3-1 through 3-4, Figures 3-1 and 3-2). Sediment type across the SFWF was mostly heterogeneous, however, small portions of the SFWF were more or less homogeneous in sediment type. The northern third of the SFWF was mostly fine sand, with irregular short period ripples or mounds/hummock on low relief seafloor topography, also evident in lower small-scale boundary roughness values (Tables 3-1 through 3-4, Figures 3-25, 3-26, 3-30, and 3-31). A band of stations running from the northwest through the center to the far eastern edge of the SFWF were characterized by medium sand (Figure 3-25).

Variable presence of gravel (i.e., granules, pebbles, cobbles, boulders) on sandy substrates characterized much of the SFWF and portions of the SFEC in the area immediately southwest of the SFWF. Where present, gravels, particularly cobbles and boulders, were often colonized by attached epifauna, predominantly hydroids, barnacles, and very occasional anemones. These attached fauna were present in approximately one-third of the stations sampled within the SFWF, five of the fifty-four stations sampled along the SFEC-OCS, and at none of the six stations along the SFEC-NYS (Figure 3-22). The dominant CMECS Biotic Subclass throughout the surveyed area was Soft Sediment Fauna, evidenced by infaunal tubes and burrowing, fish foraging activity, and, at several stations along the SFEC-OCS, sand dollars (Figures 3-18 to 3-21). Sensitive taxa were not observed in SPI/PV images across the surveyed area (Figures 3-24 and 3-35).

Within the reference area, surficial sediments and Biotic Subclasses proved to be representative of those found in the SFWF and along the SFEC. Sediments were heterogeneous, primarily composed sands with medium to high bearing capacity, and gravel was found on the seafloor surface at two of the reference stations (Tables 3-4a and 3-4b, Figures 3-1, 3-2, and 3-10). Within the reference area ripples were the dominant bedform observed and related small-scale boundary roughness values were within the lower end of the range observed across the surveyed area (Tables 3-1b, 3-2b, 3-3b, and 3-4b, Figures 3-12 and 3-17). Soft sediment fauna was the dominant Biotic Subclass imaged within the reference area and Attached Fauna were the Co-occurring Biotic Subclass at Station C05 (Figure 3-22) where sea pens and hydroids were observed attached to cobbles (Figure 3-38).

5.0 CONCLUSIONS

The results and images from this survey will allow accurate ground-truthing of G&G survey results and establishment of a baseline of both large- and small-scale physical and biological features within the SFWF and along the SFEC. These results will also allow Fugro to broadly communicate the results of the G&G survey using seafloor and seabed images of pre-development conditions. Contributions from this survey will provide valuable information to address BOEM guidelines and regulations, as well as stakeholder concerns.

The primary conclusions of the SPI/PV survey were:

1. Surficial sediments were spatially heterogenous with some layering of coarse mobile sediment over finer sediments (and fine over coarse), within the upper few centimeters of the sediment column. These results suggest small-scale sediment transport dynamics sufficient to transport sand in bedload across habitats that also periodically receive deposition of fine sediments, evident as thin surface deposits of fine-grained and organic-rich material.
2. Sediments observed within the SFWF were more varied than along the SFEC and in the reference area, due largely to variable and highly patchy coverage of very coarse grains, ranging from granules to boulders, throughout the SFWF. No rock outcrops were observed, but boulders were present with very patchy distribution in and near the SFWF and the reference area.
3. Rippled sand and gravelly sands were prevalent along the SFEC and in the SFWF. These sands are likely influenced by tidal energies as well as by storm events. Ripples were the primary bedform observed in the SPI/PV data throughout the surveyed area, indicating frequent small-scale physical forcing at the seafloor surface.
4. Areas near the northern boundary and from northwest corner through the center to the far eastern edge of the SFWF were generally characterized by finer sands, limited presence of gravel, low relief bedforms, and the absence of attached fauna.
5. Patchy presence of cobbles and boulders with attached fauna indicate that there is likely greater relative areal coverage of these features than was captured in SPI/PV images. Presence of these features should be considered in construction micro-siting, operation planning and related monitoring.
6. Soft Sediment Fauna was the dominant CMECS Biotic Subclass observed, characterized by infaunal burrows and occasional tubes and by sand dollars and mobile epifauna.
7. Sensitive taxa were not observed in the SPI/PV data in the SFWF, along the SFEC, or in the reference area.
8. The physical and biological characteristics of the reference area were within similar ranges observed across the SFWF and SFEC and may be used to support future monitoring

efforts and serve as a baseline for comparison to changes that may occur as a result of construction and operation at the SFWF.

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**Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in
Support of the South Fork Wind Farm Site Assessment**

DATA REPORT

*Survey Conducted November 11-15, 2017
and November 20, 2018*

FIGURES

Prepared for:



Fugro Marine GeoServices, Inc.

and

South Fork Wind Farm

Deepwater Wind South Fork, LLC

Submitted by:



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Newport, RI 02840

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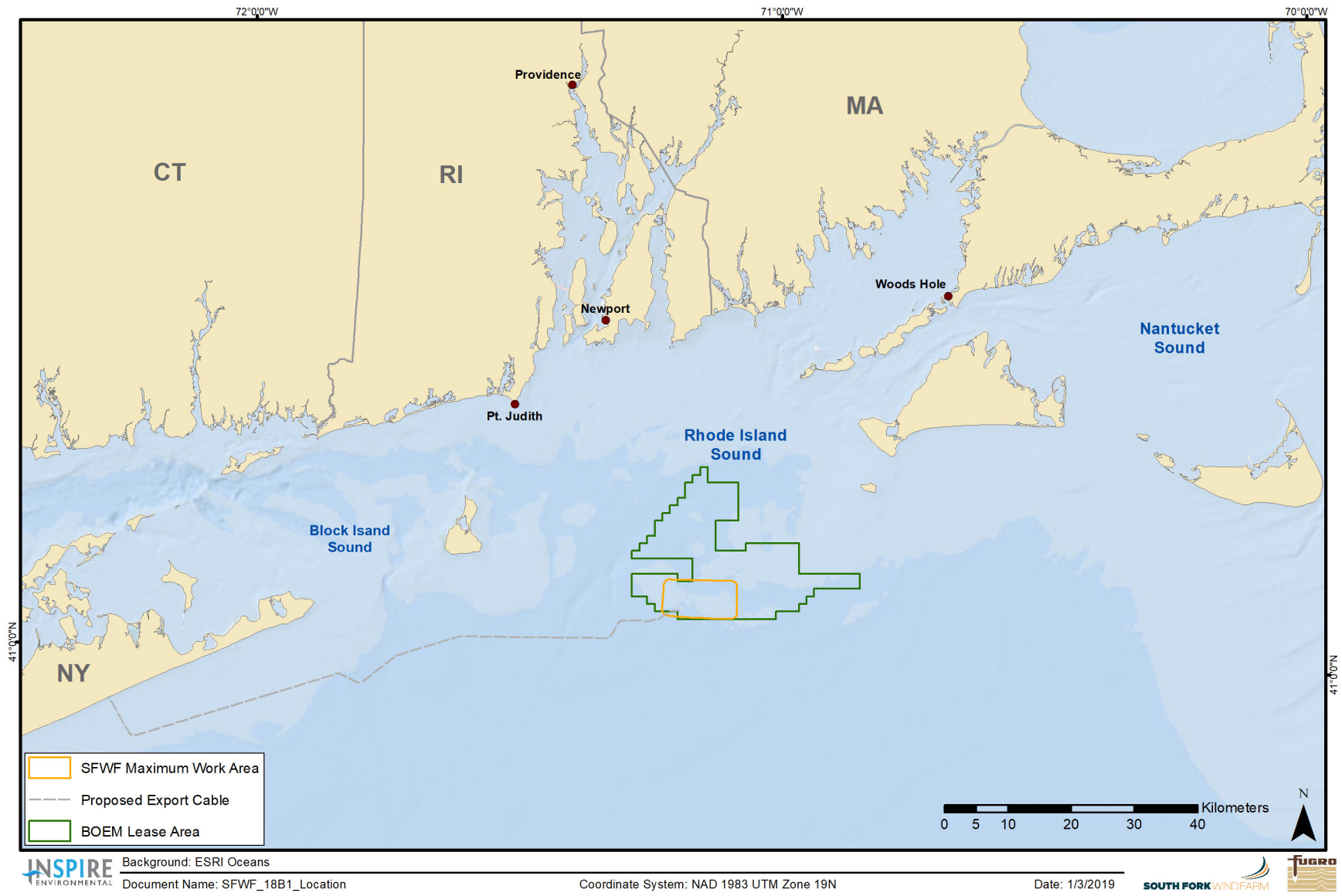


Figure 1-1. Location of the planned South Fork Wind Farm and Export Cable

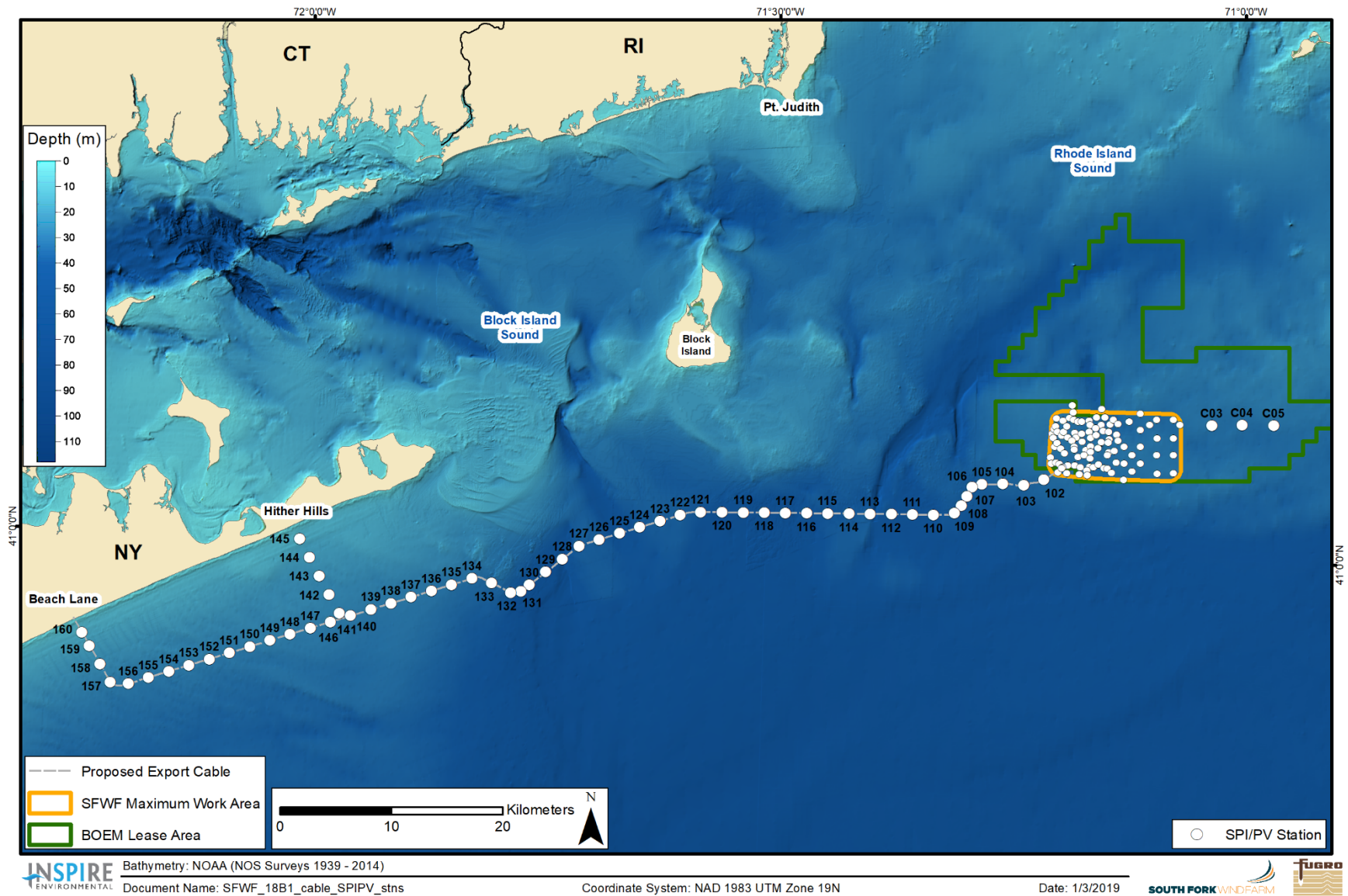


Figure 1-2. Station locations sampled with SPI/PV

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

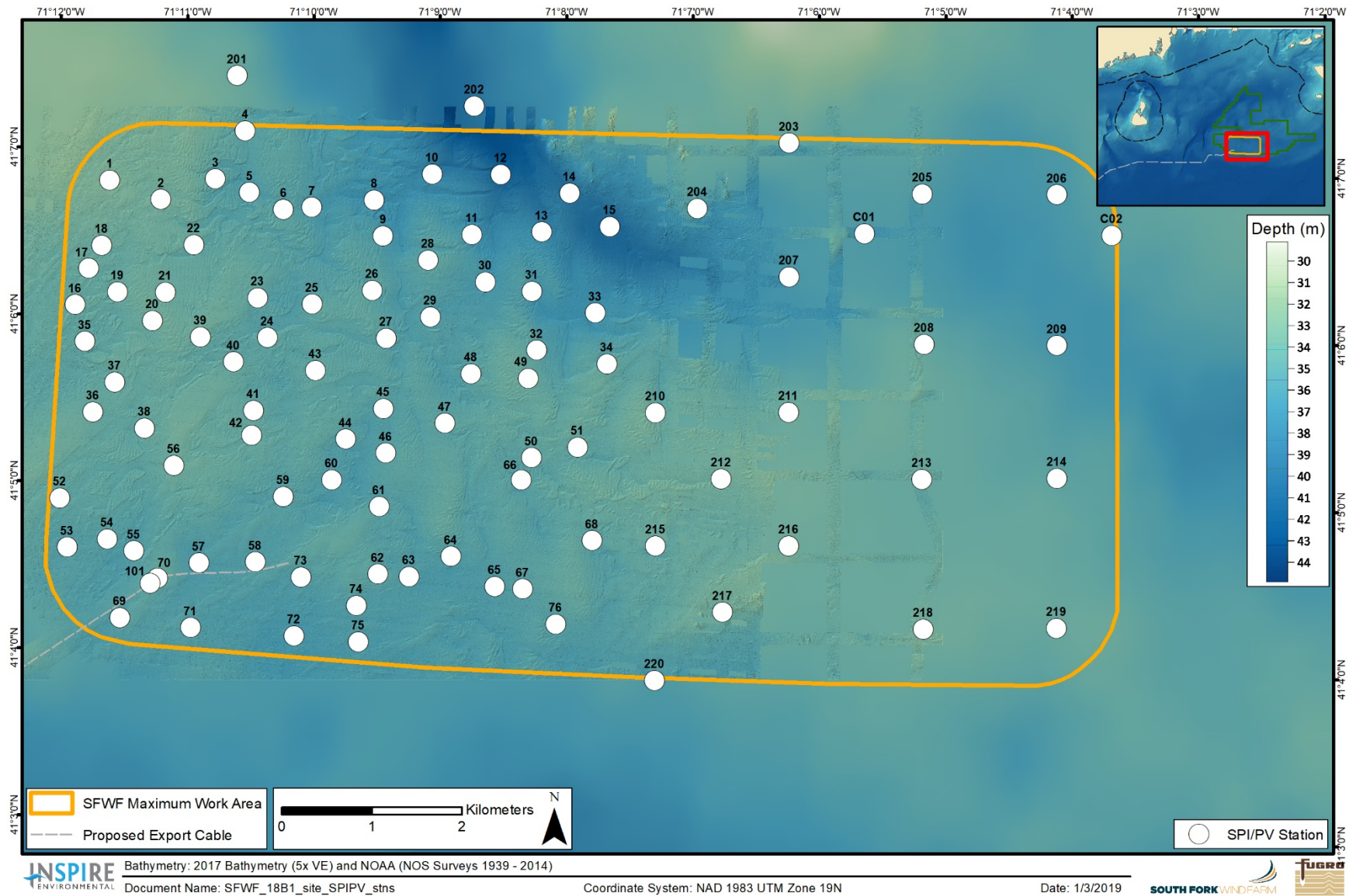


Figure 1-3. Station locations sampled with SPI and PV at the SFWF

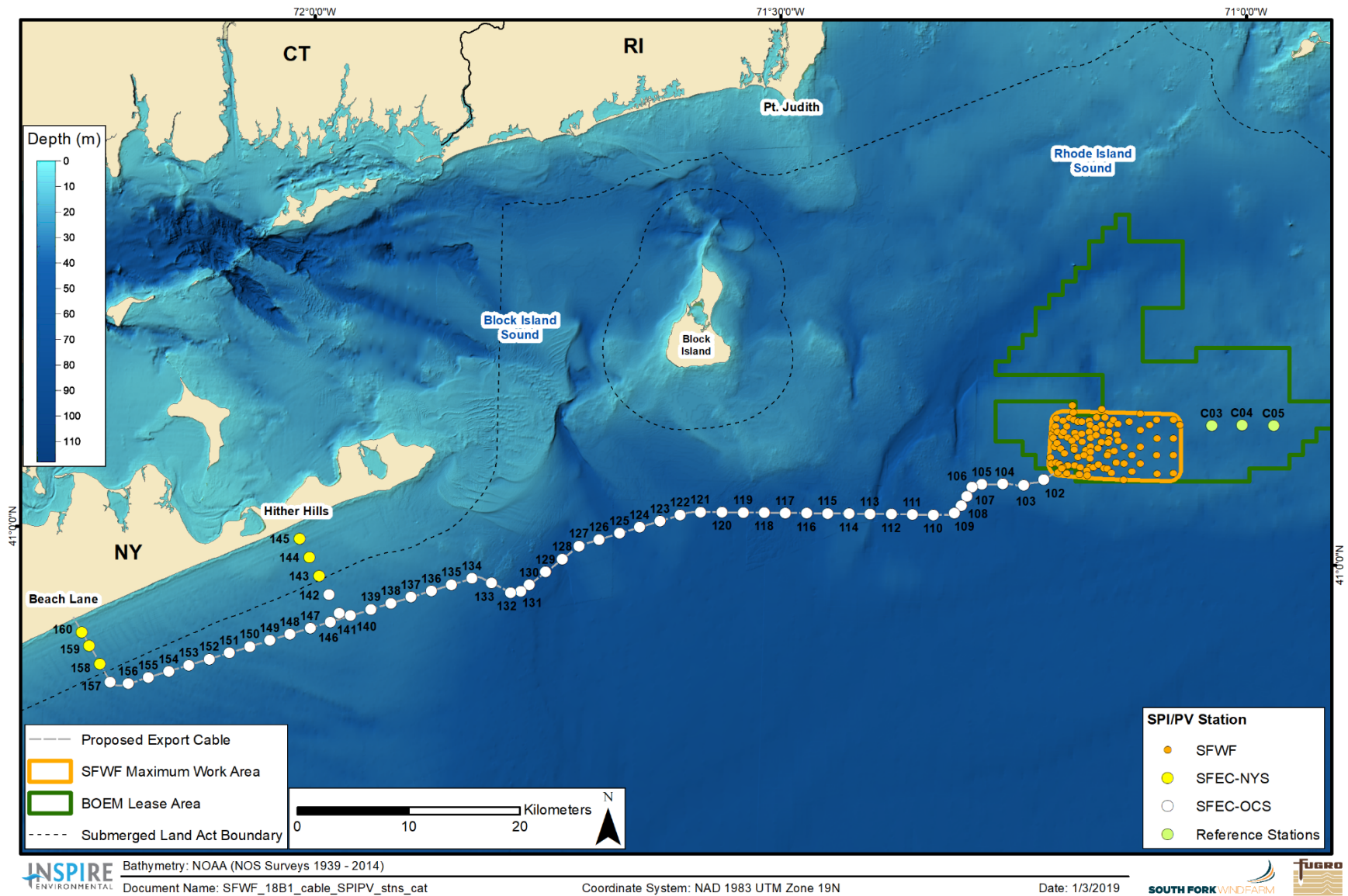


Figure 1-4. Station locations sampled with SPI and PV along the South Fork Export Cable and at a reference area

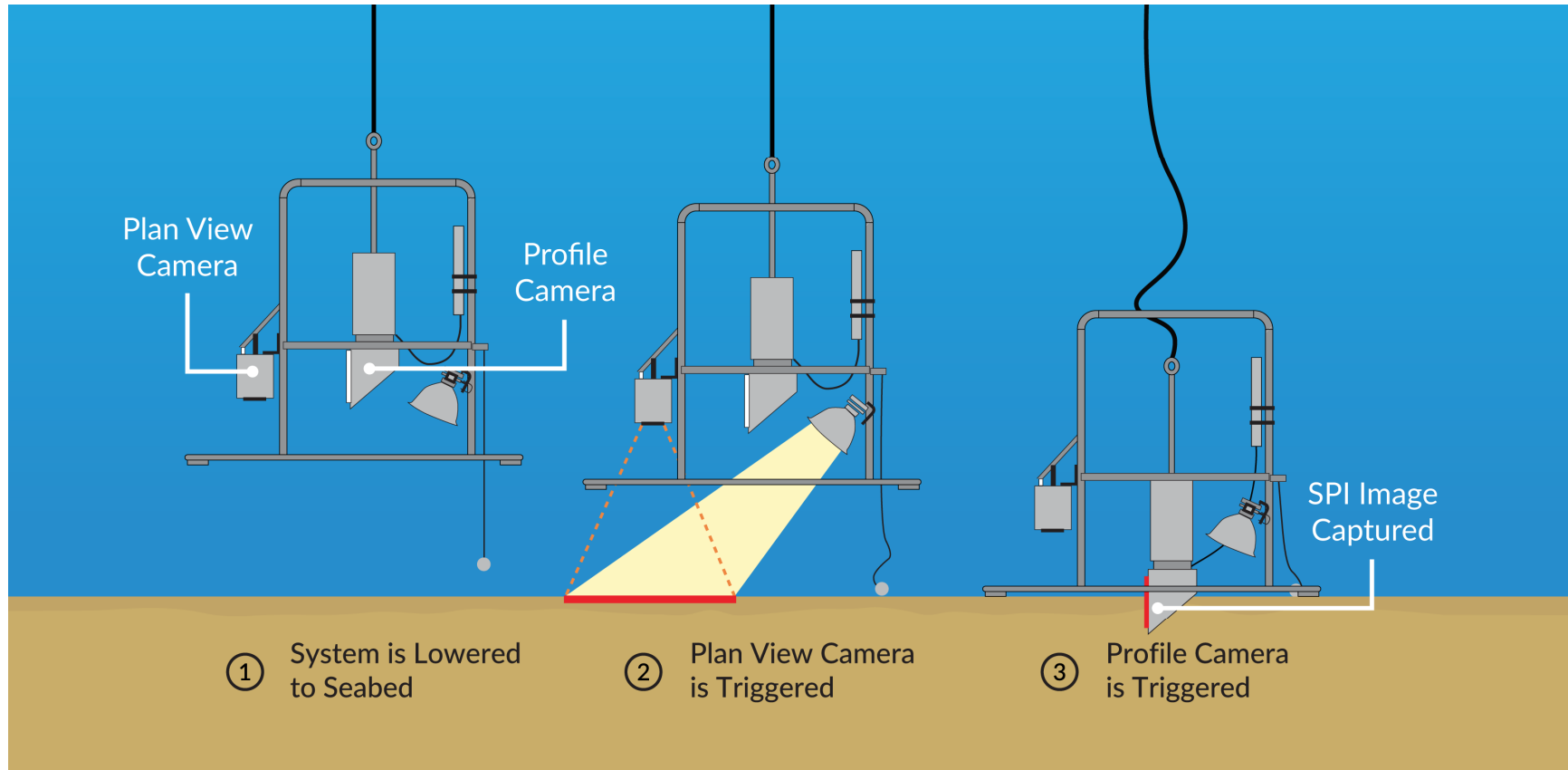


Figure 2-1. Operation of the sediment profile and plan view camera imaging system



Figure 2-2. *This representative plan view image shows the sampling relationship between plan view and sediment profile images. Note: plan view images differ between surveys and stations and the area covered by each plan view image may vary slightly between images and stations.*

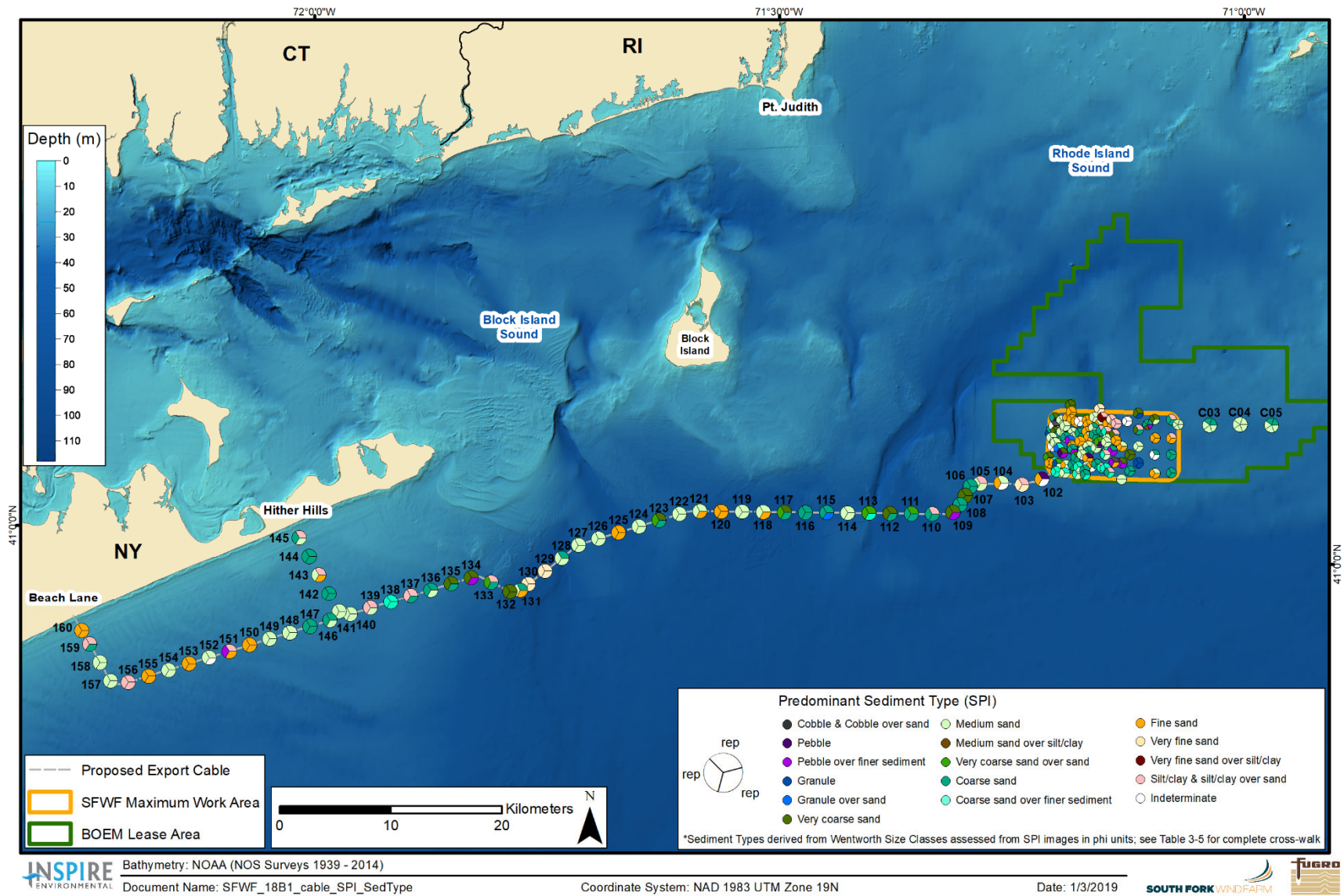


Figure 3-1. Sediment type aggregated from grain size major mode (phi units) derived from SPI images across the surveyed area

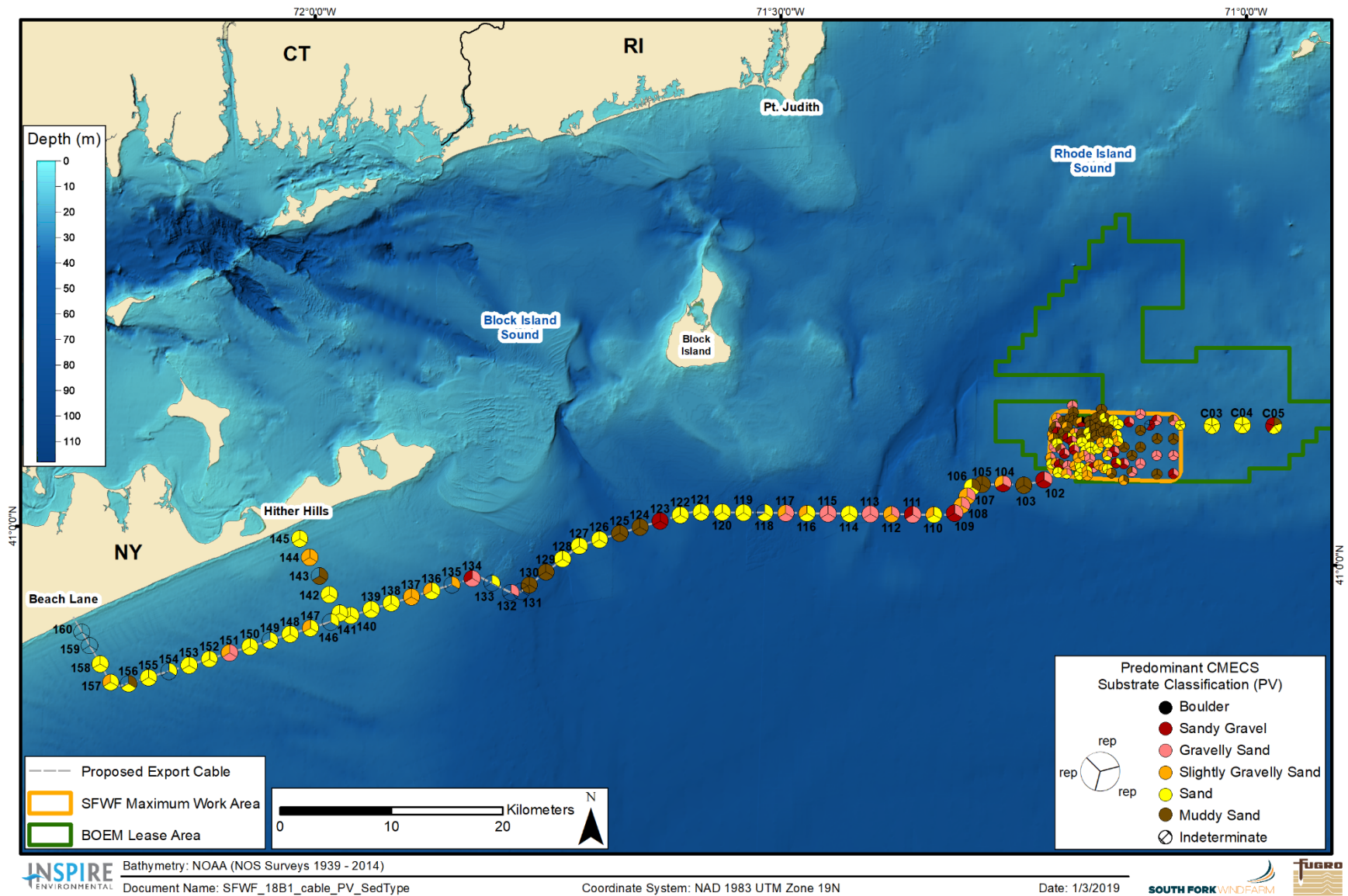


Figure 3-2. Sediment type determined from PV images across the surveyed area

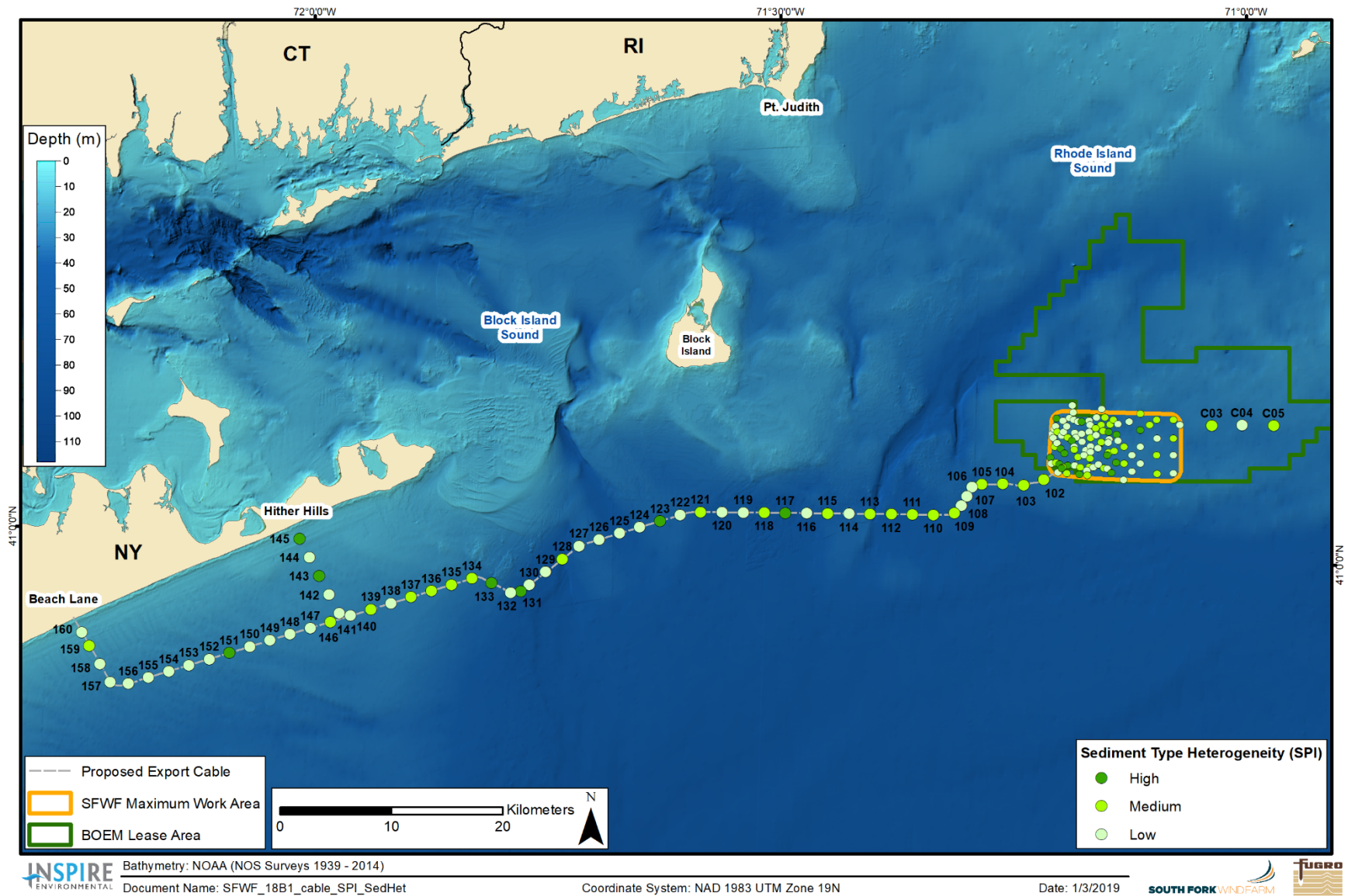


Figure 3-3. Intra-station sediment type heterogeneity determined from SPI images across the surveyed area

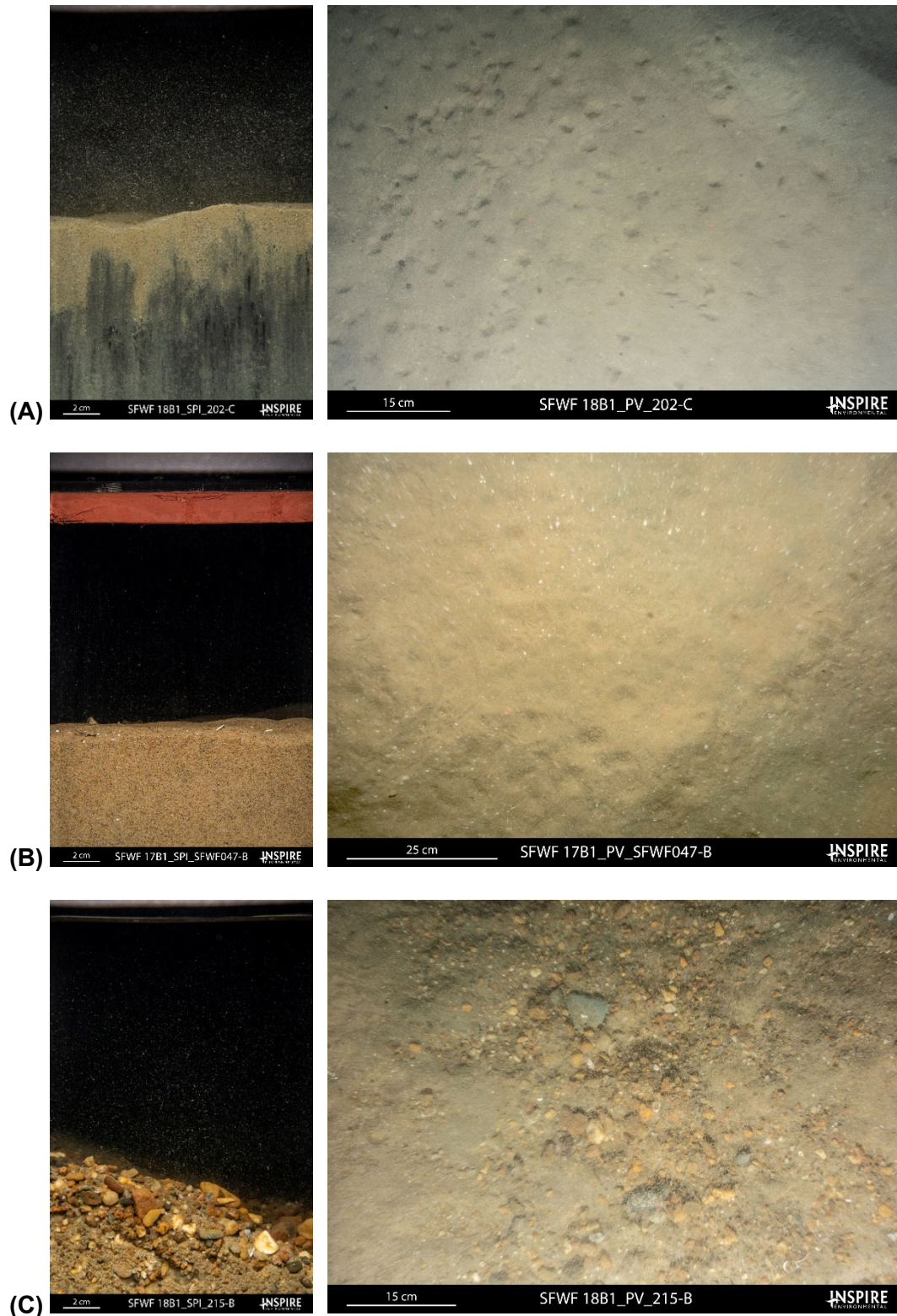


Figure 3-4. *Representative SPI and PV images depicting the range of sediment types across the surveyed area; (A) very fine sand-SPI, muddy sand-PV, (B) medium sand-SPI, sand-PV, and (C) pebbles over very coarse sand-SPI, sandy gravel-PV*

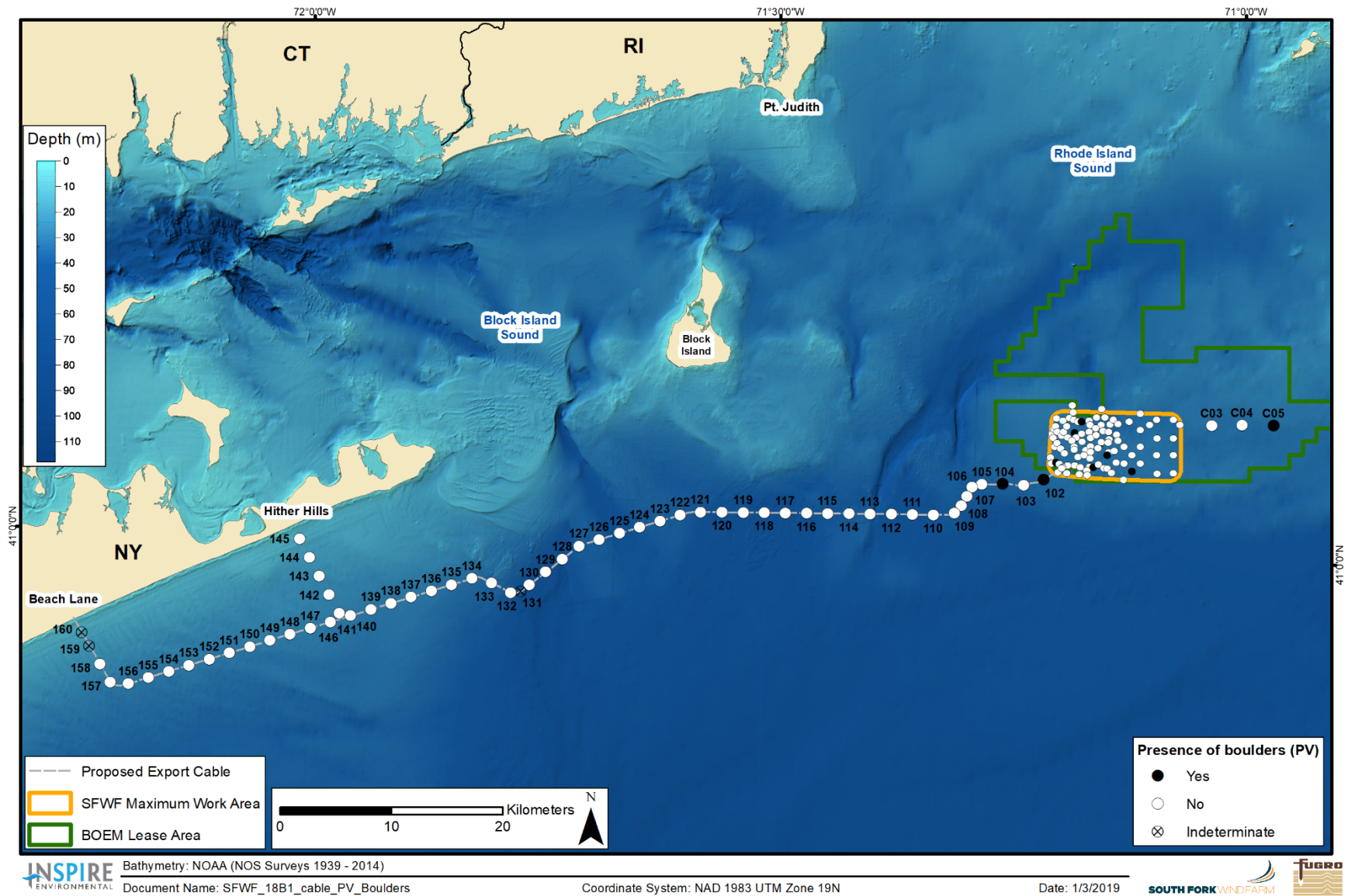


Figure 3-5. Presence/absence of boulders across the surveyed area

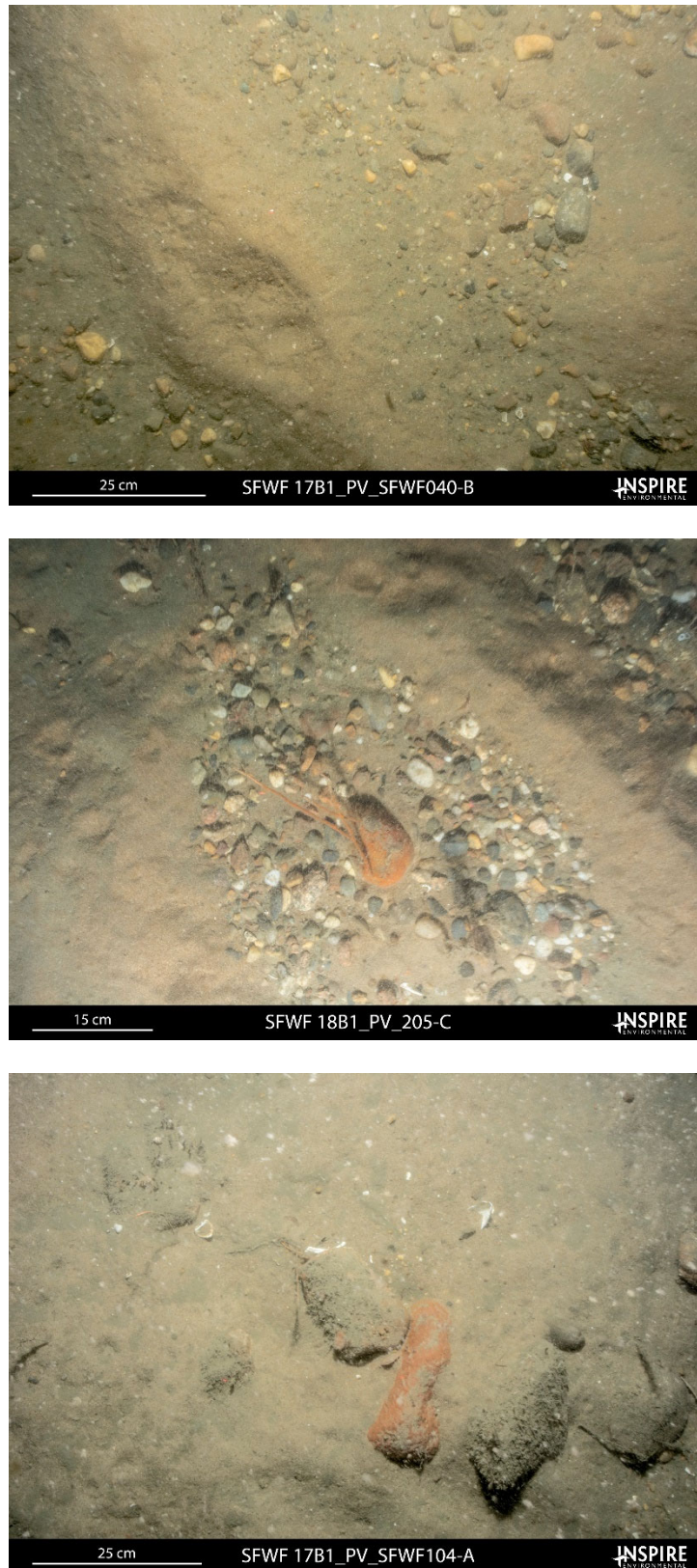


Figure 3-6. Representative PV images showing scattered cobbles and boulders on sand observed across the surveyed area

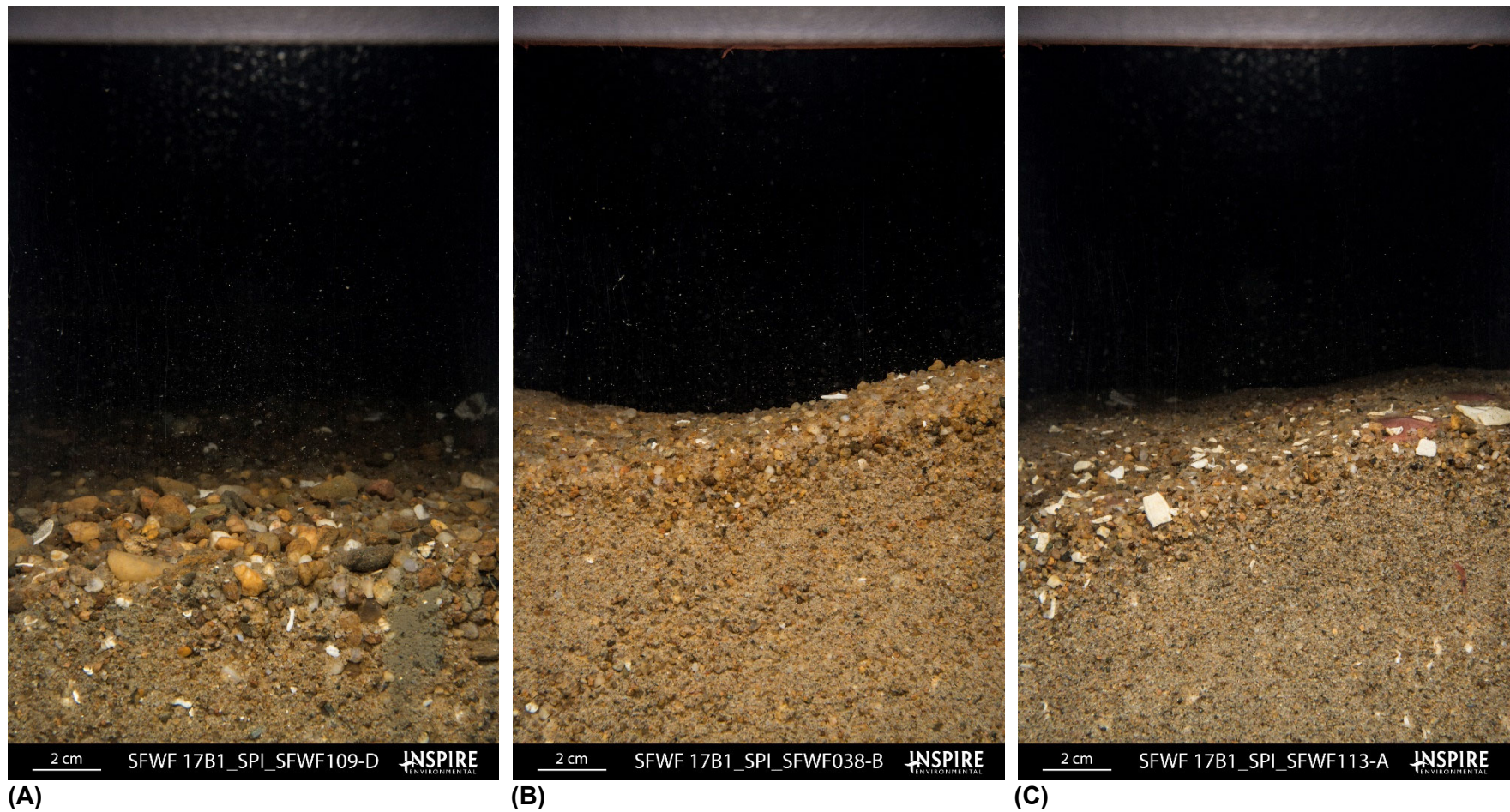


Figure 3-7. *Representative SPI images showing layering of coarse material over sand; (A) pebble over sand, (B) granule over sand, and (C) very coarse sand over sand*

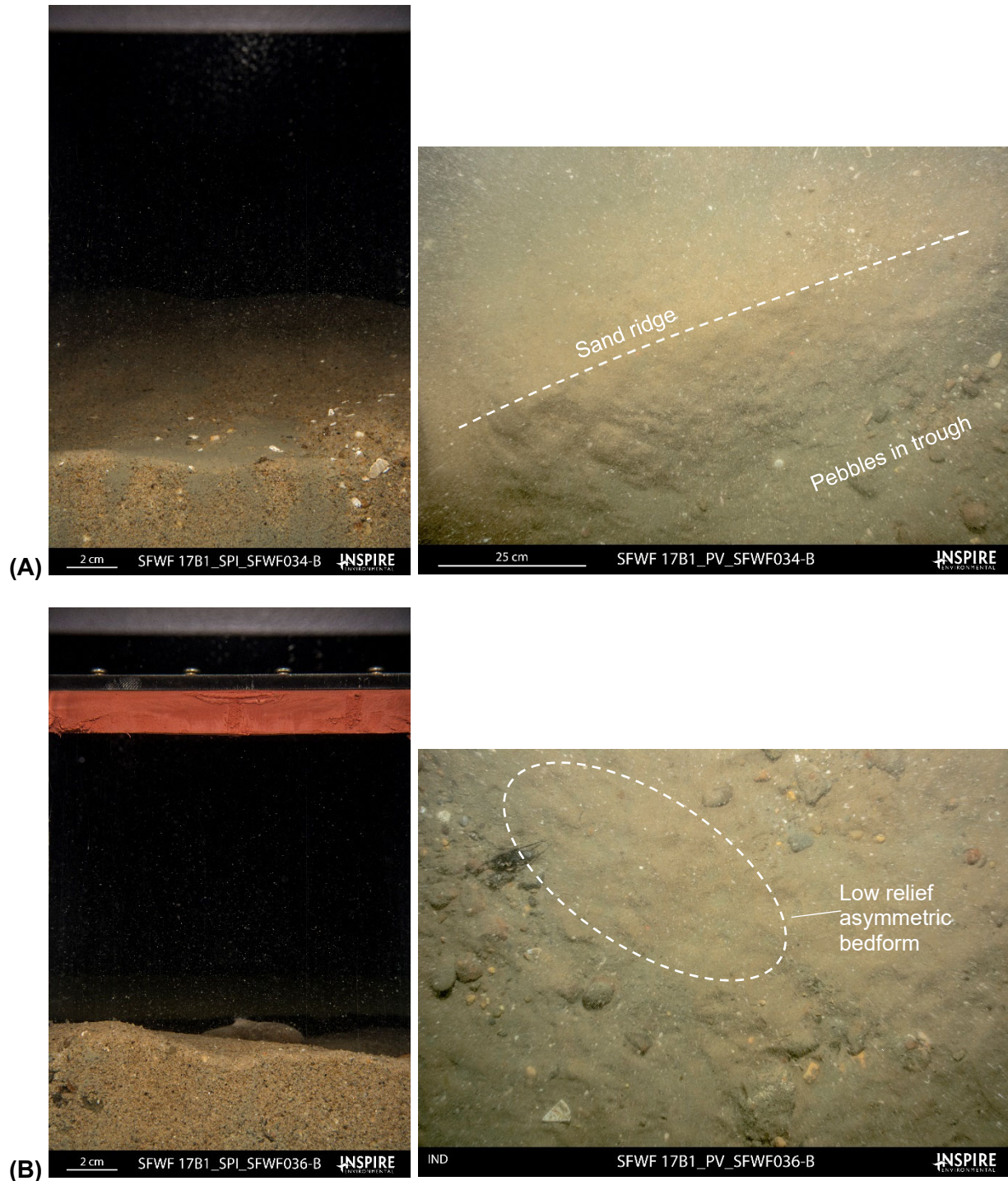


Figure 3-8. *Representative SPI and PV images showing the range from slightly gravelly sand to gravelly sand. (A) Slightly gravelly sand (0-5% gravel cover) with gravel consisting of pebbles and small cobble. In the PV image, there was a long axial crest ripple with a distinct sand ridge with pebbles/cobbles in the trough. Sparse, reworked shell fragments were also evident in both images. (B) Gravelly sand (5-30% gravel cover) with the gravel consisting of high sphericity, well-rounded pebbles and cobbles. Small, short-period, low relief asymmetric bedforms were present amongst the gravel.*



Figure 3-9. *Representative SPI and PV images showing sandy gravel (30-80% gravel cover) with gravel consisting of pebbles and sparse cobbles. Sparse shell fragments were also present.*

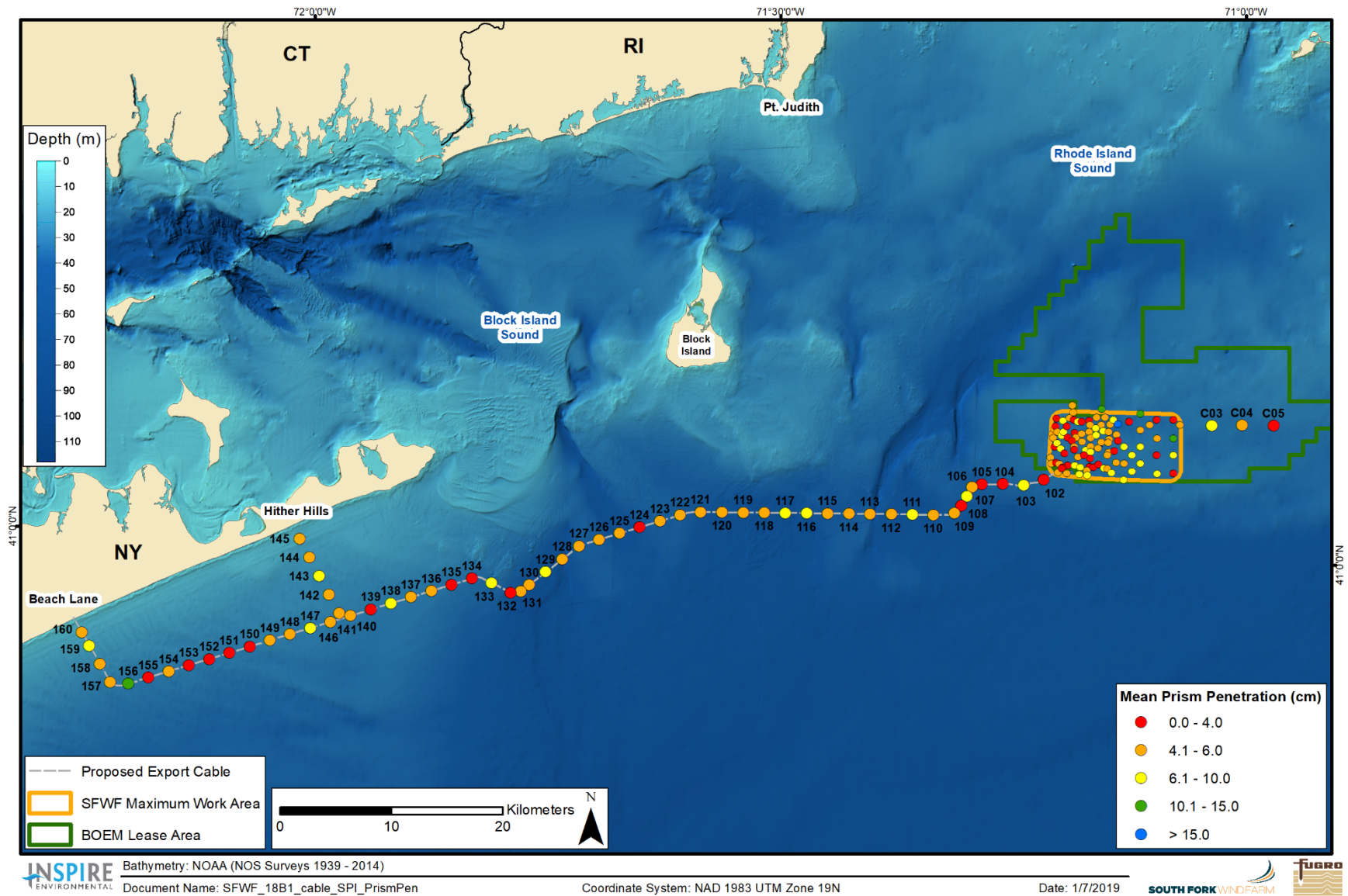


Figure 3-10. Mean station camera prism penetration depths (cm) across the surveyed area

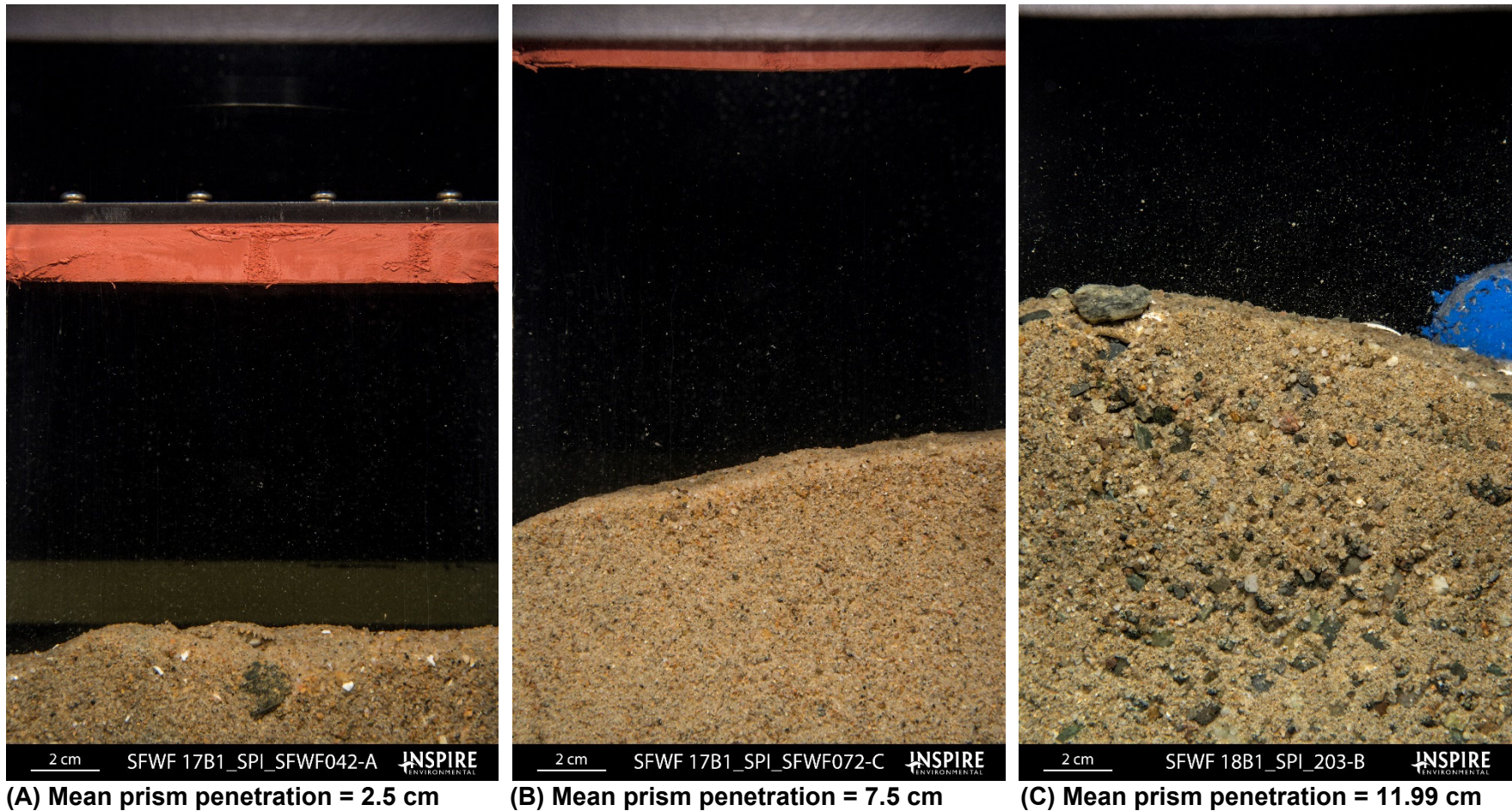


Figure 3-11. Representative SPI images showing sediments with (A) low, (B) medium, and (C) high prism penetration values, corresponding to high, medium, and low bearing strength, respectively

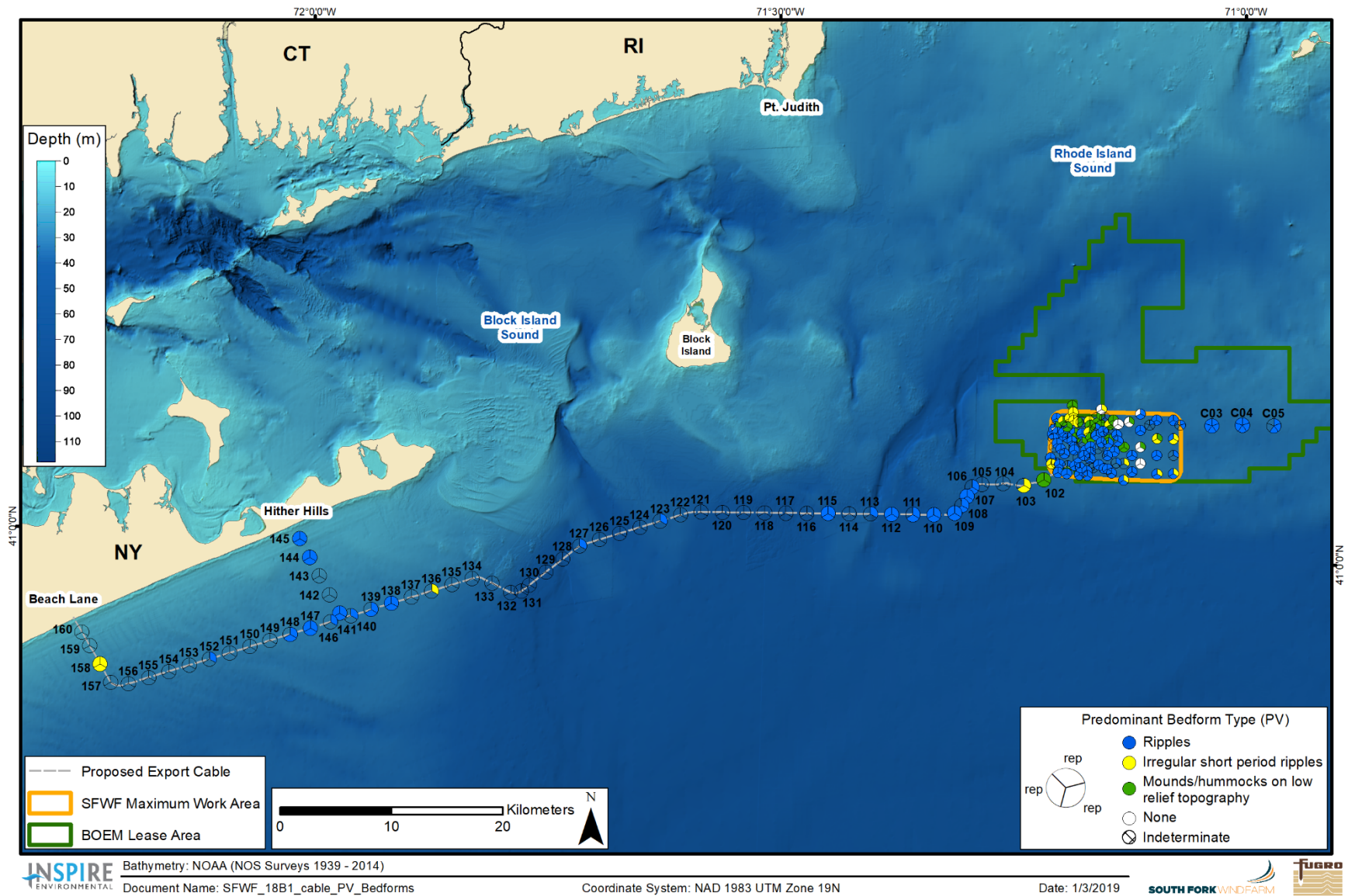


Figure 3-12. Bedforms observed in PV images across the surveyed area

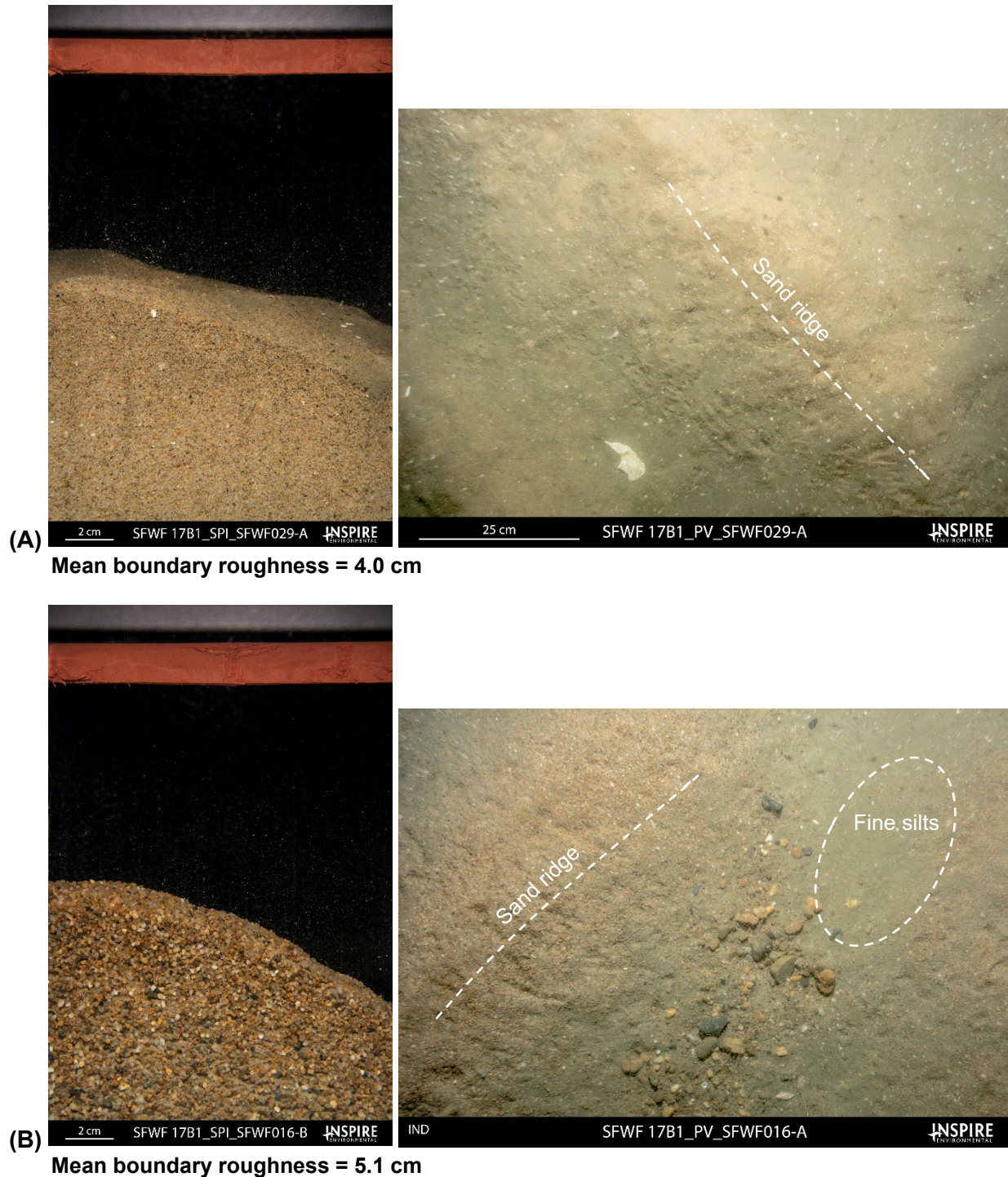


Figure 3-13. Representative SPI and PV images showing ripples in sands and gravelly sands. (A) Sand with evident rippling and evidence of sediment resuspension and transport. The large boundary roughness in the SPI image is due to the bedform amplitude. (B) Gravelly sand with evident rippling. The gravel consists of pebbles and small cobbles that are found in the ripple trough. The ripple crest is composed of sand and there is a mantling of fine silts and/or organics in the ripple trough.

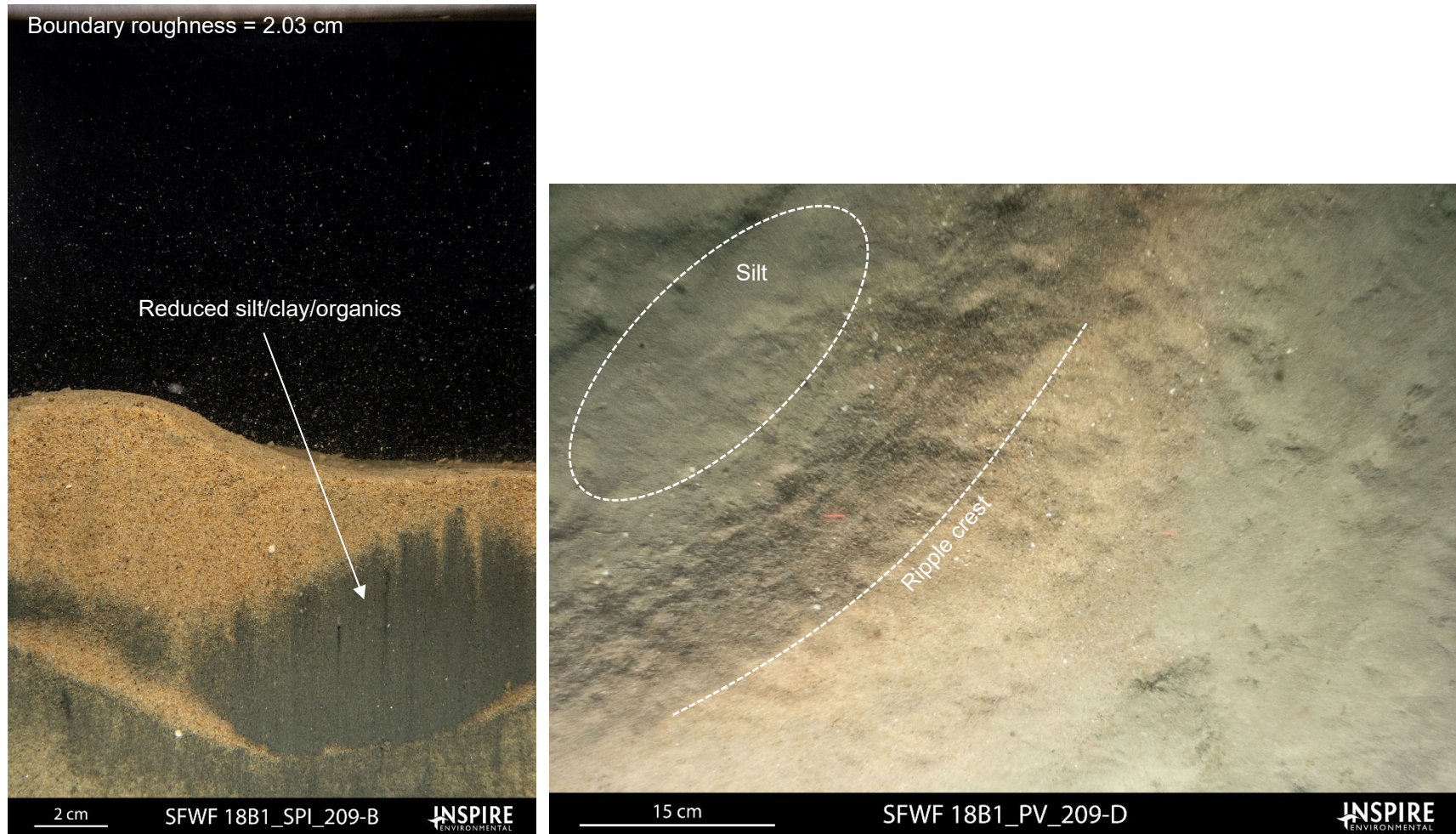


Figure 3-14. Representative SPI and PV images from Station 209 showing a thin silt deposit overlying sand. There is a thin veneer of silt/organics at the surface, most evident in the PV image in the ripple troughs. In addition, there is a small flaser bed of reduced silt/clay/organics (arrow) in the profile image. Slight dragdown of flaser bed is visible; the dragdown was a result of the motion of the SPI prism into the sediment column. These flaser beds form when surficial fines aggregate, become resistant to resuspension, and then are covered by mobile sands. They are frequently preserved as lenticular deposits that reflect deposition in bedform trough environments.



Figure 3-15. Representative SPI and PV images from Station 5 showing mobile fine sand with irregular short period ripples. Shallow boundary roughness and short (~4-10 cm) ripple periods and anastomosing or sinusoidal crests are evidence for this bedform.

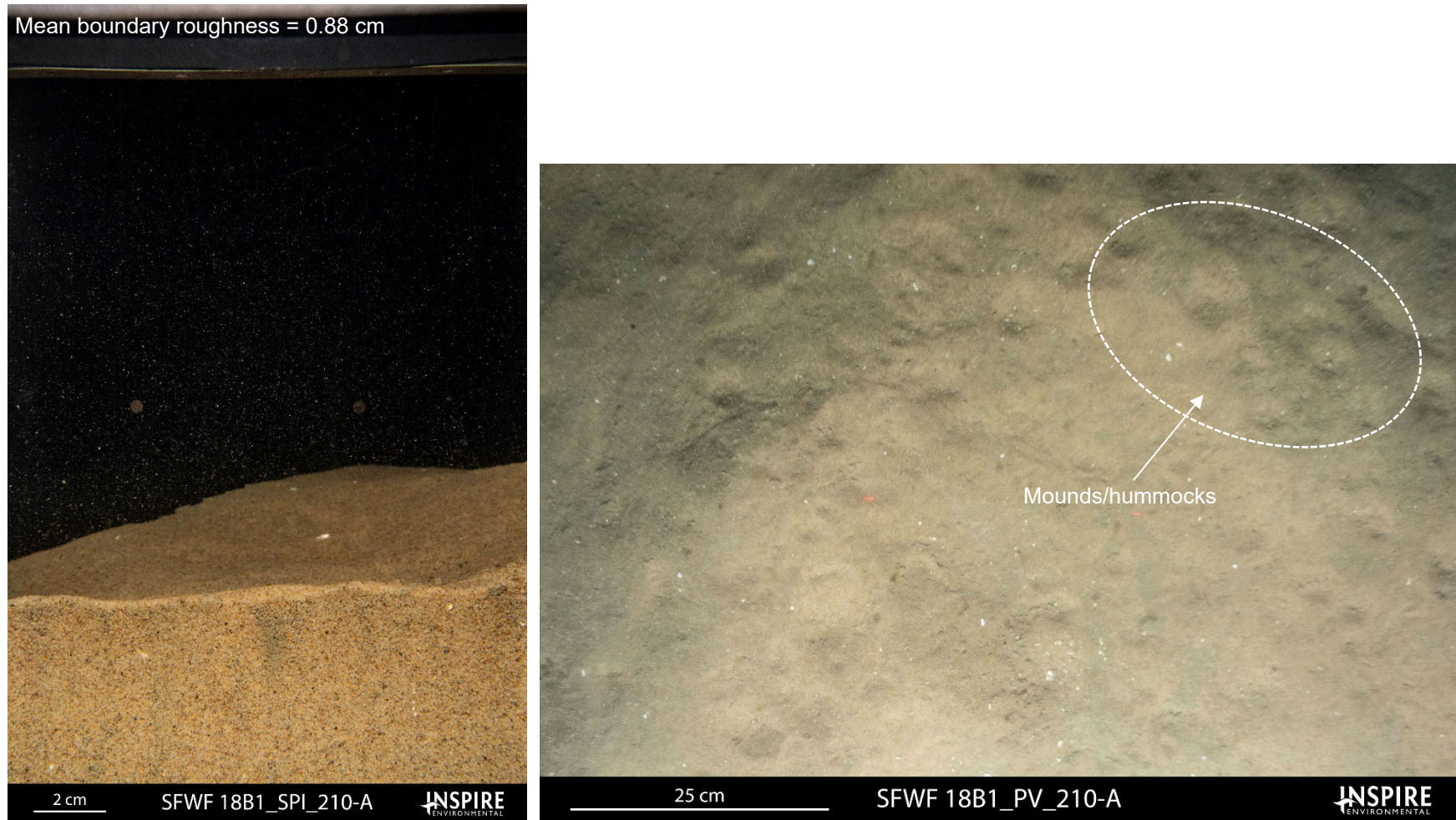


Figure 3-16. *Representative SPI and PV images from Station 210 showing mounds/hummocks with low relief seafloor topography. Asymmetric low relief rippling and irregularly spaced hummocks are superimposed on low angle bedforms.*

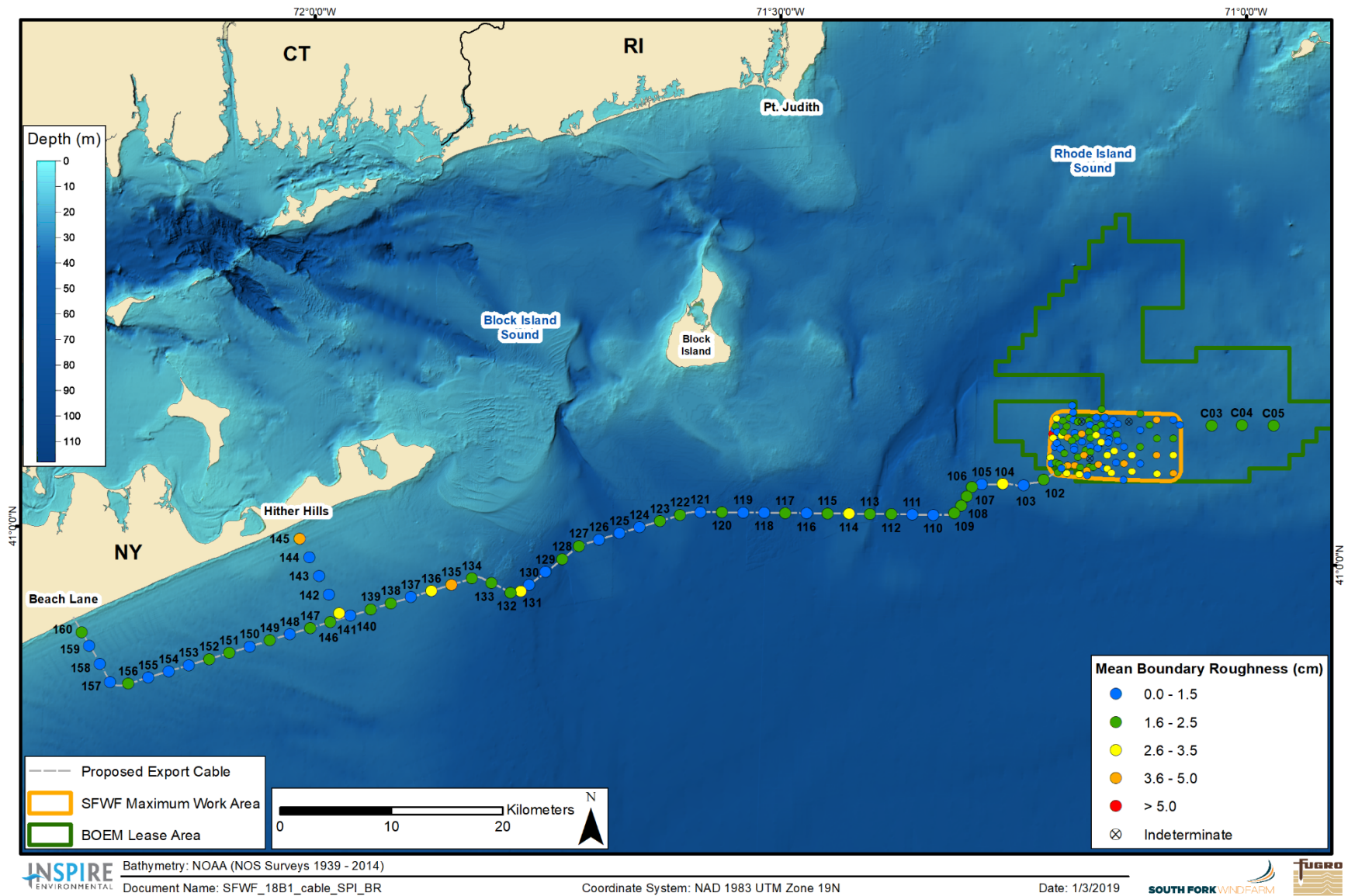


Figure 3-17. Mean station small-scale boundary roughness values (cm) across the surveyed area

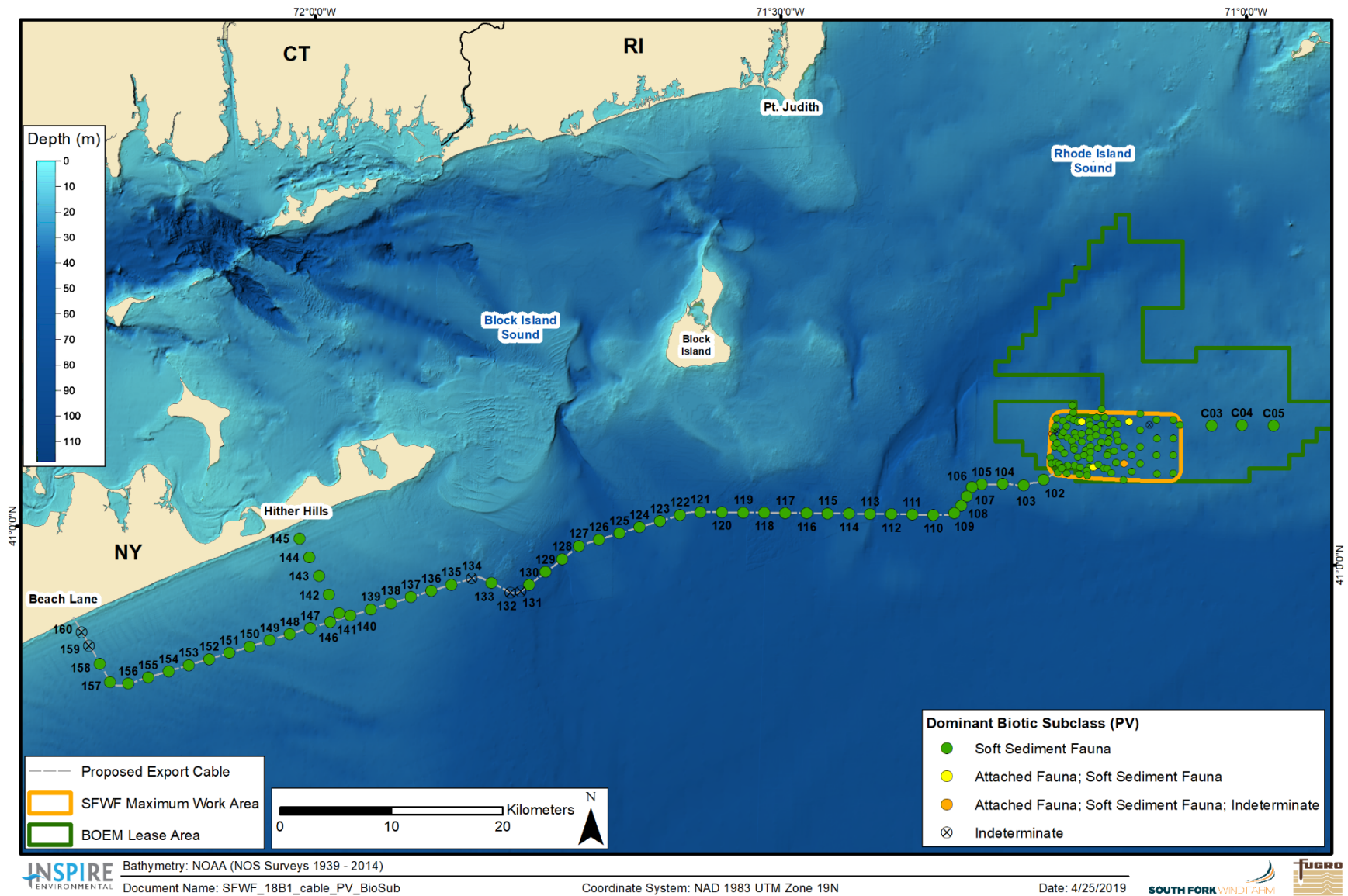


Figure 3-18. CMECS Biotic Subclass determined from PV images across the surveyed area

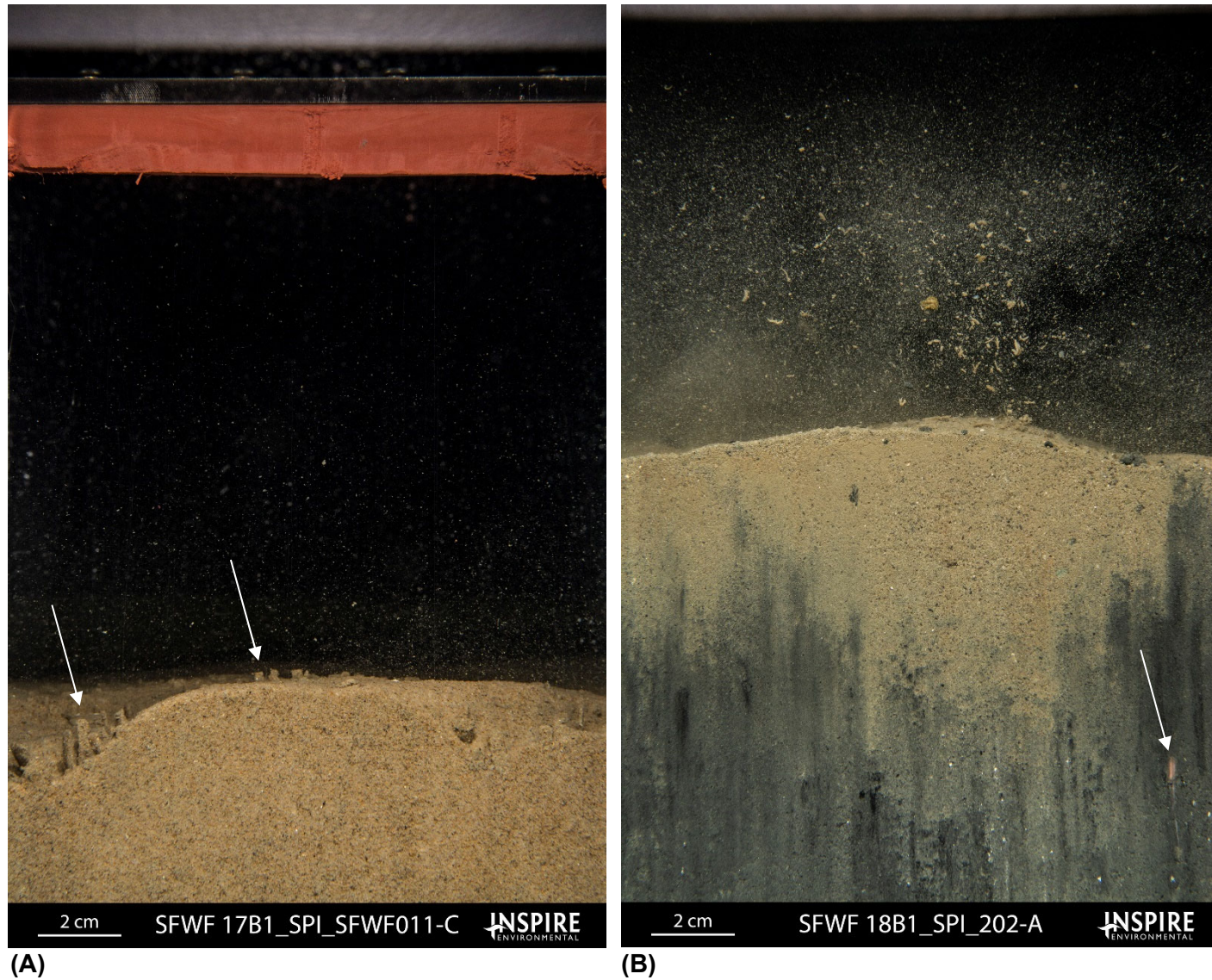


Figure 3-19. Representative SPI images showing evidence of the CMECS Soft Sediment Fauna Biotic Subclass, in this case (A) short infaunal tubes (arrows) in sand and (B) an infaunal polychaete (arrow) in very fine sand

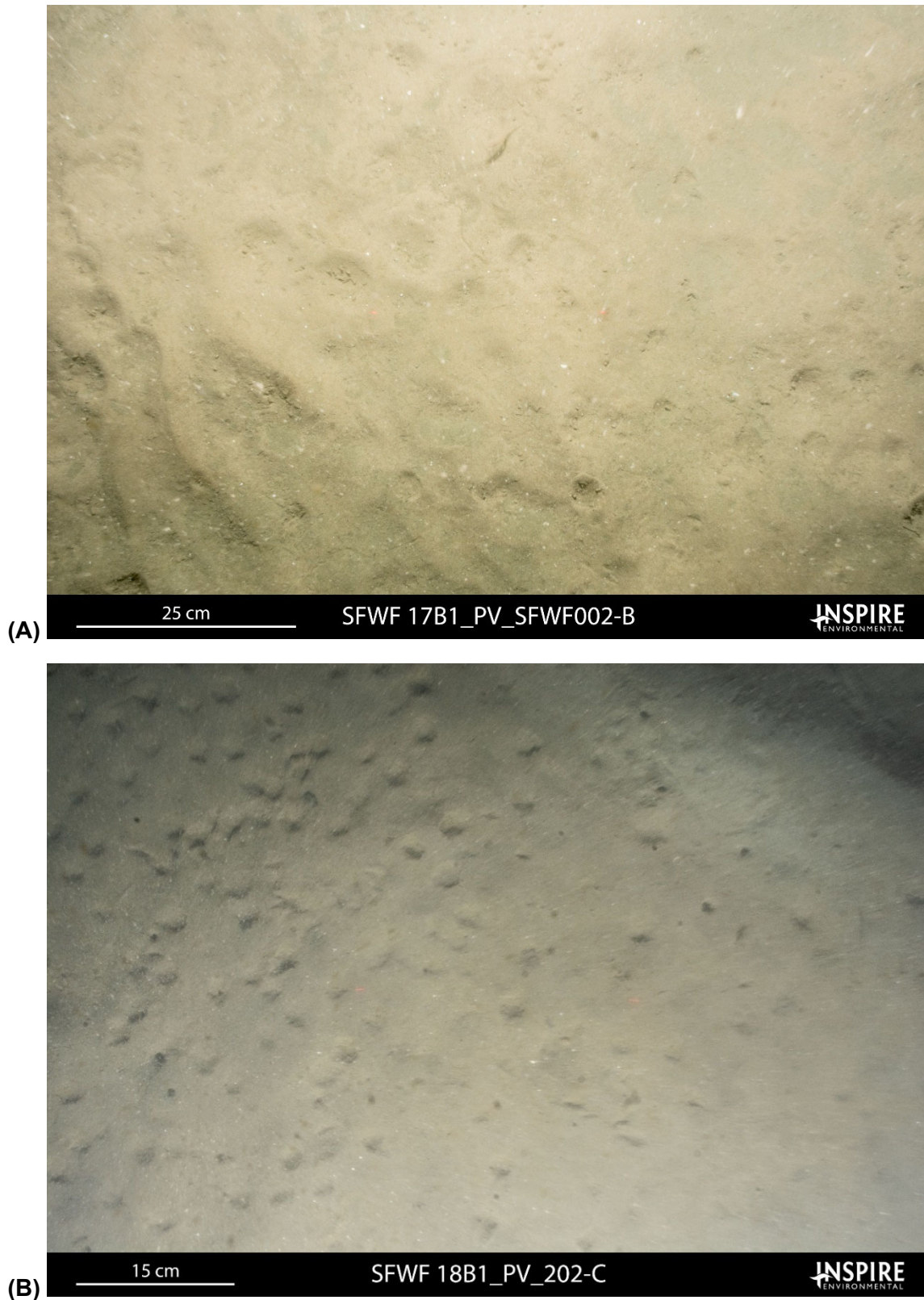


Figure 3-20. Representative PV images showing evidence of the CMECS Soft Sediment Fauna Biotic Subclass, in this case (A) fish foraging pits with associated fecal casts, as well as burrowing activity and (B) extensive burrowing activity

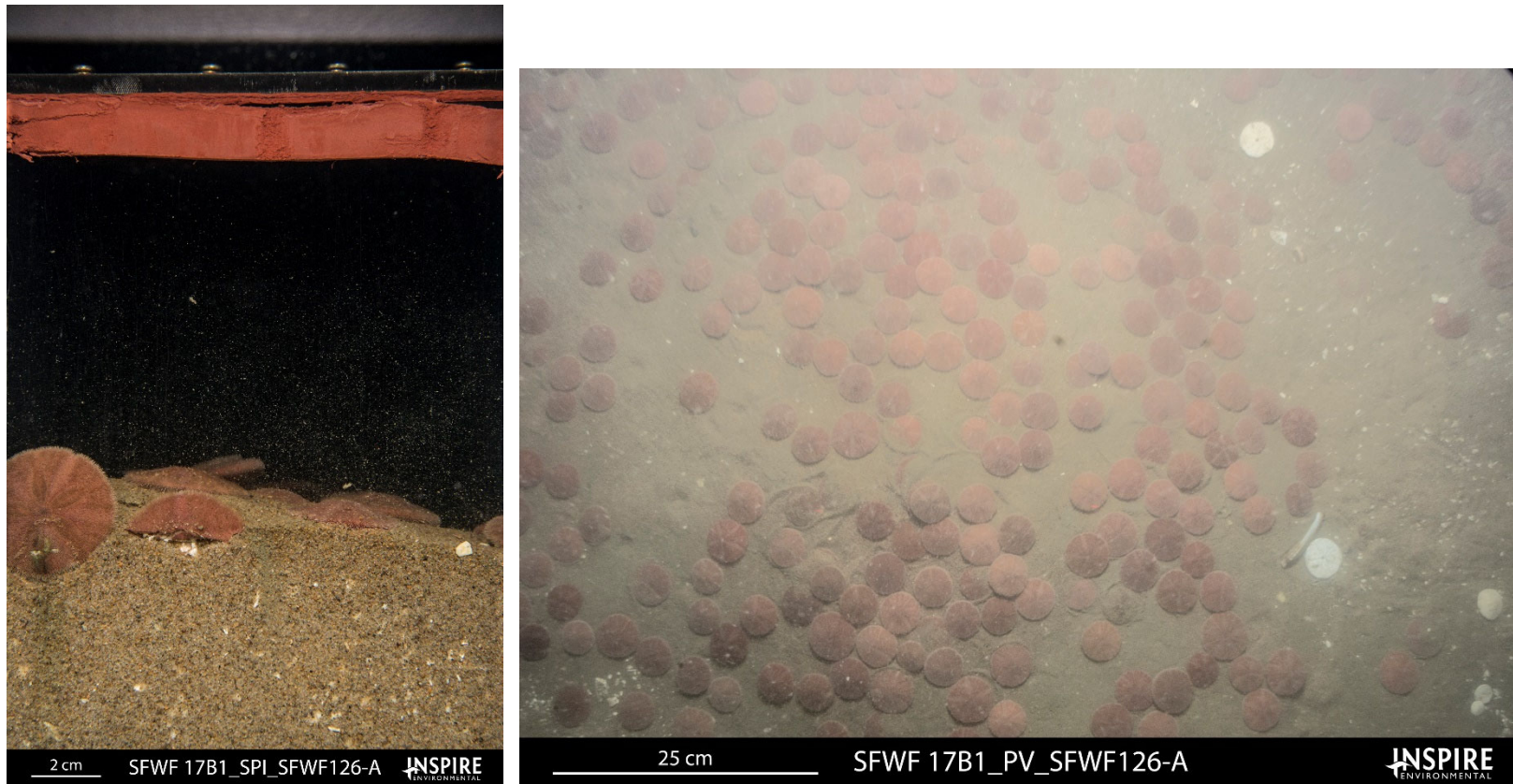


Figure 3-21. SPI and PV images showing evidence of the CMECS Soft Sediment Fauna Biotic Subclass, in this case a sand dollar (*Echinorachnius parma*) bed on sand found along the South Fork Export Cable

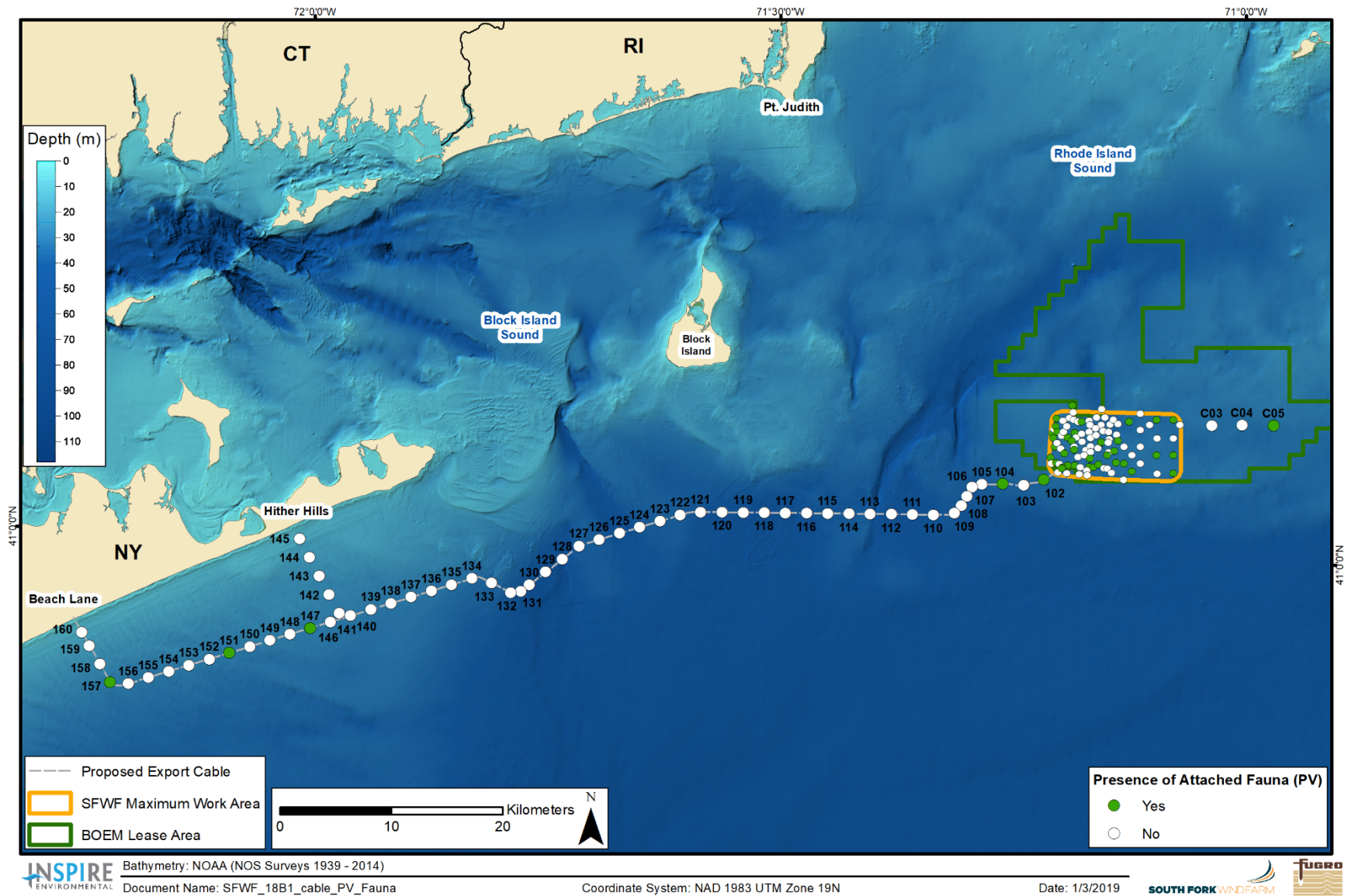
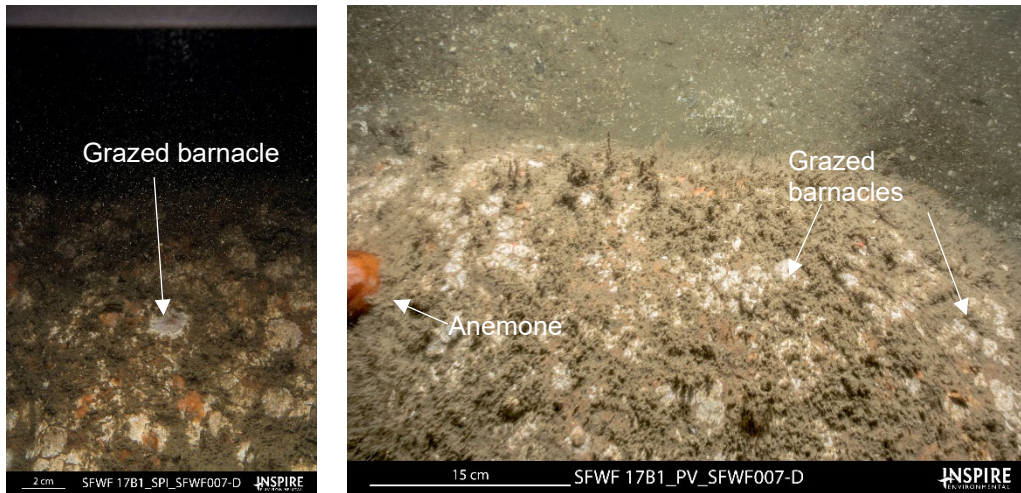
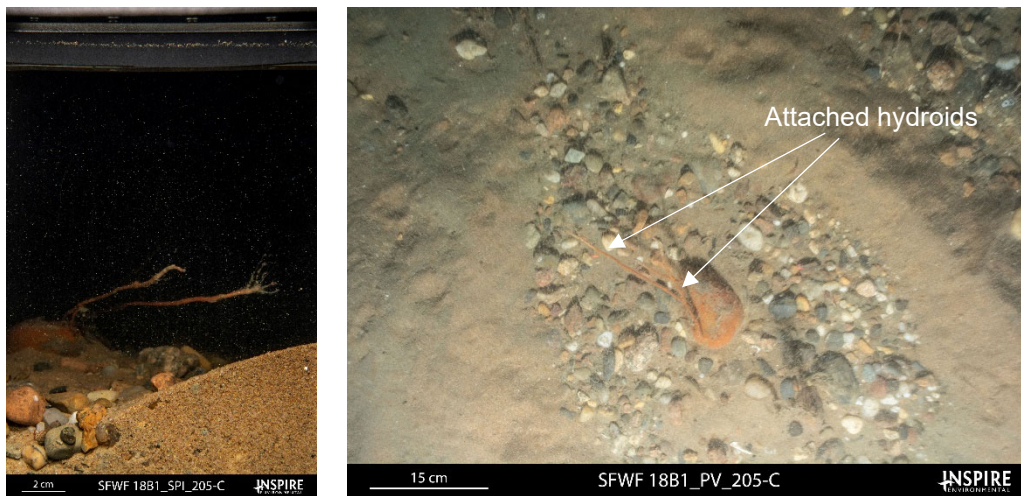


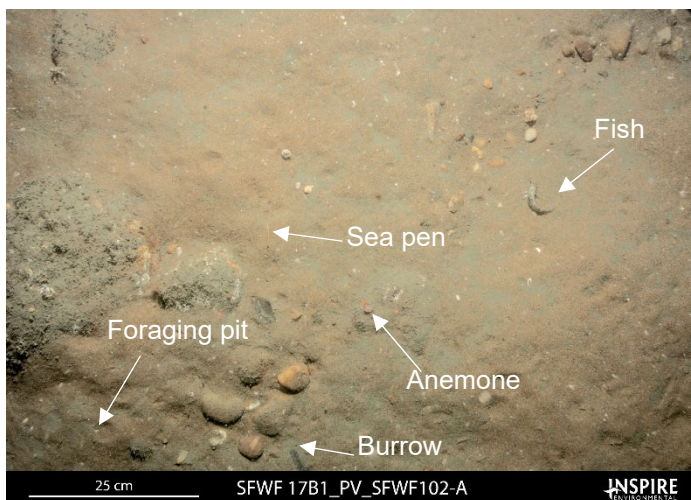
Figure 3-22. Presence of attached fauna observed as CMECS Biotic Subclass and/or Co-occurring Subclass across the surveyed area



(A) The boulder is colonized by hydroids and barnacles, many of which have been grazed. A large orange anemone is attached to the boulder on the far left of the PV image.



(B) Small and medium cobbles with attached hydroids. Smaller cobbles and pebbles are uncolonized



(C) Hydroids and grazed barnacles are visible on the large cobbles and boulder. A sea pen and an anemone are in the sand near the image center. A small unidentified fish is visible on the right side of the image. Infaunal burrows are present in the bottom center of the PV image and fish foraging pits in lower right and lower left.

Figure 3-23. Representative PV and SPL images from Stations 7, 205, and 102 showing cobbles and boulders with attached fauna

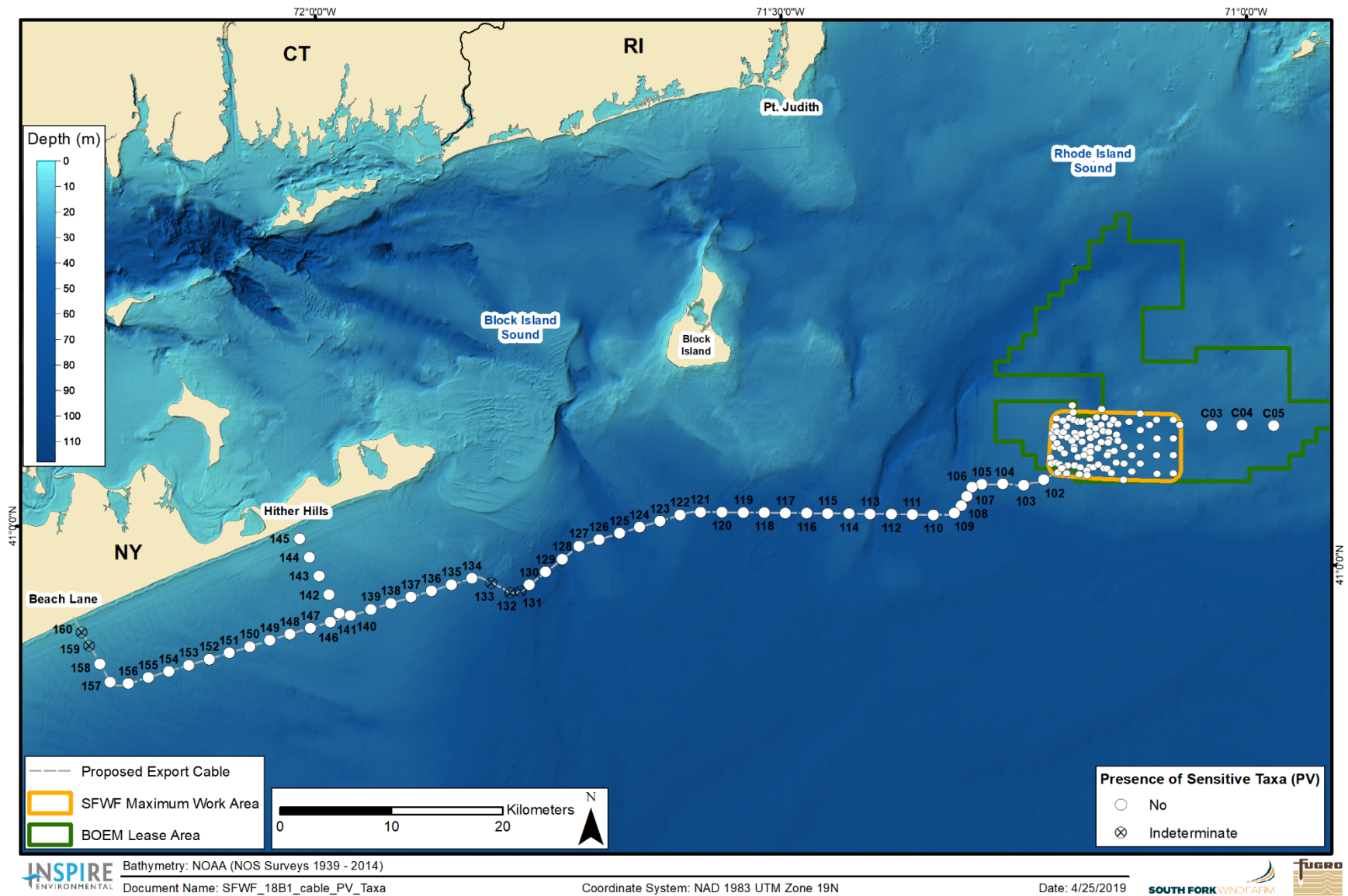


Figure 3-24. Presence of sensitive taxa observed in PV images across the surveyed area

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

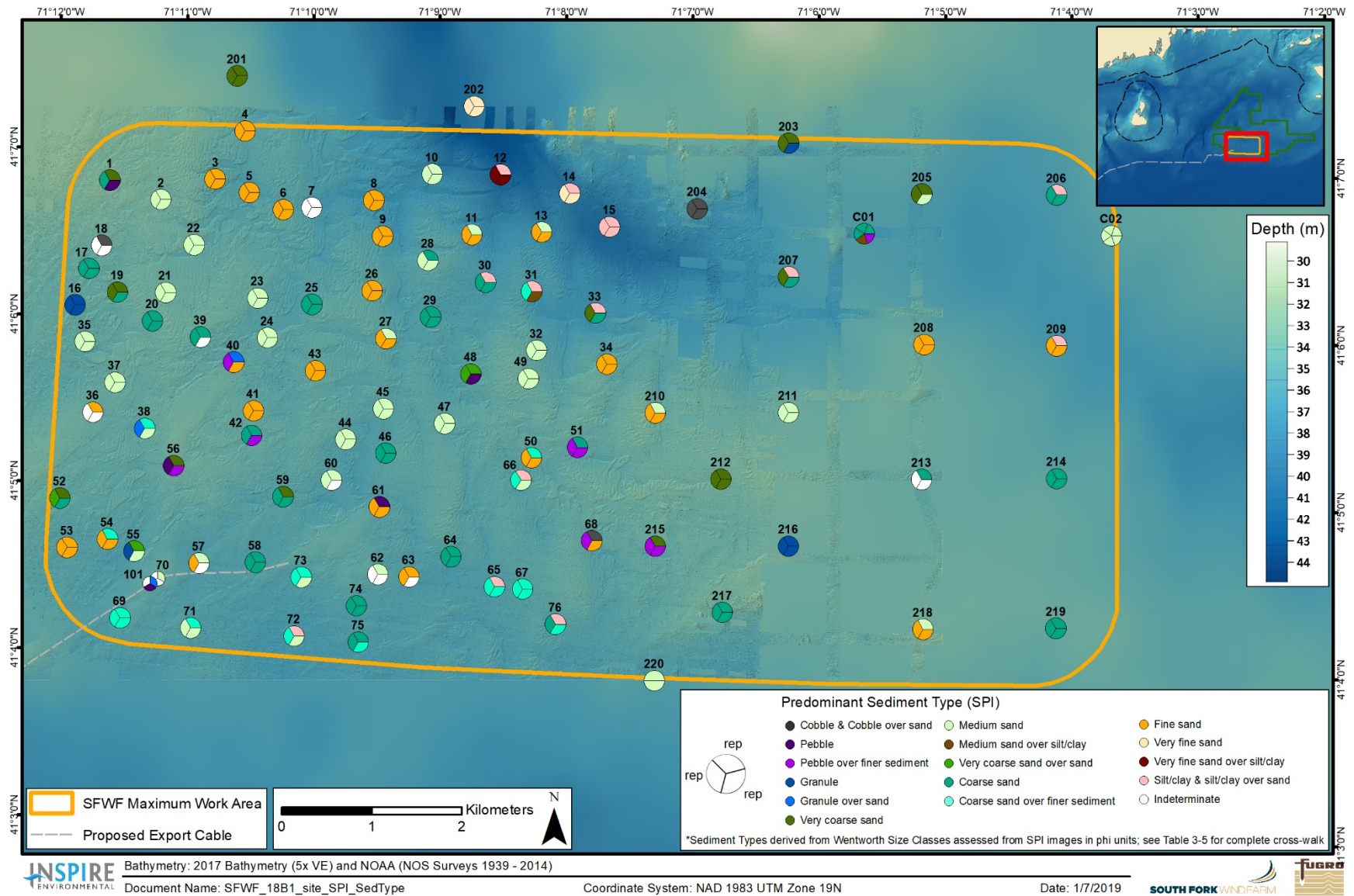


Figure 3-25. Sediment type aggregated from grain size major mode (phi units) derived from SPI images at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

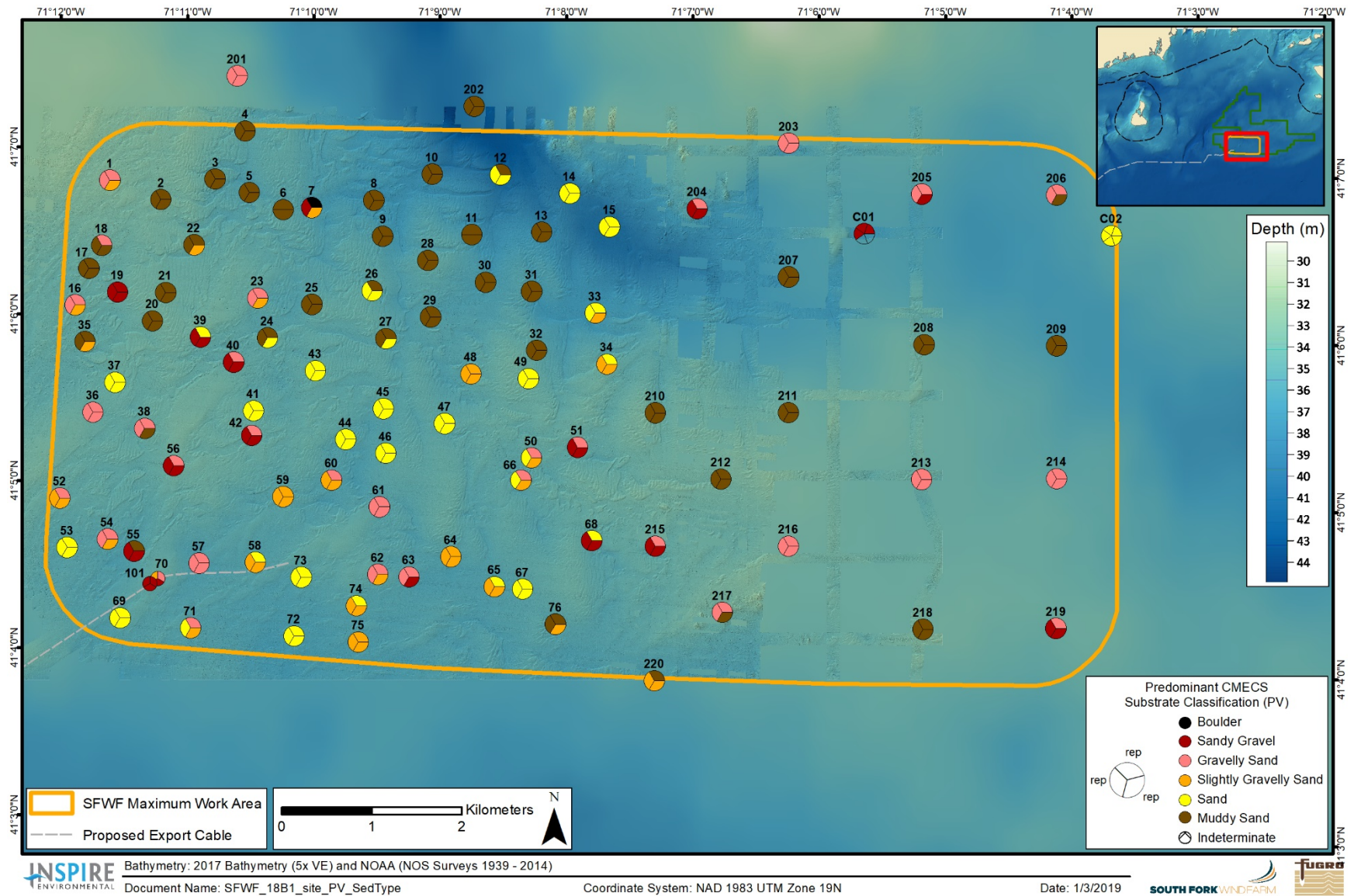


Figure 3-26. Sediment type determined from PV images at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

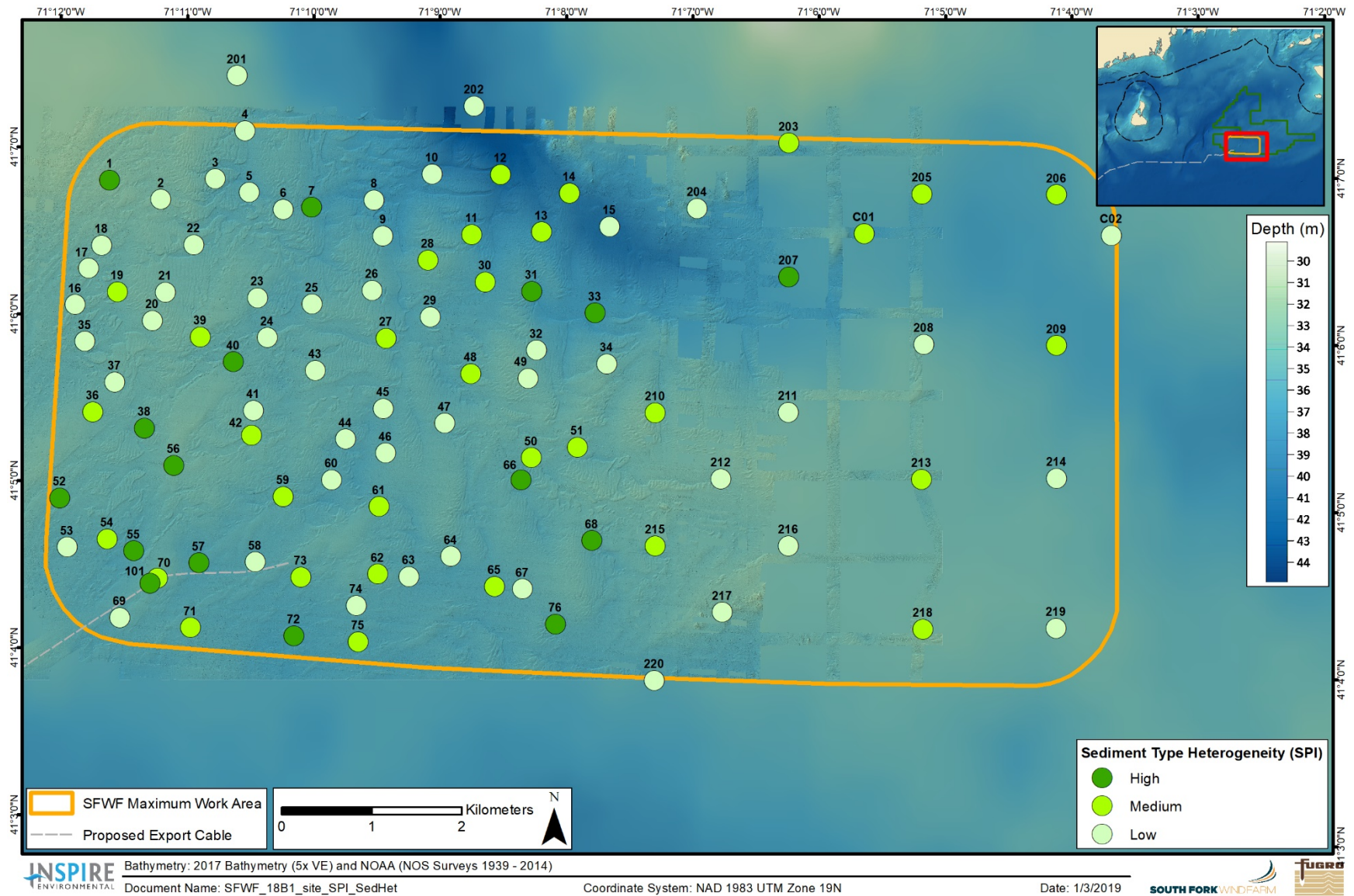


Figure 3-27. Intra-station sediment type heterogeneity determined from SPI images at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

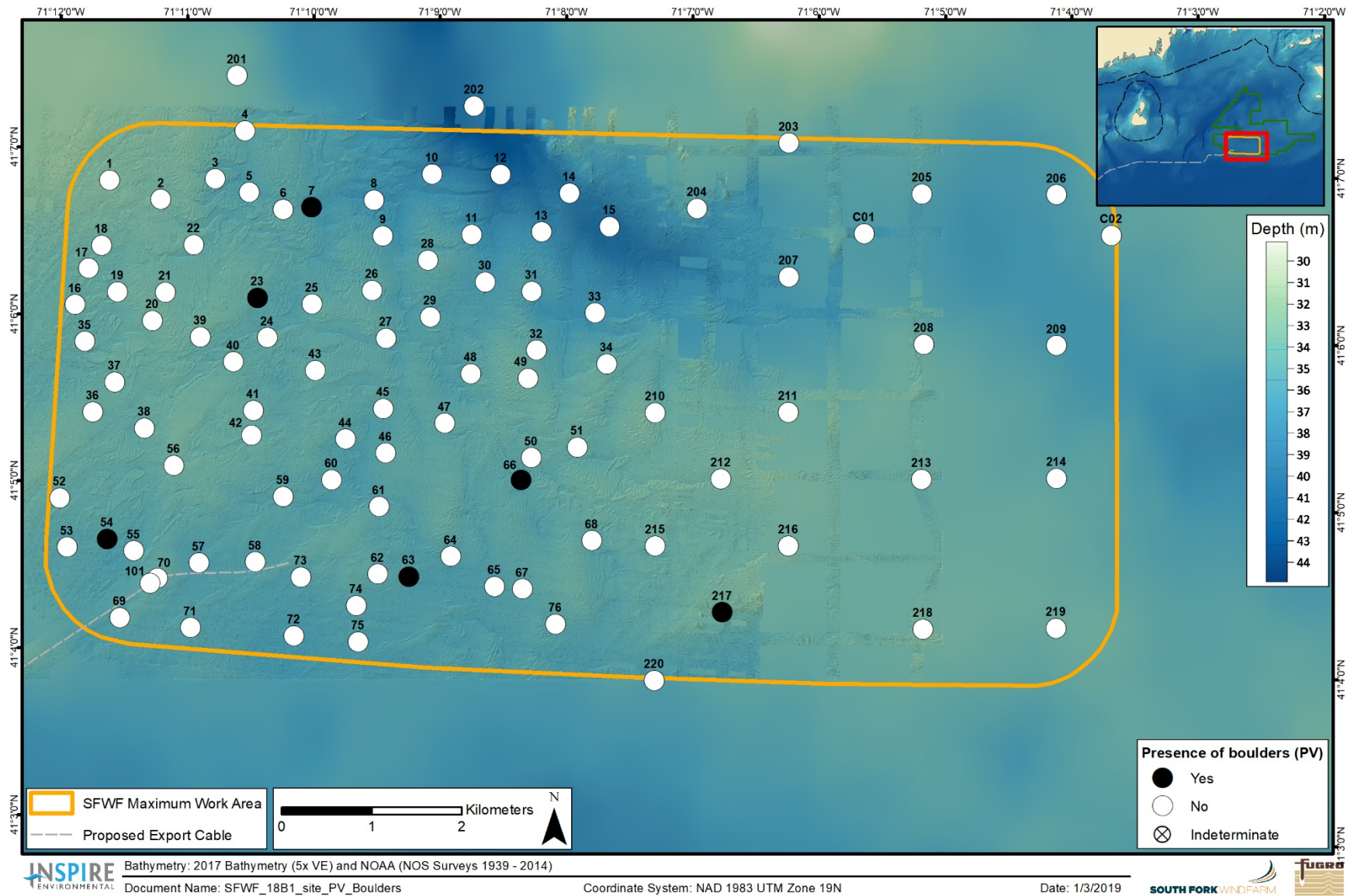


Figure 3-28. Presence/absence of boulders at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

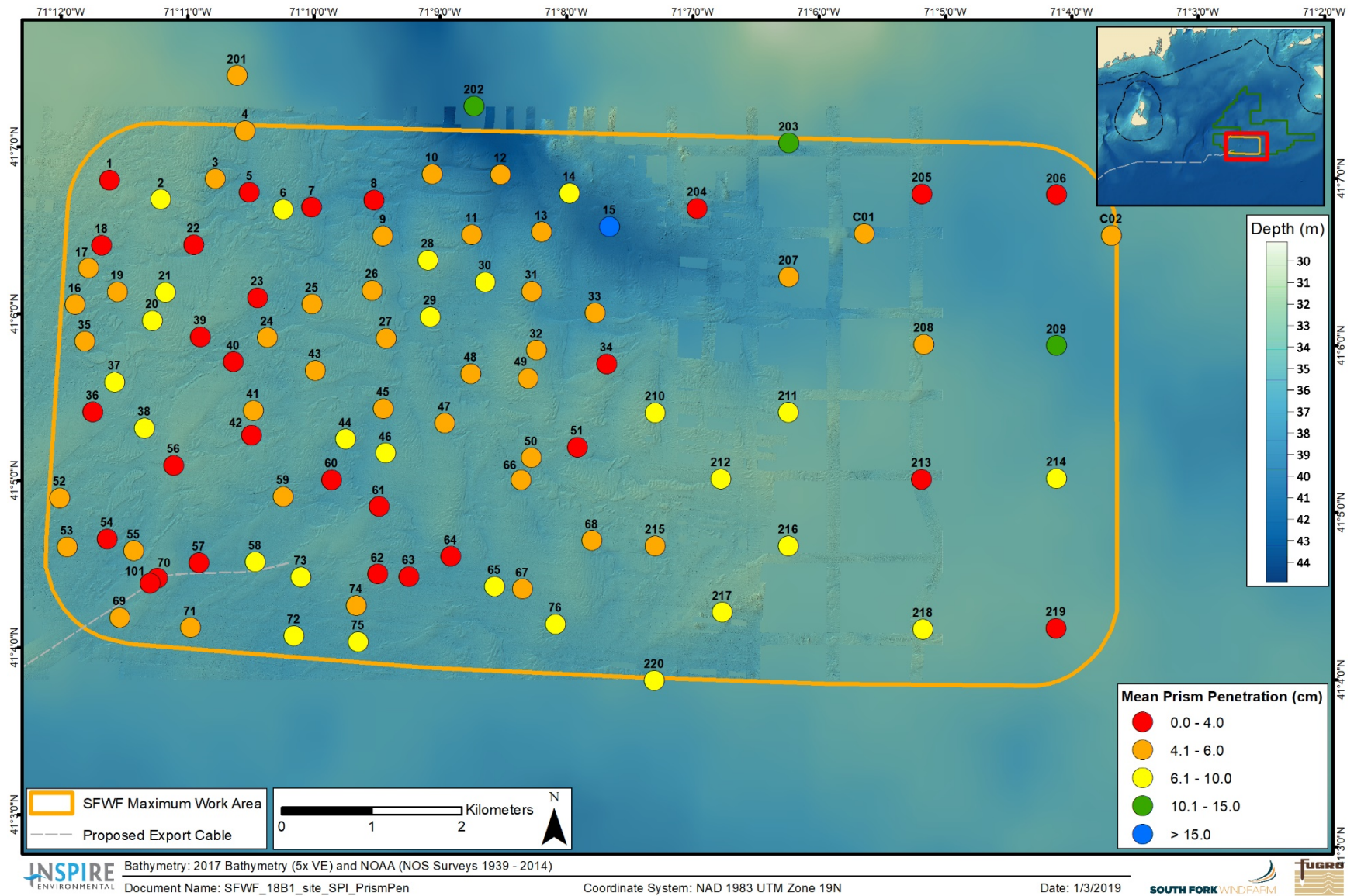


Figure 3-29. Mean station camera prism penetration depths (cm) at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

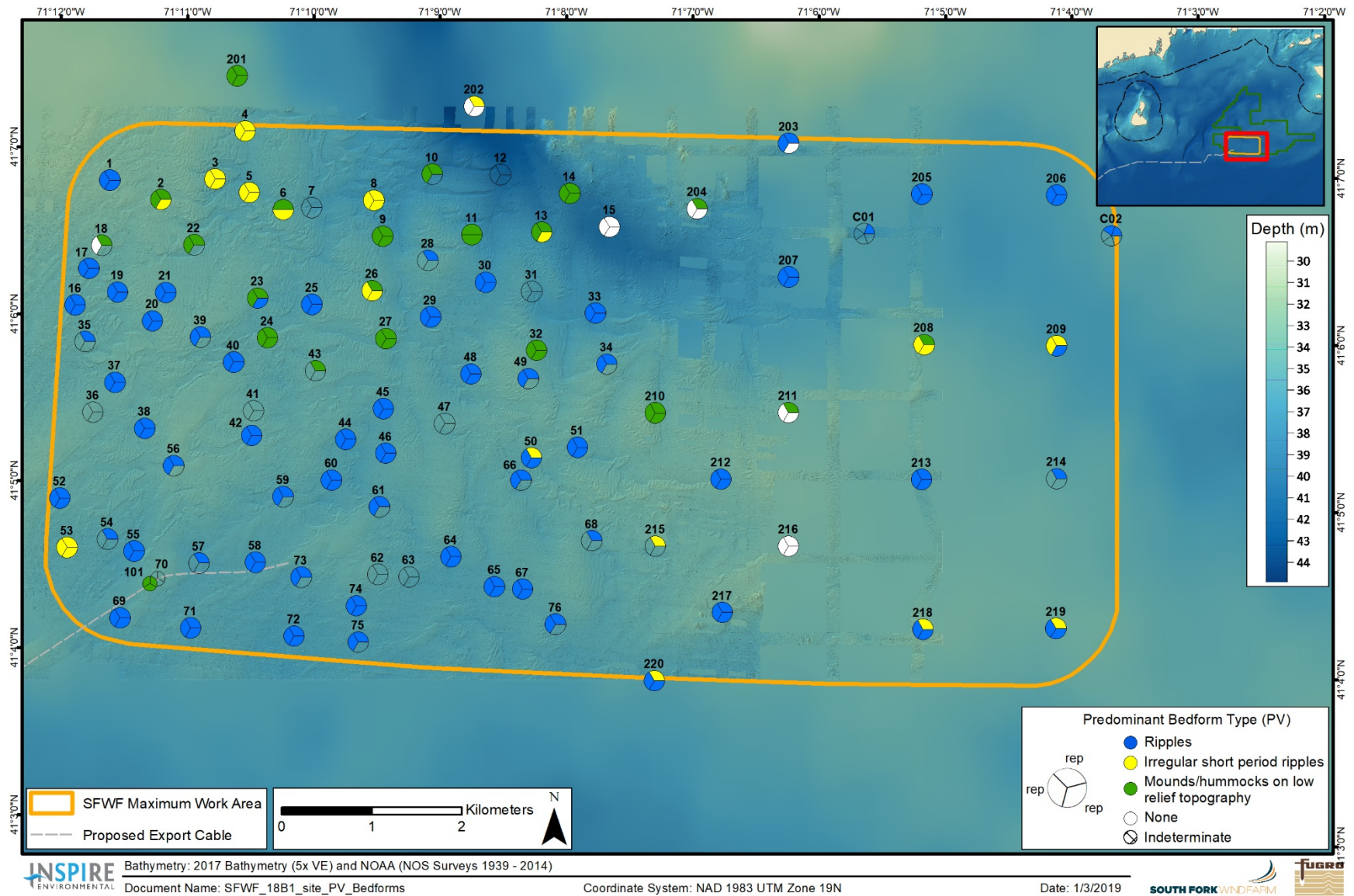


Figure 3-30. Bedforms observed in PV images at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

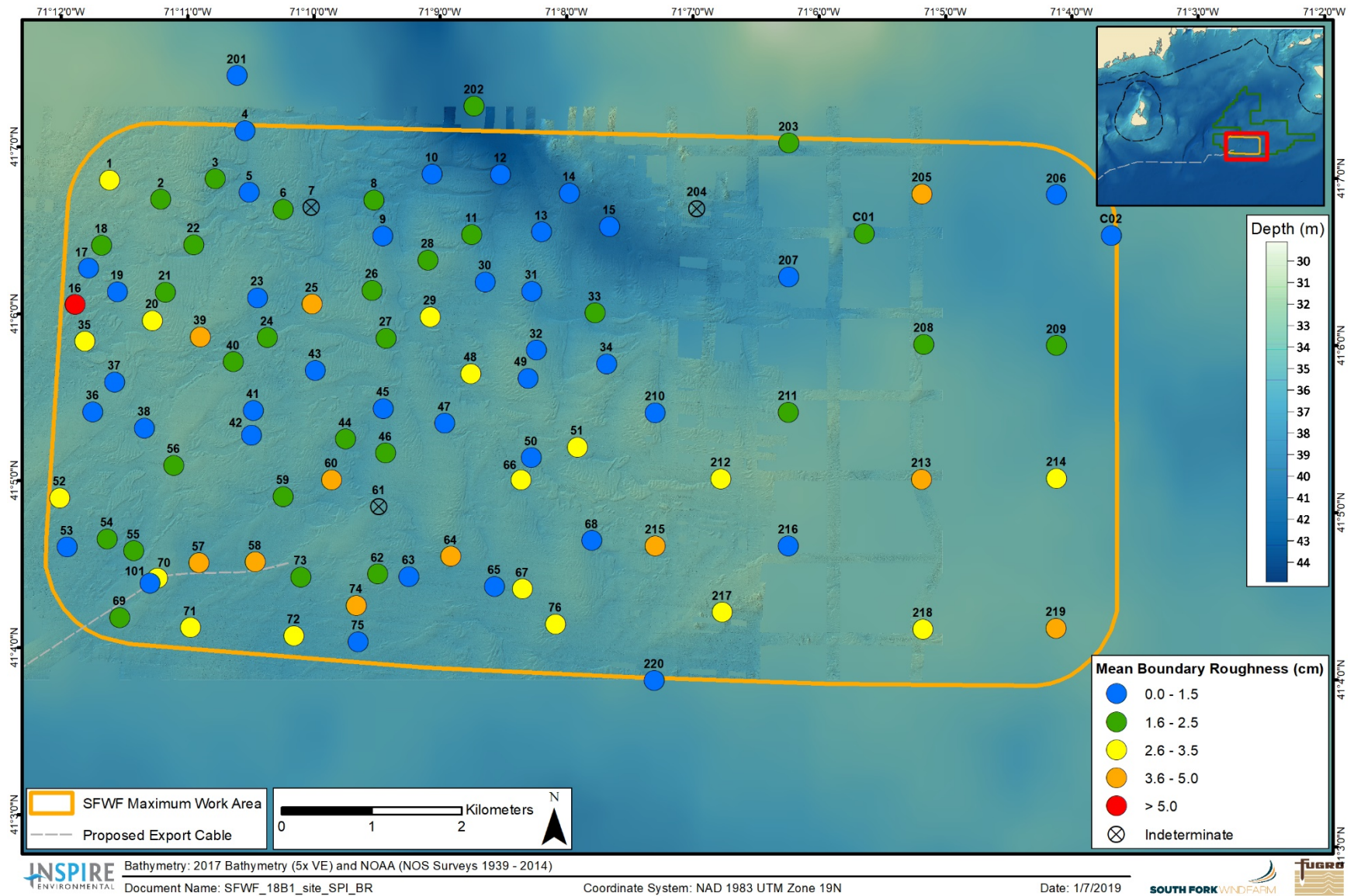


Figure 3-31. Mean station small-scale boundary roughness values (cm) at the SFWF

2017/2018 Sediment Profile and Plan View Imaging Physical Ground-Truth Survey
in Support of the SFWF Site Assessment

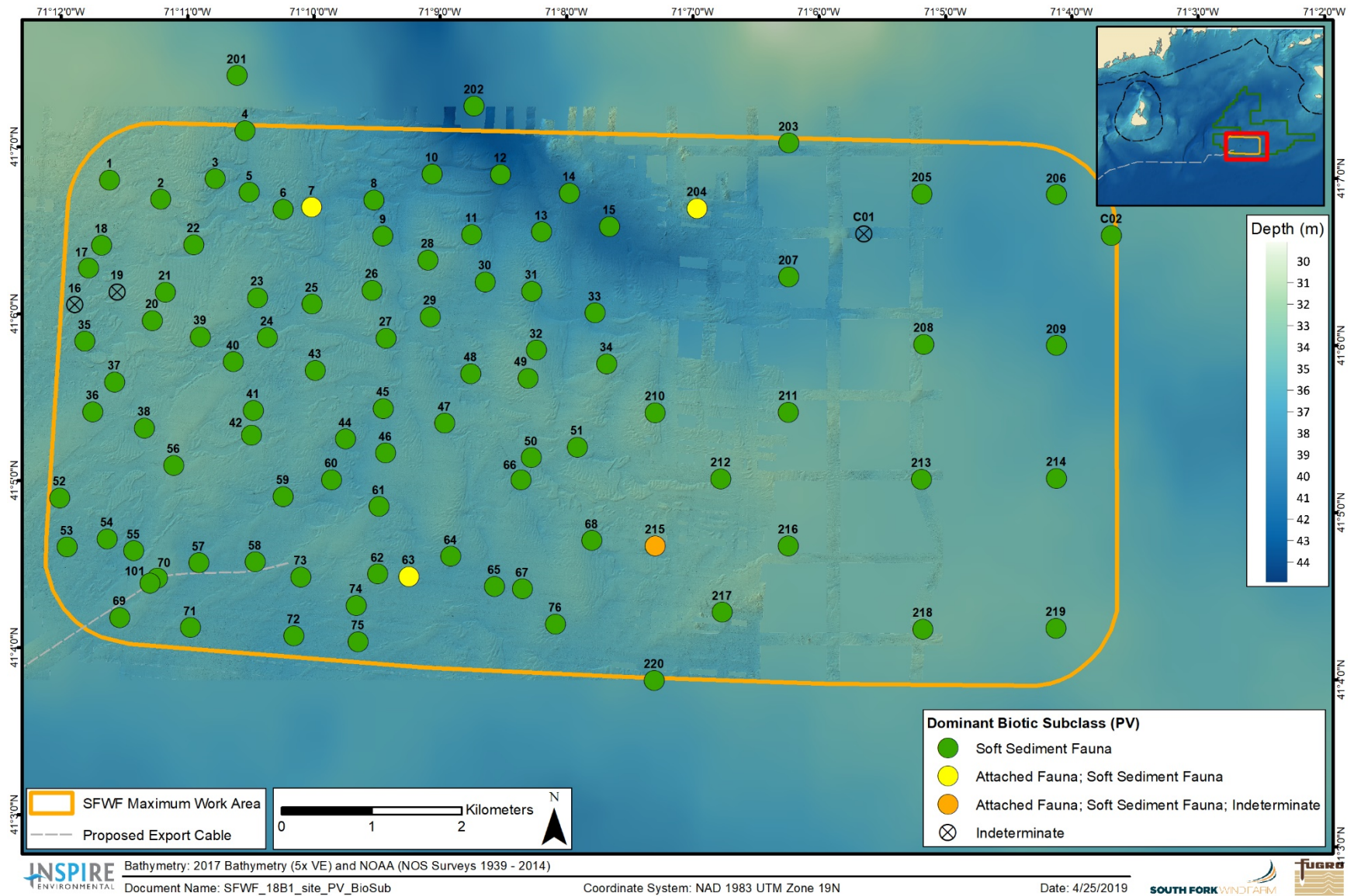


Figure 3-32. CMECS Biotic Subclass determined from PV images at the SFWF

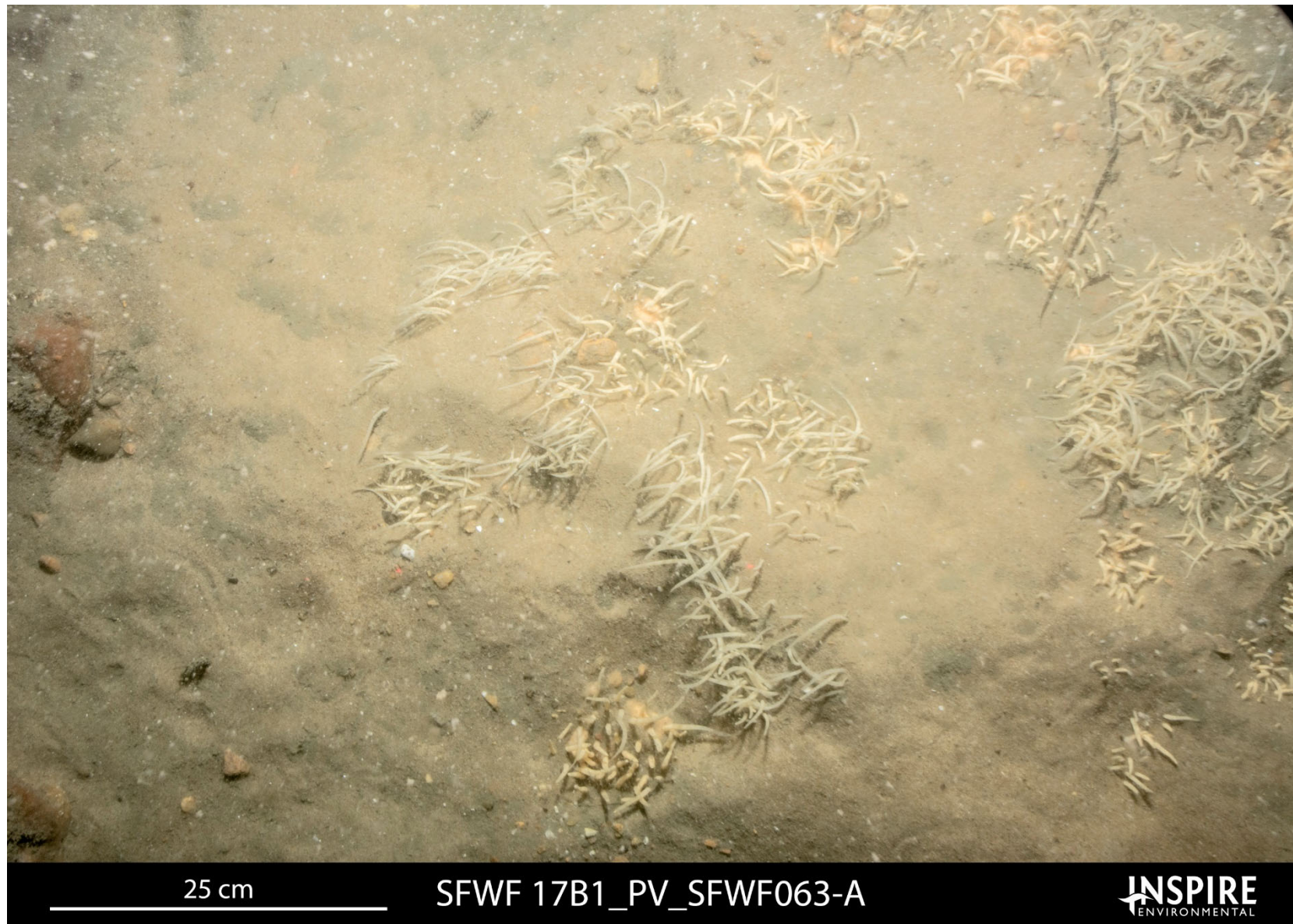


Figure 3-33. *PV image from Station 63 showing widespread presence of Polymastia sp. sponge indicating presence of cobbles or boulders covered with a thin layer of sand*

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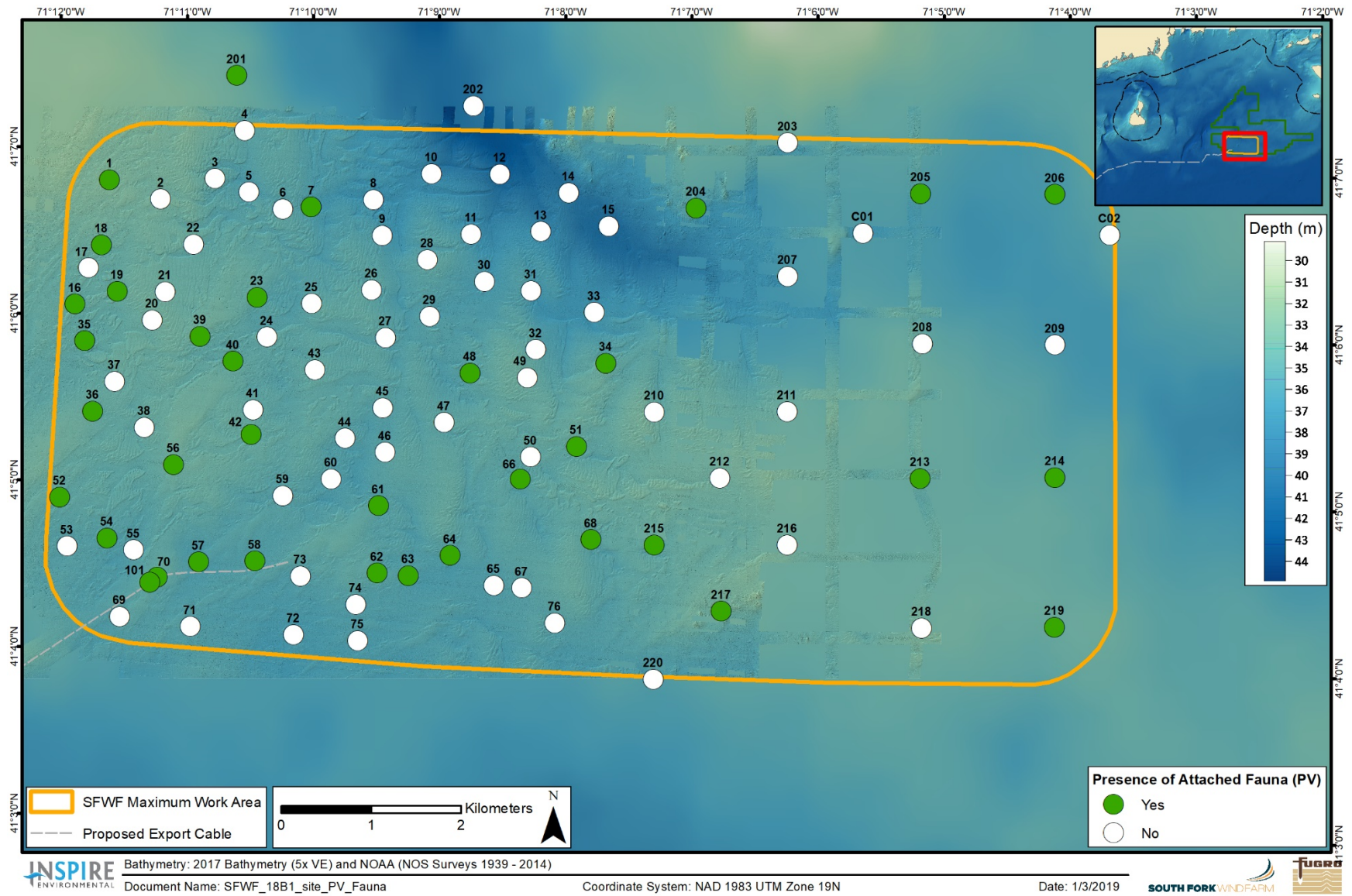


Figure 3-34. Presence of attached fauna observed as CMECS Biotic Subclass and/or Co-occurring Subclass at the SFWF

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in Support of the SFWF Site Assessment

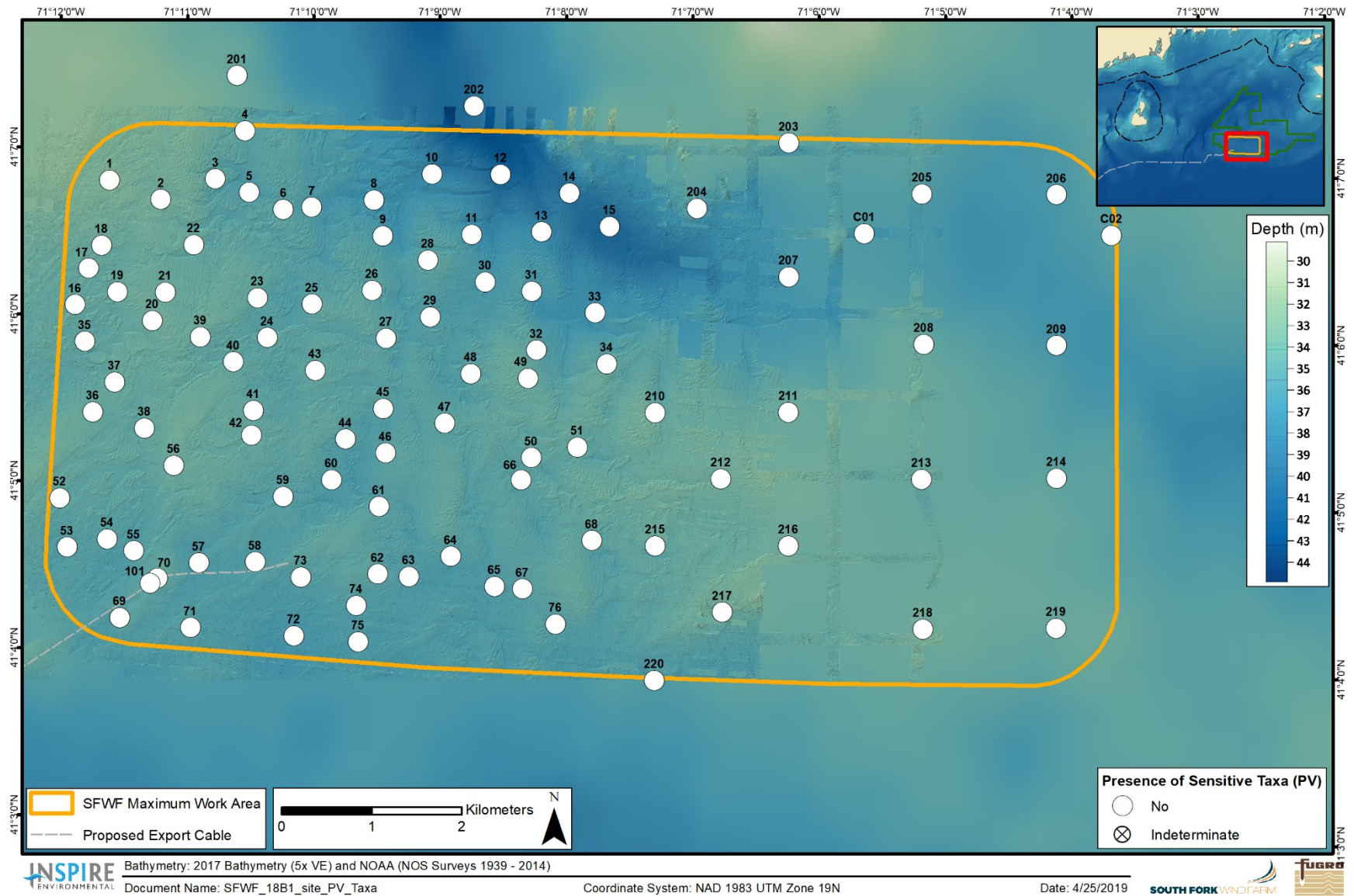


Figure 3-35. Presence of sensitive taxa observed in PV images at SFWF

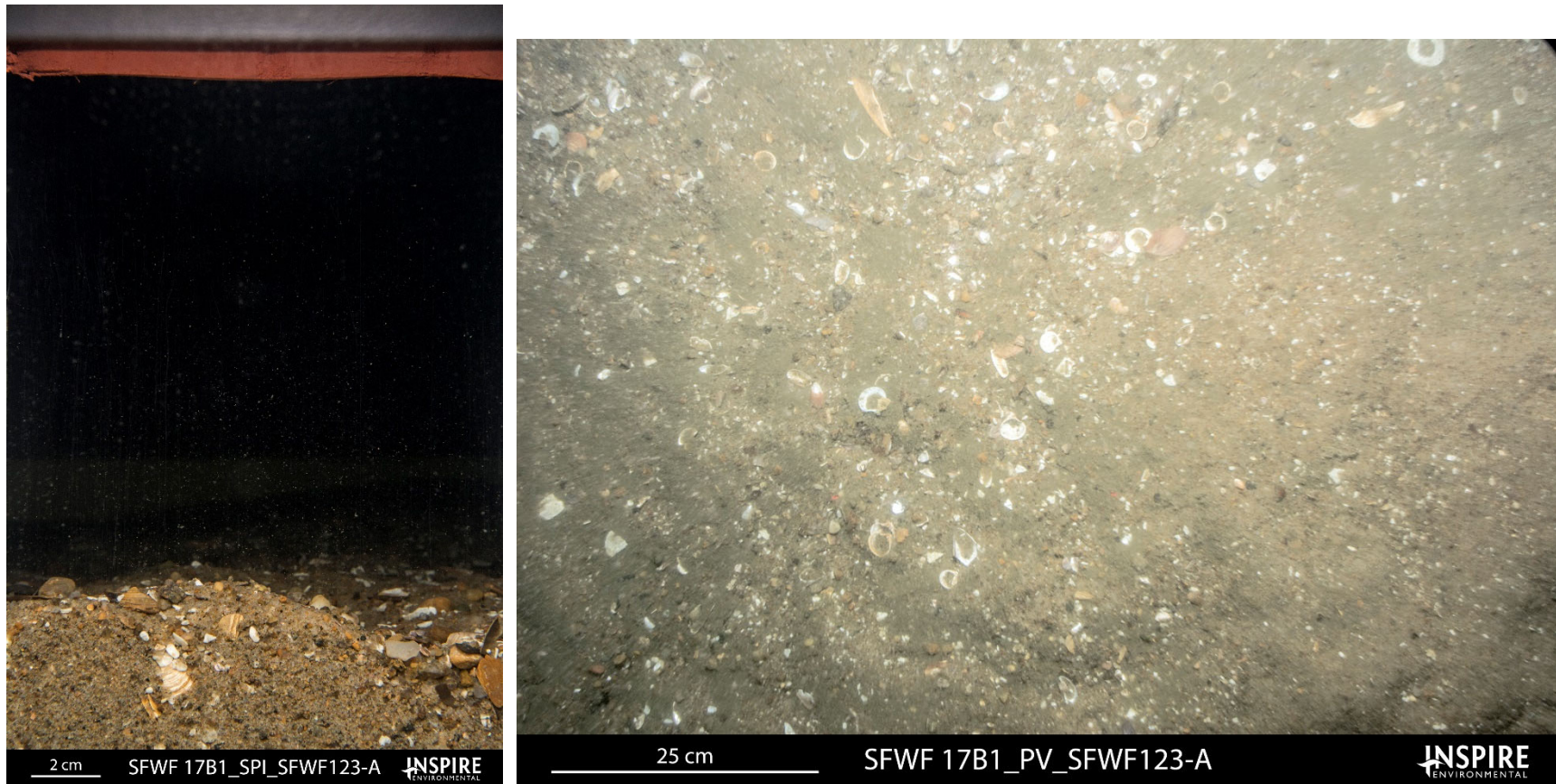


Figure 3-36. *Representative SPI and PV images from Station 123 showing rippled, gravelly sand with pebbles and abundant, physically reworked and abraded shell hash and shell debris*

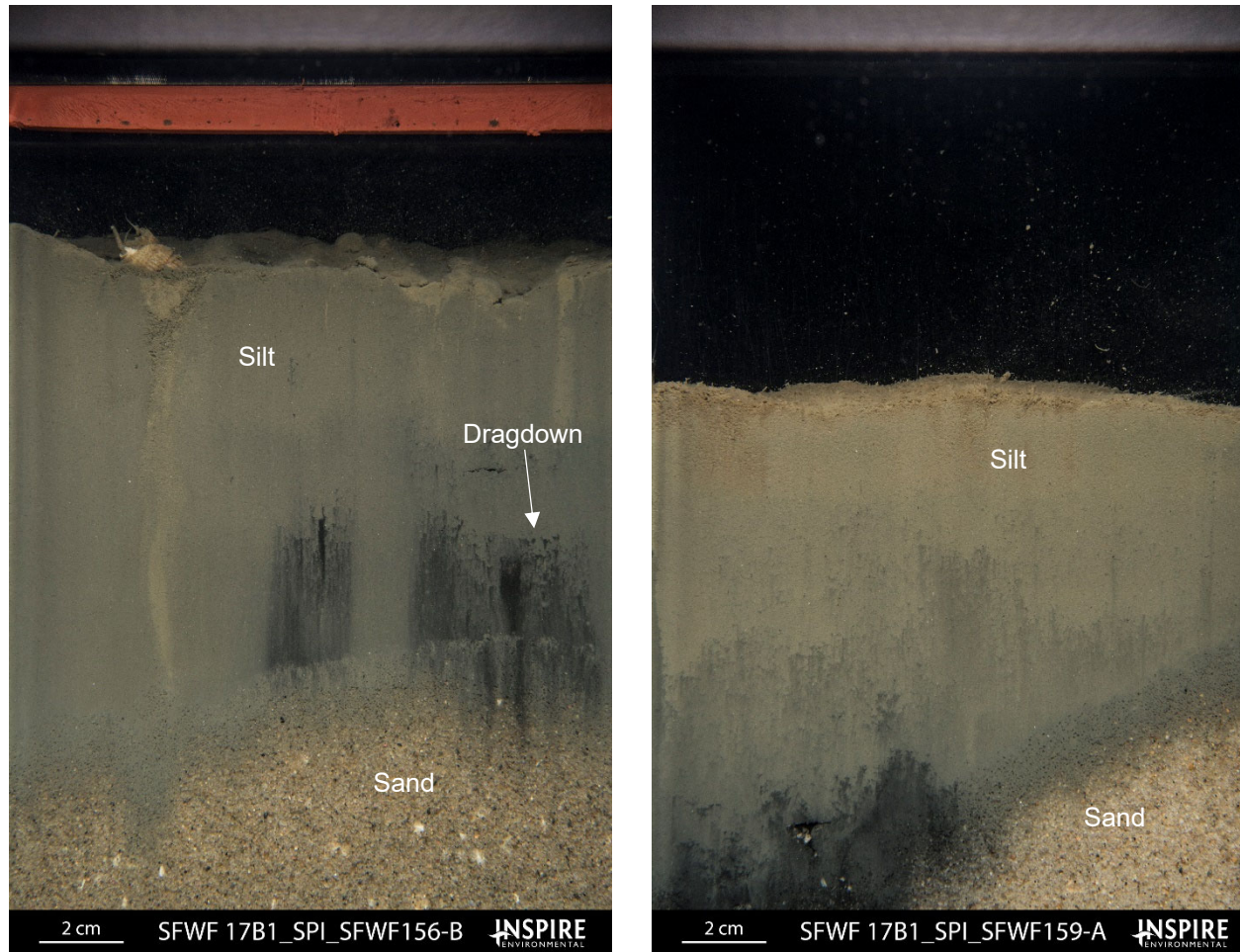


Figure 3-37. Profile images from Stations 156 and 159 showing sand with a thick silt deposit overlying sand. Slight dragdown of silt over the sand layer is visible in both images; the dragdown was a result of the motion of the SPI prism into the sediment column.

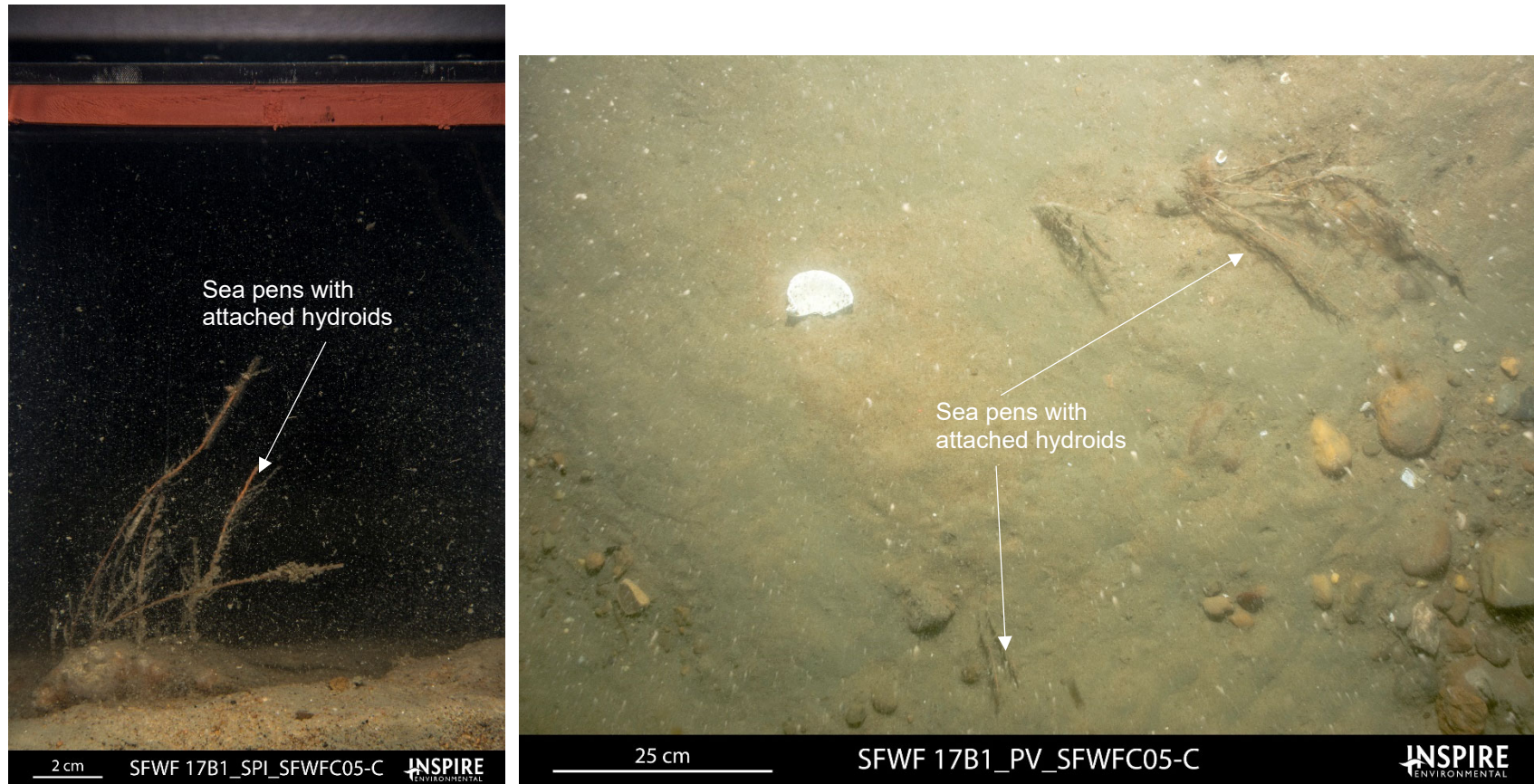


Figure 3-38. SPI and PV images from reference area Station C05 showing sea pens, with attached hydroids, attached to the seafloor surface and to small cobbles

**Sediment Profile and Plan View Imaging Physical Ground-Truth
Survey in Support of the South Fork Wind Farm Site Assessment**

DATA REPORT

*Survey Conducted November 11-15, 2017
and November 20, 2018*

APPENDICES

Prepared for:



Fugro Marine GeoServices, Inc.

and

South Fork Wind Farm

Deepwater Wind South Fork, LLC

Submitted by:



INSPIRE Environmental
Newport, RI 02840

May 15, 2019

APPENDIX A

SPI/PV Station Locations

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	1	A	11/11/2017	13:30:00	315872.36	4553680.34	41.11355285	-71.19304415
SFWF	1	B	11/11/2017	13:31:00	315874.31	4553678.95	41.11354075	-71.19302055
SFWF	1	C	11/11/2017	13:32:00	315875.75	4553679.46	41.1135457	-71.19300355
SFWF	1	D	11/11/2017	13:33:00	315878.68	4553680.27	41.1135536	-71.19296897
SFWF	2	A	11/11/2017	14:19:00	316438.85	4553465.80	41.11174992	-71.18623764
SFWF	2	B	11/11/2017	14:20:00	316438.28	4553468.19	41.11177126	-71.18624517
SFWF	2	C	11/11/2017	14:21:00	316434.49	4553465.80	41.11174888	-71.18628947
SFWF	2	D	11/11/2017	14:22:00	316432.74	4553465.93	41.11174966	-71.18631043
SFWF	3	A	11/11/2017	14:47:00	317039.75	4553692.47	41.11392584	-71.17915333
SFWF	3	B	11/11/2017	14:48:00	317034.33	4553697.18	41.11396701	-71.17921926
SFWF	3	C	11/11/2017	14:49:00	317029.41	4553701.80	41.11400744	-71.17927917
SFWF	3	D	11/11/2017	14:50:00	317026.26	4553704.02	41.11402676	-71.17931724
SFWF	4	A	11/11/2017	15:06:00	317371.84	4554224.97	41.11879387	-71.17535896
SFWF	4	B	11/11/2017	15:07:00	317366.32	4554226.43	41.11880577	-71.17542508
SFWF	4	C	11/11/2017	15:08:00	317370.35	4554225.56	41.1187988	-71.17537684
SFWF	4	D	11/11/2017	15:09:00	317373.65	4554220.09	41.11875033	-71.17533603
SFWF	5	A	11/11/2017	15:23:00	317418.48	4553542.87	41.11266441	-71.17460109
SFWF	5	B	11/11/2017	15:24:00	317415.81	4553543.99	41.11267384	-71.17463315
SFWF	5	C	11/11/2017	15:25:00	317413.05	4553544.27	41.11267578	-71.17466617
SFWF	5	D	11/11/2017	15:26:00	317410.89	4553551.74	41.11274249	-71.17469403
SFWF	6	A	11/11/2017	15:42:00	317795.34	4553352.97	41.1110396	-71.17005936
SFWF	6	B	11/11/2017	15:43:00	317794.10	4553353.63	41.11104526	-71.17007432
SFWF	6	C	11/11/2017	15:44:00	317794.61	4553354.07	41.11104937	-71.17006829
SFWF	6	D	11/11/2017	15:45:00	317794.58	4553353.34	41.11104274	-71.1700685
SFWF	7	A	11/11/2017	16:09:00	318111.90	4553384.27	41.11139227	-71.16630096
SFWF	7	B	11/11/2017	16:10:00	318110.54	4553376.50	41.11132204	-71.16631486
SFWF	7	C	11/11/2017	16:11:00	318116.69	4553367.84	41.11124548	-71.16623909
SFWF	7	D	11/11/2017	16:13:00	318118.01	4553370.70	41.11127155	-71.1662242
SFWF	8	A	11/11/2017	19:19:00	318799.05	4553457.31	41.1122033	-71.15814405
SFWF	8	B	11/11/2017	19:21:00	318799.30	4553458.08	41.11221036	-71.15814125
SFWF	8	C	11/11/2017	19:22:00	318796.57	4553459.25	41.11222028	-71.15817413
SFWF	8	D	11/11/2017	19:23:00	318791.82	4553458.91	41.11221613	-71.1582305
SFWF	9	A	11/11/2017	19:38:00	318897.19	4553060.42	41.10865253	-71.15685895
SFWF	9	B	11/11/2017	19:39:00	318895.42	4553063.79	41.10868248	-71.156881
SFWF	9	C	11/11/2017	19:41:00	318892.66	4553066.20	41.10870359	-71.15691457
SFWF	9	D	11/11/2017	19:42:00	318894.19	4553058.94	41.10863855	-71.15689421
SFWF	10	A	11/11/2017	16:39:00	319445.66	4553747.40	41.11495857	-71.15053325
SFWF	10	B	11/11/2017	16:40:00	319450.21	4553748.40	41.11496866	-71.15047934
SFWF	10	C	11/11/2017	16:41:00	319445.93	4553748.46	41.11496823	-71.15053026
SFWF	10	D	11/11/2017	16:42:00	319445.69	4553752.68	41.11500616	-71.15053444
SFWF	11	A	11/11/2017	18:53:00	319883.30	4553076.92	41.1090203	-71.14512749
SFWF	11	B	11/11/2017	18:54:00	319887.66	4553074.79	41.10900206	-71.14507499
SFWF	11	C	11/11/2017	18:55:00	319885.65	4553074.78	41.10900153	-71.14509896
SFWF	11	D	11/11/2017	18:57:00	319882.76	4553076.98	41.10902066	-71.14513403
SFWF	12	A	11/11/2017	17:26:00	320202.43	4553741.78	41.11507584	-71.14152391
SFWF	12	B	11/11/2017	17:27:00	320200.97	4553741.40	41.11507213	-71.14154114
SFWF	12	C	11/11/2017	17:28:00	320198.68	4553738.95	41.11504958	-71.14156769
SFWF	12	D	11/11/2017	17:30:00	320195.05	4553735.22	41.11501516	-71.14160986
SFWF	13	A	11/11/2017	18:32:00	320659.60	4553104.21	41.1094377	-71.13589621
SFWF	13	B	11/11/2017	18:33:00	320670.92	4553104.70	41.1094446	-71.13576158
SFWF	13	C	11/11/2017	18:34:00	320682.38	4553101.86	41.10942152	-71.13562438
SFWF	13	D	11/11/2017	18:35:00	320679.11	4553103.80	41.10943827	-71.13566386
SFWF	14	A	11/11/2017	17:49:00	320970.14	4553534.55	41.11338002	-71.13232556

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	14	B	11/11/2017	17:51:00	320975.04	4553538.25	41.11341442	-71.13226838
SFWF	14	C	11/11/2017	17:52:00	320976.02	4553540.33	41.1134333	-71.13225728
SFWF	14	D	11/11/2017	17:53:00	320964.78	4553534.97	41.11338261	-71.13238947
SFWF	15	A	11/11/2017	18:08:00	321409.17	4553161.69	41.11012022	-71.12699165
SFWF	15	B	11/11/2017	18:09:00	321409.04	4553165.57	41.11015509	-71.12699435
SFWF	15	C	11/11/2017	18:10:00	321407.66	4553165.27	41.11015208	-71.12701066
SFWF	15	D	11/11/2017	18:11:00	321403.72	4553163.49	41.11013522	-71.12705701
SFWF	16	A	11/12/2017	2:39:00	315478.99	4552294.49	41.100989	-71.19731
SFWF	16	B	11/12/2017	2:40:00	315489.52	4552298.45	41.101027	-71.197186
SFWF	16	C	11/12/2017	2:41:00	315490.12	4552297.78	41.101121	-71.197179
SFWF	16	D	11/12/2017	2:42:00	315487.87	4552294.16	41.100988	-71.197204
SFWF	17	A	11/12/2017	2:23:00	315639.87	4552701.97	41.104693	-71.195518
SFWF	17	B	11/12/2017	2:24:00	315644.86	4552707.31	41.104743	-71.19546
SFWF	17	C	11/12/2017	2:26:00	315647.71	4552706.55	41.104736	-71.195433
SFWF	17	D	11/12/2017	2:27:00	315644.06	4552708.11	41.10475	-71.19547
SFWF	18	A	11/12/2017	2:08:00	315783.46	4552957.47	41.107026	-71.193886
SFWF	18	B	11/12/2017	2:10:00	315788.42	4552960.21	41.107052	-71.193827
SFWF	18	C	11/12/2017	2:11:00	315783.50	4552956.34	41.107016	-71.193885
SFWF	18	D	11/12/2017	2:12:00	315781.37	4552954.67	41.107	-71.19391
SFWF	19	A	11/12/2017	1:54:00	315958.42	4552440.24	41.10241	-71.191648
SFWF	19	B	11/12/2017	1:55:00	315963.44	4552437.09	41.102382	-71.191588
SFWF	19	C	11/12/2017	1:56:00	315959.77	4552435.60	41.102386	-71.191631
SFWF	19	D	11/12/2017	1:57:00	315956.45	4552433.72	41.102351	-71.19167
SFWF	20	A	11/12/2017	1:40:00	316345.61	4552119.30	41.099608	-71.186945
SFWF	20	B	11/12/2017	1:41:00	316346.51	4552119.13	41.099607	-71.186933
SFWF	20	C	11/12/2017	1:42:00	316350.32	4552120.78	41.099623	-71.186889
SFWF	20	D	11/12/2017	1:43:00	316354.79	4552122.19	41.099636	-71.186837
SFWF	21	A	11/12/2017	1:20:00	316491.33	4552434.52	41.102479	-71.185305
SFWF	21	B	11/12/2017	1:21:00	316488.20	4552434.52	41.102445	-71.185341
SFWF	21	C	11/12/2017	1:22:00	316485.00	4552426.28	41.102403	-71.185378
SFWF	21	D	11/12/2017	1:23:00	316486.60	4552426.28	41.102404	-71.185359
SFWF	22	A	11/12/2017	1:03:00	316806.48	4552963.46	41.107311	-71.181712
SFWF	22	B	11/12/2017	1:04:00	316805.68	4552962.34	41.107301	-71.181722
SFWF	22	C	11/12/2017	1:05:00	316807.24	4552961.73	41.107296	-71.181703
SFWF	22	D	11/12/2017	1:06:00	316806.32	4552962.97	41.107307	-71.181714
SFWF	23	A	11/12/2017	0:41:00	317511.80	4552373.69	41.102161	-71.173143
SFWF	23	B	11/12/2017	0:43:00	317511.69	4552374.49	41.102168	-71.173145
SFWF	23	C	11/12/2017	0:44:00	317516.29	4552374.82	41.102172	-71.17309
SFWF	23	D	11/12/2017	0:45:00	317516.69	4552379.52	41.102215	-71.173087
SFWF	24	A	11/12/2017	0:13:00	317619.91	4551933.48	41.098223	-71.171726
SFWF	24	B	11/12/2017	0:15:00	317618.11	4551931.26	41.098202	-71.171747
SFWF	24	C	11/12/2017	0:16:00	317623.89	4551924.77	41.098145	-71.171676
SFWF	24	D	11/12/2017	0:17:00	317625.20	4551937.51	41.09826	-71.171664
SFWF	25	A	11/11/2017	23:30:00	318112.95	4552303.70	41.10166563	-71.16596861
SFWF	25	B	11/11/2017	23:32:00	318109.38	4552302.20	41.10165131	-71.16601061
SFWF	25	C	11/11/2017	23:33:00	318110.36	4552299.02	41.10162291	-71.16599812
SFWF	25	D	11/11/2017	23:34:00	318110.46	4552301.17	41.10164228	-71.16599756
SFWF	26	A	11/11/2017	23:09:00	318779.29	4552455.98	41.10318529	-71.15808397
SFWF	26	B	11/11/2017	23:10:00	318783.68	4552458.23	41.10320648	-71.15803231
SFWF	26	C	11/11/2017	23:11:00	318783.86	4552457.82	41.10320282	-71.15803011
SFWF	26	D	11/11/2017	23:12:00	318780.80	4552454.18	41.10316941	-71.15806533
SFWF	27	A	11/11/2017	22:49:00	318933.39	4551923.78	41.09842897	-71.15609327
SFWF	27	B	11/11/2017	22:50:00	318930.68	4551921.42	41.09840711	-71.15612482

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	27	C	11/11/2017	22:52:00	318921.88	4551920.74	41.09839896	-71.15622935
SFWF	27	D	11/11/2017	22:53:00	318915.13	4551916.12	41.09835594	-71.15630836
SFWF	28	A	11/11/2017	20:02:00	319397.76	4552790.89	41.10633773	-71.15082225
SFWF	28	B	11/11/2017	20:04:00	319402.22	4552791.44	41.10634368	-71.15076928
SFWF	28	C	11/11/2017	20:05:00	319402.24	4552783.98	41.10627651	-71.15076681
SFWF	28	D	11/11/2017	20:06:00	319402.26	4552790.25	41.10633297	-71.15076844
SFWF	29	A	11/11/2017	22:28:00	319427.01	4552162.89	41.10069119	-71.15028955
SFWF	29	B	11/11/2017	22:30:00	319424.83	4552160.00	41.10066465	-71.15031471
SFWF	29	C	11/11/2017	22:31:00	319428.44	4552171.39	41.10076802	-71.15027505
SFWF	29	D	11/11/2017	22:32:00	319424.44	4552163.31	41.10069435	-71.15032033
SFWF	30	A	11/11/2017	20:30:00	320036.33	4552548.80	41.10430016	-71.14315153
SFWF	30	B	11/11/2017	20:31:00	320040.10	4552548.71	41.10430017	-71.14310673
SFWF	30	C	11/11/2017	20:32:00	320039.90	4552548.08	41.10429452	-71.14310887
SFWF	30	D	11/11/2017	20:33:00	320037.61	4552547.62	41.10428986	-71.143136
SFWF	31	A	11/11/2017	20:52:00	320547.93	4552446.73	41.10349449	-71.13703331
SFWF	31	B	11/11/2017	20:54:00	320548.47	4552446.06	41.10348858	-71.13702672
SFWF	31	C	11/11/2017	20:55:00	320554.37	4552441.44	41.10344831	-71.13695514
SFWF	31	D	11/11/2017	20:56:00	320551.82	4552444.63	41.10347648	-71.13698644
SFWF	32	A	11/11/2017	22:05:00	320601.33	4551794.11	41.09763154	-71.13620738
SFWF	32	B	11/11/2017	22:06:00	320599.27	4551801.79	41.09770021	-71.13623409
SFWF	32	C	11/11/2017	22:07:00	320608.13	4551805.74	41.09773774	-71.13612984
SFWF	32	D	11/11/2017	22:08:00	320608.56	4551801.41	41.09769889	-71.13612344
SFWF	33	A	11/11/2017	21:18:00	321253.75	4552206.86	41.10149079	-71.12856378
SFWF	33	B	11/11/2017	21:19:00	321250.54	4552211.27	41.10152981	-71.12860319
SFWF	33	C	11/11/2017	21:21:00	321245.50	4552217.02	41.10158045	-71.12866484
SFWF	33	D	11/11/2017	21:22:00	321248.59	4552210.73	41.1015245	-71.12862631
SFWF	34	A	11/11/2017	21:44:00	321381.62	4551639.56	41.09641213	-71.1268772
SFWF	34	B	11/11/2017	21:45:00	321383.70	4551639.08	41.09640833	-71.12685236
SFWF	34	C	11/11/2017	21:46:00	321385.87	4551642.99	41.09644393	-71.12682758
SFWF	34	D	11/11/2017	21:47:00	321385.07	4551644.60	41.09645828	-71.12683757
SFWF	35	A	11/12/2017	2:54:00	315596.68	4551892.03	41.097393	-71.195789
SFWF	35	B	11/12/2017	2:55:00	315606.46	4551894.30	41.097416	-71.195673
SFWF	35	C	11/12/2017	2:57:00	315604.24	4551894.68	41.097419	-71.1957
SFWF	35	D	11/12/2017	2:58:00	315609.49	4551900.50	41.097472	-71.195369
SFWF	36	A	11/12/2017	3:15:00	315685.00	4551109.37	41.090368	-71.194503
SFWF	36	B	11/12/2017	3:16:00	315688.71	4551114.61	41.090416	-71.194461
SFWF	36	C	11/12/2017	3:17:00	315690.80	4551113.44	41.090406	-71.194435
SFWF	36	D	11/12/2017	3:18:00	315691.23	4551112.58	41.090398	-71.19443
SFWF	37	A	11/12/2017	3:34:00	315928.80	4551439.25	41.093393	-71.191701
SFWF	37	B	11/12/2017	3:35:00	315929.96	4551443.95	41.093435	-71.191689
SFWF	37	C	11/12/2017	3:36:00	315935.24	4551432.99	41.093337	-71.191623
SFWF	37	D	11/12/2017	3:37:00	315926.33	4551441.03	41.093408	-71.191731
SFWF	38	A	11/12/2017	3:59:00	316259.07	4550929.52	41.088879	-71.187619
SFWF	38	B	11/12/2017	4:00:00	316257.32	4550915.60	41.088753	-71.187636
SFWF	38	C	11/12/2017	4:01:00	316256.78	4550915.03	41.088748	-71.187642
SFWF	38	D	11/12/2017	4:02:00	316255.95	4550923.26	41.088822	-71.187655
SFWF	39	A	11/12/2017	4:21:00	316877.80	4551941.58	41.098129	-71.180559
SFWF	39	B	11/12/2017	4:23:00	316869.12	4551933.44	41.098053	-71.18066
SFWF	39	C	11/12/2017	4:24:00	316864.74	4551930.10	41.098022	-71.180711
SFWF	39	D	11/12/2017	4:25:00	316861.46	4551932.46	41.098043	-71.180751
SFWF	40	A	11/12/2017	4:39:00	317244.33	4551663.50	41.095708	-71.176115
SFWF	40	B	11/12/2017	4:41:00	317238.72	4551665.88	41.095728	-71.176182
SFWF	40	C	11/12/2017	4:42:00	317247.37	4551667.48	41.0955744	-71.17608

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	40	D	11/12/2017	4:43:00	317252.07	4551674.08	41.095805	-71.176026
SFWF	41	A	11/12/2017	5:24:00	317465.24	4551125.30	41.090913	-71.173327
SFWF	41	B	11/12/2017	5:25:00	317467.75	4551131.81	41.090972	-71.173299
SFWF	41	C	11/12/2017	5:26:00	317473.76	4551130.86	41.090965	-71.173227
SFWF	41	D	11/12/2017	5:27:00	317468.58	4551133.54	41.090988	-71.173289
SFWF	42	A	11/12/2017	5:40:00	317443.61	4550851.66	41.088445	-71.173503
SFWF	42	B	11/12/2017	5:41:00	317442.67	4550850.63	41.088435	-71.173514
SFWF	42	C	11/12/2017	5:42:00	317441.75	4550852.40	41.088451	-71.173525
SFWF	42	D	11/12/2017	5:43:00	317445.66	4550864.02	41.088557	-71.173482
SFWF	43	A	11/12/2017	6:03:00	318149.58	4551567.21	41.095044	-71.165315
SFWF	43	B	11/12/2017	6:04:00	318146.91	4551560.89	41.094987	-71.165345
SFWF	43	C	11/12/2017	6:05:00	318161.75	4551566.78	41.095043	-71.16517
SFWF	43	D	11/12/2017	6:07:00	318153.77	4551563.27	41.09501	-71.165264
SFWF	44	A	11/12/2017	9:48:00	318476.21	4550821.64	41.088406	-71.161208
SFWF	44	B	11/12/2017	9:49:00	318486.10	4550807.33	41.088279	-71.161086
SFWF	44	C	11/12/2017	9:50:00	318485.77	4550808.31	41.088288	-71.161091
SFWF	44	D	11/12/2017	9:51:00	318485.56	4550807.74	41.088283	-71.161093
SFWF	45	A	11/12/2017	10:04:00	318912.30	4551148.19	41.091443	-71.156116
SFWF	45	B	11/12/2017	10:04:00	318905.25	4551147.45	41.091434	-71.156199
SFWF	45	C	11/12/2017	10:06:00	318898.81	4551146.33	41.091423	-71.156276
SFWF	45	D	11/12/2017	10:07:00	318896.83	4551143.25	41.091395	-71.156299
SFWF	46	A	11/12/2017	10:26:00	318928.39	4550657.77	41.087032	-71.15578
SFWF	46	B	11/12/2017	10:27:00	318929.23	4550653.45	41.086993	-71.155769
SFWF	46	C	11/12/2017	10:29:00	318926.50	4550650.60	41.086967	-71.1558
SFWF	46	D	11/12/2017	10:30:00	318927.87	4550655.28	41.087009	-71.155785
SFWF	47	A	11/12/2017	10:46:00	319583.38	4550983.28	41.090112	-71.148083
SFWF	47	B	11/12/2017	10:47:00	319577.65	4550981.65	41.090091	-71.14815
SFWF	47	C	11/12/2017	10:48:00	319577.70	4550979.58	41.090073	-71.148149
SFWF	47	D	11/12/2017	10:50:00	319583.16	4550982.73	41.090102	-71.148085
SFWF	48	A	11/12/2017	11:05:00	319873.14	4551533.18	41.095122	-71.144796
SFWF	48	B	11/12/2017	11:06:00	319871.11	4551532.14	41.095112	-71.14482
SFWF	48	C	11/12/2017	11:07:00	319871.65	4551533.97	41.095128	-71.144814
SFWF	48	D	11/12/2017	11:08:00	319870.39	4551533.19	41.095121	-71.144829
SFWF	49	A	11/12/2017	11:49:00	320510.30	4551480.53	41.094789	-71.137199
SFWF	49	B	11/12/2017	11:50:00	320514.48	4551478.02	41.094767	-71.137148
SFWF	49	C	11/12/2017	11:51:00	320515.81	4551478.13	41.094768	-71.137133
SFWF	49	D	11/12/2017	11:53:00	320512.91	4551470.57	41.0947	-71.137165
SFWF	50	A	11/12/2017	12:18:00	320545.70	4550601.96	41.086888	-71.136521
SFWF	50	B	11/12/2017	12:19:00	320545.02	4550607.82	41.08694	-71.136531
SFWF	50	C	11/12/2017	12:20:00	320536.57	4550606.08	41.086923	-71.136631
SFWF	50	D	11/12/2017	12:22:00	320541.18	4550605.96	41.086923	-71.136576
SFWF	51	A	11/12/2017	12:34:00	321054.52	4550718.59	41.08805	-71.130502
SFWF	51	B	11/12/2017	12:35:00	321050.94	4550718.09	41.088044	-71.130544
SFWF	51	C	11/12/2017	12:36:00	321051.39	4550721.14	41.088072	-71.130539
SFWF	51	D	11/12/2017	12:37:00	321050.73	4550721.73	41.088077	-71.130548
SFWF	52	A	11/12/2017	17:07:00	315318.49	4550156.47	41.081707	-71.198578
SFWF	52	B	11/12/2017	17:08:00	315315.03	4550158.29	41.081723	-71.19862
SFWF	52	C	11/12/2017	17:10:00	315323.57	4550156.73	41.081711	-71.198518
SFWF	52	D	11/12/2017	17:11:00	315330.96	4550156.01	41.081706	-71.198429
SFWF	53	A	11/12/2017	17:26:00	315398.30	4549611.16	41.076817	-71.197465
SFWF	53	B	11/12/2017	17:28:00	315403.27	4549611.24	41.076819	-71.197406
SFWF	53	C	11/12/2017	17:29:00	315405.58	4549623.16	41.076926	-71.197382
SFWF	53	D	11/12/2017	17:30:00	315397.52	4549611.93	41.076824	-71.197474

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	54	A	11/12/2017	17:43:00	315846.63	4549702.03	41.077736	-71.192159
SFWF	54	B	11/12/2017	17:45:00	315847.53	4549704.90	41.077762	-71.192149
SFWF	54	C	11/12/2017	17:46:00	315845.01	4549703.91	41.077753	-71.192179
SFWF	54	D	11/12/2017	17:47:00	315841.92	4549707.17	41.077782	-71.192217
SFWF	55	A	11/12/2017	17:59:00	316141.06	4549569.70	41.076612	-71.188617
SFWF	55	B	11/12/2017	18:00:00	316143.57	4549571.51	41.076629	-71.188588
SFWF	55	C	11/12/2017	18:01:00	316146.52	4549569.37	41.07661	-71.188552
SFWF	55	D	11/12/2017	18:03:00	316149.51	4549563.28	41.076556	-71.188515
SFWF	56	A	11/12/2017	16:27:00	316580.61	4550515.96	41.085229	-71.18367
SFWF	56	B	11/12/2017	16:28:00	316582.90	4550514.77	41.085219	-71.183643
SFWF	56	C	11/12/2017	16:29:00	316582.98	4550516.75	41.085236	-71.183642
SFWF	56	D	11/12/2017	16:30:00	316583.10	4550516.74	41.085236	-71.183641
SFWF	57	A	11/12/2017	18:17:00	316859.92	4549435.20	41.075563	-71.180031
SFWF	57	B	11/12/2017	18:19:00	316858.41	4549435.23	41.075563	-71.180044
SFWF	57	C	11/12/2017	18:20:00	316854.66	4549436.91	41.075577	-71.180089
SFWF	57	D	11/12/2017	18:21:00	316853.62	4549438.04	41.075587	-71.180102
SFWF	58	A	11/12/2017	18:34:00	317486.47	4549445.04	41.075796	-71.172576
SFWF	58	B	11/12/2017	18:36:00	317485.86	4549444.40	41.075787	-71.172583
SFWF	58	C	11/12/2017	18:37:00	317486.55	4549442.67	41.075771	-71.172574
SFWF	58	D	11/12/2017	18:38:00	317488.50	4549446.91	41.07581	-71.172552
SFWF	59	A	11/12/2017	16:01:00	317793.01	4550171.82	41.082404	-71.169144
SFWF	59	B	11/12/2017	16:02:00	317797.96	4550178.05	41.082461	-71.169087
SFWF	59	C	11/12/2017	16:04:00	317804.45	4550179.28	41.082473	-71.169011
SFWF	59	D	11/12/2017	16:05:00	317802.49	4550175.78	41.082441	-71.169033
SFWF	60	A	11/12/2017	15:46:00	318329.60	4550355.34	41.084176	-71.162815
SFWF	60	B	11/12/2017	15:47:00	318335.18	4550356.07	41.084183	-71.162749
SFWF	60	C	11/12/2017	15:49:00	318328.26	4550361.79	41.084233	-71.162833
SFWF	60	D	11/12/2017	15:50:00	318323.97	4550366.35	41.084273	-71.162885
SFWF	61	A	11/12/2017	15:31:00	318860.18	4550059.52	41.081631	-71.156415
SFWF	61	B	11/12/2017	15:32:00	318861.35	4550052.19	41.081565	-71.156399
SFWF	61	C	11/12/2017	15:33:00	318862.64	4550038.07	41.081439	-71.15638
SFWF	61	D	11/12/2017	15:35:00	318865.43	4550043.39	41.0814887	-71.156348
SFWF	62	A	11/12/2017	15:15:00	318840.86	4549311.62	41.074894	-71.156425
SFWF	62	B	11/12/2017	15:17:00	318838.87	4549307.64	41.074858	-71.156448
SFWF	62	C	11/12/2017	15:18:00	318831.48	4549310.56	41.074883	-71.156536
SFWF	62	D	11/12/2017	15:19:00	318837.41	4549311.79	41.074895	-71.156466
SFWF	63	A	11/12/2017	15:01:00	319180.89	4549287.21	41.07475	-71.152373
SFWF	63	B	11/12/2017	15:02:00	319186.47	4549282.24	41.074707	-71.152305
SFWF	63	C	11/12/2017	15:04:00	319175.58	4549277.82	41.074665	-71.152434
SFWF	63	D	11/12/2017	15:05:00	319171.81	4549280.56	41.074688	-71.152479
SFWF	64	A	11/12/2017	14:46:00	319652.99	4549507.21	41.076836	-71.146822
SFWF	64	B	11/12/2017	14:47:00	319646.97	4549506.83	41.076831	-71.146893
SFWF	64	C	11/12/2017	14:49:00	319648.34	4549500.62	41.076775	-71.146875
SFWF	64	D	11/12/2017	14:50:00	319659.78	4549501.32	41.076784	-71.146739
SFWF	65	A	11/12/2017	14:30:00	320135.72	4549175.30	41.073955	-71.140982
SFWF	65	B	11/12/2017	14:32:00	320136.84	4549170.85	41.073915	-71.140968
SFWF	65	C	11/12/2017	14:33:00	320140.18	4549175.02	41.073953	-71.140929
SFWF	65	D	11/12/2017	14:34:00	320138.80	4549180.38	41.074001	-71.140947
SFWF	66	A	11/12/2017	12:52:00	320427.41	4550355.08	41.084639	-71.137857
SFWF	66	B	11/12/2017	12:54:00	320429.06	4550355.47	41.084643	-71.137837
SFWF	66	C	11/12/2017	12:55:00	320425.18	4550357.59	41.084661	-71.137884
SFWF	66	D	11/12/2017	12:56:00	320429.67	4550359.22	41.084677	-71.137831
SFWF	67	A	11/12/2017	14:17:00	320442.16	4549152.97	41.073821	-71.137331

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	67	B	11/12/2017	14:18:00	320446.18	4549147.11	41.073769	-71.137281
SFWF	67	C	11/12/2017	14:19:00	320445.70	4549146.72	41.073766	-71.137287
SFWF	67	D	11/12/2017	14:20:00	320443.37	4549148.19	41.073779	-71.137315
SFWF	68	A	11/12/2017	13:12:00	321213.94	4549683.48	41.078767	-71.128304
SFWF	68	B	11/12/2017	13:13:00	321215.81	4549683.85	41.078771	-71.128282
SFWF	68	C	11/12/2017	13:15:00	321218.45	4549684.72	41.078779	-71.128251
SFWF	68	D	11/12/2017	13:16:00	321223.32	4549685.46	41.078787	-71.128191
SFWF	69	A	11/12/2017	20:31:00	315986.18	4548828.25	41.069903	-71.190238
SFWF	69	B	11/12/2017	20:32:00	315988.29	4548827.14	41.069893	-71.190212
SFWF	69	C	11/12/2017	20:33:00	315986.50	4548826.43	41.069886	-71.190233
SFWF	69	D	11/12/2017	20:34:00	315985.97	4548826.96	41.069891	-71.19024
SFWF	70	A	11/12/2017	20:53:00	316403.85	4549264.53	41.073924	-71.1854
SFWF	70	B	11/12/2017	20:55:00	316404.30	4549262.82	41.073909	-71.185394
SFWF	70	C	11/12/2017	20:56:00	316404.50	4549262.28	41.073904	-71.185392
SFWF	70	D	11/12/2017	20:57:00	316401.76	4549260.13	41.073884	-71.185424
SFWF	71	A	11/12/2017	20:10:00	316768.93	4548718.56	41.069092	-71.180895
SFWF	71	B	11/12/2017	20:12:00	316764.06	4548720.36	41.069107	-71.180953
SFWF	71	C	11/12/2017	20:13:00	316765.59	4548720.09	41.069105	-71.180935
SFWF	71	D	11/12/2017	20:14:00	316766.21	4548718.91	41.069094	-71.180927
SFWF	72	A	11/12/2017	19:44:00	317914.00	4548627.44	41.068529	-71.167248
SFWF	72	B	11/12/2017	19:46:00	317914.36	4548629.58	41.068548	-71.167245
SFWF	72	C	11/12/2017	19:47:00	317912.69	4548626.64	41.068521	-71.167264
SFWF	72	D	11/12/2017	19:48:00	317909.19	4548624.55	41.068502	-71.167304
SFWF	73	A	11/12/2017	18:50:00	317993.29	4549278.99	41.074412	-71.166498
SFWF	73	B	11/12/2017	18:51:00	317994.34	4549279.12	41.074413	-71.166485
SFWF	73	C	11/12/2017	18:52:00	317992.73	4549273.50	41.074362	-71.166503
SFWF	73	D	11/12/2017	18:53:00	317991.65	4549272.09	41.074349	-71.166515
SFWF	74	A	11/12/2017	19:09:00	318603.49	4548963.54	41.071708	-71.159146
SFWF	74	B	11/12/2017	19:10:00	318602.85	4548961.11	41.071686	-71.159153
SFWF	74	C	11/12/2017	19:11:00	318601.38	4548961.07	41.071685	-71.159171
SFWF	74	D	11/12/2017	19:12:00	318598.04	4548956.49	41.071644	-71.159209
SFWF	75	A	11/12/2017	19:27:00	318624.29	4548559.43	41.068075	-71.15878
SFWF	75	B	11/12/2017	19:28:00	318623.85	4548560.49	41.068085	-71.158785
SFWF	75	C	11/12/2017	19:29:00	318626.38	4548561.77	41.068097	-71.158756
SFWF	75	D	11/12/2017	19:30:00	318629.16	4548561.86	41.068098	-71.158723
SFWF	76	A	11/12/2017	14:00:00	320810.80	4548757.97	41.070347	-71.13283
SFWF	76	B	11/12/2017	14:02:00	320810.26	4548761.89	41.070382	-71.132838
SFWF	76	C	11/12/2017	14:03:00	320819.35	4548772.17	41.070477	-71.132733
SFWF	76	D	11/12/2017	14:05:00	320817.35	4548762.73	41.070391	-71.132754
SFWF	201	A	11/20/2018	15:12:36	317283.11	4554837.10	41.12428403	-71.17659726
SFWF	201	B	11/20/2018	15:13:53	317275.49	4554842.39	41.12432993	-71.17668955
SFWF	201	C	11/20/2018	15:15:01	317282.81	4554831.71	41.12423544	-71.17659923
SFWF	201	D	11/20/2018	15:16:10	317287.52	4554837.35	41.12428727	-71.17654484
SFWF	202	A	11/20/2018	14:53:00	319909.85	4554498.92	41.12182663	-71.14522843
SFWF	202	B	11/20/2018	14:54:09	319904.87	4554494.78	41.12178826	-71.14528649
SFWF	202	C	11/20/2018	14:55:22	319911.12	4554499.58	41.12183286	-71.1452135
SFWF	202	D	11/20/2018	14:56:32	319914.18	4554502.61	41.12186081	-71.14517796
SFWF	203	A	11/20/2018	14:13:30	323391.59	4554098.24	41.11898439	-71.10366582
SFWF	203	B	11/20/2018	14:14:41	323396.21	4554089.75	41.11890897	-71.10360838
SFWF	203	C	11/20/2018	14:15:52	323399.47	4554094.29	41.11895054	-71.10357088
SFWF	203	D	11/20/2018	14:16:53	323402.45	4554083.28	41.11885208	-71.10353224
SFWF	204	A	11/20/2018	14:29:03	322382.04	4553363.79	41.11215278	-71.11547087
SFWF	204	B	11/20/2018	14:30:17	322386.63	4553352.37	41.11205098	-71.11541293

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	204	C	11/20/2018	14:31:45	322392.79	4553350.37	41.11203433	-71.11533904
SFWF	204	D	11/20/2018	14:33:07	322386.43	4553356.37	41.11208695	-71.11541647
SFWF	205	A	11/20/2018	13:57:26	324871.17	4553525.71	41.11415083	-71.08588983
SFWF	205	B	11/20/2018	13:58:40	324874.00	4553531.88	41.11420698	-71.08585791
SFWF	205	C	11/20/2018	13:59:57	324873.32	4553522.11	41.11411888	-71.08586322
SFWF	205	D	11/20/2018	14:01:01	324872.45	4553525.58	41.11414993	-71.08587456
SFWF	206	A	11/20/2018	9:37:25	326364.24	4553516.72	41.11439043	-71.06811506
SFWF	206	B	11/20/2018	9:38:37	326365.01	4553514.25	41.11436836	-71.06810519
SFWF	206	C	11/20/2018	9:39:27	326368.28	4553510.82	41.11433818	-71.0680653
SFWF	206	D	11/20/2018	9:40:18	326374.46	4553513.48	41.11436344	-71.06799249
SFWF	206	E	11/20/2018	9:41:19	326371.65	4553510.98	41.11434034	-71.06802523
SFWF	207	A	11/20/2018	13:40:14	323395.69	4552607.23	41.10556324	-71.10318843
SFWF	207	B	11/20/2018	13:41:08	323400.45	4552610.25	41.10559146	-71.10313265
SFWF	207	C	11/20/2018	13:42:12	323401.81	4552599.36	41.10549372	-71.10311333
SFWF	207	D	11/20/2018	13:43:24	323400.61	4552598.02	41.1054814	-71.10312723
SFWF	208	A	11/20/2018	13:22:34	324896.24	4551856.81	41.09913264	-71.08511591
SFWF	208	B	11/20/2018	13:23:34	324885.87	4551860.11	41.09916011	-71.08524026
SFWF	208	C	11/20/2018	13:24:42	324886.43	4551860.00	41.09915924	-71.08523356
SFWF	208	D	11/20/2018	13:25:41	324895.58	4551847.25	41.09904643	-71.08512104
SFWF	209	A	11/20/2018	10:01:39	326363.08	4551846.19	41.09935175	-71.06765687
SFWF	209	B	11/20/2018	10:02:36	326365.89	4551845.03	41.0993419	-71.0676231
SFWF	209	C	11/20/2018	10:03:33	326365.01	4551856.18	41.09944209	-71.06763672
SFWF	209	D	11/20/2018	10:04:28	326372.29	4551857.15	41.09945238	-71.06755036
SFWF	210	A	11/20/2018	12:31:53	321915.79	4551100.49	41.09167671	-71.12036469
SFWF	210	B	11/20/2018	12:32:55	321910.41	4551102.83	41.0916966	-71.12042939
SFWF	210	C	11/20/2018	12:33:51	321909.51	4551097.37	41.09164725	-71.12043852
SFWF	210	D	11/20/2018	12:34:58	321916.63	4551093.52	41.09161416	-71.12035268
SFWF	211	A	11/20/2018	12:47:47	323393.87	4551104.56	41.0920358	-71.10277844
SFWF	211	B	11/20/2018	12:48:51	323399.68	4551101.62	41.0920106	-71.10270846
SFWF	211	C	11/20/2018	12:49:49	323393.03	4551093.55	41.09193651	-71.10278527
SFWF	211	D	11/20/2018	12:51:21	323403.47	4551077.95	41.09179834	-71.10265657
SFWF	212	A	11/20/2018	12:07:29	322644.46	4550366.63	41.08522983	-71.11148282
SFWF	212	B	11/20/2018	12:08:35	322644.83	4550365.93	41.0852236	-71.11147822
SFWF	212	C	11/20/2018	12:09:34	322644.51	4550367.88	41.08524109	-71.11148259
SFWF	212	D	11/20/2018	12:10:28	322651.53	4550370.84	41.08526927	-71.11139992
SFWF	213	A	11/20/2018	13:03:34	324869.05	4550363.07	41.08567996	-71.08501412
SFWF	213	B	11/20/2018	13:05:01	324875.61	4550367.19	41.08571846	-71.08493724
SFWF	213	C	11/20/2018	13:06:11	324884.20	4550367.45	41.08572265	-71.08483511
SFWF	213	D	11/20/2018	13:07:13	324885.64	4550358.14	41.08563915	-71.08481533
SFWF	214	A	11/20/2018	10:18:05	326365.65	4550370.28	41.08606583	-71.06720958
SFWF	214	B	11/20/2018	10:18:57	326365.20	4550372.09	41.08608203	-71.06721544
SFWF	214	C	11/20/2018	10:19:52	326364.38	4550369.57	41.08605917	-71.06722449
SFWF	214	D	11/20/2018	10:20:51	326370.51	4550378.21	41.08613826	-71.06715399
SFWF	215	A	11/20/2018	11:40:40	321915.78	4549623.10	41.07837736	-71.11993717
SFWF	215	B	11/20/2018	11:41:48	321911.46	4549632.69	41.07846274	-71.11999134
SFWF	215	C	11/20/2018	11:42:49	321907.82	4549639.79	41.07852586	-71.1200367
SFWF	215	D	11/20/2018	11:43:48	321897.07	4549636.25	41.07849164	-71.12016356
SFWF	216	A	11/20/2018	11:53:44	323391.88	4549624.26	41.07870967	-71.10237718
SFWF	216	B	11/20/2018	11:54:43	323391.84	4549626.28	41.07872784	-71.10237823
SFWF	216	C	11/20/2018	11:55:37	323381.23	4549633.32	41.07878891	-71.10250648
SFWF	216	D	11/20/2018	11:56:32	323394.56	4549635.06	41.07880747	-71.1023484
SFWF	217	A	11/20/2018	11:25:37	322659.46	4548889.38	41.07193491	-71.11087868
SFWF	217	B	11/20/2018	11:26:57	322644.14	4548881.01	41.07185622	-71.1110585

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFWF	217	C	11/20/2018	11:28:01	322642.46	4548882.87	41.0718726	-71.11107902
SFWF	217	D	11/20/2018	11:29:13	322649.32	4548877.94	41.07182972	-71.110996
SFWF	218	A	11/20/2018	10:49:02	324882.94	4548701.56	41.0707258	-71.08437609
SFWF	218	B	11/20/2018	10:50:28	324882.88	4548703.31	41.07074154	-71.0843773
SFWF	218	C	11/20/2018	10:51:26	324882.23	4548705.60	41.07076202	-71.08438569
SFWF	218	D	11/20/2018	10:52:25	324883.24	4548705.77	41.07076376	-71.08437372
SFWF	219	A	11/20/2018	10:34:12	326356.87	4548711.67	41.07113275	-71.06684607
SFWF	219	B	11/20/2018	10:35:14	326352.77	4548709.79	41.07111495	-71.06689431
SFWF	219	C	11/20/2018	10:36:06	326363.36	4548707.42	41.07109587	-71.06676767
SFWF	219	D	11/20/2018	10:37:11	326369.71	4548719.46	41.07120562	-71.06669553
SFWF	220	A	11/20/2018	11:11:09	321908.11	4548131.18	41.06494549	-71.11959684
SFWF	220	B	11/20/2018	11:12:20	321905.20	4548141.84	41.06504081	-71.11963454
SFWF	220	C	11/20/2018	11:13:45	321905.25	4548132.19	41.06495396	-71.11963115
SFWF	220	D	11/20/2018	11:14:42	321912.31	4548146.81	41.06508711	-71.11955141
SFWF	C01	A	11/15/2017	17:26:00	324235.05	4553086.45	41.110059	-71.093336
SFWF	C01	B	11/15/2017	17:27:00	324235.54	4553089.85	41.11009	-71.093331
SFWF	C01	C	11/15/2017	17:28:00	324236.38	4553086.85	41.110063	-71.09332
SFWF	C01	D	11/15/2017	17:30:00	324239.13	4553092.09	41.110111	-71.093289
SFWF	C01	E	11/15/2017	17:31:00	324239.64	4553087.09	41.110066	-71.093281
SFWF	C01	F	11/15/2017	17:32:00	324232.61	4553086.17	41.110056	-71.093365
SFWF	C02	A	11/15/2017	16:53:00	326972.74	4553063.85	41.110443	-71.060744
SFWF	C02	B	11/15/2017	16:54:00	326945.82	4553064.56	41.110444	-71.061065
SFWF	C02	C	11/15/2017	16:55:00	326938.81	4553063.72	41.110435	-71.061148
SFWF	C02	D	11/15/2017	16:56:00	326941.69	4553066.29	41.110459	-71.061115
SFWF	C02	E	11/15/2017	16:57:00	326948.25	4553070.48	41.110498	-71.061038
SFWF	C02	F	11/15/2017	16:59:00	326953.14	4553066.41	41.110462	-71.060978
SFEC-OCS	101	A	11/12/2017	21:18:00	316317.90	4549208.55	41.073401	-71.186405
SFEC-OCS	101	B	11/12/2017	21:19:00	316318.45	4549207.19	41.073389	-71.186399
SFEC-OCS	101	C	11/12/2017	21:20:00	316316.07	4549205.40	41.073372	-71.186426
SFEC-OCS	101	D	11/12/2017	21:22:00	316316.21	4549204.25	41.073362	-71.186424
SFEC-OCS	102	A	11/12/2017	21:46:00	314731.29	4548166.08	41.063657	-71.204964
SFEC-OCS	102	B	11/12/2017	21:47:00	314731.25	4548165.28	41.06365	-71.204965
SFEC-OCS	102	C	11/12/2017	21:48:00	314728.93	4548167.18	41.063667	-71.204993
SFEC-OCS	102	D	11/12/2017	21:49:00	314727.24	4548168.77	41.063681	-71.205013
SFEC-OCS	103	A	11/12/2017	22:12:00	312927.47	4547670.83	41.058787	-71.226267
SFEC-OCS	103	B	11/12/2017	22:13:00	312927.99	4547672.32	41.0588	-71.226261
SFEC-OCS	103	C	11/12/2017	22:14:00	312926.65	4547672.82	41.058804	-71.226277
SFEC-OCS	103	D	11/12/2017	22:15:00	312924.59	4547674.07	41.058815	-71.226302
SFEC-OCS	104	A	11/12/2017	22:37:00	311059.95	4547826.51	41.059757	-71.248523
SFEC-OCS	104	B	11/12/2017	22:39:00	311065.08	4547832.67	41.059813	-71.248464
SFEC-OCS	104	C	11/12/2017	22:40:00	311060.58	4547826.93	41.059761	-71.248515
SFEC-OCS	104	D	11/12/2017	22:41:00	311053.29	4547827.67	41.059766	-71.248602
SFEC-OCS	105	A	11/12/2017	23:05:00	309169.83	4547764.97	41.058762	-71.270981
SFEC-OCS	105	B	11/12/2017	23:06:00	309171.07	4547762.31	41.058738	-71.270965
SFEC-OCS	105	C	11/12/2017	23:07:00	309170.92	4547760.93	41.058726	-71.270966
SFEC-OCS	105	D	11/12/2017	23:08:00	309169.34	4547761.34	41.058729	-71.270985
SFEC-OCS	106	A	11/12/2017	23:24:00	308286.04	4547514.66	41.056301	-71.281412
SFEC-OCS	106	B	11/12/2017	23:24:00	308288.54	4547514.82	41.056303	-71.281383
SFEC-OCS	106	C	11/12/2017	23:26:00	308287.39	4547515.70	41.056311	-71.281399
SFEC-OCS	106	D	11/12/2017	23:28:00	308284.33	4547516.68	41.056319	-71.281433
SFEC-OCS	107	A	11/12/2017	23:47:00	307831.63	4546679.40	41.048676	-71.286555
SFEC-OCS	107	B	11/12/2017	23:48:00	307833.92	4546678.53	41.048668	-71.286528
SFEC-OCS	107	C	11/12/2017	23:49:00	307834.56	4546677.88	41.048663	-71.286509

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Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFEC-OCS	107	D	11/12/2017	23:51:00	307834.75	4546682.27	41.048702	-71.286519
SFEC-OCS	108	A	11/13/2017	0:09:00	307357.80	4545856.48	41.041157	-71.291935
SFEC-OCS	108	B	11/13/2017	0:11:00	307356.04	4545860.64	41.041194	-71.291954
SFEC-OCS	108	C	11/13/2017	0:12:00	307353.95	4545866.57	41.041247	-71.291981
SFEC-OCS	108	D	11/13/2017	0:13:00	307354.17	4545870.95	41.041286	-71.291979
SFEC-OCS	109	A	11/13/2017	0:27:00	306708.44	4545173.49	41.034855	-71.299437
SFEC-OCS	109	B	11/13/2017	0:28:00	306710.07	4545171.93	41.034842	-71.299418
SFEC-OCS	109	C	11/13/2017	0:30:00	306710.21	4545172.04	41.034843	-71.299416
SFEC-OCS	109	D	11/13/2017	0:31:00	306708.45	4545174.70	41.034866	-71.299438
SFEC-OCS	110	A	11/13/2017	0:50:00	304843.79	4545024.77	41.033072	-71.321555
SFEC-OCS	110	B	11/13/2017	0:53:00	304850.14	4545027.83	41.033101	-71.321481
SFEC-OCS	110	C	11/13/2017	0:54:00	304848.74	4545031.22	41.033131	-71.321499
SFEC-OCS	110	D	11/13/2017	0:55:00	304845.76	4545035.35	41.033168	-71.321535
SFEC-OCS	111	A	11/13/2017	1:21:00	302944.41	4545047.95	41.032824	-71.34414
SFEC-OCS	111	B	11/13/2017	1:22:00	302948.67	4545047.26	41.032818	-71.344089
SFEC-OCS	111	C	11/13/2017	1:23:00	302949.92	4545047.99	41.032825	-71.344074
SFEC-OCS	111	D	11/13/2017	1:24:00	302948.59	4545052.43	41.032865	-71.344091
SFEC-OCS	112	A	11/13/2017	1:45:00	301045.73	4545073.43	41.032595	-71.366716
SFEC-OCS	112	B	11/13/2017	1:46:00	301048.00	4545075.86	41.032614	-71.36669
SFEC-OCS	112	C	11/13/2017	1:48:00	301048.65	4545076.67	41.032621	-71.366682
SFEC-OCS	112	D	11/13/2017	1:49:00	301047.67	4545078.29	41.032636	-71.366694
SFEC-OCS	113	A	11/13/2017	2:08:00	299146.05	4545091.34	41.032286	-71.389301
SFEC-OCS	113	B	11/13/2017	2:09:00	299146.55	4545095.10	41.03232	-71.389296
SFEC-OCS	113	C	11/13/2017	2:10:00	299146.00	4545094.22	41.032312	-71.389303
SFEC-OCS	113	D	11/13/2017	2:11:00	299148.68	4545092.67	41.032299	-71.38927
SFEC-OCS	114	A	11/13/2017	2:31:00	297251.95	4545110.23	41.031987	-71.41182
SFEC-OCS	114	B	11/13/2017	2:33:00	297250.15	4545111.85	41.032001	-71.411842
SFEC-OCS	114	C	11/13/2017	2:34:00	297243.07	4545114.69	41.032025	-71.411927
SFEC-OCS	114	D	11/13/2017	2:35:00	297241.18	4545116.23	41.032039	-71.41195
SFEC-OCS	115	A	11/13/2017	2:55:00	295338.54	4545135.69	41.031738	-71.43457
SFEC-OCS	115	B	11/13/2017	2:56:00	295342.92	4545139.79	41.031776	-71.43452
SFEC-OCS	115	C	11/13/2017	2:58:00	295344.76	4545140.36	41.031782	-71.434498
SFEC-OCS	115	D	11/13/2017	2:59:00	295346.56	4545136.90	41.031751	-71.434475
SFEC-OCS	116	A	11/13/2017	3:20:00	293443.00	4545157.49	41.031456	-71.457106
SFEC-OCS	116	B	11/13/2017	3:21:00	293441.88	4545153.99	41.031424	-71.457119
SFEC-OCS	116	C	11/13/2017	3:22:00	293441.69	4545150.68	41.031394	-71.45712
SFEC-OCS	116	D	11/13/2017	3:23:00	293440.04	4545156.35	41.031445	-71.457141
SFEC-OCS	117	A	11/13/2017	3:42:00	291543.17	4545172.32	41.031105	-71.479691
SFEC-OCS	117	B	11/13/2017	3:44:00	291542.14	4545177.05	41.031148	-71.479705
SFEC-OCS	117	C	11/13/2017	3:45:00	291544.23	4545177.79	41.031155	-71.47968
SFEC-OCS	117	D	11/13/2017	3:46:00	291541.23	4545178.23	41.031158	-71.479716
SFEC-OCS	118	A	11/13/2017	4:08:00	289643.71	4545203.29	41.030896	-71.502276
SFEC-OCS	118	B	11/13/2017	4:09:00	289647.60	4545200.02	41.030868	-71.502228
SFEC-OCS	118	C	11/13/2017	4:10:00	289645.20	4545202.56	41.03089	-71.502258
SFEC-OCS	118	D	11/13/2017	4:12:00	289651.51	4545200.09	41.030869	-71.502182
SFEC-OCS	119	A	11/13/2017	4:33:00	287743.00	4545225.66	41.030604	-71.524872
SFEC-OCS	119	B	11/13/2017	4:34:00	287743.16	4545225.86	41.030606	-71.524871
SFEC-OCS	119	C	11/13/2017	4:36:00	287746.06	4545226.61	41.030614	-71.524836
SFEC-OCS	119	D	11/13/2017	4:37:00	287742.66	4545221.17	41.030564	-71.524875
SFEC-OCS	120	A	11/13/2017	4:58:00	285847.18	4545247.76	41.030307	-71.54741
SFEC-OCS	120	B	11/13/2017	5:00:00	285844.82	4545246.98	41.0303	-71.547438
SFEC-OCS	120	C	11/13/2017	5:01:00	285843.04	4545245.36	41.030285	-71.547459
SFEC-OCS	120	D	11/13/2017	5:02:00	285848.73	4545246.45	41.030296	-71.547391

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SFEC-OCS	121	A	11/13/2017	5:25:00	283934.63	4545260.18	41.029914	-71.570143
SFEC-OCS	121	B	11/13/2017	5:27:00	283925.71	4545270.47	41.030004	-71.570023
SFEC-OCS	121	C	11/13/2017	5:28:00	283939.13	4545269.56	41.03	-71.570093
SFEC-OCS	121	D	11/13/2017	5:29:00	283948.64	4545272.40	41.030028	-71.569981
SFEC-OCS	122	A	11/13/2017	6:08:00	282080.99	4545015.18	41.027216	-71.592085
SFEC-OCS	122	B	11/13/2017	6:09:00	282080.02	4545019.75	41.027257	-71.592098
SFEC-OCS	122	C	11/13/2017	6:10:00	282077.37	4545012.75	41.027193	-71.592127
SFEC-OCS	122	D	11/13/2017	6:11:00	282092.35	4545021.57	41.027276	-71.591952
SFEC-OCS	123	A	11/13/2017	6:33:00	280261.54	4544463.66	41.021764	-71.613509
SFEC-OCS	123	B	11/13/2017	6:34:00	280267.19	4544465.20	41.021779	-71.613442
SFEC-OCS	123	C	11/13/2017	6:35:00	280260.26	4544462.48	41.021753	-71.613524
SFEC-OCS	123	D	11/13/2017	6:37:00	280270.26	4544464.44	41.021773	-71.613405
SFEC-OCS	124	A	11/13/2017	6:56:00	278447.92	4543907.77	41.016271	-71.634858
SFEC-OCS	124	B	11/13/2017	6:57:00	278439.58	4543902.66	41.016233	-71.634956
SFEC-OCS	124	C	11/13/2017	6:58:00	278443.43	4543896.39	41.016167	-71.634907
SFEC-OCS	124	D	11/13/2017	7:00:00	278435.95	4543906.47	41.016256	-71.635
SFEC-OCS	125	A	11/13/2017	7:20:00	276628.31	4543355.12	41.010801	-71.656276
SFEC-OCS	125	B	11/13/2017	7:21:00	276631.22	4543349.97	41.010756	-71.65624
SFEC-OCS	125	C	11/13/2017	7:22:00	276629.64	4543351.49	41.010769	-71.656259
SFEC-OCS	125	D	11/13/2017	7:23:00	276627.48	4543356.66	41.010815	-71.656287
SFEC-OCS	126	A	11/13/2017	7:43:00	274811.09	4542793.10	41.005244	-71.677659
SFEC-OCS	126	B	11/13/2017	7:44:00	274816.21	4542795.74	41.005269	-71.677599
SFEC-OCS	126	C	11/13/2017	7:45:00	274814.95	4542795.43	41.005266	-71.677614
SFEC-OCS	126	D	11/13/2017	7:47:00	274813.09	4542794.72	41.005259	-71.677636
SFEC-OCS	127	A	11/13/2017	8:09:00	273006.02	4542215.20	40.999544	-71.698888
SFEC-OCS	127	B	11/13/2017	8:10:00	273004.93	4542216.85	40.999558	-71.698901
SFEC-OCS	127	C	11/13/2017	8:11:00	273007.31	4542216.94	40.99956	-71.698873
SFEC-OCS	127	D	11/13/2017	8:13:00	273008.76	4542214.24	40.999536	-71.698855
SFEC-OCS	128	A	11/13/2017	8:34:00	271503.99	4541047.91	40.988621	-71.716296
SFEC-OCS	128	B	11/13/2017	8:36:00	271503.79	4541052.18	40.988659	-71.7163
SFEC-OCS	128	C	11/13/2017	8:38:00	271507.50	4541051.67	40.988656	-71.716255
SFEC-OCS	128	D	11/13/2017	8:39:00	271505.49	4541049.82	40.988638	-71.716279
SFEC-OCS	129	A	11/13/2017	9:01:00	270004.50	4539884.60	40.977732	-71.733669
SFEC-OCS	129	B	11/13/2017	9:02:00	270004.11	4539878.06	40.977673	-71.733671
SFEC-OCS	129	C	11/13/2017	9:03:00	270004.01	4539882.78	40.977716	-71.733674
SFEC-OCS	129	D	11/13/2017	9:05:00	270002.36	4539886.52	40.977749	-71.733695
SFEC-OCS	130	A	11/13/2017	9:24:00	268502.41	4538715.46	40.966788	-71.751066
SFEC-OCS	130	B	11/13/2017	9:26:00	268505.25	4538719.84	40.966828	-71.751034
SFEC-OCS	130	C	11/13/2017	9:27:00	268509.97	4538707.49	40.966718	-71.750973
SFEC-OCS	130	D	11/13/2017	9:29:00	268506.71	4538710.38	40.966743	-71.751013
SFEC-OCS	131	A	11/13/2017	9:47:00	267783.66	4538164.80	40.961629	-71.759391
SFEC-OCS	131	B	11/13/2017	9:49:00	267790.66	4538152.73	40.961522	-71.759304
SFEC-OCS	131	C	11/13/2017	9:50:00	267785.47	4538157.37	40.961563	-71.759367
SFEC-OCS	131	D	11/13/2017	9:51:00	267785.20	4538163.85	40.961621	-71.759373
SFEC-OCS	132	A	11/13/2017	10:06:00	266843.38	4538040.09	40.960239	-71.770505
SFEC-OCS	132	B	11/13/2017	10:07:00	266847.21	4538020.23	40.960061	-71.770452
SFEC-OCS	132	C	11/13/2017	10:09:00	266842.70	4538027.86	40.960129	-71.770508
SFEC-OCS	132	D	11/13/2017	10:10:00	266838.80	4538036.25	40.960203	-71.770558
SFEC-OCS	133	A	11/13/2017	10:41:00	265148.03	4538878.61	40.967298	-71.790946
SFEC-OCS	133	B	11/13/2017	10:43:00	265142.12	4538878.27	40.967293	-71.791016
SFEC-OCS	133	C	11/13/2017	10:44:00	265148.30	4538878.15	40.967294	-71.790942
SFEC-OCS	133	D	11/13/2017	10:45:00	265146.42	4538882.26	40.96733	-71.790966
SFEC-OCS	134	A	11/13/2017	11:11:00	263368.95	4539297.97	40.970558	-71.812224

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SFEC-OCS	134	B	11/13/2017	11:12:00	263376.37	4539289.74	40.970486	-71.812133
SFEC-OCS	134	C	11/13/2017	11:14:00	263372.45	4539290.59	40.970492	-71.81218
SFEC-OCS	134	D	11/13/2017	11:15:00	263374.03	4539287.50	40.970465	-71.81216
SFEC-OCS	135	A	11/13/2017	11:37:00	261555.55	4538738.04	40.964992	-71.833534
SFEC-OCS	135	B	11/13/2017	11:38:00	261556.89	4538734.89	40.964964	-71.833517
SFEC-OCS	135	C	11/13/2017	11:39:00	261557.32	4538733.39	40.964951	-71.833512
SFEC-OCS	135	D	11/13/2017	11:40:00	261557.93	4538737.85	40.964991	-71.833506
SFEC-OCS	136	A	11/13/2017	12:07:00	259736.25	4538193.43	40.959559	-71.854917
SFEC-OCS	136	B	11/13/2017	12:08:00	259734.40	4538184.33	40.959477	-71.854936
SFEC-OCS	136	C	11/13/2017	12:09:00	259736.54	4538182.01	40.959457	-71.854909
SFEC-OCS	136	D	11/13/2017	12:10:00	259733.63	4538180.19	40.959439	-71.854943
SFEC-OCS	137	A	11/13/2017	12:34:00	257912.31	4537642.05	40.95406	-71.876348
SFEC-OCS	137	B	11/13/2017	12:35:00	257922.89	4537642.05	40.954063	-71.876223
SFEC-OCS	137	C	11/13/2017	12:36:00	257916.90	4537638.83	40.954032	-71.876293
SFEC-OCS	137	D	11/13/2017	12:37:00	257914.65	4537636.53	40.954011	-71.876318
SFEC-OCS	138	A	11/13/2017	12:58:00	256105.08	4537072.55	40.948399	-71.897571
SFEC-OCS	138	B	11/13/2017	12:59:00	256098.12	4537076.14	40.948429	-71.897655
SFEC-OCS	138	C	11/13/2017	13:00:00	256099.53	4537074.23	40.948412	-71.897637
SFEC-OCS	138	D	11/13/2017	13:01:00	256105.80	4537074.09	40.948413	-71.897563
SFEC-OCS	139	A	11/13/2017	13:22:00	254296.64	4536522.24	40.942906	-71.918811
SFEC-OCS	139	B	11/13/2017	13:23:00	254306.14	4536515.09	40.942845	-71.918695
SFEC-OCS	139	C	11/13/2017	13:24:00	254295.56	4536501.81	40.942722	-71.918816
SFEC-OCS	139	D	11/13/2017	13:25:00	254292.76	4536510.74	40.942802	-71.918852
SFEC-OCS	140	A	11/13/2017	13:52:00	252474.36	4535962.38	40.93732	-71.940208
SFEC-OCS	140	B	11/13/2017	13:53:00	252476.40	4535955.40	40.937258	-71.940181
SFEC-OCS	140	C	11/13/2017	13:54:00	252478.61	4535955.48	40.937259	-71.940155
SFEC-OCS	140	D	11/13/2017	13:56:00	252474.06	4535956.47	40.937266	-71.940209
SFEC-OCS	141	A	11/13/2017	14:56:00	251470.67	4536191.39	40.939075	-71.952207
SFEC-OCS	141	B	11/13/2017	14:57:00	251475.80	4536193.54	40.939096	-71.952147
SFEC-OCS	141	C	11/13/2017	14:58:00	251472.88	4536187.03	40.939037	-71.952179
SFEC-OCS	141	D	11/13/2017	15:00:00	251465.63	4536186.86	40.939033	-71.952265
SFEC-OCS	142	A	11/13/2017	17:47:00	250543.03	4537843.56	40.953656	-71.963877
SFEC-OCS	142	B	11/13/2017	17:49:00	250548.45	4537843.92	40.953661	-71.963813
SFEC-OCS	142	C	11/13/2017	17:51:00	250543.38	4537845.86	40.953677	-71.963874
SFEC-OCS	142	D	11/13/2017	17:52:00	250555.07	4537840.91	40.953636	-71.963733
SFEC-OCS	146	C	11/14/2017	15:00:00	250657.66	4535397.06	40.931682	-71.961533
SFEC-OCS	146	D	11/14/2017	15:01:00	250658.71	4535391.52	40.931632	-71.961518
SFEC-OCS	146	E	11/14/2017	15:02:00	250661.30	4535391.66	40.931634	-71.961487
SFEC-OCS	146	F	11/14/2017	15:02:00	250658.49	4535392.04	40.931637	-71.961521
SFEC-OCS	147	A	11/14/2017	15:28:00	248853.06	4534842.21	40.926138	-71.982714
SFEC-OCS	147	B	11/14/2017	15:29:00	248847.96	4534836.04	40.926081	-71.982772
SFEC-OCS	147	C	11/14/2017	15:30:00	248833.71	4534839.09	40.926105	-71.982919
SFEC-OCS	147	D	11/14/2017	15:30:00	248833.25	4534845.78	40.926164	-71.982951
SFEC-OCS	148	A	11/14/2017	15:53:00	247025.17	4534292.55	40.92063	-72.00417
SFEC-OCS	148	B	11/14/2017	15:54:00	247018.67	4534291.09	40.920615	-72.004247
SFEC-OCS	148	C	11/14/2017	15:55:00	247013.29	4534289.71	40.920601	-72.00431
SFEC-OCS	148	D	11/14/2017	15:56:00	247022.38	4534290.90	40.920614	-72.004203
SFEC-OCS	149	A	11/14/2017	16:18:00	245207.93	4533734.55	40.915046	-72.025493
SFEC-OCS	149	B	11/14/2017	16:19:00	245211.70	4533730.67	40.915013	-72.025447
SFEC-OCS	149	C	11/14/2017	16:20:00	245211.79	4533731.81	40.915023	-72.025446
SFEC-OCS	149	D	11/14/2017	16:21:00	245211.61	4533733.54	40.915039	-72.025449
SFEC-OCS	150	A	11/14/2017	16:43:00	243408.83	4533175.63	40.909456	-72.046597
SFEC-OCS	150	B	11/14/2017	16:44:00	243409.84	4533177.53	40.909474	-72.046585

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFEC-OCS	150	C	11/14/2017	16:45:00	243406.18	4533174.09	40.909442	-72.046627
SFEC-OCS	150	D	11/14/2017	16:46:00	243403.72	4533175.51	40.909454	-72.046657
SFEC-OCS	151	A	11/14/2017	17:10:00	241587.96	4532618.50	40.903872	-72.067955
SFEC-OCS	151	B	11/14/2017	17:12:00	241585.91	4532620.45	40.903889	-72.06798
SFEC-OCS	151	C	11/14/2017	17:13:00	241591.81	4532618.90	40.903877	-72.06791
SFEC-OCS	151	D	11/14/2017	17:14:00	241588.10	4532617.90	40.903866	-72.067953
SFEC-OCS	152	A	11/14/2017	17:33:00	239769.37	4532056.39	40.898239	-72.089281
SFEC-OCS	152	B	11/14/2017	17:34:00	239768.83	4532063.75	40.898305	-72.08929
SFEC-OCS	152	C	11/14/2017	17:35:00	239769.82	4532065.79	40.898324	-72.089279
SFEC-OCS	152	D	11/14/2017	17:37:00	239767.66	4532060.65	40.898277	-72.089303
SFEC-OCS	153	A	11/14/2017	17:59:00	237952.46	4531503.13	40.892683	-72.110586
SFEC-OCS	153	B	11/14/2017	18:00:00	237951.37	4531505.42	40.892704	-72.1106
SFEC-OCS	153	C	11/14/2017	18:01:00	237951.85	4531507.24	40.89272	-72.110595
SFEC-OCS	153	D	11/14/2017	18:02:00	237951.86	4531504.29	40.892693	-72.110594
SFEC-OCS	154	A	11/14/2017	18:23:00	236137.68	4530949.12	40.887117	-72.131862
SFEC-OCS	154	B	11/14/2017	18:24:00	236138.35	4530950.52	40.88713	-72.131855
SFEC-OCS	154	C	11/14/2017	18:25:00	236139.75	4530951.02	40.887135	-72.131839
SFEC-OCS	154	D	11/14/2017	18:26:00	236135.60	4530954.11	40.887161	-72.131889
SFEC-OCS	155	A	11/14/2017	18:48:00	234319.69	4530395.66	40.881551	-72.153173
SFEC-OCS	155	B	11/14/2017	18:49:00	234322.03	4530394.95	40.881546	-72.153145
SFEC-OCS	155	C	11/14/2017	18:50:00	234322.14	4530395.61	40.881552	-72.153144
SFEC-OCS	155	D	11/14/2017	18:51:00	234324.44	4530392.33	40.881523	-72.153115
SFEC-OCS	156	A	11/14/2017	19:13:00	232501.51	4529845.89	40.876015	-72.174484
SFEC-OCS	156	B	11/14/2017	19:14:00	232503.58	4529849.76	40.87605	-72.174461
SFEC-OCS	156	C	11/14/2017	19:16:00	232505.67	4529847.75	40.876033	-72.174435
SFEC-OCS	156	D	11/14/2017	19:17:00	232491.43	4529853.96	40.876084	-72.174607
SFEC-OCS	157	A	11/14/2017	19:35:00	230896.79	4529975.37	40.876654	-72.193555
SFEC-OCS	157	B	11/14/2017	19:36:00	230904.36	4529967.96	40.87659	-72.193462
SFEC-OCS	157	C	11/14/2017	19:37:00	230898.20	4529974.72	40.876648	-72.193538
SFEC-OCS	157	D	11/14/2017	19:38:00	230896.81	4529974.01	40.876642	-72.193555
SFEC-NYS	143	A	11/13/2017	15:41:00	249656.94	4539532.19	40.968576	-71.975074
SFEC-NYS	143	B	11/13/2017	15:43:00	249657.93	4539527.01	40.96853	-71.97506
SFEC-NYS	143	C	11/13/2017	15:44:00	249652.55	4539521.05	40.968475	-71.975122
SFEC-NYS	143	D	11/13/2017	15:45:00	249659.95	4539525.75	40.968519	-71.975036
SFEC-NYS	144	A	11/13/2017	17:02:00	248780.03	4541200.51	40.983315	-71.986159
SFEC-NYS	144	B	11/13/2017	17:04:00	248777.85	4541207.13	40.983374	-71.986188
SFEC-NYS	144	C	11/13/2017	17:05:00	248770.09	4541208.21	40.983382	-71.98628
SFEC-NYS	144	D	11/13/2017	17:06:00	248774.01	4541199.98	40.983309	-71.98623
SFEC-NYS	145	A	11/13/2017	16:26:00	247891.87	4542883.21	40.998179	-71.997389
SFEC-NYS	145	B	11/13/2017	16:27:00	247883.74	4542889.31	40.998231	-71.997488
SFEC-NYS	145	C	11/13/2017	16:29:00	247886.07	4542886.03	40.998202	-71.997459
SFEC-NYS	145	D	11/13/2017	16:30:00	247883.81	4542885.24	40.998195	-71.997485
SFEC-NYS	158	A	11/14/2017	20:03:00	229950.01	4531622.22	40.891155	-72.20549
SFEC-NYS	158	B	11/14/2017	20:04:00	229958.18	4531622.99	40.891164	-72.205393
SFEC-NYS	158	C	11/14/2017	20:05:00	229955.89	4531622.61	40.89116	-72.20542
SFEC-NYS	158	D	11/14/2017	20:06:00	229949.83	4531622.63	40.891158	-72.205492
SFEC-NYS	159	A	11/14/2017	20:30:00	229010.03	4533268.13	40.905648	-72.217349
SFEC-NYS	159	B	11/14/2017	20:31:00	229011.86	4533272.28	40.905686	-72.217329
SFEC-NYS	159	C	11/14/2017	20:32:00	229011.49	4533271.47	40.905678	-72.217333
SFEC-NYS	159	D	11/14/2017	20:33:00	229012.32	4533273.13	40.905693	-72.217324
SFEC-NYS	160	A	11/14/2017	20:51:00	228317.45	4534478.08	40.9163	-72.226088
SFEC-NYS	160	B	11/14/2017	20:52:00	228319.61	4534479.24	40.916312	-72.226063
SFEC-NYS	160	C	11/14/2017	20:53:00	228317.21	4534481.70	40.916333	-72.226093

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	X_UTM_19N_m	Y_UTM_19N_m	Latitude_WGS84	Longitude_WGS84
SFEC-NYS	160	D	11/14/2017	20:54:00	228315.60	4534485.86	40.91637	-72.226114
Reference	C03	A	11/15/2017	16:19:00	329824.01	4553017.83	41.110631	-71.026794
Reference	C03	B	11/15/2017	16:20:00	329825.92	4553015.83	41.110614	-71.026777
Reference	C03	C	11/15/2017	16:21:00	329823.49	4553016.09	41.110616	-71.026799
Reference	C03	D	11/15/2017	16:22:00	329821.43	4553018.51	41.110637	-71.026825
Reference	C03	E	11/15/2017	16:23:00	329821.56	4553011.76	41.110576	-71.026821
Reference	C03	F	11/15/2017	16:24:00	329826.82	4553009.24	41.110555	-71.026758
Reference	C04	A	11/15/2017	15:49:00	332558.46	4553076.09	41.111724	-70.994261
Reference	C04	B	11/15/2017	15:50:00	332561.26	4553078.45	41.111746	-70.994229
Reference	C04	C	11/15/2017	15:51:00	332558.02	4553077.06	41.111733	-70.994267
Reference	C04	D	11/15/2017	15:52:00	332558.75	4553079.24	41.111753	-70.994259
Reference	C04	E	11/15/2017	15:53:00	332562.89	4553077.69	41.111739	-70.994209
Reference	C04	F	11/15/2017	15:54:00	332575.41	4553070.54	41.111678	-70.994058
Reference	C05	A	11/15/2017	15:17:00	335389.15	4553032.08	41.111906	-70.960554
Reference	C05	B	11/15/2017	15:18:00	335377.82	4553026.43	41.111853	-70.960688
Reference	C05	C	11/15/2017	15:19:00	335379.35	4553028.66	41.111874	-70.96067
Reference	C05	D	11/15/2017	15:21:00	335383.16	4553031.44	41.111899	-70.960626
Reference	C05	E	11/15/2017	15:22:00	335368.90	4553037.72	41.111953	-70.960797
Reference	C05	F	11/15/2017	15:24:00	335389.45	4553034.47	41.111928	-70.960552

APPENDIX B

SPI/PV Field Logs

Notes:

FC=Frame Count

WC=Water Column

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	1	A	11/11/2017	13:30:50	4	18	5	33.0	SPI: ISO 640 f11 1/250; PV: ISO 640 f11 1/20
SFWF	1	B	11/11/2017	13:31:52	5	18	5	33.0	
SFWF	1	C	11/11/2017	13:32:50	6	18	5	33.0	
SFWF	1	D	11/11/2017	13:33:48	7	18	5	33.0	PV: changed to f16
SFWF	2	A	11/11/2017	14:19:35	9	18	5	34.0	
SFWF	2	B	11/11/2017	14:20:35	10	18	5	34.0	
SFWF	2	C	11/11/2017	14:21:33	11	18	5	34.0	
SFWF	2	D	11/11/2017	14:22:36	12	18	5	34.0	
SFWF	3	A	11/11/2017	14:47:50	13	18	5	35.5	
SFWF	3	B	11/11/2017	14:48:45	14	18	5	35.5	
SFWF	3	C	11/11/2017	14:49:50	15	18	5	35.5	
SFWF	3	D	11/11/2017	14:50:40	16	18	5	35.5	
SFWF	4	A	11/11/2017	15:06:30	17	18	5	35.8	
SFWF	4	B	11/11/2017	15:07:34	18	18	5	35.8	
SFWF	4	C	11/11/2017	15:08:34	19	18	5	35.8	
SFWF	4	D	11/11/2017	15:09:41	20	18	5	35.8	
SFWF	5	A	11/11/2017	15:23:22	21	18	5	36.3	
SFWF	5	B	11/11/2017	15:24:22	22	18	5	36.3	
SFWF	5	C	11/11/2017	15:25:25	23	18	5	36.3	
SFWF	5	D	11/11/2017	15:26:25	24	18	5	36.3	
SFWF	6	A	11/11/2017	15:42:20	25	18	5	35.2	
SFWF	6	B	11/11/2017	15:43:25	26	18	5	35.2	
SFWF	6	C	11/11/2017	15:44:23	27	18	5	35.2	
SFWF	6	D	11/11/2017	15:45:20	28	18	5	35.2	PV: changed to f18
SFWF	7	A	11/11/2017	16:09:35	29	18	5	36.6	
SFWF	7	B	11/11/2017	16:10:38	30	18	5	36.6	
SFWF	7	C	11/11/2017	16:11:55	31	18	5	36.6	
SFWF	7	D	11/11/2017	16:13:10	32	18	5	36.6	
SFWF	10	A	11/11/2017	16:39:35	33	18	5	38.5	
SFWF	10	B	11/11/2017	16:40:45	34	18	5	38.5	
SFWF	10	C	11/11/2017	16:41:49	35	18	5	38.5	
SFWF	10	D	11/11/2017	16:43:03	36	18	5	38.5	
SFWF	12	A	11/11/2017	17:26:20	37	18	5	42.0	
SFWF	12	B	11/11/2017	17:27:34	38	18	5	42.0	
SFWF	12	C	11/11/2017	17:28:51	39	18	5	42.0	
SFWF	12	D	11/11/2017	17:30:09	40	18	5	42.0	
SFWF	14	A	11/11/2017	17:50:00	41	18	5	40.3	
SFWF	14	B	11/11/2017	17:51:11	42	18	5	40.3	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	14	C	11/11/2017	17:52:33	43	18	5	40.3	
SFWF	14	D	11/11/2017	17:53:45	44	18	5	40.3	
SFWF	15	A	11/11/2017	18:08:15	45	18	5	41.1	
SFWF	15	B	11/11/2017	18:09:30	46	18	5	41.1	
SFWF	15	C	11/11/2017	18:10:35	47	18	5	41.1	
SFWF	15	D	11/11/2017	18:11:50	48	18	5	41.1	
SFWF	13	A	11/11/2017	18:32:12	49	18	5	37.8	
SFWF	13	B	11/11/2017	18:33:15	50	18	5	37.8	
SFWF	13	C	11/11/2017	18:34:21	51	18	5	37.8	
SFWF	13	D	11/11/2017	18:35:47	52	18	5	37.8	
SFWF	11	A	11/11/2017	18:53:35	53	18	5	36.6	
SFWF	11	B	11/11/2017	18:54:45	54	18	5	36.6	
SFWF	11	C	11/11/2017	18:55:55	55	18	5	36.6	
SFWF	11	D	11/11/2017	18:57:15	56	18	5	36.6	
SFWF	8	A	11/11/2017	19:19:15	57	18	5	37.1	
SFWF	8	B	11/11/2017	19:21:05	58	18	5	37.1	
SFWF	8	C	11/11/2017	19:22:20	59	18	5	37.1	
SFWF	8	D	11/11/2017	19:23:35	60	18	5	37.1	
SFWF	9	A	11/11/2017	19:38:50	61	18	5	35.6	
SFWF	9	B	11/11/2017	19:40:04	62	18	5	35.6	
SFWF	9	C	11/11/2017	19:41:16	63	18	5	35.6	
SFWF	9	D	11/11/2017	19:42:25	64	18	5	35.6	
SFWF	28	A	11/11/2017	20:03:00	65	18	5	34.5	
SFWF	28	B	11/11/2017	20:04:15	66	18	5	34.2	
SFWF	28	C	11/11/2017	20:05:34	67	18	5	34.7	
SFWF	28	D	11/11/2017	20:06:40	68	18	5	35.2	
SFWF	30	A	11/11/2017	20:30:15	69	18	5	36.4	
SFWF	30	B	11/11/2017	20:31:14	70	18	5	36.3	
SFWF	30	C	11/11/2017	20:32:15	71	18	5	36.3	
SFWF	30	D	11/11/2017	20:33:20	72	18	5	37.8	
SFWF	31	A	11/11/2017	20:52:00	73	18	5	37.0	
SFWF	31	B	11/11/2017	20:53:07	74	18	5	37.8	
SFWF	31	C	11/11/2017	20:54:06	75	18	5	37.3	
SFWF	31	D	11/11/2017	20:55:14	76	18	5	36.5	
SFWF	33	A	11/11/2017	21:18:55	77	18	5	36.6	
SFWF	33	B	11/11/2017	21:20:00	78	18	5	37.7	
SFWF	33	C	11/11/2017	21:21:11	79	18	5	37.1	
SFWF	33	D	11/11/2017	21:22:32	80	18	5	36.4	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	34	A	11/11/2017	21:44:10	81	18	5	34.3	
SFWF	34	B	11/11/2017	21:45:15	82	18	5	34.6	
SFWF	34	C	11/11/2017	21:46:23	83	18	5	34.1	
SFWF	34	D	11/11/2017	21:47:24	84	18	5	35.4	
SFWF	32	A	11/11/2017	22:05:20	85	18	5	35.0	
SFWF	32	B	11/11/2017	22:06:35	86	18	5	34.7	
SFWF	32	C	11/11/2017	22:07:43	87	18	5	35.3	
SFWF	32	D	11/11/2017	22:09:00	88	18	5	34.9	
SFWF	29	A	11/11/2017	22:29:00	89	18	5	35.3	
SFWF	29	B	11/11/2017	22:30:14	90	18	5	35.6	
SFWF	29	C	11/11/2017	22:31:19	91	18	5	35.2	
SFWF	29	D	11/11/2017	22:32:47	92	18	5	35.3	
SFWF	27	A	11/11/2017	22:49:53	93	18	5	35.3	
SFWF	27	B	11/11/2017	22:50:58	94	18	5	35.3	
SFWF	27	C	11/11/2017	22:52:15	95	18	5	34.8	
SFWF	27	D	11/11/2017	22:53:15	96	18	5	34.8	
SFWF	26	A	11/11/2017	23:09:17	97	18	5	35.3	
SFWF	26	B	11/11/2017	23:10:30	98	18	5	35.3	
SFWF	26	C	11/11/2017	23:11:35	99	18	5	35.0	
SFWF	26	D	11/11/2017	23:12:50	100	18	5	35.3	
SFWF	25	A	11/11/2017	23:31:00	101	18	5	35.2	
SFWF	25	B	11/11/2017	23:32:18	102	18	5	39.4	
SFWF	25	C	11/11/2017	23:33:32	103	18	5	35.3	
SFWF	25	D	11/11/2017	23:34:40	104	18	5	35.4	
SFWF	24	A	11/12/2017	0:13:39	105	18	5	34.9	
SFWF	24	B	11/12/2017	0:15:00	106	18	5	34.7	
SFWF	24	C	11/12/2017	0:16:03	107	18	5	35.2	
SFWF	24	D	11/12/2017	0:17:17	108	18	5	35.8	
SFWF	23	A	11/12/2017	0:41:39	110	18	5	34.5	
SFWF	23	B	11/12/2017	0:42:50	111	18	5	35.4	
SFWF	23	C	11/12/2017	0:44:08	112	18	5	35.9	
SFWF	23	D	11/12/2017	0:45:20	113	18	5	35.3	
SFWF	22	A	11/12/2017	1:03:04	114	18	5	34.4	
SFWF	22	B	11/12/2017	1:04:08	115	18	5	34.7	
SFWF	22	C	11/12/2017	1:05:15	116	18	5	34.7	
SFWF	22	D	11/12/2017	1:06:28	117	18	5	35.7	
SFWF	21	A	11/12/2017	1:19:53	118	18	5	34.8	
SFWF	21	B	11/12/2017	1:21:03	119	18	5	34.3	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	21	C	11/12/2017	1:22:10	120	18	5	34.8	
SFWF	21	D	11/12/2017	1:23:18	121	18	5	34.2	
SFWF	20	A	11/12/2017	1:40:01	122	18	5	34.8	
SFWF	20	B	11/12/2017	1:41:02	123	18	5	34.3	
SFWF	20	C	11/12/2017	1:42:00	124	18	5	34.8	
SFWF	20	D	11/12/2017	1:43:16	125	18	5	34.2	
SFWF	19	A	11/12/2017	1:54:17	126	18	5	35.3	
SFWF	19	B	11/12/2017	1:55:27	127	18	5	35.1	
SFWF	19	C	11/12/2017	1:56:35	128	18	5	34.0	
SFWF	19	D	11/12/2017	1:57:51	129	18	5	34.6	
SFWF	18	A	11/12/2017	2:08:59	130	18	5	35.1	
SFWF	18	B	11/12/2017	2:10:05	131	18	5	35.1	
SFWF	18	C	11/12/2017	2:11:12	132	18	5	34.4	
SFWF	18	D	11/12/2017	2:12:19	133	18	5	34.4	
SFWF	17	A	11/12/2017	2:23:34	134	18	5	34.9	
SFWF	17	B	11/12/2017	2:24:49	135	18	5	34.8	
SFWF	17	C	11/12/2017	2:26:11	136	18	5	34.6	
SFWF	17	D	11/12/2017	2:27:23	137	18	5	34.1	
SFWF	16	X	11/12/2017	2:37:53	138	18	5		No fix
SFWF	16	A	11/12/2017	2:39:12	139	18	5	35.2	
SFWF	16	B	11/12/2017	2:40:15	140	18	5	36.6	
SFWF	16	C	11/12/2017	2:41:13	141	18	5	35.1	
SFWF	16	D	11/12/2017	2:42:24	142	18	5	35.4	
SFWF	35	A	11/12/2017	2:54:38	143	18	5	35.5	
SFWF	35	B	11/12/2017	2:55:50	144	18	5	35.5	
SFWF	35	C	11/12/2017	2:57:12	145	18	5	36.9	
SFWF	35	D	11/12/2017	2:58:09	146	18	5	36.9	
SFWF	36	A	11/12/2017	3:15:17	147	18	5	38.4	
SFWF	36	B	11/12/2017	3:16:34	148	18	5	35.8	
SFWF	36	C	11/12/2017	3:17:43	149	18	5	35.2	
SFWF	36	D	11/12/2017	3:18:53	150	18	5	35.7	
SFWF	37	A	11/12/2017	3:34:05	152	18	5	35.6	
SFWF	37	B	11/12/2017	3:35:21	153	18	5	34.8	
SFWF	37	C	11/12/2017	3:36:39	154	18	5	35.6	
SFWF	37	D	11/12/2017	3:37:54	155	18	5	35.1	
SFWF	38	A	11/12/2017	3:56:55	156	18	5	34.7	
SFWF	38	B	11/12/2017	4:00:04	157	18	5	34.9	
SFWF	38	C	11/12/2017	4:01:13	158	18	5	35.4	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	38	D	11/12/2017	4:02:20	159	18	5	34.8	
SFWF	39	A	11/12/2017	4:21:29	160	18	5	36.2	
SFWF	39	B	11/12/2017	4:23:37	161	18	5	34.7	
SFWF	39	C	11/12/2017	4:24:50	162	18	5	34.8	
SFWF	39	D	11/12/2017	4:25:36	163	18	5	34.6	
SFWF	40	A	11/12/2017	4:39:50	164	18	5	35.1	
SFWF	40	B	11/12/2017	4:41:00	165	18	5	35.2	
SFWF	40	C	11/12/2017	4:42:18	166	18	5	36.8	
SFWF	40	D	11/12/2017	4:43:40	167	18	5	35.1	
SFWF	41	A	11/12/2017	5:24:20	168	18	5	34.5	
SFWF	41	B	11/12/2017	5:25:28	169	18	5	34.9	
SFWF	41	C	11/12/2017	5:26:43	170	18	5	34.8	
SFWF	41	D	11/12/2017	5:27:50	171	18	5	34.7	
SFWF	42	A	11/12/2017	5:40:24	172	18	5	34.5	
SFWF	42	B	11/12/2017	5:41:34	173	18	5	34.9	
SFWF	42	C	11/12/2017	5:42:48	174	18	5	34.8	
SFWF	42	D	11/12/2017	5:44:07	175	18	5	37.8	
SFWF	43	A	11/12/2017	6:03:26	176	18	5	34.9	
SFWF	43	B	11/12/2017	6:04:50	177	18	5	35.0	
SFWF	43	C	11/12/2017	6:05:57	178	18	5	35.7	
SFWF	43	D	11/12/2017	6:07:18	179	18	5	34.7	
SFWF	44	A	11/12/2017	9:48:18	180	18	5	35.1	
SFWF	44	B	11/12/2017	9:49:28	181	18	5	35.9	
SFWF	44	C	11/12/2017	9:50:37	182	18	5	34.5	
SFWF	44	D	11/12/2017	9:51:41	183	18	5	35.2	
SFWF	45	A	11/12/2017	10:04:07	184	18	5	35.3	
SFWF	45	B	11/12/2017	10:05:22	185	18	5	35.8	
SFWF	45	C	11/12/2017	10:06:31	186	18	5	35.1	
SFWF	45	D	11/12/2017	10:07:30	187	18	5	35.4	
SFWF	46	A	11/12/2017	10:26:43	188	18	5	35.2	
SFWF	46	B	11/12/2017	10:27:52	189	18	5	35.2	
SFWF	46	C	11/12/2017	10:29:20	190	18	5	35.3	
SFWF	46	D	11/12/2017	10:30:47	191	18	5	35.2	
SFWF	47	A	11/12/2017	10:46:25	192	18	5	35.1	
SFWF	47	B	11/12/2017	10:47:46	193	18	5	35.0	
SFWF	47	C	11/12/2017	10:48:56	194	18	5	34.5	
SFWF	47	D	11/12/2017	10:50:06	195	18	5	35.1	
SFWF	48	A	11/12/2017	11:05:16	196	18	5	36.0	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	48	B	11/12/2017	11:06:30	197	18	5	36.2	
SFWF	48	C	11/12/2017	11:07:46	198	18	5	35.1	
SFWF	48	D	11/12/2017	11:08:49	199	18	5	35.4	
SFWF	49	A	11/12/2017	11:49:22	200	18	5	36.3	
SFWF	49	B	11/12/2017	11:50:26	201	18	5	35.4	
SFWF	49	C	11/12/2017	11:51:50	202	18	5	33.1	
SFWF	49	D	11/12/2017	11:53:27	203	18	5	34.9	
SFWF	50	A	11/12/2017	12:18:14	204	18	5	34.8	
SFWF	50	B	11/12/2017	12:19:27	205	18	5	35.6	
SFWF	50	C	11/12/2017	12:20:40	206	18	5	35.1	
SFWF	50	D	11/12/2017	12:22:13	207	18	5	36.8	
SFWF	51	A	11/12/2017	12:34:25	208	18	5	35.4	
SFWF	51	B	11/12/2017	12:35:49	209	18	5	37.4	
SFWF	51	C	11/12/2017	12:36:53	210	18	5	35.7	
SFWF	51	D	11/12/2017	12:38:04	211	18	5	35.3	
SFWF	66	A	11/12/2017	12:52:50	212	18	5	35.3	
SFWF	66	B	11/12/2017	12:54:19	213	18	5	35.8	
SFWF	66	C	11/12/2017	12:55:47	214	18	5	35.9	
SFWF	66	D	11/12/2017	12:57:03	215	18	5	35.9	
SFWF	68	A	11/12/2017	13:13:04	216	18	5	35.5	
SFWF	68	B	11/12/2017	13:14:00	217	18	5	35.7	
SFWF	68	C	11/12/2017	13:15:12	218	18	5	35.5	
SFWF	68	D	11/12/2017	13:16:23	219	18	5	35.5	
SFWF	76	A	11/12/2017	14:00:40	221	18	5	38.2	
SFWF	76	B	11/12/2017	14:02:15	222	18	5	36.3	
SFWF	76	C	11/12/2017	14:03:27	223	18	5	37.1	
SFWF	76	D	11/12/2017	14:05:20	224	18	5	37.0	
SFWF	67	A	11/12/2017	14:17:37	225	18	5	35.9	
SFWF	67	B	11/12/2017	14:18:53	226	18	5	35.9	
SFWF	67	C	11/12/2017	14:19:54	227	18	5	36.3	
SFWF	67	D	11/12/2017	14:21:00	228	18	5	36.9	
SFWF	65	A	11/12/2017	14:30:38	229	18	5	36.4	
SFWF	65	B	11/12/2017	14:32:17	230	18	5	37.5	
SFWF	65	C	11/12/2017	14:33:40	231	18	5	36.4	
SFWF	65	D	11/12/2017	14:34:49	232	18	5	37.6	
SFWF	64	A	11/12/2017	14:46:47	233	18	5	36.5	
SFWF	64	B	11/12/2017	14:48:08	234	18	5	37.0	
SFWF	64	C	11/12/2017	14:49:09	235	18	5	36.2	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	64	D	11/12/2017	14:50:27	236	18	5	36.6	
SFWF	63	A	11/12/2017	15:01:45	237	18	5	36.2	
SFWF	63	B	11/12/2017	15:02:55	238	18	5	35.7	
SFWF	63	C	11/12/2017	15:04:15	239	18	5	35.8	
SFWF	63	D	11/12/2017	15:05:40	240	18	5	36.1	
SFWF	62	A	11/12/2017	15:16:00	241	18	5	35.9	
SFWF	62	B	11/12/2017	15:17:20	242	18	5	35.1	
SFWF	62	C	11/12/2017	15:18:41	243	18	5	35.7	
SFWF	62	D	11/12/2017	15:20:00	244	18	5	36.1	
SFWF	61	A	11/12/2017	15:31:45	245	18	5	35.6	
SFWF	61	B	11/12/2017	15:32:50	246	18	5	36.4	
SFWF	61	C	11/12/2017	15:33:53	247	18	5	36.1	
SFWF	61	D	11/12/2017	15:35:12	248	18	5	39.5	
SFWF	60	A	11/12/2017	15:46:50	249	18	5	36.6	
SFWF	60	B	11/12/2017	15:47:55	250	18	5	36.7	
SFWF	60	C	11/12/2017	15:49:14	251	18	5	34.0	
SFWF	60	D	11/12/2017	15:50:25	252	18	5	36.9	
SFWF	59	A	11/12/2017	16:01:34	253	18	5	37.0	
SFWF	59	B	11/12/2017	16:02:51	254	18	5	36.1	
SFWF	59	C	11/12/2017	16:04:14	255	18	5	36.1	
SFWF	59	D	11/12/2017	16:05:30	256	18	5	35.9	
SFWF	56	A	11/12/2017	16:27:20	257	18	5	36.1	
SFWF	56	B	11/12/2017	16:28:28	258	18	5	33.9	
SFWF	56	C	11/12/2017	16:29:34	259	18	5	36.0	
SFWF	56	D	11/12/2017	16:30:35	260	18	5	35.7	
SFWF	52	A	11/12/2017	17:07:42	261	18	5	35.3	
SFWF	52	B	11/12/2017	17:09:00	262	18	5	35.2	
SFWF	52	C	11/12/2017	17:10:10	263	18	5	35.5	
SFWF	52	D	11/12/2017	17:11:19	264	18	5	35.5	
SFWF	53	A	11/12/2017	17:26:50	265	18	5	35.4	
SFWF	53	B	11/12/2017	17:28:20	266	18	5	35.7	
SFWF	53	C	11/12/2017	17:29:37	267	18	5	36.2	
SFWF	53	D	11/12/2017	17:31:00	268	18	5	36.0	
SFWF	54	A	11/12/2017	17:44:00	269	18	5	35.6	
SFWF	54	B	11/12/2017	17:45:40	270	18	5	35.8	
SFWF	54	C	11/12/2017	17:46:42	271	18	5	35.4	
SFWF	54	D	11/12/2017	17:47:49	272	18	5	36.2	
SFWF	55	A	11/12/2017	17:59:22	273	18	5	35.9	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	55	B	11/12/2017	18:00:38	274	18	5	36.5	
SFWF	55	C	11/12/2017	18:01:47	275	18	5	36.0	
SFWF	55	D	11/12/2017	18:03:05	276	18	5	37.8	
SFWF	57	A	11/12/2017	18:17:52	277	18	5	35.8	
SFWF	57	B	11/12/2017	18:19:15	278	18	5	35.7	
SFWF	57	C	11/12/2017	18:20:25	279	18	5	35.7	
SFWF	57	D	11/12/2017	18:21:33	280	18	5	35.7	
SFWF	58	A	11/12/2017	18:34:42	281	18	5	36.3	
SFWF	58	B	11/12/2017	18:36:07	282	18	5	35.9	
SFWF	58	C	11/12/2017	18:37:12	283	18	5	35.6	
SFWF	58	D	11/12/2017	18:38:20	284	18	5	35.6	
SFWF	73	A	11/12/2017	18:50:21	285	18	5	35.6	
SFWF	73	B	11/12/2017	18:51:27	286	18	5	35.5	
SFWF	73	C	11/12/2017	18:52:38	287	18	5	35.4	
SFWF	73	D	11/12/2017	18:53:52	288	18	5	35.5	
SFWF	74	A	11/12/2017	19:09:19	289	18	5	35.7	
SFWF	74	B	11/12/2017	19:10:23	290	18	5	35.6	
SFWF	74	C	11/12/2017	19:11:21	291	18	5	36.6	
SFWF	74	D	11/12/2017	19:12:29	292	18	5	35.2	
SFWF	75	A	11/12/2017	19:27:22	293	18	5	36.1	
SFWF	75	B	11/12/2017	19:28:33	294	18	5	36.2	
SFWF	75	C	11/12/2017	19:29:40	295	18	5	36.0	
SFWF	75	D	11/12/2017	19:30:44	296	18	5	36.2	
SFWF	72	A	11/12/2017	19:44:55	297	18	5	36.1	
SFWF	72	B	11/12/2017	19:46:30	298	18	5	36.4	
SFWF	72	C	11/12/2017	19:47:30	299	18	5	36.2	
SFWF	72	D	11/12/2017	19:48:40	300	18	5	36.5	
SFWF	71	A	11/12/2017	20:10:43	301	18	5	35.6	
SFWF	71	B	11/12/2017	20:12:10	302	18	5	35.8	
SFWF	71	C	11/12/2017	20:13:15	303	18	5	35.5	
SFWF	71	D	11/12/2017	20:14:45	304	18	5	35.6	
SFWF	69	A	11/12/2017	20:31:56	305	18	5	35.5	
SFWF	69	B	11/12/2017	20:33:00	306	18	5	35.4	
SFWF	69	C	11/12/2017	20:34:00	307	18	5	35.5	
SFWF	69	D	11/12/2017	20:35:04	308	18	5	35.7	
SFWF	70	A	11/12/2017	20:53:55	309	18	5	34.3	
SFWF	70	B	11/12/2017	20:55:20	310	18	5	36.3	
SFWF	70	C	11/12/2017	20:56:35	311	18	5	34.1	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	70	D	11/12/2017	20:57:45	312	18	5	34.6	
SFEC-OCS	101	A	11/12/2017	21:19:34	313	18	5	34.7	
SFEC-OCS	101	B	11/12/2017	21:20:40	314	18	5	34.5	
SFEC-OCS	101	C	11/12/2017	21:21:00	315	18	5	34.9	
SFEC-OCS	101	D	11/12/2017	21:22:05	316	18	5	34.9	
SFEC-OCS	102	A	11/12/2017	21:45:15	317	18	5	35.8	
SFEC-OCS	102	B	11/12/2017	21:46:21	318	18	5	35.1	
SFEC-OCS	102	C	11/12/2017	21:47:20	319	18	5	35.7	
SFEC-OCS	102	D	11/12/2017	21:48:30	320	18	5	35.4	
SFEC-OCS	103	A	11/12/2017	22:12:27	321	18	5	38.5	
SFEC-OCS	103	B	11/12/2017	22:13:33	322	18	5	38.5	
SFEC-OCS	103	C	11/12/2017	22:14:35	323	18	5	38.7	
SFEC-OCS	103	D	11/12/2017	22:15:42	324	18	5	38.7	
SFEC-OCS	104	A	11/12/2017	22:37:35	325	18	5	38.5	
SFEC-OCS	104	B	11/12/2017	22:39:10	326	18	5	38.1	
SFEC-OCS	104	C	11/12/2017	22:40:20	327	18	5	37.2	
SFEC-OCS	104	D	11/12/2017	22:41:31	328	18	5	38.3	
SFEC-OCS	105	A	11/12/2017	23:05:11	329	18	5	40.7	
SFEC-OCS	105	B	11/12/2017	23:06:30	330	18	5	40.1	
SFEC-OCS	105	C	11/12/2017	23:07:35	331	18	5	40.9	
SFEC-OCS	105	D	11/12/2017	23:08:37	332	18	5	40.8	
SFEC-OCS	106	A	11/12/2017	23:24:34	333	18	5	42.7	
SFEC-OCS	106	B	11/12/2017	23:25:42	334	18	5	42.7	
SFEC-OCS	106	C	11/12/2017	23:26:45	335	18	5	42.9	
SFEC-OCS	106	D	11/12/2017	23:28:04	336	18	5	43.0	
SFEC-OCS	107	A	11/12/2017	23:47:40	337	18	5	42.7	
SFEC-OCS	107	B	11/12/2017	23:48:50	338	18	5	42.6	
SFEC-OCS	107	C	11/12/2017	23:50:03	339	18	5	42.4	
SFEC-OCS	107	D	11/12/2017	23:51:14	340	18	5	42.4	
SFEC-OCS	108	A	11/13/2017	0:09:52	341	18	5	42.9	
SFEC-OCS	108	B	11/13/2017	0:11:03	342	18	5	43.1	
SFEC-OCS	108	C	11/13/2017	0:12:29	343	18	5	43.2	
SFEC-OCS	108	D	11/13/2017	0:13:36	344	18	5	43.6	
SFEC-OCS	109	A	11/13/2017	0:27:29	345	18	5	43.2	
SFEC-OCS	109	B	11/13/2017	0:28:44	346	18	5	43.2	
SFEC-OCS	109	C	11/13/2017	0:29:59	347	18	5	43.4	
SFEC-OCS	109	D	11/13/2017	0:31:03	348	18	5	43.3	
SFEC-OCS	110	A	11/13/2017	0:50:02	349	18	5	44.8	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFEC-OCS	110	B	11/13/2017	0:53:15	350	18	5	44.9	
SFEC-OCS	110	C	11/13/2017	0:54:21	351	18	5	44.9	
SFEC-OCS	110	D	11/13/2017	0:55:37	352	18	5	44.8	
SFEC-OCS	111	A	11/13/2017	1:21:13	353	18	5	47.0	
SFEC-OCS	111	B	11/13/2017	1:22:21	354	18	5	47.0	
SFEC-OCS	111	C	11/13/2017	1:23:34	355	18	5	46.8	
SFEC-OCS	111	D	11/13/2017	1:24:51	356	18	5	46.9	
SFEC-OCS	112	A	11/13/2017	1:45:13	357	18	5	45.1	
SFEC-OCS	112	B	11/13/2017	1:46:50	358	18	5	45.4	
SFEC-OCS	112	C	11/13/2017	1:48:00	359	18	5	46.2	
SFEC-OCS	112	D	11/13/2017	1:49:14	360	18	5	45.5	
SFEC-OCS	113	A	11/13/2017	2:08:26	361	18	5	44.0	
SFEC-OCS	113	B	11/13/2017	2:09:26	362	18	5	43.4	
SFEC-OCS	113	C	11/13/2017	2:10:35	363	18	5	43.3	
SFEC-OCS	113	D	11/13/2017	2:11:36	364	18	5	43.4	
SFEC-OCS	114	A	11/13/2017	2:31:43	365	18	5	42.7	
SFEC-OCS	114	B	11/13/2017	2:33:07	366	18	5	42.4	
SFEC-OCS	114	C	11/13/2017	2:34:06	367	18	5	41.8	
SFEC-OCS	114	D	11/13/2017	2:35:09	368	18	5	42.6	
SFEC-OCS	115	A	11/13/2017	2:55:48	369	18	5	44.8	
SFEC-OCS	115	B	11/13/2017	2:56:50	370	18	5	44.3	
SFEC-OCS	115	C	11/13/2017	2:58:04	371	18	5	44.5	
SFEC-OCS	115	D	11/13/2017	2:59:27	372	18	5	44.7	
SFEC-OCS	116	A	11/13/2017	3:20:28	373	18	5	44.9	
SFEC-OCS	116	B	11/13/2017	3:21:40	374	18	5	44.3	
SFEC-OCS	116	C	11/13/2017	3:22:50	375	18	5	45.3	
SFEC-OCS	116	D	11/13/2017	3:23:55	376	18	5	45.2	
SFEC-OCS	117	A	11/13/2017	3:42:41	377	18	5	47.8	
SFEC-OCS	117	B	11/13/2017	3:44:08	378	18	5	48.3	
SFEC-OCS	117	C	11/13/2017	3:45:32	379	18	5	47.9	
SFEC-OCS	117	D	11/13/2017	3:46:52	380	18	5	46.9	
SFEC-OCS	118	A	11/13/2017	4:08:15	381	18	5	48.2	
SFEC-OCS	118	B	11/13/2017	4:09:37	382	18	5	48.5	
SFEC-OCS	118	C	11/13/2017	4:10:53	383	18	5	46.5	
SFEC-OCS	118	D	11/13/2017	4:12:07	384	18	5	47.8	
SFEC-OCS	119	A	11/13/2017	4:33:17	385	18	5	47.0	
SFEC-OCS	119	B	11/13/2017	4:34:39	386	18	5	47.0	
SFEC-OCS	119	C	11/13/2017	4:36:04	387	18	5	46.8	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFEC-OCS	119	D	11/13/2017	4:37:25	388	18	5	47.1	
SFEC-OCS	120	A	11/13/2017	4:59:01	389	18	5	45.4	
SFEC-OCS	120	B	11/13/2017	5:00:09	390	18	5	45.4	
SFEC-OCS	120	C	11/13/2017	5:01:27	391	18	5	46.3	
SFEC-OCS	120	D	11/13/2017	5:02:52	392	18	5	45.5	
SFEC-OCS	121	A	11/13/2017	5:25:50	393	18	5	44.2	
SFEC-OCS	121	B	11/13/2017	5:27:25	394	18	5	43.1	
SFEC-OCS	121	C	11/13/2017	5:28:36	395	18	5	44.1	
SFEC-OCS	121	D	11/13/2017	5:29:41	396	18	5	44.7	
SFEC-OCS	122	A	11/13/2017	6:08:02	397	18	5	40.7	
SFEC-OCS	122	B	11/13/2017	6:09:11	398	18	5	40.0	
SFEC-OCS	122	C	11/13/2017	6:10:32	399	18	5	40.4	
SFEC-OCS	122	D	11/13/2017	6:12:09	400	18	5	40.9	
SFEC-OCS	123	A	11/13/2017	6:33:11	401	18	5	41.1	
SFEC-OCS	123	B	11/13/2017	6:34:22	402	18	5	41.2	
SFEC-OCS	123	C	11/13/2017	6:35:46	403	18	5	41.2	
SFEC-OCS	123	D	11/13/2017	6:37:10	404	18	5	41.0	
SFEC-OCS	124	A	11/13/2017	6:56:29	405	18	5	42.6	
SFEC-OCS	124	B	11/13/2017	6:57:40	406	18	5	42.4	
SFEC-OCS	124	C	11/13/2017	6:58:52	407	18	5	42.6	
SFEC-OCS	124	D	11/13/2017	7:00:17	408	18	5	42.7	
SFEC-OCS	125	A	11/13/2017	7:20:29	409	18	5	46.8	
SFEC-OCS	125	B	11/13/2017	7:21:42	410	18	5	45.6	
SFEC-OCS	125	C	11/13/2017	7:22:53	411	18	5	46.5	
SFEC-OCS	125	D	11/13/2017	7:24:02	412	18	5	47.7	
SFEC-OCS	126	A	11/13/2017	7:43:06	413	18	5	41.2	
SFEC-OCS	126	B	11/13/2017	7:44:19	414	18	5	41.3	
SFEC-OCS	126	C	11/13/2017	7:45:42	415	18	5	41.0	
SFEC-OCS	126	D	11/13/2017	7:47:09	416	18	5	41.4	
SFEC-OCS	127	A	11/13/2017	8:09:02	417	18	5	40.9	
SFEC-OCS	127	B	11/13/2017	8:10:19	418	18	5	41.3	
SFEC-OCS	127	C	11/13/2017	8:11:49	419	18	5	40.5	
SFEC-OCS	127	D	11/13/2017	8:13:04	420	18	5	43.9	
SFEC-OCS	128	A	11/13/2017	8:34:55	421	18	5	46.6	
SFEC-OCS	128	B	11/13/2017	8:36:36	422	18	5	47.4	
SFEC-OCS	128	C	11/13/2017	8:38:07	423	18	5	46.5	
SFEC-OCS	128	D	11/13/2017	8:39:21	424	18	5	46.9	
SFEC-OCS	129	A	11/13/2017	9:01:27	425	18	5	47.8	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFEC-OCS	129	B	11/13/2017	9:02:32	426	18	5	45.9	
SFEC-OCS	129	C	11/13/2017	9:03:46	427	18	5	47.8	
SFEC-OCS	129	D	11/13/2017	9:05:02	428	18	5	47.2	
SFEC-OCS	130	A	11/13/2017	9:24:46	429	18	5	47.8	
SFEC-OCS	130	B	11/13/2017	9:26:22	430	18	5	45.5	
SFEC-OCS	130	C	11/13/2017	9:27:58	431	18	5	45.6	
SFEC-OCS	130	D	11/13/2017	9:29:23	432	18	5	46.1	
SFEC-OCS	131	A	11/13/2017	9:47:43	434	18	5	45.0	
SFEC-OCS	131	B	11/13/2017	9:49:10	435	18	5	46.6	
SFEC-OCS	131	C	11/13/2017	9:50:26	436	18	5	45.2	
SFEC-OCS	131	D	11/13/2017	9:51:41	437	18	5	44.5	
SFEC-OCS	132	A	11/13/2017	10:06:03	438	18	5	41.0	
SFEC-OCS	132	B	11/13/2017	10:07:27	439	18	5	42.1	
SFEC-OCS	132	C	11/13/2017	10:09:06	440	18	5	43.3	
SFEC-OCS	132	D	11/13/2017	10:10:32	441	18	5	41.9	
SFEC-OCS	133	A	11/13/2017	10:41:20	442	18	5	39.0	
SFEC-OCS	133	B	11/13/2017	10:42:55	443	18	5	39.1	
SFEC-OCS	133	C	11/13/2017	10:44:12	444	18	5	38.3	
SFEC-OCS	133	D	11/13/2017	10:45:43	445	18	5	38.7	
SFEC-OCS	134	A	11/13/2017	11:11:15	446	18	5	36.0	
SFEC-OCS	134	B	11/13/2017	11:12:46	447	18	5	35.3	
SFEC-OCS	134	C	11/13/2017	11:14:13	448	18	5	36.0	
SFEC-OCS	134	D	11/13/2017	11:15:20	449	18	5	35.7	
SFEC-OCS	135	A	11/13/2017	11:37:29	450	18	5	34.0	
SFEC-OCS	135	B	11/13/2017	11:38:46	451	18	5	33.8	
SFEC-OCS	135	C	11/13/2017	11:39:52	452	18	5	33.9	
SFEC-OCS	135	D	11/13/2017	11:40:55	453	18	5	34.4	
SFEC-OCS	136	A	11/13/2017	12:07:27	454	18	5	32.9	
SFEC-OCS	136	B	11/13/2017	12:08:41	455	18	5	33.3	
SFEC-OCS	136	C	11/13/2017	12:09:45	456	18	5	32.9	
SFEC-OCS	136	D	11/13/2017	12:10:45	457	18	5	32.4	
SFEC-OCS	137	A	11/13/2017	12:34:48	458	18	5	35.0	
SFEC-OCS	137	B	11/13/2017	12:35:45	459	18	5	31.5	
SFEC-OCS	137	C	11/13/2017	12:36:50	460	18	5	32.0	
SFEC-OCS	137	D	11/13/2017	12:37:51	461	18	5	31.6	
SFEC-OCS	138	A	11/13/2017	12:58:25	462	18	5	30.9	
SFEC-OCS	138	B	11/13/2017	12:59:22	463	18	5	31.9	
SFEC-OCS	138	C	11/13/2017	13:00:21	464	18	5	32.4	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFEC-OCS	138	D	11/13/2017	13:01:29	465	18	5	32.0	
SFEC-OCS	139	A	11/13/2017	13:22:53	466	18	5	31.5	
SFEC-OCS	139	B	11/13/2017	13:23:50	467	18	5	31.9	
SFEC-OCS	139	C	11/13/2017	13:24:45	468	18	5	31.4	
SFEC-OCS	139	D	11/13/2017	13:25:40	469	18	5	32.2	
SFEC-OCS	140	A	11/13/2017	13:52:20	470	18	5	31.0	
SFEC-OCS	140	B	11/13/2017	13:53:30	471	18	5	30.5	
SFEC-OCS	140	C	11/13/2017	13:55:05	472	18	5	31.0	
SFEC-OCS	140	D	11/13/2017	13:56:15	473	18	5	31.0	
SFEC-OCS	141	A	11/13/2017	14:56:45	475	18	5	29.9	
SFEC-OCS	141	B	11/13/2017	14:57:43	476	18	5	30.0	
SFEC-OCS	141	C	11/13/2017	14:59:00	477	18	5	30.4	
SFEC-OCS	141	D	11/13/2017	15:00:19	478	18	5	29.8	
SFEC-NYS	143	A	11/13/2017	15:41:51	479	18	5	26.0	
SFEC-NYS	143	B	11/13/2017	15:43:20	480	18	5	26.3	
SFEC-NYS	143	C	11/13/2017	15:44:20	481	18	5	26.2	
SFEC-NYS	143	D	11/13/2017	15:45:35	482	18	5	26.2	
SFEC-NYS	145	A	11/13/2017	16:26:49	483	18	5	17.3	
SFEC-NYS	145	B	11/13/2017	16:27:53	484	18	5	17.3	
SFEC-NYS	145	C	11/13/2017	16:29:07	485	18	5	16.8	
SFEC-NYS	145	D	11/13/2017	16:30:19	486	18	5	18.3	
SFEC-NYS	144	A	11/13/2017	17:03:05	487	18	5	22.3	
SFEC-NYS	144	B	11/13/2017	17:04:20	488	18	5	22.5	
SFEC-NYS	144	C	11/13/2017	17:05:35	490	18	5	22.8	
SFEC-NYS	144	D	11/13/2017	17:06:50	491	18	5	22.2	
SFEC-OCS	142	A	11/13/2017	17:46:30	492	18	5	27.7	
SFEC-OCS	142	B	11/13/2017	17:48:37	493	18	5	27.9	
SFEC-OCS	142	C	11/13/2017	17:50:05	494	18	5	23.1	
SFEC-OCS	142	D	11/13/2017	17:51:20	495	18	5	23.2	
SFEC-OCS	146	X1	11/13/2017	18:42:35	498	18	5	30.2	no fix
SFEC-OCS	146	X2	11/13/2017	18:44:20	499	18	5	30.2	no fix; PV: change to f 16, 1/30
SFEC-OCS	146	C	11/14/2017	15:00:25	501	18	5	30.2	Depth from proposed location
SFEC-OCS	146	D	11/14/2017	15:01:20	502	18	5	30.2	Depth from proposed location
SFEC-OCS	146	E	11/14/2017	15:02:25	503	18	5	30.2	Depth from proposed location
SFEC-OCS	146	F	11/14/2017	15:03:40	504	18	5	30.2	Depth from proposed location
SFEC-OCS	147	A	11/14/2017	15:28:34	505	18	5	30.5	Depth from proposed location
SFEC-OCS	147	B	11/14/2017	15:29:10	506	18	5	30.5	Depth from proposed location
SFEC-OCS	147	C	11/14/2017	15:30:06	507	18	5	30.5	Depth from proposed location

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFEC-OCS	147	D	11/14/2017	15:31:00	508	18	5	30.5	Depth from proposed location
SFEC-OCS	148	A	11/14/2017	15:53:05	509	18	5	29.7	Depth from proposed location
SFEC-OCS	148	B	11/14/2017	15:54:20	510	18	5	29.7	Depth from proposed location
SFEC-OCS	148	C	11/14/2017	15:55:30	511	18	5	29.7	Depth from proposed location
SFEC-OCS	148	D	11/14/2017	15:56:35	512	18	5	29.7	Depth from proposed location
SFEC-OCS	149	A	11/14/2017	16:18:55	513	18	5	28.8	Depth from proposed location
SFEC-OCS	149	B	11/14/2017	16:19:54	514	18	5	28.8	Depth from proposed location
SFEC-OCS	149	C	11/14/2017	16:20:45	515	18	5	28.8	Depth from proposed location
SFEC-OCS	149	D	11/14/2017	16:21:40	516	18	5	28.8	Depth from proposed location
SFEC-OCS	150	A	11/14/2017	16:43:20	517	18	5	30.9	Depth from proposed location
SFEC-OCS	150	B	11/14/2017	16:44:23	518	18	5	30.9	Depth from proposed location
SFEC-OCS	150	C	11/14/2017	16:45:30	519	18	5	30.9	Depth from proposed location
SFEC-OCS	150	D	11/14/2017	16:46:35	520	18	5	30.9	Depth from proposed location
SFEC-OCS	151	A	11/14/2017	17:10:55	521	18	5	31.3	Depth from proposed location
SFEC-OCS	151	B	11/14/2017	17:12:14	522	18	5	31.3	Depth from proposed location
SFEC-OCS	151	C	11/14/2017	17:13:15	523	18	5	31.3	Depth from proposed location
SFEC-OCS	151	D	11/14/2017	17:14:18	524	18	5	31.3	Depth from proposed location
SFEC-OCS	152	A	11/14/2017	17:33:56	525	18	5	31.1	Depth from proposed location
SFEC-OCS	152	B	11/14/2017	17:34:59	526	18	5	31.1	Depth from proposed location
SFEC-OCS	152	C	11/14/2017	17:36:00	527	18	5	31.1	Depth from proposed location
SFEC-OCS	152	D	11/14/2017	17:37:07	528	18	5	31.1	Depth from proposed location
SFEC-OCS	153	A	11/14/2017	17:59:25	529	18	5	30.7	Depth from proposed location
SFEC-OCS	153	B	11/14/2017	18:00:45	530	18	5	30.7	Depth from proposed location
SFEC-OCS	153	C	11/14/2017	18:01:52	531	18	5	30.7	Depth from proposed location
SFEC-OCS	153	D	11/14/2017	18:02:49	532	18	5	30.7	Depth from proposed location
SFEC-OCS	154	A	11/14/2017	18:23:20	533	18	5	30.5	Depth from proposed location
SFEC-OCS	154	B	11/14/2017	18:24:30	534	18	5	30.5	Depth from proposed location
SFEC-OCS	154	C	11/14/2017	18:25:31	535	18	5	30.5	Depth from proposed location
SFEC-OCS	154	D	11/14/2017	18:26:34	536	18	5	30.5	Depth from proposed location
SFEC-OCS	155	A	11/14/2017	18:48:30	537	18	5	31.6	Depth from proposed location
SFEC-OCS	155	B	11/14/2017	18:49:31	538	18	5	31.6	Depth from proposed location
SFEC-OCS	155	C	11/14/2017	18:50:29	539	18	5	31.6	Depth from proposed location
SFEC-OCS	155	D	11/14/2017	18:51:34	540	18	5	31.6	Depth from proposed location
SFEC-OCS	156	A	11/14/2017	19:14:00	541	18	5	31.5	Depth from proposed location
SFEC-OCS	156	B	11/14/2017	19:15:00	542	18	5	31.5	Depth from proposed location
SFEC-OCS	156	C	11/14/2017	19:16:00	543	18	5	31.5	Depth from proposed location
SFEC-OCS	156	D	11/14/2017	19:17:20	544	18	5	31.5	Depth from proposed location
SFEC-OCS	157	A	11/14/2017	19:35:45	545	18	5	29.9	Depth from proposed location

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (lb)	Depth (m)	Comments
SFEC-OCS	157	B	11/14/2017	19:36:45	546	18	5	29.9	Depth from proposed location
SFEC-OCS	157	C	11/14/2017	19:37:45	547	18	5	29.9	Depth from proposed location
SFEC-OCS	157	D	11/14/2017	19:38:50	548	18	5	29.9	Depth from proposed location
SFEC-NYS	158	A	11/14/2017	20:03:09	549	18	5	24.8	Depth from proposed location
SFEC-NYS	158	B	11/14/2017	20:04:10	550	18	5	24.8	Depth from proposed location
SFEC-NYS	158	C	11/14/2017	20:05:14	551	18	5	24.8	Depth from proposed location
SFEC-NYS	158	D	11/14/2017	20:06:15	552	18	5	24.8	Depth from proposed location
SFEC-NYS	159	A	11/14/2017	20:30:35	553	18	5	21.1	Depth from proposed location
SFEC-NYS	159	B	11/14/2017	20:31:35	554	18	5	21.1	Depth from proposed location
SFEC-NYS	159	C	11/14/2017	20:32:35	555	18	5	21.1	Depth from proposed location
SFEC-NYS	159	D	11/14/2017	20:33:35	556	18	5	21.1	Depth from proposed location
SFEC-NYS	160	A	11/14/2017	20:52:37	557	18	5	16.1	Depth from proposed location
SFEC-NYS	160	B	11/14/2017	20:53:35	558	18	5	16.1	Depth from proposed location
SFEC-NYS	160	C	11/14/2017	20:54:39	559	18	5	16.1	Depth from proposed location
SFEC-NYS	160	D	11/14/2017	20:55:58	560	18	5	16.1	Depth from proposed location
Reference	C05	A	11/15/2017	15:17:09	561	18	5	35.2	
Reference	C05	B	11/15/2017	15:18:42	562	18	5	36.4	
Reference	C05	C	11/15/2017	15:19:57	563	18	5	32.5	
Reference	C05	D	11/15/2017	15:21:09	564	18	5	34.9	
Reference	C05	E	11/15/2017	15:22:22	565	18	5	35.9	
Reference	C05	F	11/15/2017	15:24:27	566	18	5	35.4	
Reference	C04	A	11/15/2017	15:49:04	567	18	5	36.2	
Reference	C04	B	11/15/2017	15:50:05	568	18	5	36.5	
Reference	C04	C	11/15/2017	15:51:15	569	18	5	37.6	
Reference	C04	D	11/15/2017	15:52:26	570	18	5	36.5	
Reference	C04	E	11/15/2017	15:53:36	571	18	5	36.1	
Reference	C04	F	11/15/2017	15:54:42	572	18	5	36.3	
Reference	C03	A	11/15/2017	16:19:07	573	18	5	35.2	
Reference	C03	B	11/15/2017	16:20:28	574	18	5	35.5	
Reference	C03	C	11/15/2017	16:21:32	575	18	5	35.5	
Reference	C03	D	11/15/2017	16:22:33	576	18	5	35.3	
Reference	C03	E	11/15/2017	16:23:45	577	18	5	35.6	
Reference	C03	F	11/15/2017	16:24:44	578	18	5	35.9	
SFWF	C02	A	11/15/2017	16:53:12	579	18	5	36.5	SPI: ISO 640 f11, 1/250; PV: ISO 640 f18, 1/15
SFWF	C02	B	11/15/2017	16:54:46	580	18	5	36.6	trigger wire: 3ft
SFWF	C02	C	11/15/2017	16:55:56	581	18	5	36.3	
SFWF	C02	D	11/15/2017	16:56:54	582	18	5	36.3	
SFWF	C02	E	11/15/2017	16:58:00	583	18	5	36.4	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	C02	F	11/15/2017	16:59:08	584	18	5	36.8	
SFWF	C01	A	11/15/2017	17:26:33	585	18	5	37.9	
SFWF	C01	B	11/15/2017	17:27:36	586	18	5	37.9	
SFWF	C01	C	11/15/2017	17:28:50	587	18	5	38.0	
SFWF	C01	D	11/15/2017	17:30:00	588	18	5	37.2	
SFWF	C01	E	11/15/2017	17:31:02	589	18	5	38.2	
SFWF	C01	F	11/15/2017	17:32:16	590	18	5	36.4	
SFWF	206	A	11/20/2018	9:37:35	6	18	5	36.3	
SFWF	206	B	11/20/2018	9:38:46	7	18	5	36.3	
SFWF	206	C	11/20/2018	9:39:35	8	18	5	36.3	
SFWF	206	D	11/20/2018	9:40:27	9	18	5	36.3	
SFWF	206	E	11/20/2018	9:41:29	10	18	5	36.3	Camera on Deck, Download, FC=13
SFWF	209	A	11/20/2018	10:01:48	14	18	5	36.6	
SFWF	209	B	11/20/2018	10:02:44	15	18	5	36.6	
SFWF	209	C	11/20/2018	10:03:42	16	18	5	36.6	
SFWF	209	D	11/20/2018	10:04:37	17	18	5	36.6	Camera on Deck, Changing time on PV
SFWF	214	A	11/20/2018	10:18:14	18	18	5	34.1	
SFWF	214	B	11/20/2018	10:19:06	19	18	5	34.1	
SFWF	214	C	11/20/2018	10:20:01	20	18	5	34.1	
SFWF	214	D	11/20/2018	10:21:00	21	18	5	34.1	Camera on Deck, FC=23
SFWF	219	A	11/20/2018	10:34:23	24	18	5	33.8	
SFWF	219	B	11/20/2018	10:35:23	25	18	5	33.8	
SFWF	219	C	11/20/2018	10:36:16	26	18	5	33.8	
SFWF	219	D	11/20/2018	10:37:18	27	18	5	33.8	Camera on Deck, FC=29
SFWF	218	A	11/20/2018	10:49:14	30	18	5	33.2	
SFWF	218	B	11/20/2018	10:50:37	31	18	5	33.2	
SFWF	218	C	11/20/2018	10:51:35	32	18	5	33.2	
SFWF	218	D	11/20/2018	10:52:33	33	18	5	33.2	Camera on Deck, FC=34
SFWF	220	A	11/20/2018	11:11:18	35	18	5	36.0	
SFWF	220	B	11/20/2018	11:12:29	36	18	5	36.0	
SFWF	220	C	11/20/2018	11:13:53	37	18	5	36.0	No SPI
SFWF	220	D	11/20/2018	11:14:51	38	18	5	36.0	No SPI, WC, Camera on Deck, FC=37
SFWF	217	A	11/20/2018	11:25:46	38	18	5	33.5	
SFWF	217	B	11/20/2018	11:27:04	39	18	5	33.5	SPI in WC
SFWF	217	C	11/20/2018	11:28:09	40	18	5	33.5	
SFWF	217	D	11/20/2018	11:29:23	41	18	5	33.5	Camera on Deck
SFWF	215	A	11/20/2018	11:40:50	42	18	5	34.7	
SFWF	215	B	11/20/2018	11:41:57	43	18	5	34.7	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	215	C	11/20/2018	11:42:57	44	18	5	34.7	
SFWF	215	D	11/20/2018	11:43:58	45	18	5	34.7	Camera on Deck
SFWF	216	A	11/20/2018	11:53:52	46	18	5	32.9	
SFWF	216	B	11/20/2018	11:54:51	47	18	5	32.9	
SFWF	216	C	11/20/2018	11:55:46	48	18	5	32.9	
SFWF	216	D	11/20/2018	11:56:40	49	18	5	32.9	Camera on Deck
SFWF	212	A	11/20/2018	12:07:39	50	18	5	33.5	
SFWF	212	B	11/20/2018	12:08:43	51	18	5	33.5	
SFWF	212	C	11/20/2018	12:09:43	52	18	5	33.5	
SFWF	212	D	11/20/2018	12:10:37	53	18	5	33.5	Camera on Deck, Download, FC=55
SFWF	210	A	11/20/2018	12:32:02	56	18	5	34.1	
SFWF	210	B	11/20/2018	12:33:06	57	18	5	34.1	
SFWF	210	C	11/20/2018	12:34:00	58	18	5	34.1	
SFWF	210	D	11/20/2018	12:35:06	59	18	5	34.1	Camera on Deck, FC=60
SFWF	211	A	11/20/2018	12:47:56	61	18	5	35.1	
SFWF	211	B	11/20/2018	12:48:59	62	18	5	35.1	
SFWF	211	C	11/20/2018	12:49:59	63	18	5	35.1	
SFWF	211	D	11/20/2018	12:51:29	64	18	5	35.1	Camera on Deck
SFWF	213	A	11/20/2018	13:03:44	65	18	5	34.1	
SFWF	213	B	11/20/2018	13:05:10	66	18	5	34.1	
SFWF	213	C	11/20/2018	13:06:20	67	18	5	34.1	
SFWF	213	D	11/20/2018	13:07:20	68	18	5	34.1	Camera on Deck, FC=69
SFWF	208	A	11/20/2018	13:22:42	70	18	5	34.1	
SFWF	208	B	11/20/2018	13:23:42	71	18	5	34.1	
SFWF	208	C	11/20/2018	13:24:51	72	18	5	34.1	
SFWF	208	D	11/20/2018	13:25:50	73	18	5	34.1	Camera on Deck, FC=75
SFWF	207	A	11/20/2018	13:40:24	76	18	5	37.5	
SFWF	207	B	11/20/2018	13:41:18	77	18	5	37.5	
SFWF	207	C	11/20/2018	13:42:22	78	18	5	37.5	
SFWF	207	D	11/20/2018	13:43:33	79	18	5	37.5	Camera on Deck, FC=80
SFWF	205	A	11/20/2018	13:57:38	81	18	5	35.4	
SFWF	205	B	11/20/2018	13:58:49	82	18	5	35.4	
SFWF	205	C	11/20/2018	14:00:06	83	18	5	35.4	
SFWF	205	D	11/20/2018	14:01:10	84	18	5	35.4	Camera on Deck, FC=85
SFWF	203	A	11/20/2018	14:13:40	86	18	5	36.6	
SFWF	203	B	11/20/2018	14:14:50	87	18	5	36.6	
SFWF	203	C	11/20/2018	14:16:02	88	18	5	36.6	
SFWF	203	D	11/20/2018	14:17:03	89	18	5	36.6	Camera on Deck, FC=90

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Date	Time	Frame	Stop Collar (m)	Weights per Side (n)	Depth (m)	Comments
SFWF	204	A	11/20/2018	14:29:14	91	18	5	35.4	
SFWF	204	B	11/20/2018	14:30:26	92	18	5	35.4	
SFWF	204	C	11/20/2018	14:31:55	93	18	5	35.4	
SFWF	204	D	11/20/2018	14:33:17	94	18	5	35.4	Camera on Deck, FC=96
SFWF	202	A	11/20/2018	14:53:10	97	18	5	44.2	
SFWF	202	B	11/20/2018	14:54:15	98	18	5	44.2	
SFWF	202	C	11/20/2018	14:55:31	99	18	5	44.2	
SFWF	202	D	11/20/2018	14:56:41	100	18	5	44.2	Camera on Deck
SFWF	201	A	11/20/2018	15:12:45	101	18	5	34.7	
SFWF	201	B	11/20/2018	15:14:01	102	18	5	34.7	
SFWF	201	C	11/20/2018	15:15:10	103	18	5	34.7	
SFWF	201	D	11/20/2018	15:16:18	104	18	5	34.7	Camera on Deck, Download, FC=104

APPENDIX C

Sediment Profile Image Analysis Results

Notes:

IND=Indeterminate

Successional Stage: "on" indicates one Stage is found on top of another Stage (i.e., 1 on 3); "->" indicates one Stage is progressing to another Stage (i.e., 2 -> 3)

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	1	A	33.60	11/11/2017	13:31:30	18	5	14.01	1 to 0	>4
SFWF	1	B	33.85	11/11/2017	13:32:36	18	5	14.01	0 to -1	>4
SFWF	1	C	33.91	11/11/2017	13:33:32	18	5	14.01	-3 to -4	>4
SFWF	2	A	33.97	11/11/2017	14:20:16	18	5	14.01	2 to 1	>4
SFWF	2	B	34.41	11/11/2017	14:21:14	18	5	14.01	2 to 1	>4
SFWF	2	C	34.28	11/11/2017	14:22:16	18	5	14.01	2 to 1	>4
SFWF	3	A	35.67	11/11/2017	14:48:28	18	5	14.01	3 to 2	>4
SFWF	3	B	35.67	11/11/2017	14:49:24	18	5	14.01	3 to 2	>4
SFWF	3	C	35.81	11/11/2017	14:50:23	18	5	14.01	3 to 2	>4
SFWF	4	A	35.79	11/11/2017	15:07:13	18	5	14.01	3 to 2	>4
SFWF	4	B	35.83	11/11/2017	15:08:16	18	5	14.01	3 to 2	>4
SFWF	4	C	35.87	11/11/2017	15:09:16	18	5	14.01	3 to 2	>4
SFWF	5	A	36.70	11/11/2017	15:24:04	18	5	14.01	3 to 2	>4
SFWF	5	B	36.39	11/11/2017	15:25:03	18	5	14.01	3 to 2	>4
SFWF	5	C	36.26	11/11/2017	15:26:09	18	5	14.01	3 to 2	>4
SFWF	6	A	36.21	11/11/2017	15:43:02	18	5	14.01	3 to 2	>4
SFWF	6	C	35.85	11/11/2017	15:45:05	18	5	14.01	3 to 2	>4
SFWF	6	D	35.25	11/11/2017	15:46:03	18	5	14.01	3 to 2	>4
SFWF	7	B	37.95	11/11/2017	16:11:21	18	5	14.01	IND	>4
SFWF	7	C	38.03	11/11/2017	16:12:39	18	5	14.01	IND	>4
SFWF	7	D	36.63	11/11/2017	16:13:51	18	5	14.01	IND	>4
SFWF	8	A	37.85	11/11/2017	19:20:39	18	5	14.01	3 to 2	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	8	B	37.23	11/11/2017	19:21:50	18	5	14.01	3 to 2	>4
SFWF	8	C	37.08	11/11/2017	19:23:02	18	5	14.01	3 to 2	>4
SFWF	9	A	36.13	11/11/2017	19:39:30	18	5	14.01	3 to 2	>4
SFWF	9	B	36.05	11/11/2017	19:40:47	18	5	14.01	3 to 2	>4
SFWF	9	C	35.55	11/11/2017	19:41:59	18	5	14.01	3 to 2	>4
SFWF	10	A	38.46	11/11/2017	16:40:15	18	5	14.01	2 to 1	>4
SFWF	10	B	39.15	11/11/2017	16:41:29	18	5	14.01	2 to 1	>4
SFWF	10	C	38.81	11/11/2017	16:42:35	18	5	14.01	2 to 1	>4
SFWF	11	A	37.56	11/11/2017	18:54:18	18	5	14.01	2 to 1	>4
SFWF	11	B	36.56	11/11/2017	18:55:28	18	5	14.01	3 to 2	>4
SFWF	11	C	37.61	11/11/2017	18:56:39	18	5	14.01	3 to 2	>4
SFWF	12	A	40.30	11/11/2017	17:27:03	18	5	14.01	>4 / 4 to 3	>4
SFWF	12	C	40.30	11/11/2017	17:29:34	18	5	14.01	4 to 3 / >4	>4
SFWF	12	D	40.30	11/11/2017	17:30:53	18	5	14.01	4 to 3 / >4	>4
SFWF	13	A	37.80	11/11/2017	18:32:55	18	5	14.01	3 to 2	>4
SFWF	13	B	37.79	11/11/2017	18:33:56	18	5	14.01	2 to 1	>4
SFWF	13	C	38.21	11/11/2017	18:35:03	18	5	14.01	3 to 2	>4
SFWF	14	A	40.26	11/11/2017	17:50:43	18	5	14.01	4 to 3	>4
SFWF	14	B	40.38	11/11/2017	17:51:54	18	5	14.01	4 to 3	>4
SFWF	14	C	40.28	11/11/2017	17:53:14	18	5	14.01	>4 / 4 to 3	>4
SFWF	15	A	41.05	11/11/2017	18:08:55	18	5	14.01	>4 / 4 to 3	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	15	B	41.38	11/11/2017	18:10:15	18	5	14.01	>4 / 4 to 3	>4
SFWF	15	C	41.33	11/11/2017	18:11:19	18	5	14.01	>4 / 4 to 3	>4
SFWF	16	B	36.62	11/12/2017	2:41:00	18	5	14.01	-1 to -2	>4
SFWF	16	C	35.11	11/12/2017	2:42:02	18	5	14.01	-1 to -2	>4
SFWF	16	D	35.37	11/12/2017	2:43:12	18	5	14.01	-1 to -2	>4
SFWF	17	A	34.85	11/12/2017	2:24:19	18	5	14.01	1 to 0	>4
SFWF	17	B	34.82	11/12/2017	2:25:36	18	5	14.01	1 to 0	>4
SFWF	17	C	34.56	11/12/2017	2:26:59	18	5	14.01	1 to 0	>4
SFWF	18	A	35.12	11/12/2017	2:09:44	18	5	14.01	<-8/3 to 2	>4
SFWF	18	B	35.05	11/12/2017	2:10:53	18	5	14.01	IND	>4
SFWF	18	D	34.38	11/12/2017	2:13:07	18	5	14.01	IND	>4
SFWF	19	A	35.30	11/12/2017	1:55:06	18	5	14.01	0 to -1	>4
SFWF	19	B	35.10	11/12/2017	1:56:15	18	5	14.01	0 to -1	>4
SFWF	19	C	34.00	11/12/2017	1:57:23	18	5	14.01	1 to 0	>4
SFWF	20	A	34.84	11/12/2017	1:40:48	18	5	14.01	1 to 0	>4
SFWF	20	C	34.83	11/12/2017	1:42:49	18	5	14.01	1 to 0	>4
SFWF	20	D	34.16	11/12/2017	1:44:04	18	5	14.01	1 to 0	>4
SFWF	21	A	34.23	11/12/2017	1:20:41	18	5	14.01	2 to 1	>4
SFWF	21	B	34.30	11/12/2017	1:21:51	18	5	14.01	2 to 1	>4
SFWF	21	D	34.50	11/12/2017	1:24:07	18	5	14.01	2 to 1	>4
SFWF	22	A	34.44	11/12/2017	1:03:52	18	5	14.01	2 to 1	>4
SFWF	22	B	34.65	11/12/2017	1:04:57	18	5	14.01	2 to 1	>4
SFWF	22	C	34.73	11/12/2017	1:06:03	18	5	14.01	2 to 1	>4
SFWF	23	A	34.50	11/12/2017	0:42:27	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	23	C	35.86	11/12/2017	0:44:55	18	5	14.01	2 to 1	>4
SFWF	23	D	35.27	11/12/2017	0:46:08	18	5	14.01	2 to 1	>4
SFWF	24	A	34.90	11/12/2017	0:14:24	18	5	14.01	2 to 1	>4
SFWF	24	B	34.67	11/12/2017	0:15:48	18	5	14.01	2 to 1	>4
SFWF	24	C	35.24	11/12/2017	0:16:49	18	5	14.01	2 to 1	>4
SFWF	25	A	35.18	11/11/2017	23:31:40	18	5	14.01	1 to 0	>4
SFWF	25	B	39.40	11/11/2017	23:33:00	18	5	14.01	1 to 0	>4
SFWF	25	C	35.31	11/11/2017	23:34:13	18	5	14.01	1 to 0	>4
SFWF	26	A	35.30	11/11/2017	23:10:01	18	5	14.01	3 to 2	>4
SFWF	26	B	35.33	11/11/2017	23:11:12	18	5	14.01	3 to 2	>4
SFWF	26	C	34.96	11/11/2017	23:12:17	18	5	14.01	3 to 2	>4
SFWF	27	A	35.29	11/11/2017	22:50:37	18	5	14.01	3 to 2	>4
SFWF	27	B	35.26	11/11/2017	22:51:42	18	5	14.01	3 to 2	>4
SFWF	27	C	34.83	11/11/2017	22:52:54	18	5	14.01	2 to 1	>4
SFWF	28	A	34.49	11/11/2017	20:03:40	18	5	14.01	2 to 1	>4
SFWF	28	B	34.22	11/11/2017	20:04:58	18	5	14.01	2 to 1	>4
SFWF	28	C	34.65	11/11/2017	20:06:15	18	5	14.01	1 to 0	>4
SFWF	29	A	35.28	11/11/2017	22:29:45	18	5	14.01	1 to 0	>4
SFWF	29	B	35.57	11/11/2017	22:30:55	18	5	14.01	1 to 0	>4
SFWF	29	D	35.53	11/11/2017	22:33:30	18	5	14.01	1 to 0	>4
SFWF	30	A	36.43	11/11/2017	20:30:54	18	5	14.01	1 to 0	>4
SFWF	30	B	36.27	11/11/2017	20:31:56	18	5	14.01	1 to 0	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	30	C	36.26	11/11/2017	20:32:57	18	5	14.01	>4 / 1 to 0	>4
SFWF	31	A	36.99	11/11/2017	20:53:46	18	5	14.01	>4 / 2 to 1	>4
SFWF	31	B	35.82	11/11/2017	20:54:49	18	5	14.01	2 to 1 / >4	>4
SFWF	31	D	36.46	11/11/2017	20:56:53	18	5	14.01	1 to 0 / >4	>4
SFWF	32	A	35.03	11/11/2017	22:06:08	18	5	14.01	2 to 1	>4
SFWF	32	B	34.74	11/11/2017	22:07:17	18	5	14.01	2 to 1	>4
SFWF	32	C	35.30	11/11/2017	22:08:26	18	5	14.01	2 to 1	>4
SFWF	33	A	36.56	11/11/2017	21:19:38	18	5	14.01	>4 / 1 to 0	>4
SFWF	33	C	37.14	11/11/2017	21:21:53	18	5	14.01	1 to 0	>4
SFWF	33	D	36.44	11/11/2017	21:23:15	18	5	14.01	0 to -1	>4
SFWF	34	A	34.27	11/11/2017	21:44:49	18	5	14.01	3 to 2	>4
SFWF	34	B	34.58	11/11/2017	21:45:56	18	5	14.01	3 to 2	>4
SFWF	34	D	35.36	11/11/2017	21:48:06	18	5	14.01	3 to 2	>4
SFWF	35	A	35.53	11/12/2017	2:55:24	18	5	14.01	2 to 1	>4
SFWF	35	B	35.52	11/12/2017	2:56:38	18	5	14.01	2 to 1	>4
SFWF	35	C	36.94	11/12/2017	2:58:00	18	5	14.01	2 to 1	>4
SFWF	36	A	38.35	11/12/2017	3:16:05	18	5	14.01	IND	>4
SFWF	36	B	35.75	11/12/2017	3:17:23	18	5	14.01	3 to 2	>4
SFWF	36	D	35.73	11/12/2017	3:19:41	18	5	14.01	IND	>4
SFWF	37	A	35.64	11/12/2017	3:34:53	18	5	14.01	2 to 1	>4
SFWF	37	B	34.80	11/12/2017	3:36:10	18	5	14.01	2 to 1	>4
SFWF	37	C	35.62	11/12/2017	3:37:27	18	5	14.01	2 to 1	>4
SFWF	38	A	34.70	11/12/2017	3:57:47	18	5	14.01	2 to 1	>4
SFWF	38	B	34.86	11/12/2017	4:00:53	18	5	14.01	-1 to -2 / 2 to 1	>4
SFWF	38	D	34.77	11/12/2017	4:03:08	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	39	A	36.18	11/12/2017	4:22:17	18	5	14.01	IND	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	39	C	34.77	11/12/2017	4:25:38	18	5	14.01	1 to 0	>4
SFWF	39	D	34.56	11/12/2017	4:26:44	18	5	14.01	1 to 0	>4
SFWF	40	A	35.12	11/12/2017	4:40:38	18	5	14.01	3 to 2	>4
SFWF	40	B	35.23	11/12/2017	4:41:48	18	5	14.01	-2 to -3 / 3 to 2	>4
SFWF	40	C	36.75	11/12/2017	4:43:07	18	5	14.01	-1 to -2 / 3 to 2	>4
SFWF	41	A	34.49	11/12/2017	5:25:06	18	5	14.01	3 to 2	>4
SFWF	41	B	34.94	11/12/2017	5:26:16	18	5	14.01	3 to 2	>4
SFWF	41	C	34.84	11/12/2017	5:27:31	18	5	14.01	3 to 2	>4
SFWF	42	A	34.47	11/12/2017	5:41:13	18	5	14.01	1 to 0	>4
SFWF	42	B	34.88	11/12/2017	5:42:22	18	5	14.01	-3 to -4 / 1 to 0	>4
SFWF	42	C	34.77	11/12/2017	5:43:36	18	5	14.01	1 to 0	>4
SFWF	43	A	34.48	11/12/2017	6:04:14	18	5	14.01	3 to 2	>4
SFWF	43	B	35.02	11/12/2017	6:05:38	18	5	14.01	3 to 2	>4
SFWF	43	C	35.69	11/12/2017	6:06:45	18	5	14.01	3 to 2	>4
SFWF	44	B	35.94	11/12/2017	9:50:16	18	5	14.01	2 to 1	>4
SFWF	44	C	34.49	11/12/2017	9:51:25	18	5	14.01	2 to 1	>4
SFWF	44	D	35.24	11/12/2017	9:52:28	18	5	14.01	2 to 1	>4
SFWF	45	B	35.79	11/12/2017	10:06:09	18	5	14.01	2 to 1	>4
SFWF	45	C	35.10	11/12/2017	10:07:19	18	5	14.01	2 to 1	>4
SFWF	45	D	35.36	11/12/2017	10:08:18	18	5	14.01	2 to 1	>4
SFWF	46	B	35.17	11/12/2017	10:28:41	18	5	14.01	1 to 0	>4
SFWF	46	C	35.30	11/12/2017	10:30:08	18	5	14.01	1 to 0	>4
SFWF	46	D	35.20	11/12/2017	10:31:35	18	5	14.01	1 to 0	>4
SFWF	47	A	35.06	11/12/2017	10:47:12	18	5	14.01	2 to 1	>4
SFWF	47	B	34.99	11/12/2017	10:48:33	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	47	C	34.46	11/12/2017	10:49:44	18	5	14.01	2 to 1	>4
SFWF	48	A	35.98	11/12/2017	11:06:04	18	5	14.01	0 to -1 / 1 to 0	>4
SFWF	48	B	36.22	11/12/2017	11:07:17	18	5	14.01	-2 to -3	>4
SFWF	48	C	35.14	11/12/2017	11:08:33	18	5	14.01	0 to -1 / 1 to 0	>4
SFWF	49	A	36.25	11/12/2017	11:50:10	18	5	14.01	2 to 1	>4
SFWF	49	B	35.37	11/12/2017	11:51:14	18	5	14.01	2 to 1	>4
SFWF	49	C	33.11	11/12/2017	11:52:37	18	5	14.01	2 to 1	>4
SFWF	50	A	34.79	11/12/2017	12:18:53	18	5	14.01	1 to 0 / 3 to 2	>4
SFWF	50	C	35.12	11/12/2017	12:21:21	18	5	14.01	3 to 2	>4
SFWF	50	D	36.81	11/12/2017	12:22:54	18	5	14.01	3 to 2	>4
SFWF	51	A	35.38	11/12/2017	12:35:07	18	5	14.01	1 to 0	>4
SFWF	51	B	37.39	11/12/2017	12:36:30	18	5	14.01	-2 to -3 / 3 to 2	>4
SFWF	51	D	35.27	11/12/2017	12:38:42	18	5	14.01	-2 to -3 / 3 to 2	>4
SFWF	52	A	35.29	11/12/2017	17:08:23	18	5	14.01	1 to 0	>4
SFWF	52	B	35.23	11/12/2017	17:09:41	18	5	14.01	0 to -1 / 1 to 0	>4
SFWF	52	C	35.52	11/12/2017	17:10:47	18	5	14.01	0 to -1	>4
SFWF	53	A	35.37	11/12/2017	17:27:32	18	5	14.01	3 to 2	>4
SFWF	53	B	35.74	11/12/2017	17:28:57	18	5	14.01	3 to 2	>4
SFWF	53	C	36.18	11/12/2017	17:30:20	18	5	14.01	3 to 2	>4
SFWF	54	A	35.60	11/12/2017	17:44:41	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	54	B	35.76	11/12/2017	17:46:21	18	5	14.01	3 to 2	>4
SFWF	54	C	35.41	11/12/2017	17:47:25	18	5	14.01	3 to 2	>4
SFWF	55	A	35.92	11/12/2017	18:00:05	18	5	14.01	-1 to -2	>4
SFWF	55	B	36.47	11/12/2017	18:01:21	18	5	14.01	0 to -1 / 2 to 1	>4
SFWF	55	C	35.95	11/12/2017	18:02:29	18	5	14.01	2 to 1	>4
SFWF	56	A	36.05	11/12/2017	16:27:58	18	5	14.01	0 to -1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	56	B	33.88	11/12/2017	16:29:08	18	5	14.01	-4 to -5 / 0 to -1	>4
SFWF	56	D	35.69	11/12/2017	16:31:16	18	5	14.01	-4 to -5	>4
SFWF	57	A	35.80	11/12/2017	18:18:35	18	5	14.01	3 to 2	>4
SFWF	57	C	35.74	11/12/2017	18:21:02	18	5	14.01	IND	>4
SFWF	57	D	35.65	11/12/2017	18:22:14	18	5	14.01	2 to 1	>4
SFWF	58	A	36.32	11/12/2017	18:35:25	18	5	14.01	1 to 0	>4
SFWF	58	C	35.58	11/12/2017	18:38:03	18	5	14.01	1 to 0	>4
SFWF	58	D	35.55	11/12/2017	18:39:05	18	5	14.01	1 to 0	>4
SFWF	59	A	36.97	11/12/2017	16:02:14	18	5	14.01	0 to -1	>4
SFWF	59	B	36.14	11/12/2017	16:03:34	18	5	14.01	1 to 0	>4
SFWF	59	C	36.05	11/12/2017	16:04:56	18	5	14.01	1 to 0	>4
SFWF	60	A	36.60	11/12/2017	15:47:24	18	5	14.01	IND	>4
SFWF	60	B	36.72	11/12/2017	15:48:35	18	5	14.01	2 to 1	>4
SFWF	60	C	34.03	11/12/2017	15:49:51	18	5	14.01	2 to 1	>4
SFWF	61	A	35.63	11/12/2017	15:32:26	18	5	14.01	3 to 2	>4
SFWF	61	B	36.35	11/12/2017	15:33:32	18	5	14.01	3 to 2	>4
SFWF	61	C	36.07	11/12/2017	15:34:35	18	5	14.01	-4 to -5	>4
SFWF	62	A	35.87	11/12/2017	15:16:40	18	5	14.01	2 to 1	>4
SFWF	62	B	35.09	11/12/2017	15:18:02	18	5	14.01	IND	>4
SFWF	62	C	35.67	11/12/2017	15:19:21	18	5	14.01	IND	>4
SFWF	63	B	35.68	11/12/2017	15:03:33	18	5	14.01	IND	>4
SFWF	63	C	35.82	11/12/2017	15:04:56	18	5	14.01	3 to 2	>4
SFWF	63	D	36.08	11/12/2017	15:06:22	18	5	14.01	3 to 2	>4
SFWF	64	A	36.52	11/12/2017	14:47:27	18	5	14.01	1 to 0	>4
SFWF	64	B	37.04	11/12/2017	14:48:40	18	5	14.01	1 to 0	>4
SFWF	64	D	36.56	11/12/2017	14:51:09	18	5	14.01	1 to 0	>4
SFWF	65	A	36.43	11/12/2017	14:31:19	18	5	14.01	>4 / 1 to 0	>4
SFWF	65	B	37.54	11/12/2017	14:32:58	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	65	C	36.44	11/12/2017	14:34:18	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	66	B	35.77	11/12/2017	12:54:57	18	5	14.01	>4 / 2 to 1	>4
SFWF	66	C	35.85	11/12/2017	12:56:30	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	66	D	35.89	11/12/2017	12:57:44	18	5	14.01	2 to 1	>4
SFWF	67	B	35.93	11/12/2017	14:19:32	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	67	C	36.33	11/12/2017	14:20:35	18	5	14.01	1 to 0 / 2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	67	D	36.91	11/12/2017	14:21:42	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	68	A	35.48	11/12/2017	13:13:45	18	5	14.01	-2 to -3 / 3 to 2	>4
SFWF	68	B	35.69	11/12/2017	13:14:41	18	5	14.01	<-8	>4
SFWF	68	D	35.48	11/12/2017	13:17:03	18	5	14.01	3 to 2	>4
SFWF	69	A	35.50	11/12/2017	20:32:34	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	69	B	35.43	11/12/2017	20:33:37	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	69	C	35.50	11/12/2017	20:34:38	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	70	A	34.31	11/12/2017	20:54:35	18	5	14.01	IND	>4
SFWF	70	B	36.32	11/12/2017	20:56:01	18	5	14.01	IND	>4
SFWF	70	D	34.55	11/12/2017	20:58:29	18	5	14.01	2 to 1	>4
SFWF	71	A	35.55	11/12/2017	20:11:24	18	5	14.01	2 to 1	>4
SFWF	71	B	35.76	11/12/2017	20:12:49	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	71	C	35.49	11/12/2017	20:13:56	18	5	14.01	2 to 1	>4
SFWF	72	A	36.09	11/12/2017	19:45:38	18	5	14.01	>4 / 2 to 1	>4
SFWF	72	B	36.38	11/12/2017	19:47:07	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	72	C	36.16	11/12/2017	19:48:15	18	5	14.01	2 to 1	>4
SFWF	73	A	35.55	11/12/2017	18:51:00	18	5	14.01	2 to 1	>4
SFWF	73	B	35.45	11/12/2017	18:52:04	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	73	C	35.41	11/12/2017	18:53:21	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	74	A	35.68	11/12/2017	19:10:04	18	5	14.01	1 to 0	>4
SFWF	74	C	36.57	11/12/2017	19:12:01	18	5	14.01	1 to 0	>4
SFWF	74	D	35.20	11/12/2017	19:13:09	18	5	14.01	1 to 0	>4
SFWF	75	A	36.14	11/12/2017	19:28:01	18	5	14.01	1 to 0	>4
SFWF	75	B	36.22	11/12/2017	19:29:13	18	5	14.01	1 to 0	>4
SFWF	75	D	36.17	11/12/2017	19:31:26	18	5	14.01	1 to 0 / 2 to 1	>4
SFWF	76	A	38.17	11/12/2017	14:01:21	18	5	14.01	1 to 0 / 2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	76	B	36.27	11/12/2017	14:02:57	18	5	14.01	>4 / 1 to 0	>4
SFWF	76	D	37.01	11/12/2017	14:06:04	18	5	14.01	1 to 0	>4
SFWF	201	A	34.75	11/20/2018	15:12:48	18	5	14.55	0 to -1	>4
SFWF	201	B	34.75	11/20/2018	15:14:05	18	5	14.55	0 to -1	>4
SFWF	201	C	34.75	11/20/2018	15:15:13	18	5	14.55	0 to -1	>4
SFWF	202	A	44.20	11/20/2018	14:53:12	18	5	14.55	4 to 3	>4
SFWF	202	B	44.20	11/20/2018	14:54:21	18	5	14.55	4 to 3	>4
SFWF	202	C	44.20	11/20/2018	14:55:34	18	5	14.55	4 to 3	>4
SFWF	203	B	36.58	11/20/2018	14:14:54	18	5	14.55	-1 to -2	>4
SFWF	203	C	36.58	11/20/2018	14:16:05	18	5	14.55	0 to -1	>4
SFWF	203	D	36.58	11/20/2018	14:17:05	18	5	14.55	0 to -1	>4
SFWF	204	A	35.36	11/20/2018	14:29:16	18	5	14.55	IND	IND
SFWF	204	B	35.36	11/20/2018	14:30:29	18	5	14.55	IND	IND
SFWF	204	C	35.36	11/20/2018	14:31:58	18	5	14.55	IND	IND
SFWF	205	A	35.36	11/20/2018	13:57:39	18	5	14.55	0 to -1	>4
SFWF	205	B	35.36	11/20/2018	13:58:53	18	5	14.55	2 to 1	>4
SFWF	205	C	35.36	11/20/2018	14:00:09	18	5	14.55	0 to -1	>4
SFWF	206	A	36.27	11/20/2018	9:37:37	18	5	14.55	1 to 0	>4
SFWF	206	C	36.27	11/20/2018	9:39:40	18	5	14.55	1 to 0	>4
SFWF	206	D	36.27	11/20/2018	9:40:31	18	5	14.55	>4 / 1 to 0	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	207	A	37.49	11/20/2018	13:40:27	18	5	14.55	1 to 0	>4
SFWF	207	B	37.49	11/20/2018	13:41:21	18	5	14.55	0 to -1	>4
SFWF	207	C	37.49	11/20/2018	13:42:25	18	5	14.55	>4 / 0 to -1	>4
SFWF	208	A	34.14	11/20/2018	13:22:45	18	5	14.55	3 to 2	>4
SFWF	208	B	34.14	11/20/2018	13:23:45	18	5	14.55	3 to 2	>4
SFWF	208	C	34.14	11/20/2018	13:24:55	18	5	14.55	3 to 2	>4
SFWF	209	B	36.58	11/20/2018	10:02:48	18	5	14.55	3 to 2	>4
SFWF	209	C	36.58	11/20/2018	10:03:46	18	5	14.55	3 to 2	>4
SFWF	209	D	36.58	11/20/2018	10:04:41	18	5	14.55	>4 / 0 to -1	>4
SFWF	210	A	34.14	11/20/2018	12:32:06	18	5	14.55	2 to 1	>4
SFWF	210	B	34.14	11/20/2018	12:33:09	18	5	14.55	3 to 2	>4
SFWF	210	C	34.14	11/20/2018	12:34:04	18	5	14.55	3 to 2	>4
SFWF	211	A	35.05	11/20/2018	12:48:00	18	5	14.55	2 to 1	>4
SFWF	211	B	35.05	11/20/2018	12:49:03	18	5	14.55	2 to 1	>4
SFWF	211	C	35.05	11/20/2018	12:50:02	18	5	14.55	2 to 1	>4
SFWF	212	A	33.53	11/20/2018	12:07:42	18	5	14.55	0 to -1	3
SFWF	212	C	33.53	11/20/2018	12:09:46	18	5	14.55	0 to -1	>4
SFWF	212	D	33.53	11/20/2018	12:10:41	18	5	14.55	0 to -1	>4
SFWF	213	A	34.14	11/20/2018	13:03:47	18	5	14.55	IND	IND
SFWF	213	B	34.14	11/20/2018	13:05:13	18	5	14.55	1 to 0	3
SFWF	213	C	34.14	11/20/2018	13:06:23	18	5	14.55	IND	IND

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	214	B	34.14	11/20/2018	10:19:10	18	5	14.55	1 to 0	3
SFWF	214	C	34.14	11/20/2018	10:20:05	18	5	14.55	1 to 0	>4
SFWF	214	D	34.14	11/20/2018	10:21:03	18	5	14.55	1 to 0	>4
SFWF	215	A	34.75	11/20/2018	11:40:52	18	5	14.55	0 to -1	>4
SFWF	215	B	34.75	11/20/2018	11:42:01	18	5	14.55	-2 to -3 / 1 to 0	>4
SFWF	215	C	34.75	11/20/2018	11:43:01	18	5	14.55	1 to 0 / -2 to -3	>4
SFWF	216	A	32.92	11/20/2018	11:53:55	18	5	14.55	-1 to -2	3
SFWF	216	B	32.92	11/20/2018	11:54:56	18	5	14.55	-1 to -2	3
SFWF	216	C	32.92	11/20/2018	11:55:49	18	5	14.55	-1 to -2	3
SFWF	217	A	33.53	11/20/2018	11:25:49	18	5	14.55	1 to 0	>4
SFWF	217	C	33.53	11/20/2018	11:28:13	18	5	14.55	1 to 0	>4
SFWF	217	D	33.53	11/20/2018	11:29:26	18	5	14.55	1 to 0	>4
SFWF	218	A	33.22	11/20/2018	10:49:15	18	5	14.55	2 to 1	>4
SFWF	218	B	33.22	11/20/2018	10:50:42	18	5	14.55	3 to 2	>4
SFWF	218	C	33.22	11/20/2018	10:51:38	18	5	14.55	3 to 2	>4
SFWF	219	A	33.83	11/20/2018	10:34:24	18	5	14.55	1 to 0	>4
SFWF	219	B	33.83	11/20/2018	10:35:27	18	5	14.55	1 to 0	>4
SFWF	219	C	33.83	11/20/2018	10:36:19	18	5	14.55	1 to 0	>4
SFWF	220	A	35.97	11/20/2018	11:11:21	18	5	14.55	2 to 1	>4
SFWF	220	B	35.97	11/20/2018	11:12:33	18	5	14.55	2 to 1	>4
SFWF	C01	A	37.90	11/15/2017	17:27:21	18	5	14.01	-2 to -3 / 1 to 0	>4
SFWF	C01	B	37.88	11/15/2017	17:28:20	18	5	14.01	1 to 0	>4
SFWF	C01	C	37.97	11/15/2017	17:29:35	18	5	14.01	1 to 0	>4
SFWF	C01	D	37.24	11/15/2017	17:30:45	18	5	14.01	1 to 0	>4
SFWF	C01	E	38.22	11/15/2017	17:31:46	18	5	14.01	2 to 1 / >4	>4
SFWF	C02	A	36.52	11/15/2017	16:53:57	18	5	14.01	2 to 1	>4
SFWF	C02	B	36.60	11/15/2017	16:55:33	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFWF	C02	C	36.33	11/15/2017	16:56:40	18	5	14.01	2 to 1	>4
SFWF	C02	E	36.40	11/15/2017	16:58:43	18	5	14.01	2 to 1	>4
SFWF	C02	F	36.80	11/15/2017	16:59:52	18	5	14.01	2 to 1	>4
SFEC-OCS	101	A	34.66	11/12/2017	21:19:11	18	5	14.01	-3 to -4	>4
SFEC-OCS	101	C	34.85	11/12/2017	21:21:31	18	5	14.01	IND	>4
SFEC-OCS	101	D	34.89	11/12/2017	21:22:49	18	5	14.01	-1 to -2 / 2 to 1	>4
SFEC-OCS	102	A	35.84	11/12/2017	21:46:53	18	5	14.01	3 to 2	>4
SFEC-OCS	102	B	35.05	11/12/2017	21:47:57	18	5	14.01	IND	>4
SFEC-OCS	102	D	35.41	11/12/2017	21:50:11	18	5	14.01	-3 to -4	>4
SFEC-OCS	103	A	38.53	11/12/2017	22:13:08	18	5	14.01	4 to 3	>4
SFEC-OCS	103	B	38.49	11/12/2017	22:14:14	18	5	14.01	4 to 3	>4
SFEC-OCS	103	D	38.69	11/12/2017	22:16:23	18	5	14.01	>4	>4
SFEC-OCS	104	A	38.53	11/12/2017	22:38:16	18	5	14.01	3 to 2	>4
SFEC-OCS	104	B	38.08	11/12/2017	22:39:47	18	5	14.01	IND	>4
SFEC-OCS	104	D	38.31	11/12/2017	22:42:15	18	5	14.01	2 to 1	>4
SFEC-OCS	105	A	40.70	11/12/2017	23:05:53	18	5	14.01	2 to 1	>4
SFEC-OCS	105	B	40.07	11/12/2017	23:07:11	18	5	14.01	>4 / 2 to 1	>4
SFEC-OCS	105	C	40.85	11/12/2017	23:08:14	18	5	14.01	2 to 1	>4
SFEC-OCS	106	A	42.66	11/12/2017	23:25:14	18	5	14.01	1 to 0	>4
SFEC-OCS	106	B	42.67	11/12/2017	23:26:22	18	5	14.01	1 to 0	>4
SFEC-OCS	106	C	42.90	11/12/2017	23:27:23	18	5	14.01	1 to 0	>4
SFEC-OCS	107	A	42.72	11/12/2017	23:48:21	18	5	14.01	0 to -1	>4
SFEC-OCS	107	B	42.62	11/12/2017	23:49:32	18	5	14.01	0 to -1	>4
SFEC-OCS	107	C	42.35	11/12/2017	23:50:43	18	5	14.01	0 to -1	>4
SFEC-OCS	108	A	42.89	11/13/2017	0:10:40	18	5	14.01	1 to 0	>4
SFEC-OCS	108	C	43.19	11/13/2017	0:13:17	18	5	14.01	1 to 0	>4
SFEC-OCS	108	D	43.55	11/13/2017	0:14:24	18	5	14.01	1 to 0	>4
SFEC-OCS	109	A	43.16	11/13/2017	0:28:16	18	5	14.01	0 to -1	>4
SFEC-OCS	109	B	43.16	11/13/2017	0:29:32	18	5	14.01	0 to -1	>4
SFEC-OCS	109	D	43.30	11/13/2017	0:31:51	18	5	14.01	-2 to -3 / 1 to 0	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	110	A	44.84	11/13/2017	0:50:50	18	5	14.01	1 to 0	>4
SFEC-OCS	110	B	44.90	11/13/2017	0:54:02	18	5	14.01	1 to 0	>4
SFEC-OCS	110	C	44.91	11/13/2017	0:55:09	18	5	14.01	>4 / 2 to 1	>4
SFEC-OCS	111	B	46.93	11/13/2017	1:23:08	18	5	14.01	0 to -1 / 1 to 0	>4
SFEC-OCS	111	C	46.76	11/13/2017	1:24:21	18	5	14.01	1 to 0	>4
SFEC-OCS	111	D	46.85	11/13/2017	1:25:39	18	5	14.01	1 to 0	>4
SFEC-OCS	112	A	45.19	11/13/2017	1:46:01	18	5	14.01	1 to 0	>4
SFEC-OCS	112	B	45.38	11/13/2017	1:47:38	18	5	14.01	0 to -1	>4
SFEC-OCS	112	C	46.17	11/13/2017	1:48:48	18	5	14.01	0 to -1	>4
SFEC-OCS	113	A	43.93	11/13/2017	2:09:13	18	5	14.01	0 to -1 / 2 to 1	>4
SFEC-OCS	113	B	43.44	11/13/2017	2:10:13	18	5	14.01	0 to -1 / 1 to 0	>4
SFEC-OCS	113	D	43.44	11/13/2017	2:12:23	18	5	14.01	1 to 0 / 2 to 1	>4
SFEC-OCS	114	A	42.66	11/13/2017	2:32:30	18	5	14.01	2 to 1	>4
SFEC-OCS	114	B	42.36	11/13/2017	2:33:55	18	5	14.01	2 to 1	>4
SFEC-OCS	114	C	41.84	11/13/2017	2:34:53	18	5	14.01	2 to 1	>4
SFEC-OCS	115	A	44.82	11/13/2017	2:56:36	18	5	14.01	-1 to -2 / 1 to 0	>4
SFEC-OCS	115	B	44.27	11/13/2017	2:57:37	18	5	14.01	1 to 0	>4
SFEC-OCS	115	C	44.45	11/13/2017	2:58:51	18	5	14.01	1 to 0	>4
SFEC-OCS	116	A	44.89	11/13/2017	3:21:15	18	5	14.01	1 to 0	>4
SFEC-OCS	116	C	45.33	11/13/2017	3:23:37	18	5	14.01	1 to 0	>4
SFEC-OCS	116	D	45.18	11/13/2017	3:24:43	18	5	14.01	1 to 0	>4
SFEC-OCS	117	A	47.81	11/13/2017	3:43:38	18	5	14.01	0 to -1 / 1 to 0	>4
SFEC-OCS	117	B	48.28	11/13/2017	3:44:56	18	5	14.01	0 to -1	>4
SFEC-OCS	117	C	47.90	11/13/2017	3:46:20	18	5	14.01	1 to 0	>4
SFEC-OCS	118	A	48.24	11/13/2017	4:09:02	18	5	14.01	2 to 1	>4
SFEC-OCS	118	B	48.49	11/13/2017	4:10:24	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	118	C	46.46	11/13/2017	4:11:40	18	5	14.01	3 to 2	>4
SFEC-OCS	119	A	46.97	11/13/2017	4:34:04	18	5	14.01	2 to 1	>4
SFEC-OCS	119	B	46.98	11/13/2017	4:35:26	18	5	14.01	2 to 1	>4
SFEC-OCS	119	C	46.80	11/13/2017	4:36:51	18	5	14.01	2 to 1	>4
SFEC-OCS	120	A	45.38	11/13/2017	4:59:48	18	5	14.01	3 to 2	>4
SFEC-OCS	120	B	45.37	11/13/2017	5:00:56	18	5	14.01	3 to 2	>4
SFEC-OCS	120	C	46.33	11/13/2017	5:02:15	18	5	14.01	3 to 2	>4
SFEC-OCS	121	A	44.22	11/13/2017	5:26:37	18	5	14.01	2 to 1	>4
SFEC-OCS	121	B	43.12	11/13/2017	5:28:13	18	5	14.01	2 to 1	>4
SFEC-OCS	121	D	44.71	11/13/2017	5:30:28	18	5	14.01	3 to 2	>4
SFEC-OCS	122	A	40.74	11/13/2017	6:08:48	18	5	14.01	2 to 1	>4
SFEC-OCS	122	B	40.01	11/13/2017	6:09:58	18	5	14.01	2 to 1	>4
SFEC-OCS	122	C	40.35	11/13/2017	6:11:19	18	5	14.01	2 to 1	>4
SFEC-OCS	123	A	41.14	11/13/2017	6:33:58	18	5	14.01	1 to 0	>4
SFEC-OCS	123	B	41.20	11/13/2017	6:35:09	18	5	14.01	0 to -1 / 1 to 0	>4
SFEC-OCS	123	D	41.01	11/13/2017	6:37:57	18	5	14.01	0 to -1	>4
SFEC-OCS	124	A	42.60	11/13/2017	6:57:16	18	5	14.01	2 to 1	>4
SFEC-OCS	124	B	42.43	11/13/2017	6:58:27	18	5	14.01	2 to 1	>4
SFEC-OCS	124	C	42.59	11/13/2017	6:59:40	18	5	14.01	2 to 1	>4
SFEC-OCS	125	A	46.78	11/13/2017	7:21:16	18	5	14.01	3 to 2	>4
SFEC-OCS	125	C	46.54	11/13/2017	7:23:41	18	5	14.01	3 to 2	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	125	D	47.65	11/13/2017	7:24:50	18	5	14.01	3 to 2	>4
SFEC-OCS	126	A	41.23	11/13/2017	7:43:53	18	5	14.01	2 to 1	>4
SFEC-OCS	126	B	41.28	11/13/2017	7:45:07	18	5	14.01	2 to 1	>4
SFEC-OCS	126	D	41.35	11/13/2017	7:47:56	18	5	14.01	2 to 1	>4
SFEC-OCS	127	A	40.89	11/13/2017	8:09:49	18	5	14.01	2 to 1	>4
SFEC-OCS	127	B	41.26	11/13/2017	8:11:06	18	5	14.01	2 to 1	>4
SFEC-OCS	127	C	40.51	11/13/2017	8:12:36	18	5	14.01	2 to 1	>4
SFEC-OCS	128	A	46.59	11/13/2017	8:35:42	18	5	14.01	2 to 1	>4
SFEC-OCS	128	B	47.43	11/13/2017	8:37:23	18	5	14.01	1 to 0	>4
SFEC-OCS	128	C	46.45	11/13/2017	8:38:54	18	5	14.01	2 to 1	>4
SFEC-OCS	129	A	47.76	11/13/2017	9:02:14	18	5	14.01	4 to 3	>4
SFEC-OCS	129	B	45.94	11/13/2017	9:03:20	18	5	14.01	4 to 3	>4
SFEC-OCS	129	D	47.15	11/13/2017	9:05:49	18	5	14.01	4 to 3	>4
SFEC-OCS	130	B	45.54	11/13/2017	9:27:09	18	5	14.01	4 to 3	>4
SFEC-OCS	130	C	45.56	11/13/2017	9:28:45	18	5	14.01	4 to 3	>4
SFEC-OCS	130	D	46.01	11/13/2017	9:30:11	18	5	14.01	4 to 3	>4
SFEC-OCS	131	B	46.57	11/13/2017	9:49:57	18	5	14.01	3 to 2	>4
SFEC-OCS	131	C	45.21	11/13/2017	9:51:13	18	5	14.01	2 to 1	>4
SFEC-OCS	131	D	44.54	11/13/2017	9:52:28	18	5	14.01	1 to 0	>4
SFEC-OCS	132	A	41.01	11/13/2017	10:06:50	18	5	14.01	0 to -1	>4
SFEC-OCS	132	B	42.05	11/13/2017	10:08:14	18	5	14.01	0 to -1	>4
SFEC-OCS	132	C	43.29	11/13/2017	10:09:53	18	5	14.01	0 to -1	>4
SFEC-OCS	133	A	39.05	11/13/2017	10:42:07	18	5	14.01	1 to 0	>4
SFEC-OCS	133	B	39.12	11/13/2017	10:43:41	18	5	14.01	>4 / -1 to -2	>4
SFEC-OCS	133	D	38.73	11/13/2017	10:46:30	18	5	14.01	0 to -1 / 1 to 0	>4
SFEC-OCS	134	A	36.02	11/13/2017	11:12:02	18	5	14.01	0 to -1	>4
SFEC-OCS	134	B	35.27	11/13/2017	11:13:33	18	5	14.01	0 to -1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	134	D	35.67	11/13/2017	11:16:06	18	5	14.01	-3 to -4 / 0 to -1	>4
SFEC-OCS	135	A	34.03	11/13/2017	11:38:16	18	5	14.01	0 to -1	>4
SFEC-OCS	135	B	33.82	11/13/2017	11:39:33	18	5	14.01	0 to -1	>4
SFEC-OCS	135	C	33.93	11/13/2017	11:40:37	18	5	14.01	1 to 0	>4
SFEC-OCS	136	B	33.26	11/13/2017	12:09:29	18	5	14.01	1 to 0	>4
SFEC-OCS	136	C	32.93	11/13/2017	12:10:26	18	5	14.01	1 to 0	>4
SFEC-OCS	136	D	32.41	11/13/2017	12:11:32	18	5	14.01	2 to 1	>4
SFEC-OCS	137	A	35.05	11/13/2017	12:35:28	18	5	14.01	>4 / 1 to 0	>4
SFEC-OCS	137	B	31.47	11/13/2017	12:36:27	18	5	14.01	1 to 0	>4
SFEC-OCS	137	C	31.95	11/13/2017	12:37:26	18	5	14.01	>4 / 0 to -1	>4
SFEC-OCS	138	A	30.92	11/13/2017	12:59:06	18	5	14.01	1 to 0 / 2 to 1	>4
SFEC-OCS	138	B	31.86	11/13/2017	13:00:04	18	5	14.01	1 to 0 / 2 to 1	>4
SFEC-OCS	138	D	31.98	11/13/2017	13:02:09	18	5	14.01	1 to 0 / 2 to 1	>4
SFEC-OCS	139	A	31.46	11/13/2017	13:23:32	18	5	14.01	2 to 1	>4
SFEC-OCS	139	C	31.44	11/13/2017	13:25:20	18	5	14.01	>4 / 2 to 1	>4
SFEC-OCS	139	D	32.15	11/13/2017	13:26:19	18	5	14.01	>4	>4
SFEC-OCS	140	A	31.01	11/13/2017	13:53:37	18	5	14.01	2 to 1	>4
SFEC-OCS	140	B	30.51	11/13/2017	13:54:40	18	5	14.01	2 to 1	>4
SFEC-OCS	140	C	30.98	11/13/2017	13:55:43	18	5	14.01	2 to 1	>4
SFEC-OCS	141	A	29.85	11/13/2017	14:57:23	18	5	14.01	2 to 1	>4
SFEC-OCS	141	C	30.35	11/13/2017	14:59:40	18	5	14.01	2 to 1	>4
SFEC-OCS	141	D	29.84	11/13/2017	15:00:55	18	5	14.01	2 to 1	>4
SFEC-OCS	142	B	27.86	11/13/2017	17:50:11	18	5	14.01	1 to 0	>4
SFEC-OCS	142	C	23.12	11/13/2017	17:51:44	18	5	14.01	1 to 0	>4
SFEC-OCS	142	D	23.16	11/13/2017	17:52:58	18	5	14.01	1 to 0	>4
SFEC-OCS	146	C	30.20	11/14/2017	15:01:05	18	5	14.01	2 to 1	>4
SFEC-OCS	146	E	30.20	11/14/2017	15:02:41	18	5	14.01	1 to 0	>4
SFEC-OCS	146	F	30.20	11/14/2017	15:03:27	18	5	14.01	1 to 0	>4
SFEC-OCS	147	A	30.50	11/14/2017	15:29:11	18	5	14.01	1 to 0	>4
SFEC-OCS	147	B	30.50	11/14/2017	15:29:51	18	5	14.01	1 to 0	>4
SFEC-OCS	147	C	30.50	11/14/2017	15:30:46	18	5	14.01	1 to 0	>4
SFEC-OCS	148	A	29.70	11/14/2017	15:53:42	18	5	14.01	2 to 1	>4
SFEC-OCS	148	B	29.70	11/14/2017	15:54:56	18	5	14.01	2 to 1	>4
SFEC-OCS	148	C	29.70	11/14/2017	15:56:10	18	5	14.01	2 to 1	>4
SFEC-OCS	149	A	28.80	11/14/2017	16:19:36	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	149	B	28.80	11/14/2017	16:20:31	18	5	14.01	2 to 1	>4
SFEC-OCS	149	C	28.80	11/14/2017	16:21:24	18	5	14.01	2 to 1	>4
SFEC-OCS	150	A	30.90	11/14/2017	16:43:57	18	5	14.01	3 to 2	>4
SFEC-OCS	150	B	30.90	11/14/2017	16:45:02	18	5	14.01	3 to 2	>4
SFEC-OCS	150	C	30.90	11/14/2017	16:46:09	18	5	14.01	3 to 2	>4
SFEC-OCS	151	B	31.30	11/14/2017	17:12:49	18	5	14.01	3 to 2	>4
SFEC-OCS	151	C	31.30	11/14/2017	17:13:53	18	5	14.01	-3 to -4 / >4	>4
SFEC-OCS	151	D	31.30	11/14/2017	17:14:58	18	5	14.01	>4	>4
SFEC-OCS	152	A	31.10	11/14/2017	17:34:35	18	5	14.01	2 to 1	>4
SFEC-OCS	152	B	31.10	11/14/2017	17:35:39	18	5	14.01	2 to 1	>4
SFEC-OCS	152	C	31.10	11/14/2017	17:36:54	18	5	14.01	IND	IND
SFEC-OCS	153	A	30.70	11/14/2017	18:00:08	18	5	14.01	3 to 2	>4
SFEC-OCS	153	B	30.70	11/14/2017	18:01:24	18	5	14.01	3 to 2	>4
SFEC-OCS	153	C	30.70	11/14/2017	18:02:31	18	5	14.01	3 to 2	>4
SFEC-OCS	154	A	30.50	11/14/2017	18:23:59	18	5	14.01	2 to 1	>4
SFEC-OCS	154	B	30.50	11/14/2017	18:25:08	18	5	14.01	2 to 1	>4
SFEC-OCS	154	C	30.50	11/14/2017	18:26:11	18	5	14.01	2 to 1	>4
SFEC-OCS	155	A	31.60	11/14/2017	18:49:10	18	5	14.01	3 to 2	>4
SFEC-OCS	155	B	31.60	11/14/2017	18:50:11	18	5	14.01	3 to 2	>4
SFEC-OCS	155	C	31.60	11/14/2017	18:51:09	18	5	14.01	3 to 2	>4
SFEC-OCS	156	B	31.50	11/14/2017	19:15:41	18	5	14.01	>4 / 2 to 1	>4
SFEC-OCS	156	C	31.50	11/14/2017	19:16:45	18	5	14.01	>4	>4
SFEC-OCS	156	D	31.50	11/14/2017	19:17:52	18	5	14.01	>4 / 2 to 1	>4
SFEC-OCS	157	A	29.90	11/14/2017	19:36:26	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
SFEC-OCS	157	B	29.90	11/14/2017	19:37:29	18	5	14.01	2 to 1	>4
SFEC-OCS	157	C	29.90	11/14/2017	19:38:31	18	5	14.01	2 to 1	>4
SFEC-NYS	143	A	25.99	11/13/2017	15:42:32	18	5	14.01	3 to 2	>4
SFEC-NYS	143	B	26.28	11/13/2017	15:44:01	18	5	14.01	>4 / 3 to 2	>4
SFEC-NYS	143	C	26.15	11/13/2017	15:45:07	18	5	14.01	2 to 1	>4
SFEC-NYS	144	A	22.33	11/13/2017	17:03:39	18	5	14.01	1 to 0	>4
SFEC-NYS	144	B	22.47	11/13/2017	17:04:59	18	5	14.01	1 to 0	>4
SFEC-NYS	144	C	22.81	11/13/2017	17:06:17	18	5	14.01	1 to 0	>4
SFEC-NYS	145	A	17.33	11/13/2017	16:27:27	18	5	14.01	2 to 1	>4
SFEC-NYS	145	B	17.25	11/13/2017	16:28:34	18	5	14.01	>4 / 2 to 1	>4
SFEC-NYS	145	C	16.79	11/13/2017	16:29:43	18	5	14.01	1 to 0	>4
SFEC-NYS	158	A	24.80	11/14/2017	20:03:46	18	5	14.01	2 to 1	>4
SFEC-NYS	158	B	24.80	11/14/2017	20:04:46	18	5	14.01	2 to 1	>4
SFEC-NYS	158	C	24.80	11/14/2017	20:05:56	18	5	14.01	2 to 1	>4
SFEC-NYS	159	A	21.10	11/14/2017	20:31:15	18	5	14.01	>4 / 1 to 0	>4
SFEC-NYS	159	B	21.10	11/14/2017	20:32:16	18	5	14.01	>4	>4
SFEC-NYS	159	D	21.10	11/14/2017	20:34:17	18	5	14.01	1 to 0	>4
SFEC-NYS	160	A	16.10	11/14/2017	20:52:17	18	5	14.01	3 to 2	>4
SFEC-NYS	160	B	16.10	11/14/2017	20:53:17	18	5	14.01	3 to 2	>4
SFEC-NYS	160	C	16.10	11/14/2017	20:54:13	18	5	14.01	3 to 2	>4
Reference	C03	A	35.23	11/15/2017	16:19:51	18	5	14.01	1 to 0	>4
Reference	C03	B	35.49	11/15/2017	16:21:13	18	5	14.01	2 to 1	>4
Reference	C03	C	35.54	11/15/2017	16:22:17	18	5	14.01	1 to 0	>4
Reference	C03	D	35.31	11/15/2017	16:23:17	18	5	14.01	2 to 1	>4
Reference	C03	E	35.55	11/15/2017	16:24:30	18	5	14.01	2 to 1	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (ft)	Date	Time	Stop Collar Setting (in)	# of Weights (per side)	Image Width (cm)	Grain Size Major Mode (phi)	Grain Size Minimum (phi)
Reference	C04	A	36.19	11/15/2017	15:49:48	18	5	14.01	2 to 1	>4
Reference	C04	B	36.49	11/15/2017	15:50:50	18	5	14.01	2 to 1	>4
Reference	C04	C	37.64	11/15/2017	15:52:00	18	5	14.01	2 to 1	>4
Reference	C04	D	36.49	11/15/2017	15:53:11	18	5	14.01	2 to 1	>4
Reference	C04	E	36.12	11/15/2017	15:54:20	18	5	14.01	2 to 1	>4
Reference	C05	A	35.15	11/15/2017	15:17:54	18	5	14.01	2 to 1	>4
Reference	C05	B	36.42	11/15/2017	15:19:27	18	5	14.01	2 to 1	>4
Reference	C05	C	32.54	11/15/2017	15:20:42	18	5	14.01	2 to 1	>4
Reference	C05	D	34.92	11/15/2017	15:21:54	18	5	14.01	1 to 0	>4
Reference	C05	E	35.91	11/15/2017	15:23:07	18	5	14.01	1 to 0	>4

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	1	A	-3	>4 to -3	2.86	0.20	5.60	No	5.40	Physical
SFWF	1	B	-5	>4 to -5	2.31	1.44	3.69	No	2.26	Physical
SFWF	1	C	-6	>4 to -6	2.42	1.65	4.30	No	2.65	Physical
SFWF	2	A	0	>4 to 0	9.93	8.80	10.89	No	2.09	Physical/ Biological
SFWF	2	B	0	>4 to 0	4.76	3.75	6.33	No	2.58	Physical
SFWF	2	C	0	>4 to 0	5.38	4.34	6.55	No	2.21	Physical
SFWF	3	A	1	>4 to 1	4.30	3.78	5.05	No	1.27	Physical
SFWF	3	B	1	>4 to 1	4.49	3.92	5.58	No	1.65	Physical/ Biological
SFWF	3	C	1	>4 to 1	3.63	2.19	4.74	No	2.56	Physical
SFWF	4	A	1	>4 to 1	4.01	3.06	4.99	No	1.93	Physical
SFWF	4	B	1	>4 to 1	3.96	3.14	4.62	No	1.48	Physical
SFWF	4	C	1	>4 to 1	5.79	5.44	6.14	No	0.70	Physical/ Biological
SFWF	5	A	1	>4 to 1	4.11	3.62	4.69	No	1.06	Physical
SFWF	5	B	1	>4 to 1	3.09	2.77	3.40	No	0.62	Biological
SFWF	5	C	1	>4 to 1	3.07	2.68	3.64	No	0.95	Physical/ Biological
SFWF	6	A	1	>4 to 1	4.30	1.68	5.20	No	3.52	Physical
SFWF	6	C	1	>4 to 1	4.89	4.18	5.13	No	0.95	Physical/ Biological
SFWF	6	D	1	>4 to 1	10.44	9.84	11.02	No	1.19	Biological
SFWF	7	B	<-8	>4 to <-8	0.00	0.00	0.00	No	IND	Physical
SFWF	7	C	-4	>4 to -4	0.00	0.00	0.00	No	IND	Physical
SFWF	7	D	<-8	>4 to <-8	0.00	0.00	0.00	No	IND	Physical
SFWF	8	A	1	>4 to 1	3.95	3.27	4.39	No	1.12	Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	8	B	1	>4 to 1	3.59	1.16	4.95	No	3.79	Physical
SFWF	8	C	1	>4 to 1	4.56	3.56	5.05	No	1.49	Physical
SFWF	9	A	1	>4 to 1	2.94	2.50	3.54	No	1.04	Biological
SFWF	9	B	1	>4 to 1	4.53	4.17	4.90	No	0.74	Biological
SFWF	9	C	1	>4 to 1	6.09	5.39	6.86	No	1.47	Physical/ Biological
SFWF	10	A	1	>4 to 1	4.56	3.94	4.90	No	0.96	Biological
SFWF	10	B	1	>4 to 1	3.90	3.12	4.84	No	1.72	Biological
SFWF	10	C	0	>4 to 0	8.44	7.47	9.27	No	1.80	Physical/ Biological
SFWF	11	A	0	>4 to 0	4.47	3.33	5.03	No	1.70	Physical/ Biological
SFWF	11	B	0	>4 to 0	4.63	4.18	5.17	No	0.99	Physical
SFWF	11	C	0	>4 to 0	4.27	2.72	5.01	No	2.29	Biological
SFWF	12	A	2	>4 to 2	4.98	4.50	5.30	No	0.80	Biological
SFWF	12	C	1	>4 to 1	5.57	5.16	5.92	No	0.76	Biological
SFWF	12	D	1	>4 to 1	7.11	6.50	7.43	No	0.92	Physical/ Biological
SFWF	13	A	1	>4 to 1	5.32	4.46	6.05	No	1.59	Physical/ Biological
SFWF	13	B	1	>4 to 1	5.40	5.16	5.56	No	0.39	Physical
SFWF	13	C	1	>4 to 1	4.68	3.96	5.04	No	1.09	Physical
SFWF	14	A	1	>4 to 1	4.72	3.88	5.13	No	1.25	Biological
SFWF	14	B	1	>4 to 1	6.34	5.98	6.55	No	0.57	Physical
SFWF	14	C	1	>4 to 1	8.25	7.80	8.68	No	0.88	Biological
SFWF	15	A	1	>4 to 1	17.48	17.29	17.79	No	0.50	Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	15	B	1	>4 to 1	18.75	18.48	18.96	No	0.48	Biological
SFWF	15	C	1	>4 to 1	15.23	15.05	15.45	No	0.40	Biological
SFWF	16	B	-2	>4 to -2	7.28	3.81	8.94	No	5.13	Physical
SFWF	16	C	-4	>4 to -4	5.75	2.80	8.16	No	5.36	Physical
SFWF	16	D	-4	>4 to -4	2.76	0.25	5.63	No	5.38	Physical
SFWF	17	A	-1	>4 to -1	2.98	2.52	3.31	No	0.79	Biological
SFWF	17	B	0	>4 to 0	5.61	4.36	6.75	No	2.39	Biological
SFWF	17	C	0	>4 to 0	3.78	3.40	4.32	No	0.92	Physical
SFWF	18	A	-6	>4 to -6	0.69	0.00	2.04	No	2.04	Physical
SFWF	18	B	-4	>4 to -4	0.00	0.00	0.00	No	IND	Physical
SFWF	18	D	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	19	A	-3	>4 to -3	8.15	7.13	8.76	No	1.63	Physical
SFWF	19	B	-5	>4 to -5	3.54	2.42	4.22	No	1.80	Physical
SFWF	19	C	-4	>4 to -4	3.30	2.98	3.71	No	0.73	Physical
SFWF	20	A	-1	>4 to -1	7.04	5.34	8.52	No	3.18	Physical
SFWF	20	C	-1	>4 to -1	7.21	6.27	7.97	No	1.70	Physical
SFWF	20	D	-1	>4 to -1	9.79	7.59	11.63	No	4.05	Physical
SFWF	21	A	0	>4 to 0	4.66	3.96	5.19	No	1.23	Physical
SFWF	21	B	0	>4 to 0	8.88	7.38	9.58	No	2.20	Physical
SFWF	21	D	0	>4 to 0	5.25	4.29	6.77	No	2.49	Physical
SFWF	22	A	0	>4 to 0	2.66	2.45	2.86	No	0.41	Physical
SFWF	22	B	-4	>4 to -4	0.98	0.00	3.16	No	3.16	Physical
SFWF	22	C	0	>4 to 0	2.91	2.19	3.50	No	1.30	Physical
SFWF	23	A	0	>4 to 0	0.81	0.44	0.98	No	0.54	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	23	C	0	>4 to 0	3.28	2.73	3.84	No	1.11	Biological
SFWF	23	D	1	>4 to 1	1.21	0.34	2.10	No	1.76	Physical
SFWF	24	A	1	>4 to 1	2.55	2.02	4.05	No	2.02	Physical
SFWF	24	B	1	>4 to 1	5.35	4.39	6.41	No	2.02	Physical/ Biological
SFWF	24	C	1	>4 to 1	4.29	3.33	4.73	No	1.39	Physical
SFWF	25	A	-1	>4 to -1	7.66	4.34	10.36	No	6.02	Physical
SFWF	25	B	-1	>4 to -1	4.97	4.55	6.07	No	1.52	Biological
SFWF	25	C	0	>4 to 0	5.30	2.84	6.90	No	4.06	Physical
SFWF	26	A	1	>4 to 1	4.34	3.58	4.82	No	1.24	Physical/ Biological
SFWF	26	B	1	>4 to 1	6.59	6.10	7.29	No	1.18	Physical/ Biological
SFWF	26	C	1	>4 to 1	4.21	2.98	5.46	No	2.47	Physical/ Biological
SFWF	27	A	1	>4 to 1	4.85	4.57	5.09	No	0.53	Biological
SFWF	27	B	1	>4 to 1	5.00	4.23	5.63	No	1.39	Biological
SFWF	27	C	0	>4 to 0	5.02	3.13	6.99	No	3.86	Physical
SFWF	28	A	0	>4 to 0	5.30	4.40	5.70	No	1.30	Physical
SFWF	28	B	0	>4 to 0	6.76	5.57	7.43	No	1.86	Physical
SFWF	28	C	-2	>4 to -2	8.82	7.11	10.62	No	3.51	Physical
SFWF	29	A	-2	>4 to -2	7.82	5.51	9.49	No	3.99	Physical
SFWF	29	B	-1	>4 to -1	10.21	9.73	10.99	No	1.26	Physical
SFWF	29	D	-1	>4 to -1	10.47	8.90	12.33	No	3.43	Physical
SFWF	30	A	-1	>4 to -1	9.01	8.36	9.92	No	1.56	Physical
SFWF	30	B	-1	>4 to -1	4.65	3.78	5.94	No	2.16	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	30	C	-1	>4 to -1	4.71	4.25	4.92	No	0.67	Physical
SFWF	31	A	0	>4 to 0	3.13	2.54	3.47	No	0.94	Physical
SFWF	31	B	0	>4 to 0	4.49	3.60	4.78	No	1.18	Physical
SFWF	31	D	-1	>4 to -1	6.95	6.15	7.66	No	1.51	Physical
SFWF	32	A	0	>4 to 0	4.22	3.61	5.02	No	1.42	Biological
SFWF	32	B	0	>4 to 0	4.46	3.50	5.59	No	2.09	Physical/ Biological
SFWF	32	C	0	>4 to 0	5.02	4.49	5.52	No	1.03	Biological
SFWF	33	A	-1	>4 to -1	2.90	2.34	3.25	No	0.91	Physical
SFWF	33	C	-1	>4 to -1	6.34	5.04	8.17	No	3.13	Physical
SFWF	33	D	-2	>4 to -2	6.67	4.98	8.34	No	3.36	Physical
SFWF	34	A	1	>4 to 1	2.26	1.39	3.47	No	2.07	Physical
SFWF	34	B	-3	>4 to -3	3.18	3.01	3.38	No	0.38	Physical
SFWF	34	D	1	>4 to 1	2.88	2.55	3.45	No	0.90	Physical
SFWF	35	A	0	>4 to 0	3.73	0.00	6.23	No	6.23	Physical
SFWF	35	B	0	>4 to 0	5.99	4.95	6.50	No	1.56	Physical/ Biological
SFWF	35	C	0	>4 to 0	4.89	4.40	5.35	No	0.95	Physical/ Biological
SFWF	36	A	-6	>4 to -6	0.00	0.00	0.00	No	IND	Physical
SFWF	36	B	-5	>4 to -5	3.83	3.10	4.33	No	1.23	Biological
SFWF	36	D	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	37	A	0	>4 to 0	8.15	7.03	8.81	No	1.78	Physical
SFWF	37	B	0	>4 to 0	3.29	2.54	3.68	No	1.14	Physical
SFWF	37	C	0	>4 to 0	6.80	6.28	7.31	No	1.04	Physical
SFWF	38	A	0	>4 to 0	5.85	5.27	6.45	No	1.18	Physical
SFWF	38	B	-3	>4 to -3	8.50	7.51	9.88	No	2.37	Physical
SFWF	38	D	-2	>4 to -2	10.63	10.29	10.90	No	0.61	Physical
SFWF	39	A	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	39	C	-3	>4 to -3	4.63	2.67	6.16	No	3.49	Physical
SFWF	39	D	-1	>4 to -1	2.53	0.00	5.37	No	5.37	Physical
SFWF	40	A	-4	>4 to -4	1.02	0.00	2.11	No	2.11	Physical
SFWF	40	B	-5	>4 to -5	1.83	1.06	2.47	No	1.41	Physical
SFWF	40	C	-4	>4 to -4	1.16	0.00	2.39	No	2.39	Physical
SFWF	41	A	1	>4 to 1	4.74	4.32	5.22	No	0.90	Biological
SFWF	41	B	1	>4 to 1	4.55	4.16	5.01	No	0.85	Biological
SFWF	41	C	1	>4 to 1	4.62	3.98	5.08	No	1.10	Biological
SFWF	42	A	-4	>4 to -4	2.45	1.78	2.93	No	1.15	Physical
SFWF	42	B	-4	>4 to -4	0.00	0.00	0.00	No	IND	Physical
SFWF	42	C	-3	>4 to -3	0.00	0.00	0.00	No	IND	Physical
SFWF	43	A	1	>4 to 1	5.25	5.06	5.90	No	0.84	Biological
SFWF	43	B	1	>4 to 1	3.98	3.18	4.51	No	1.33	Biological
SFWF	43	C	1	>4 to 1	5.68	4.88	6.89	No	2.02	Biological
SFWF	44	B	0	>4 to 0	4.38	2.88	4.96	No	2.08	Physical
SFWF	44	C	0	>4 to 0	8.90	8.46	9.68	No	1.23	Physical/ Biological
SFWF	44	D	0	>4 to 0	7.45	6.15	8.72	No	2.58	Physical/ Biological
SFWF	45	B	-2	>4 to -2	4.68	4.31	5.12	No	0.82	Physical/ Biological
SFWF	45	C	0	>4 to 0	4.64	4.31	4.85	No	0.54	Physical
SFWF	45	D	0	>4 to 0	3.77	2.92	4.45	No	1.53	Biological
SFWF	46	B	0	>4 to 0	7.31	6.07	8.91	No	2.84	Physical
SFWF	46	C	-1	>4 to -1	7.59	6.37	8.60	No	2.22	Physical
SFWF	46	D	-1	>4 to -1	9.62	8.37	10.17	No	1.80	Physical
SFWF	47	A	-1	>4 to -1	5.44	4.01	6.40	No	2.39	Physical
SFWF	47	B	-1	>4 to -1	5.77	5.46	6.00	No	0.55	Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	47	C	-1	>4 to -1	5.72	5.21	6.14	No	0.92	Biological
SFWF	48	A	-2	>4 to -2	7.27	5.31	9.20	No	3.89	Physical
SFWF	48	B	-3	>4 to -3	2.49	2.16	2.86	No	0.70	Physical
SFWF	48	C	-4	>4 to -4	6.21	4.57	7.82	No	3.26	Physical
SFWF	49	A	1	>4 to 1	4.73	4.39	4.89	No	0.50	Physical/ Biological
SFWF	49	B	1	>4 to 1	6.45	5.85	6.84	No	0.99	Physical/ Biological
SFWF	49	C	1	>4 to 1	3.99	2.99	5.74	No	2.75	Physical/ Biological
SFWF	50	A	-3	>4 to -3	4.11	3.24	4.81	No	1.57	Physical
SFWF	50	C	1	>4 to 1	2.93	2.29	3.87	No	1.58	Biological
SFWF	50	D	1	>4 to 1	5.77	5.06	6.08	No	1.02	Biological
SFWF	51	A	-1	>4 to -1	4.97	3.32	6.18	No	2.86	Physical
SFWF	51	B	-6	>4 to -6	0.00	0.00	0.00	No	IND	Physical
SFWF	51	D	-4	>4 to -4	0.00	0.00	0.00	No	IND	Physical
SFWF	52	A	-2	>4 to -2	4.50	2.34	6.41	No	4.07	Physical
SFWF	52	B	-3	>4 to -3	5.16	4.17	6.33	No	2.16	Physical
SFWF	52	C	-2	>4 to -2	3.68	1.51	5.33	No	3.82	Physical
SFWF	53	A	1	>4 to 1	4.20	3.23	4.90	No	1.67	Physical
SFWF	53	B	1	>4 to 1	5.11	4.18	5.85	No	1.67	Biological
SFWF	53	C	1	>4 to 1	5.41	4.95	5.76	No	0.81	Biological
SFWF	54	A	0	>4 to 0	7.95	6.42	8.85	No	2.44	Physical
SFWF	54	B	1	>4 to 1	1.62	0.61	2.33	No	1.72	Biological
SFWF	54	C	1	>4 to 1	0.96	0.22	1.81	No	1.58	Biological
SFWF	55	A	-4	>4 to -4	3.49	3.15	4.29	No	1.15	Physical
SFWF	55	B	-1	>4 to -1	6.13	5.37	7.17	No	1.81	Physical
SFWF	55	C	-4	>4 to -4	4.30	3.05	5.01	No	1.96	Physical
SFWF	56	A	-7	>4 to -7	2.00	0.71	2.35	No	1.63	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	56	B	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	56	D	-6	>4 to -6	0.00	0.00	0.00	No	IND	Physical
SFWF	57	A	-6	>4 to -6	0.00	0.00	0.00	No	IND	Physical
SFWF	57	C	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	57	D	-1	>4 to -1	2.39	0.11	3.72	No	3.61	Physical
SFWF	58	A	-1	>4 to -1	7.25	3.78	10.35	No	6.57	Physical
SFWF	58	C	-1	>4 to -1	6.09	4.99	7.03	No	2.03	Physical
SFWF	58	D	-1	>4 to -1	7.36	6.23	8.55	No	2.33	Physical
SFWF	59	A	-2	>4 to -2	3.44	2.52	4.54	No	2.02	Physical
SFWF	59	B	-1	>4 to -1	3.80	3.05	4.81	No	1.76	Physical
SFWF	59	C	-1	>4 to -1	5.66	3.79	7.24	No	3.45	Physical
SFWF	60	A	1	>4 to 1	0.00	0.00	0.00	No	IND	IND
SFWF	60	B	0	>4 to 0	4.41	2.90	6.43	No	3.53	Physical
SFWF	60	C	0	>4 to 0	2.84	0.15	5.82	No	5.67	Physical
SFWF	61	A	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	61	B	-3	>4 to -3	0.00	0.00	0.00	No	IND	Physical
SFWF	61	C	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	62	A	-1	>4 to -1	3.21	2.18	4.13	No	1.95	Biological
SFWF	62	B	-2	>4 to -2	0.00	0.00	0.00	No	IND	Physical
SFWF	62	C	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	63	B	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	63	C	-5	>4 to -5	1.40	0.11	2.37	No	2.26	Physical
SFWF	63	D	-4	>4 to -4	1.98	1.52	2.36	No	0.84	Biological
SFWF	64	A	-1	>4 to -1	1.28	0.00	4.26	No	4.26	Physical
SFWF	64	B	0	>4 to 0	2.29	0.00	5.78	No	5.78	Physical
SFWF	64	D	0	>4 to 0	0.77	0.11	1.72	No	1.61	Physical
SFWF	65	A	-1	>4 to -1	5.08	4.56	5.85	No	1.29	Biological
SFWF	65	B	-2	>4 to -2	6.85	6.38	7.41	No	1.03	Physical
SFWF	65	C	-1	>4 to -1	10.43	9.84	10.83	No	1.00	Physical
SFWF	66	B	0	>4 to 0	3.62	2.82	4.00	No	1.18	Physical
SFWF	66	C	-2	>4 to -2	6.89	4.55	8.25	No	3.71	Physical
SFWF	66	D	-1	>4 to -1	6.20	4.66	8.02	No	3.36	Physical
SFWF	67	B	-1	>4 to -1	3.85	2.44	5.12	No	2.68	Physical
SFWF	67	C	-1	>4 to -1	5.36	2.41	8.38	No	5.97	Physical

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SFWF	67	D	-1	>4 to -1	4.33	3.44	5.23	No	1.79	Physical
SFWF	68	A	-1	>4 to -1	11.32	10.54	12.20	No	1.66	Physical
SFWF	68	B	<-8	>4 to <-8	0.00	0.00	0.00	No	IND	Physical
SFWF	68	D	1	>4 to 1	3.05	2.37	3.72	No	1.35	Physical
SFWF	69	A	-3	>4 to -3	4.66	4.34	6.08	No	1.75	Physical
SFWF	69	B	-1	>4 to -1	8.30	6.84	9.14	No	2.30	Physical
SFWF	69	C	-1	>4 to -1	4.58	4.02	6.01	No	1.99	Physical
SFWF	70	A	IND	>4 to IND	0.00	0.00	0.00	No	IND	Physical
SFWF	70	B	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFWF	70	D	0	>4 to 0	1.37	0.00	2.61	No	2.61	Physical
SFWF	71	A	-2	>4 to -2	5.35	3.47	7.17	No	3.70	Physical
SFWF	71	B	-2	>4 to -2	7.98	5.86	9.53	No	3.67	Physical
SFWF	71	C	-1	>4 to -1	3.22	2.28	4.20	No	1.92	Physical
SFWF	72	A	-1	>4 to -1	4.99	4.74	5.44	No	0.71	Physical
SFWF	72	B	-1	>4 to -1	7.93	5.01	9.64	No	4.63	Physical
SFWF	72	C	-1	>4 to -1	7.50	6.13	8.51	No	2.38	Physical
SFWF	73	A	-1	>4 to -1	8.60	7.50	10.14	No	2.63	Physical
SFWF	73	B	-1	>4 to -1	7.80	6.85	8.63	No	1.78	Physical
SFWF	73	C	-1	>4 to -1	10.48	10.23	10.70	No	0.47	Physical
SFWF	74	A	-1	>4 to -1	2.54	0.00	4.19	No	4.19	Physical
SFWF	74	C	-1	>4 to -1	3.30	0.00	5.96	No	5.96	Physical
SFWF	74	D	-3	>4 to -3	8.72	6.65	10.65	No	4.00	Physical
SFWF	75	A	-2	>4 to -2	8.76	8.01	9.42	No	1.42	Physical
SFWF	75	B	-4	>4 to -4	4.01	2.97	4.64	No	1.67	Physical
SFWF	75	D	-1	>4 to -1	9.12	8.36	9.82	No	1.46	Physical
SFWF	76	A	-1	>4 to -1	8.32	6.15	10.17	No	4.02	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	76	B	-1	>4 to -1	5.11	4.19	5.94	No	1.75	Physical
SFWF	76	D	-1	>4 to -1	4.73	2.41	6.65	No	4.24	Physical
SFWF	201	A	-4	>4 to -4	3.45	2.90	3.84	No	0.94	Physical
SFWF	201	B	-6	>4 to -6	5.28	4.17	6.14	No	1.96	Physical
SFWF	201	C	-3	>4 to -3	3.57	3.07	4.06	No	0.99	Physical
SFWF	202	A	0	>4 to 0	11.07	10.51	11.47	No	0.95	Biological
SFWF	202	B	0	>4 to 0	9.34	8.30	10.66	No	2.36	Biological
SFWF	202	C	0	>4 to 0	10.12	9.22	10.85	No	1.63	Biological
SFWF	203	B	-5	>4 to -5	11.99	9.98	12.88	No	2.90	Physical
SFWF	203	C	-3	>4 to -3	13.52	12.82	14.31	No	1.48	Physical
SFWF	203	D	-3	>4 to -3	6.82	5.59	7.61	No	2.01	Physical
SFWF	204	A	-5	IND to -5	0.00	0.00	0.00	No	IND	IND
SFWF	204	B	-5	IND to -5	0.00	0.00	0.00	No	IND	IND
SFWF	204	C	-5	IND to -5	0.00	0.00	0.00	No	IND	IND
SFWF	205	A	-5	>4 to -5	1.55	1.19	1.93	No	0.74	Physical
SFWF	205	B	-1	>4 to -1	3.47	1.05	5.31	No	4.26	Physical
SFWF	205	C	-5	>4 to -5	3.52	0.22	6.15	No	5.93	Physical
SFWF	206	A	-1	>4 to -1	1.78	1.08	2.59	No	1.51	Physical
SFWF	206	C	-1	>4 to -1	0.90	0.40	1.45	No	1.05	Physical
SFWF	206	D	-5	>4 to -5	3.78	3.29	5.08	No	1.79	Physical/ Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	207	A	-4	>4 to -4	3.23	2.71	3.96	No	1.25	Physical
SFWF	207	B	-3	>4 to -3	9.42	8.89	10.46	No	1.57	Physical
SFWF	207	C	-3	>4 to -3	3.66	3.09	4.87	No	1.78	Physical
SFWF	208	A	0	>4 to 0	5.24	4.09	6.57	No	2.48	Physical
SFWF	208	B	1	>4 to 1	4.47	3.48	5.35	No	1.87	Physical
SFWF	208	C	1	>4 to 1	7.20	6.26	8.07	No	1.82	Physical
SFWF	209	B	-1	>4 to -1	9.45	8.67	10.70	No	2.03	Physical
SFWF	209	C	-1	>4 to -1	7.68	7.08	8.20	No	1.12	Physical
SFWF	209	D	-2	>4 to -2	17.46	14.65	18.82	No	4.17	Physical
SFWF	210	A	-1	>4 to -1	5.24	5.00	5.87	No	0.88	Physical
SFWF	210	B	-2	>4 to -2	7.51	6.42	8.24	No	1.82	Physical
SFWF	210	C	0	>4 to 0	5.82	5.19	6.37	No	1.18	Physical
SFWF	211	A	-3	>4 to -3	8.09	6.60	8.85	No	2.25	Physical
SFWF	211	B	0	>4 to 0	7.59	5.78	8.27	No	2.49	Physical
SFWF	211	C	-1	>4 to -1	5.13	4.31	5.55	No	1.24	Physical
SFWF	212	A	-2	3 to -2	11.82	10.71	12.30	No	1.59	Physical
SFWF	212	C	-2	>4 to -2	2.89	1.49	4.49	No	3.00	Physical
SFWF	212	D	-2	>4 to -2	7.16	4.96	10.18	No	5.23	Physical
SFWF	213	A	-5	IND to -5	0.00	0.00	0.00	No	IND	IND
SFWF	213	B	-1	3 to -1	6.53	4.19	8.14	No	3.95	Physical
SFWF	213	C	IND	IND to IND	0.00	0.00	0.00	No	IND	IND

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	214	B	-1	3 to -1	7.54	5.24	8.63	No	3.39	Physical
SFWF	214	C	-3	>4 to -3	6.76	4.78	8.90	No	4.12	Physical
SFWF	214	D	-2	>4 to -2	8.78	7.82	9.09	No	1.28	Physical
SFWF	215	A	-3	>4 to -3	7.28	5.11	8.18	No	3.07	Physical
SFWF	215	B	-4	>4 to -4	4.61	1.06	6.83	No	5.77	Physical
SFWF	215	C	-4	>4 to -4	4.83	3.91	5.91	No	2.00	Physical
SFWF	216	A	-3	3 to -3	9.39	9.08	9.61	No	0.52	Physical
SFWF	216	B	-2	3 to -2	9.44	8.46	10.30	No	1.85	Physical
SFWF	216	C	-2	3 to -2	9.81	8.31	10.36	No	2.05	Physical
SFWF	217	A	-2	>4 to -2	7.57	6.34	9.22	No	2.88	Physical
SFWF	217	C	-3	>4 to -3	8.37	7.28	9.81	No	2.53	Physical
SFWF	217	D	-5	>4 to -5	5.17	3.40	7.47	No	4.07	Physical
SFWF	218	A	-3	>4 to -3	9.46	7.31	11.40	No	4.09	Physical
SFWF	218	B	-1	>4 to -1	10.69	8.11	11.97	No	3.86	Physical
SFWF	218	C	1	>4 to 1	7.31	5.53	8.11	No	2.57	Physical
SFWF	219	A	-3	>4 to -3	5.16	2.95	7.09	No	4.14	Physical
SFWF	219	B	-3	>4 to -3	2.70	0.00	4.03	No	4.03	Physical
SFWF	219	C	-4	>4 to -4	2.16	0.00	5.55	No	5.55	Physical
SFWF	220	A	-2	>4 to -2	4.56	4.09	4.82	No	0.74	Physical
SFWF	220	B	-3	>4 to -3	7.82	6.98	8.77	No	1.78	Physical
SFWF	C01	A	-4	>4 to -4	3.99	1.69	6.27	No	4.58	Physical
SFWF	C01	B	-4	>4 to -4	3.66	2.50	4.19	No	1.69	Physical
SFWF	C01	C	-2	>4 to -2	5.03	4.66	5.17	No	0.51	Physical
SFWF	C01	D	-3	>4 to -3	4.31	2.64	5.29	No	2.64	Physical
SFWF	C01	E	-1	>4 to -1	4.57	3.74	5.17	No	1.43	Physical
SFWF	C02	A	0	>4 to 0	6.54	6.16	6.77	No	0.61	Physical
SFWF	C02	B	0	>4 to 0	5.97	4.57	6.64	No	2.07	Physical

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Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFWF	C02	C	0	>4 to 0	5.51	4.50	6.19	No	1.69	Physical
SFWF	C02	E	0	>4 to 0	6.65	6.02	7.12	No	1.10	Physical
SFWF	C02	F	0	>4 to 0	4.33	4.08	4.63	No	0.56	Physical
SFEC-OCS	101	A	-5	>4 to -5	0.76	0.50	1.09	No	0.59	Physical
SFEC-OCS	101	C	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFEC-OCS	101	D	-2	>4 to -2	0.00	0.00	0.00	No	IND	Physical
SFEC-OCS	102	A	1	>4 to 1	0.86	0.00	1.77	No	1.77	Physical
SFEC-OCS	102	B	IND	>4 to IND	0.00	0.00	0.00	No	IND	Physical
SFEC-OCS	102	D	-5	>4 to -5	0.00	0.00	0.00	No	IND	Physical
SFEC-OCS	103	A	2	>4 to 2	5.52	5.16	5.90	No	0.74	Biological
SFEC-OCS	103	B	2	>4 to 2	5.06	4.00	5.77	No	1.77	Biological
SFEC-OCS	103	D	2	>4 to 2	9.27	9.05	9.71	No	0.66	Biological
SFEC-OCS	104	A	1	>4 to 1	2.53	2.13	2.97	No	0.84	Physical
SFEC-OCS	104	B	IND	>4 to IND	0.00	0.00	0.00	No	IND	Physical
SFEC-OCS	104	D	0	>4 to 0	2.45	0.50	4.87	No	4.37	Physical/ Biological
SFEC-OCS	105	A	1	>4 to 1	2.47	1.90	3.11	No	1.21	Physical
SFEC-OCS	105	B	1	>4 to 1	3.27	2.89	3.84	No	0.95	Physical
SFEC-OCS	105	C	1	>4 to 1	6.41	5.56	6.71	No	1.16	Biological
SFEC-OCS	106	A	-1	>4 to -1	3.36	1.03	5.70	No	4.67	Physical
SFEC-OCS	106	B	-1	>4 to -1	6.07	5.78	6.51	No	0.74	Physical
SFEC-OCS	106	C	-1	>4 to -1	4.41	3.51	5.15	No	1.64	Physical
SFEC-OCS	107	A	-5	>4 to -5	2.13	1.34	3.04	No	1.70	Physical
SFEC-OCS	107	B	-2	>4 to -2	8.11	7.82	8.69	No	0.88	Physical
SFEC-OCS	107	C	-2	>4 to -2	9.31	6.28	10.58	No	4.30	Physical
SFEC-OCS	108	A	-1	>4 to -1	1.53	0.40	2.40	No	2.00	Physical
SFEC-OCS	108	C	-1	>4 to -1	4.62	3.36	5.96	No	2.60	Physical
SFEC-OCS	108	D	-1	>4 to -1	3.64	2.89	4.14	No	1.25	Physical
SFEC-OCS	109	A	-4	>4 to -4	5.46	3.91	7.48	No	3.57	Physical
SFEC-OCS	109	B	-4	>4 to -4	4.97	3.52	5.56	No	2.05	Physical
SFEC-OCS	109	D	-4	>4 to -4	4.79	4.24	5.46	No	1.22	Physical

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Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	110	A	-1	>4 to -1	4.23	3.32	4.64	No	1.32	Physical
SFEC-OCS	110	B	-2	>4 to -2	2.48	1.65	3.80	No	2.16	Physical
SFEC-OCS	110	C	-2	>4 to -2	6.48	6.01	6.80	No	0.79	Physical
SFEC-OCS	111	B	-2	>4 to -2	11.94	11.21	12.23	No	1.02	Physical
SFEC-OCS	111	C	-1	>4 to -1	3.88	3.59	4.10	No	0.51	Physical
SFEC-OCS	111	D	-4	>4 to -4	5.28	4.43	5.83	No	1.40	Physical
SFEC-OCS	112	A	-3	>4 to -3	3.12	2.51	4.07	No	1.57	Physical
SFEC-OCS	112	B	-2	>4 to -2	5.49	4.76	6.07	No	1.31	Physical
SFEC-OCS	112	C	-2	>4 to -2	5.47	3.06	7.58	No	4.53	Physical
SFEC-OCS	113	A	-2	>4 to -2	7.55	6.21	8.68	No	2.47	Physical/ Biological
SFEC-OCS	113	B	-1	>4 to -1	1.43	0.13	2.02	No	1.89	Physical/ Biological
SFEC-OCS	113	D	-1	>4 to -1	8.71	7.89	9.16	No	1.27	Physical
SFEC-OCS	114	A	-1	>4 to -1	4.63	3.83	5.20	No	1.37	Physical/ Biological
SFEC-OCS	114	B	-1	>4 to -1	6.03	4.65	7.00	No	2.34	Physical/ Biological
SFEC-OCS	114	C	-1	>4 to -1	5.63	2.10	8.02	No	5.92	Physical
SFEC-OCS	115	A	-2	>4 to -2	4.82	4.33	5.27	No	0.94	Physical
SFEC-OCS	115	B	-2	>4 to -2	1.74	0.31	3.58	No	3.27	Physical
SFEC-OCS	115	C	-2	>4 to -2	6.40	5.58	7.30	No	1.72	Physical
SFEC-OCS	116	A	-2	>4 to -2	6.74	6.24	7.26	No	1.02	Physical
SFEC-OCS	116	C	-2	>4 to -2	6.09	5.73	6.54	No	0.81	Physical
SFEC-OCS	116	D	-2	>4 to -2	6.18	5.45	6.98	No	1.53	Physical
SFEC-OCS	117	A	-2	>4 to -2	8.17	6.37	8.83	No	2.46	Physical
SFEC-OCS	117	B	-2	>4 to -2	3.45	2.92	4.19	No	1.27	Physical
SFEC-OCS	117	C	-2	>4 to -2	7.38	6.65	7.78	No	1.13	Physical
SFEC-OCS	118	A	1	>4 to 1	4.22	3.25	5.34	No	2.10	Physical/ Biological
SFEC-OCS	118	B	0	>4 to 0	4.81	4.62	4.99	No	0.37	Physical/ Biological

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Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	118	C	1	>4 to 1	4.82	4.30	5.18	No	0.88	Biological
SFEC-OCS	119	A	0	>4 to 0	8.37	8.00	8.87	No	0.87	Biological
SFEC-OCS	119	B	0	>4 to 0	5.35	4.73	5.91	No	1.18	Biological
SFEC-OCS	119	C	-1	>4 to -1	4.40	3.99	4.66	No	0.67	Biological
SFEC-OCS	120	A	1	>4 to 1	5.48	3.66	6.40	No	2.75	Physical/ Biological
SFEC-OCS	120	B	1	>4 to 1	4.81	4.15	5.10	No	0.95	Physical/ Biological
SFEC-OCS	120	C	1	>4 to 1	4.52	3.96	5.06	No	1.09	Physical/ Biological
SFEC-OCS	121	A	1	>4 to 1	6.46	5.74	6.94	No	1.19	Biological
SFEC-OCS	121	B	0	>4 to 0	7.57	7.12	8.10	No	0.98	Biological
SFEC-OCS	121	D	0	>4 to 0	4.06	3.70	4.35	No	0.65	Biological
SFEC-OCS	122	A	0	>4 to 0	4.34	3.27	6.28	No	3.01	Physical/ Biological
SFEC-OCS	122	B	0	>4 to 0	3.92	1.77	5.31	No	3.54	Physical
SFEC-OCS	122	C	0	>4 to 0	4.53	4.20	4.92	No	0.73	Physical
SFEC-OCS	123	A	-4	>4 to -4	3.26	2.16	3.80	No	1.64	Physical
SFEC-OCS	123	B	-3	>4 to -3	5.34	4.71	6.18	No	1.47	Physical
SFEC-OCS	123	D	-3	>4 to -3	6.39	4.73	7.62	No	2.89	Physical
SFEC-OCS	124	A	0	>4 to 0	3.57	3.18	3.87	No	0.69	Physical
SFEC-OCS	124	B	0	>4 to 0	3.43	3.03	4.54	No	1.50	Biological
SFEC-OCS	124	C	0	>4 to 0	3.81	2.68	4.89	No	2.21	Physical/ Biological
SFEC-OCS	125	A	1	>4 to 1	5.05	4.63	5.41	No	0.78	Biological
SFEC-OCS	125	C	1	>4 to 1	5.06	4.70	5.56	No	0.86	Biological

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Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	125	D	1	>4 to 1	5.29	4.87	5.89	No	1.03	Biological
SFEC-OCS	126	A	0	>4 to 0	6.05	5.48	6.28	No	0.81	Physical
SFEC-OCS	126	B	0	>4 to 0	4.61	4.16	4.81	No	0.65	Physical
SFEC-OCS	126	D	0	>4 to 0	3.73	2.06	4.49	No	2.43	Physical
SFEC-OCS	127	A	0	>4 to 0	3.26	2.48	4.71	No	2.23	Physical
SFEC-OCS	127	B	0	>4 to 0	4.28	3.71	5.25	No	1.53	Physical
SFEC-OCS	127	C	0	>4 to 0	5.76	4.78	6.84	No	2.06	Physical
SFEC-OCS	128	A	-1	>4 to -1	3.10	2.07	3.63	No	1.56	Physical
SFEC-OCS	128	B	-1	>4 to -1	4.68	3.33	5.88	No	2.55	Physical/ Biological
SFEC-OCS	128	C	-1	>4 to -1	4.88	4.03	5.32	No	1.29	Physical/ Biological
SFEC-OCS	129	A	2	>4 to 2	7.39	6.14	8.40	No	2.26	Biological
SFEC-OCS	129	B	2	>4 to 2	8.66	8.51	8.78	No	0.27	Biological
SFEC-OCS	129	D	2	>4 to 2	9.85	9.53	10.16	No	0.63	Biological
SFEC-OCS	130	B	0	>4 to 0	4.65	4.21	4.96	No	0.75	Biological
SFEC-OCS	130	C	0	>4 to 0	6.01	5.30	6.44	No	1.14	Biological
SFEC-OCS	130	D	1	>4 to 1	6.18	5.78	6.33	No	0.55	Biological
SFEC-OCS	131	B	1	>4 to 1	4.95	4.46	5.28	No	0.83	Biological
SFEC-OCS	131	C	0	>4 to 0	3.57	2.89	4.29	No	1.40	Biological
SFEC-OCS	131	D	-1	>4 to -1	4.30	0.99	7.15	No	6.15	Physical
SFEC-OCS	132	A	-4	>4 to -4	4.05	1.89	5.84	No	3.94	Physical
SFEC-OCS	132	B	-4	>4 to -4	3.01	2.37	4.00	No	1.64	Physical
SFEC-OCS	132	C	-4	>4 to -4	3.75	2.74	4.54	No	1.80	Physical
SFEC-OCS	133	A	-3	>4 to -3	5.69	5.09	6.51	No	1.42	Physical
SFEC-OCS	133	B	-3	>4 to -3	3.60	1.22	3.86	No	2.64	Physical
SFEC-OCS	133	D	-2	>4 to -2	9.66	8.58	10.26	No	1.67	Physical
SFEC-OCS	134	A	-3	>4 to -3	3.31	1.89	4.46	No	2.56	Physical
SFEC-OCS	134	B	-2	>4 to -2	3.92	2.95	4.39	No	1.44	Physical

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Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	134	D	-5	>4 to -5	3.97	2.50	5.01	No	2.51	Physical
SFEC-OCS	135	A	-1	>4 to -1	1.56	0.18	3.26	No	3.09	Physical
SFEC-OCS	135	B	-1	>4 to -1	4.88	2.32	7.32	No	5.00	Physical
SFEC-OCS	135	C	-1	>4 to -1	5.00	2.94	6.61	No	3.67	Physical
SFEC-OCS	136	B	-1	>4 to -1	4.43	2.42	6.84	No	4.43	Physical
SFEC-OCS	136	C	-3	>4 to -3	7.49	5.54	10.21	No	4.67	Physical
SFEC-OCS	136	D	0	>4 to 0	5.05	4.69	5.35	No	0.66	Physical
SFEC-OCS	137	A	-1	>4 to -1	2.90	2.45	3.43	No	0.98	Biological
SFEC-OCS	137	B	-2	>4 to -2	8.03	7.64	8.27	No	0.63	Physical
SFEC-OCS	137	C	-2	>4 to -2	4.53	3.97	5.01	No	1.04	Physical
SFEC-OCS	138	A	0	>4 to 0	10.21	9.63	10.68	No	1.05	Physical
SFEC-OCS	138	B	0	>4 to 0	5.56	4.50	6.87	No	2.37	Physical
SFEC-OCS	138	D	0	>4 to 0	8.80	7.38	9.13	No	1.75	Physical
SFEC-OCS	139	A	0	>4 to 0	6.72	3.51	9.64	No	6.13	Physical
SFEC-OCS	139	C	0	>4 to 0	3.90	3.79	4.38	No	0.59	Physical
SFEC-OCS	139	D	0	>4 to 0	0.96	0.67	1.34	No	0.67	Physical
SFEC-OCS	140	A	0	>4 to 0	3.33	2.77	3.61	No	0.84	Physical
SFEC-OCS	140	B	0	>4 to 0	6.17	5.71	6.55	No	0.84	Biological
SFEC-OCS	140	C	0	>4 to 0	7.19	6.48	7.45	No	0.97	Biological
SFEC-OCS	141	A	0	>4 to 0	4.48	2.88	5.77	No	2.88	Physical/ Biological
SFEC-OCS	141	C	-2	>4 to -2	6.06	4.53	7.42	No	2.89	Physical
SFEC-OCS	141	D	0	>4 to 0	6.36	4.61	7.71	No	3.10	Physical
SFEC-OCS	142	B	-1	>4 to -1	6.06	5.45	6.65	No	1.20	Biological
SFEC-OCS	142	C	-1	>4 to -1	6.24	5.83	6.55	No	0.71	Biological
SFEC-OCS	142	D	-1	>4 to -1	4.91	3.18	5.80	No	2.62	Physical/ Biological
SFEC-OCS	146	C	-1	>4 to -1	6.38	5.79	6.91	No	1.12	Biological
SFEC-OCS	146	E	-1	>4 to -1	5.62	2.75	7.64	No	4.89	Physical
SFEC-OCS	146	F	-1	>4 to -1	4.32	4.01	4.50	No	0.48	Physical
SFEC-OCS	147	A	-1	>4 to -1	5.08	3.52	6.37	No	2.84	Physical
SFEC-OCS	147	B	-1	>4 to -1	7.51	6.99	7.78	No	0.78	Physical
SFEC-OCS	147	C	-1	>4 to -1	6.58	5.63	7.14	No	1.51	Physical
SFEC-OCS	148	A	0	>4 to 0	4.52	3.81	5.09	No	1.27	Biological
SFEC-OCS	148	B	0	>4 to 0	4.62	4.21	5.02	No	0.81	Biological
SFEC-OCS	148	C	0	>4 to 0	5.68	4.09	6.35	No	2.26	Biological
SFEC-OCS	149	A	0	>4 to 0	3.81	2.80	5.61	No	2.81	Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	149	B	0	>4 to 0	5.05	4.32	5.73	No	1.41	Biological
SFEC-OCS	149	C	0	>4 to 0	5.42	5.17	5.74	No	0.57	Biological
SFEC-OCS	150	A	0	>4 to 0	2.85	2.42	3.33	No	0.90	Biological
SFEC-OCS	150	B	0	>4 to 0	4.18	3.49	4.63	No	1.14	Biological
SFEC-OCS	150	C	0	>4 to 0	3.19	2.58	3.82	No	1.25	Biological
SFEC-OCS	151	B	-4	>4 to -4	3.28	2.09	3.93	No	1.84	Physical/ Biological
SFEC-OCS	151	C	-5	>4 to -5	2.59	1.58	4.06	No	2.47	Physical/ Biological
SFEC-OCS	151	D	IND	>4 to IND	2.93	2.16	3.61	No	1.45	Physical/ Biological
SFEC-OCS	152	A	-1	>4 to -1	4.09	3.19	5.14	No	1.95	Physical/ Biological
SFEC-OCS	152	B	-1	>4 to -1	7.00	5.74	8.40	No	2.66	Physical
SFEC-OCS	152	C	IND	IND to IND	0.00	0.00	0.00	No	IND	IND
SFEC-OCS	153	A	1	>4 to 1	3.03	2.59	3.54	No	0.95	Biological
SFEC-OCS	153	B	1	>4 to 1	4.67	4.27	4.99	No	0.72	Biological
SFEC-OCS	153	C	1	>4 to 1	3.76	3.15	4.28	No	1.13	Biological
SFEC-OCS	154	A	1	>4 to 1	4.89	3.26	5.91	No	2.65	Biological
SFEC-OCS	154	B	1	>4 to 1	5.53	5.17	6.16	No	0.99	Biological
SFEC-OCS	154	C	0	>4 to 0	3.97	3.76	4.27	No	0.50	Biological
SFEC-OCS	155	A	1	>4 to 1	2.70	2.42	3.27	No	0.84	Biological
SFEC-OCS	155	B	0	>4 to 0	3.52	3.15	3.78	No	0.63	Biological
SFEC-OCS	155	C	0	>4 to 0	3.59	3.17	3.80	No	0.64	Biological
SFEC-OCS	156	B	0	>4 to 0	14.83	14.11	15.92	No	1.81	Biological
SFEC-OCS	156	C	2	>4 to 2	9.61	7.22	10.64	No	3.42	Physical
SFEC-OCS	156	D	0	>4 to 0	17.55	17.21	17.72	No	0.50	Biological
SFEC-OCS	157	A	0	>4 to 0	4.03	3.72	4.15	No	0.43	Biological

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
SFEC-OCS	157	B	0	>4 to 0	3.57	2.78	4.14	No	1.36	Biological
SFEC-OCS	157	C	0	>4 to 0	5.38	4.39	5.79	No	1.40	Biological
SFEC-NYS	143	A	0	>4 to 0	4.46	4.20	4.71	No	0.51	Biological
SFEC-NYS	143	B	0	>4 to 0	4.80	4.36	5.12	No	0.76	Biological
SFEC-NYS	143	C	0	>4 to 0	9.95	9.37	10.24	No	0.87	Biological
SFEC-NYS	144	A	-1	>4 to -1	5.36	3.74	5.94	No	2.20	Physical
SFEC-NYS	144	B	-1	>4 to -1	4.31	3.75	5.09	No	1.34	Physical
SFEC-NYS	144	C	-1	>4 to -1	5.76	5.44	5.97	No	0.53	Physical
SFEC-NYS	145	A	0	>4 to 0	4.06	0.93	6.89	No	5.96	Physical/ Biological
SFEC-NYS	145	B	0	>4 to 0	2.55	2.17	3.01	No	0.84	Physical/ Biological
SFEC-NYS	145	C	-1	>4 to -1	6.81	4.40	9.27	No	4.87	Physical/ Biological
SFEC-NYS	158	A	0	>4 to 0	5.26	4.70	5.43	No	0.73	Physical/ Biological
SFEC-NYS	158	B	0	>4 to 0	2.84	2.62	3.13	No	0.51	Physical/ Biological
SFEC-NYS	158	C	0	>4 to 0	5.02	4.07	5.55	No	1.48	Physical
SFEC-NYS	159	A	-1	>4 to -1	11.84	11.39	12.20	No	0.81	Biological
SFEC-NYS	159	B	0	>4 to 0	10.35	9.64	10.77	No	1.13	Biological
SFEC-NYS	159	D	-2	>4 to -2	7.36	6.62	7.78	No	1.16	Physical
SFEC-NYS	160	A	1	>4 to 1	6.65	5.46	7.94	No	2.48	Physical
SFEC-NYS	160	B	1	>4 to 1	7.12	5.66	8.01	No	2.34	Physical
SFEC-NYS	160	C	1	>4 to 1	4.08	3.74	5.14	No	1.40	Physical
Reference	C03	A	-1	>4 to -1	6.20	5.50	6.57	No	1.07	Physical
Reference	C03	B	-1	>4 to -1	4.97	2.85	7.50	No	4.65	Physical
Reference	C03	C	-1	>4 to -1	5.96	3.85	6.75	No	2.90	Physical
Reference	C03	D	0	>4 to 0	4.97	4.05	5.45	No	1.40	Physical
Reference	C03	E	0	>4 to 0	9.97	8.77	11.12	No	2.34	Physical

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Grain Size Maximum (phi)	Grain Size Range (phi)	Penetration Mean (cm)	Penetration Minimum (cm)	Penetration Maximum (cm)	Over-penetration?	Boundary Roughness (cm)	Boundary Roughness Type
Reference	C04	A	0	>4 to 0	3.90	3.47	4.55	No	1.09	Physical
Reference	C04	B	0	>4 to 0	4.99	4.27	5.88	No	1.62	Physical
Reference	C04	C	0	>4 to 0	5.29	4.76	6.72	No	1.96	Physical
Reference	C04	D	0	>4 to 0	4.75	4.02	5.36	No	1.34	Physical
Reference	C04	E	0	>4 to 0	8.88	7.19	9.47	No	2.28	Physical
Reference	C05	A	-1	>4 to -1	5.40	4.50	6.12	No	1.63	Physical
Reference	C05	B	0	>4 to 0	0.78	0.00	1.57	No	1.57	Physical
Reference	C05	C	-6	>4 to -6	0.37	0.00	0.87	No	0.87	Physical
Reference	C05	D	0	>4 to 0	5.36	3.31	7.60	No	4.29	Physical
Reference	C05	E	0	>4 to 0	5.20	3.41	6.22	No	2.82	Physical

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Area	Station ID	Replicate	Comment
SFWF	1	A	Multicolored coarse sand appears rippled in long-scale waveform. Thin drape of mud in trough of ripple. No fauna visible. Shallow penetration.
SFWF	1	B	Pale tan medium sand with coarse pebbles at SWI. Small shell fragments at SWI. Two small aggregations of mud to far right of image. Shallow penetration.
SFWF	1	C	Pale tan medium sand with many coarse pebbles, and single cobble at SWI. No fauna visible. Very shallow penetration.
SFWF	2	A	Tan medium sand with very slight change in brightness in upper 2cm of sediment. Stout tubes at SWI. SWI appears modified by bioturbation. Long burrow halos in sediment column.
SFWF	2	B	Tan medium sand with slightly darker burrow halos visible in sediment structure. Few stout tubes at SWI. SWI is slightly rippled and modified by bioturbation. Few small shell fragments. Shallow penetration.
SFWF	2	C	Tan medium sand with slightly darker burrow halos visible in sediment structure. Few short, thin, tubes at SWI. SWI is slightly rippled and modified by bioturbation.
SFWF	3	A	Tan, fine sand with traces of muddy sediment at SWI. Sediment surface is slightly rippled, with burrow depressions visibly modifying sediment in PV pair. Small thin burrow halos in sediment structure.
SFWF	3	B	Tan, fine sand with very slight darkening of sediment in upper ~1cm of sediment column. Dark burrow halos visible in sediment column. Very small tubes visible on sloping sediment surface. Shallow penetration.
SFWF	3	C	Tan, fine sand with subtle darkened burrow halos visible in sediment column, RPD is not apparent. Traces of mud at SWI. SWI is slightly sloped. Small tubes at SWI. Shallow penetration.
SFWF	4	A	Tan medium sand with slightly darker burrow halos visible in sediment structure. Few stout tubes at SWI. SWI is slightly rippled and modified by bioturbation. Shallow penetration.
SFWF	4	B	Tan fine sand with slightly more luminous aRPD in upper ~1cm of sediment. Very slight ripples in sediment surface. Traces of mud at SWI. Small gastropod at SWI.
SFWF	4	C	Tan fine sand with subtle ripple and thin layer of slightly darker sediment in upper ~1cm of sediment. Long burrow halos of darker sediment in sediment column. Few small tubes in farfield.
SFWF	5	A	Tan fine sand with subtle ripples in sediment column. Thin layer of slightly darker sediment in upper ~1cm of sediment. Long burrow halos in sediment. Very small patch of reduced fines in sediment column.
SFWF	5	B	Tan, fine sand with thin, irregular, drape of fines over SWI. Short tubes, nearly flush with sediment surface. Shallow penetration.
SFWF	5	C	Tan fine sand with ripples in SWI. Thin slightly orange-brown layer in ~1cm sediment with long burrows in sediment column. Small patch of reduced sediment in sediment column. Shrimp and small tubes at SWI.
SFWF	6	A	Tan fine sand with ripples in SWI. Slightly darker sediment in upper ~1cm in sediment column. Small clumps of consolidated fines over SWI. Shallow penetration.
SFWF	6	C	Tan, fine sand with ripple in sediment surface and slightly orange sediment in upper ~1cm in sediment column. Long burrow halos in sediment column. Short tubes at SWI.
SFWF	6	D	Tan, fine sand, with ~2-3 cm thick layer of slightly darker sediment in upper sediment column. Long burrow haloes in sediment column. Very small tube above burrow halo. Small shell fragment at SWI.
SFWF	7	B	Boulder covered with attached hydroids, and barnacles. No penetration.
SFWF	7	C	Silt drape covering coarser underlying sediment. Shell hash and pebbles covering SWI. Small shell with attached organisms near camera prism. No penetration.
SFWF	7	D	Boulder covered with attached hydroids, and barnacles. No penetration.
SFWF	8	A	Tan, fine sand with possible rippling into farfield. Sediment becomes slightly brighter below ~1cm of sediment. No change in grain size throughout image. Slightly darker colored burrows in sediment column. Shallow penetration.

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Area	Station ID	Replicate	Comment
SFWF	8	B	Tan, fine sand with rippling. Slightly darker layer of sediment in upper ~1cm. SWI is studded with stout tubes, nearly flush with SWI. Shallow penetration.
SFWF	8	C	Tan, fine sand with rippling. Slightly darker layer of sediment in upper ~1cm. Long burrow halos visible in sediment column. Very small tubes at SWI. Shallow penetration.
SFWF	9	A	Tan, fine sand. Trace dragdown of pale gray mud obstructs view of aRPD. Dark brown burrow halos in sediment. SWI is covered with dense assemblage of broken tubes. Shallow penetration.
SFWF	9	B	Tan, fine sand. Trace dark gray silt/clay in lower right corner of image. Dark brown burrow halos in sediment. SWI is covered with assemblage of broken tubes. Shallow penetration.
SFWF	9	C	Tan, fine sand. Trace dark gray silt/clay in lower left corner of image. Dark brown burrow halos in sediment. Small tubes at SWI.
SFWF	10	A	Tan, fine sand with very thin drape of mud over SWI. Brown burrow halos visible in sediment column. Few small tubes at SWI. Small shell fragments at SWI.
SFWF	10	B	Tan, fine sand with very thin drape of mud over SWI. Brown burrow halos visible in sediment column. Few small tubes at SWI. Small shell fragments at SWI.
SFWF	10	C	Tan, medium sand with slight but ill-defined change in brightness below SWI. Burrow halos visible in sediment column. SWI appears slightly rippled, with short tubes at SWI.
SFWF	11	A	Tan, medium sand with slight but ill-defined change in brightness below SWI. Burrow halos visible in sediment column. SWI appears rippled, with short tubes and shell fragments at SWI.
SFWF	11	B	Tan, fine sand with traces of mud draped on SWI. Slight color change in upper ~1cm of sediment. Vague burrow halos visible in sediment column.
SFWF	11	C	Tan, fine sand with slight bulge in center of image. Many tubes over SWI.
SFWF	12	A	Tan, silt/clay in upper ~1cm over near black silt/clay. Burrow halos visible in sediment column along with infaunal bodies. Very small methane bubble in center of image, ~1.25cm below SWI. Small tubes visible at SWI.
SFWF	12	C	Tan, fine sand over near black silt/clay. Burrow halos visible in sediment column. Buried shell fragments in sediment. Short tubes at SWI.
SFWF	12	D	Tan silt/clay over dark gray silt/clay with pocket of pale tan fine sand in center of image. Long burrow halos in sediment structure. Small polychaetes visible in sediment column. Small tubes at SWI.
SFWF	13	A	Tan, fine sand with very slight color change below ~1cm. Slightly rippled sediment surface. Short tubes nearly flush with SWI. Shallow penetration.
SFWF	13	B	Tan medium sand with little to no color change throughout sediment column. Short tubes at SWI with small pellets in view.
SFWF	13	C	Tan, fine sand with trace mud at SWI. Long, thin burrow halos in sediment column. Blurry object in midfield, not identifiable.
SFWF	14	A	Tan fine sand grading into near black fines. Orange-tan burrow halos in sediment column. Small patch of fines at SWI to far left. Shallow penetration.
SFWF	14	B	Tan fine sand with trace fines dragged down from SWI. Long thin burrow halos in sediment column are visible. SWI is slightly hummocked with small tubes at SWI.
SFWF	14	C	Tan silt/clay with slightly orange-brown layer about ~.5cm thick in upper sediment column. Underlying band of fine tan sediment in column. Long burrow halos in sediment column with accompanying polychaetes.
SFWF	15	A	Dark tan silt/clay with thin drape of pale tan silt/clay at SWI, and underlying layer of pale gray silt/clay. Buried horizon of very fine sand near penetration maximum. Deep burrows visible in sediment column with polychaete bodies. Short tubes and pellets at SWI. Deep penetration.

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Area	Station ID	Replicate	Comment
SFWF	15	B	Dark tan silt/clay with thin drape of pale tan silt/clay at SWI, and underlying layer of pale gray silt/clay. Buried horizon of very fine sand near penetration maximum. Deep burrows visible in sediment column with polychaete bodies. Long column of pale tan fines streaking vertically through sediment column. Short tubes and pellets at SWI. Deep penetration.
SFWF	15	C	Dark tan silt/clay with thin drape of pale tan silt/clay at SWI, and underlying layer of pale gray silt/clay. Buried horizon of very fine sand near penetration maximum. Deep burrows visible in sediment column with polychaete bodies. Short tubes and pellets at SWI. Deep penetration.
SFWF	16	B	Sub-rounded to sub-angular well sorted very coarse sand. Scant fines at SWI and buried in sediment column. Sediment is rippled.
SFWF	16	C	Sub-rounded to sub-angular well sorted very coarse sand. Scant fines at SWI and buried in sediment column. Sediment surface is rippled with cobble in midfield. Shallow penetration.
SFWF	16	D	Sub-rounded to sub-angular very coarse sand. Fines and rounded pebbles accumulating in ripple troughs. Shallow penetration.
SFWF	17	A	Pale tan coarse sand with very thin drape of silt/clay over SWI. Trace mud dragged into sediment column. Very little penetration.
SFWF	17	B	Pale tan coarse sand with slight rippling at SWI. No change in color or composition throughout sediment column.
SFWF	17	C	Pale tan coarse sand with slight rippling at SWI. No change in color or composition throughout sediment column.
SFWF	18	A	Pale tan, fine sand with cobbles covering much of SWI. Hydroids and barnacles attached to cobbles. Stage 1 tubes floating in water column. Very shallow penetration.
SFWF	18	B	Pale tan, fine sand with few cobbles and shell fragments at SWI. Hydroids attached to cobbles. Stage 1 tubes floating in water column. No penetration.
SFWF	18	D	Pale tan, fine sand with few cobbles at SWI. Barnacles, hydroids and tubes attached to cobbles. Stage 1 tubes floating in water column. Large object (Diopatra tube?) covered with hydroids. No penetration.
SFWF	19	A	Tan sand grading from very coarse near SWI, to medium near penetration maximum. aRPD is not visible in coarse sediment.
SFWF	19	B	Tan sand grading from very coarse near SWI, to medium near penetration maximum. aRPD is not visible in coarse sediment.
SFWF	19	C	Poorly sorted fines with scant pebbles at SWI, coarse and medium sand sediment column. Shallow penetration.
SFWF	20	A	Tan coarse sand with long waveform ripple in SWI. Scant mud at SWI with stage 1 tubes.
SFWF	20	C	Tan coarse sand with slightly wavy SWI. Sediment is slightly coarser near SWI than at penetration maximum.
SFWF	20	D	Tan coarse sand with slightly rippled SWI. Sediment is slightly coarser near SWI than at penetration maximum. Short tube at SWI.
SFWF	21	A	Tan medium sand with slightly undulating SWI. Scant stage 1 tubes at SWI. Shallow penetration.
SFWF	21	B	Tan medium sand with slightly undulating SWI.
SFWF	21	D	Tan medium sand with rippled SWI. Small patch of pale gray sediment ~2.5cm under SWI. Very thin, small, mud patches at SWI. Short tubes on SWI.
SFWF	22	A	Tan medium sand with trace mud at SWI. Very shallow penetration.
SFWF	22	B	Tan medium sand. Small shell fragments at SWI. Partially buried cobble visible in midfield. Most of image width shows no penetration.
SFWF	22	C	Tan, medium sand with trace mud at SWI. Short tubes in at sediment surface. Very shallow penetration.
SFWF	23	A	Tan, medium sand with trace mud at SWI. Close to zero penetration.

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Area	Station ID	Replicate	Comment
SFWF	23	C	Tan, medium sand with slightly rippled SWI. Burrow halos barely visible in sediment column. Small tubes at SWI near prism faceplate. Shallow penetration.
SFWF	23	D	Tan, medium sand with trace mud at SWI. Large hydroid covered cobble at right edge of image. Stage 1 tubes in water column. Close to zero penetration.
SFWF	24	A	Tan, fine sand with trace mud at SWI. Stage 2 tube at SWI, collapsed tubes in farfield.. Close to zero penetration.
SFWF	24	B	Tan, fine sand with slight rise to right edge of SWI. Slightly darker burrow halos visible in sediment column. aRPD is not visible. Stage 2 tubes visible in mid and farfield.
SFWF	24	C	Tan, fine sand with slightly hummocked SWI. Trace mud at SWI. Stage 2 tubes visible in mid and farfield.
SFWF	25	A	Tan very coarse sand with underlying patch of medium sand. Sloped SWI indicating a likely long waveform ripple. Two clumps of cemented sand grains at SWI.
SFWF	25	B	Tan, medium sand with thin drape of mud over SWI and dragged into sediment column. SWI rises to right farfield. Shallow penetration.
SFWF	25	C	Tan, medium sand with trace mud at SWI. SWI is slightly rippled. Stage 1 tubes at SWI and in water column. Shallow penetration.
SFWF	26	A	Tan, fine sand with slightly darker sediment near SWI and burrow halos to penetration maximum. Slight rippling to SWI. Possible tubes at SWI. Shallow penetration.
SFWF	26	B	Tan, fine sand with slightly darker sediment near SWI and burrow halos to penetration maximum. Slight rippling to SWI. Short tubes at SWI. Shallow penetration.
SFWF	26	C	Tan, fine sand with slightly darker sediment near SWI and burrow halos to penetration maximum. aRPD is not discernable. Slight rippling to SWI. Cluster of collapsed tubes in trough of ripple. Shallow penetration.
SFWF	27	A	Tan, fine sand with thin darker burrow halos and underlying layer of pale gray sediment. Trace mud at SWI with small tubes, especially visible in midfield. Few small shell particles at SWI. Shallow penetration.
SFWF	27	B	Tan, fine sand with slightly darker sediment near SWI, barely visible against underlying sediment. Trace mud at SWI. Small tubes at SWI. Shallow penetration.
SFWF	27	C	Tan, medium sand with no color change throughout sediment column. Short tubes at SWI, trace mud at SWI. SWI sloping slightly to left. Shallow penetration.
SFWF	28	A	Tan medium sand with trace mud at SWI. Sediment surface is slightly wavy. No color change through sediment column.
SFWF	28	B	Tan, medium sand with small burrow halos in sediment column. SWI is slightly uneven. Stage 1 tubes visible in water column.
SFWF	28	C	Tan, coarse sand with SWI sloping down to the left edge if image. Sediment column grades slightly finer to penetration maximum. Larger sediment particles scant in sediment column. Short, stout tubes at SWI.
SFWF	29	A	Tan medium sand with trace mud at SWI. Sediment surface slopes down and to left.. No color change through sediment column. Small tubes at farfield SWI.
SFWF	29	B	Tan coarse sand with no color change through sediment column. Grain size grades slightly finer with depth. SWI is slightly rippled.
SFWF	29	D	Tan coarse sand with no color change through sediment column. Grain size grades slightly finer with depth. SWI slopes to left in large ripple crest. Short tube at SWI.
SFWF	30	A	Tan coarse sand with no color change through sediment column. Grain size grades slightly finer with depth. SWI is slightly rippled.
SFWF	30	B	Tan coarse sand with no color change through sediment column. Trace mud at SWI. Small shell particles at SWI, SWI is slightly rippled. Shallow penetration.

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Area	Station ID	Replicate	Comment
SFWF	30	C	Rippled tan coarse sand with surface mud deposit dragged down obscuring sand profile. Oxidic layer in mud was not measured as an aRPD. Hydroid dragged into fines.
SFWF	31	A	Pale tan medium sand with thin drape of mud. SWI is slightly rippled. Very shallow penetration.
SFWF	31	B	Pale tan medium sand over dark gray fines. Trace mud at SWI. Color change in sediment column is likely change in grain size, not true aRPD. Small tubes at SWI. Shallow penetration
SFWF	31	D	Pale tan coarse sand over dark gray fines. Color change in sediment column is likely change in grain size, not true aRPD. Small tubes at SWI. Shallow penetration
SFWF	32	A	Tan fine sand with slightly hummocky SWI draped with trace mud. No color change in sediment column. Small tubes visible at SWI. Shallow penetration.
SFWF	32	B	Tan fine sand with rippled SWI and short tubes. Sediment column features slightly darker burrow halos extending to penetration maximum. Shallow penetration.
SFWF	32	C	Tan fine sand with slightly hummocky SWI draped with trace mud. No color change in sediment column. Small tubes visible at SWI. Shallow penetration.
SFWF	33	A	Rippled tan coarse sand with mud deposited in transected ripple trough. Thin oxidic layer in mud was not measured as an aRPD.
SFWF	33	C	Tan coarse sand with no color change through sediment column. Long wave-form ripple in sediment surface.
SFWF	33	D	Tan coarse sand with no color change through sediment column. Sloping SWI.. Stage 1 and 2 tubes visible at SWI.
SFWF	34	A	Tan, fine sand with hummocky SWI. Collapsed tubes at SWI. Trace mud at SWI. Small shell particles at sediment surface. Very shallow penetration.
SFWF	34	B	Tan, medium sand with ripple sloping upwards into farfield. Pebbles and small shell fragments at SWI. Very shallow penetration.
SFWF	34	D	Tan, medium sand with ripple sloping upwards into farfield. Trace mud at SWI. Very shallow penetration.
SFWF	35	A	Tan, medium sand transecting ripple with no visible sediment to left (trough) side of image. No sediment color change in sediment column. Trace mud in trough of ripple.
SFWF	35	B	Tan, medium sand with darker burrow halos in sediment column. Rounded ripple crest at SWI.
SFWF	35	C	Tan, medium sand with darker burrow halos in sediment column. Slightly rippled SWI. Short tube visible in farfield. Shallow penetration.
SFWF	36	A	Tan sediment with fines and gravels at SWI. Cobble with attached hydroids and barnacles at SWI. No penetration.
SFWF	36	B	Tan, medium sand with slightly wavy SWI and no color change to penetration. Cobble in farfield and few small pebbles in sediment column. Stage 2 tubes at SWI. Shallow penetration.
SFWF	36	D	Tan sand with small pebbles and cobble at SWI. No penetration.
SFWF	37	A	Tan medium sand with rounded ripples at SWI. Slightly darker color in upper ~1cm of sediment column. Long burrow halos in sediment. Short, stage 2 tubes visible at ripple crest in farfield.
SFWF	37	B	Tan, medium sand with slight ripple at SWI. Very shallow penetration.
SFWF	37	C	Tan, medium sand with very small patch of mud at SWI. No color change in sediment to penetration.. Very shallow penetration.
SFWF	38	A	Tan, medium sand with trace mud at SWI. No color change in sediment column to penetration.
SFWF	38	B	Very fine pebbles grading slightly finer near penetration maximum. Slightly sloping SWI.
SFWF	38	D	Coarse sand over medium sand with slightly rippled SWI. Sediment grades finer as penetration depth increases.
SFWF	39	A	Sandy sediment is visible with single, partially buried, cobble at SWI. No penetration.

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Area	Station ID	Replicate	Comment
SFWF	39	C	Coarse sand with pebbles mixed into sediment structure. Long wave-form ripple in sediment surface. No organisms visible. No color change in sediment.
SFWF	39	D	Coarse sand with long wave-form ripple in sediment. No penetration to right side of image.
SFWF	40	A	Tan medium sand with ripples visible into distance. Cobbles and pebbles at SWI and in sediment column. Very little penetration.
SFWF	40	B	Tan medium sand with high concentration of pebbles in sediment column. Few cobbles. Very low penetration.
SFWF	40	C	Tan medium sand with high concentration of pebbles in sediment column. Few cobbles. Very low penetration.
SFWF	41	A	Tan fine sand with barely visible color change around ~1cm below SWI. Slight ripple at SWI. Stage 2 tubes visible at SWI in midfield. Shallow penetration.
SFWF	41	B	Tan fine sand with no color change to penetration maximum. Slight ripple at SWI. Stage 2 tubes are abundant at SWI. Shallow penetration.
SFWF	41	C	Tan fine sand with slight ripple at SWI. No color change to penetration maximum. Small shrimp at SWI. Small collapsed tubes at SWI. Shallow penetration.
SFWF	42	A	Coarse sand with pebbles. Very shallow penetration.
SFWF	42	B	Pebbles with coarse sand with covering of shell hash.. No penetration. No fauna visible.
SFWF	42	C	Coarse sand with few pebbles and shell particles. SWI rises to ripple crest in farfield. No penetration.
SFWF	43	A	Fine sand with trace mud at SWI. Slightly darkened burrow halos visible in sediment column. Small tubes at SWI. No color change through sediment column.
SFWF	43	B	Tan fine sand with slightly wavy SWI. No change in sediment color/luminosity through sediment column. Small tubes visible at SWI and in water column.
SFWF	43	C	Tan fine sand with slightly rippled SWI. Small burrow halos in sediment column. Small tubes visible at SWI and in water column.
SFWF	44	B	Tan medium sand with slight ripple at SWI. No color change in sediment column. Shallow penetration.
SFWF	44	C	Tan medium sand with possible ripple in sediment surface. Stage 2 tubes visible at SWI.
SFWF	44	D	Tan medium sand with possible ripple in sediment surface. Stage 2 tubes visible at SWI. Subtle color change in upper ~1cm of sediment column.
SFWF	45	B	Tan medium sand with trace mud at SWI. SWI is slightly rippled with prism transecting trough. Small tubes visible at SWI. Few coarser particles at SWI. Shallow penetration.
SFWF	45	C	Tan medium sand with trace mud dragged into sediment column. Stage 1 tubes visible at SWI. Very shallow penetration.
SFWF	45	D	Tan medium sand with small shell fragments at SWI. SWI is slightly wavy. NO color change in sediment column. Small tubes at SWI. Shallow penetration.
SFWF	46	B	Tan, medium sand with sloping SWI. No color change through visible sediment column. Small fecal pellet visible at SWI at right. Small Stage 1 tubes at SWI at center.
SFWF	46	C	Tan coarse sand with slightly sloping SWI. Small clumps of coarse sediment at SWI. No color change in visible sediment column.
SFWF	46	D	Tan coarse sand with slightly rippled SWI. Polychaete visible in sediment column.
SFWF	47	A	Tan medium sand. Dark burrow halos in sediment column. SWI is rippled, with a strong peak in center of image.
SFWF	47	B	Tan, medium sand with no color change throughout sediment column. Subtle color change marks burrow halos. Small tubes at SWI.

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Area	Station ID	Replicate	Comment
SFWF	47	C	Tan, medium sand with trace mud dragged into sediment column. No color change in sediment column. Slight ripple to SWI.
SFWF	48	A	Coarse, poorly sorted sand with sloping ripple to SWI. Sediment column is too coarse to see color change from oxidization.
SFWF	48	B	Pebbles covered with muddy fines. SWI is hummocky. Very shallow penetration.
SFWF	48	C	Tan coarse sand grading slightly finer with depth. Slight slope to SWI. Pebbles visible at SWI. No color change through sediment column.
SFWF	49	A	Tan fine sand with no discernable color change through visible sediment column. Slight ripple at SWI. Stout stage 2 tubes.
SFWF	49	B	Tan fine sand with no discernable color change through visible sediment column. Long burrow halos visible ins sediment column. Stout stage 2 tubes.
SFWF	49	C	Tan fine sand with long waveform ripple. Short tubes visible at SWI. Shallow penetration.
SFWF	50	A	Coarse sand with pebbles and trace fines. SWI appears slightly rippled. Very shallow penetration.
SFWF	50	C	Tan fine sand with slightly hummocky SWI. No color change discernable in sediment column. Very shallow penetration.
SFWF	50	D	Tan fine sand with slightly hummocky SWI. No color change discernable in sediment column. Slightly darker burrow halos visible in sediment. Collapsed tubes at SWI. Very shallow penetration.
SFWF	51	A	Tan coarse sand with slightly sloping SWI. Few larger particles in farfield. No color change in sediment column. Shallow penetration.
SFWF	51	B	Pebbles and medium sand with cobbles at SWI. No penetration. No fauna visible.
SFWF	51	D	Pebbles and medium sand with cobbles at SWI. No penetration. No fauna visible.
SFWF	52	A	Coarse sand with sloping SWI. Few pebbles at SWI. Shallow penetration.
SFWF	52	B	Coarse sand with pebbles and drape of trace mud at SWI. SWI is slightly sloped. Stage 1 organisms visible in water column. Shallow penetration.
SFWF	52	C	Very coarse sand with slightly sloping SWI. Trace mud at SWI. Shallow penetration.
SFWF	53	A	Tan fine sand with no color change through sediment column. Slightly darker burrow halos in sediment column. Stage 1 tubes at SWI. Slightly wavy SWI.
SFWF	53	B	Tan fine sand with no color change through sediment column. Slightly darker burrow halos in sediment column. Stage 2 tubes at SWI. Slightly wavy SWI.
SFWF	53	C	Tan fine sand with slight color change in upper ~1cm sediment column. Slightly darker burrow halos in sediment column. Stage 2 tubes at SWI. Slightly wavy SWI.
SFWF	54	A	Coarse sand grading to mediums and after upper few cm. SWI is rippled. No fauna visible at SWI. aRPD is not visible.
SFWF	54	B	Fine sand with slightly hummocky SWI. Stage 2 tube visible at sediment surface. Trace mud at SWI. Very shallow penetration.
SFWF	54	C	Fine sand with slightly hummocky SWI. Stage 2 tube visible at sediment surface. Trace mud at SWI. Close to zero penetration.
SFWF	55	A	Very fine pebbles with mud in left side of sediment column and SWI. SWI is slightly sloped. Gastropod shell visible in midfield.
SFWF	55	B	Coarse sand with pebbles over medium sand. SWI ripples slightly into farfield. Shallow penetration
SFWF	55	C	Coarse sand with pebbles at SWI and in sediment column. Trace mud at left edge of SWI. Shallow penetration.
SFWF	56	A	Very fine pebbles with thin drape of fluffy mud at SWI. Large cobble partially buried in sediment column, to left of image. Very shallow penetration.

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Area	Station ID	Replicate	Comment
SFWF	56	B	Very coarse sand with cobbles at SWI. No penetration. No attached fauna.
SFWF	56	D	Pebbles with trace fines. No penetration. No attached fauna.
SFWF	57	A	Fine sand with large cobbles under sediment surface. Trace mud at SWI. Nearly zero penetration.
SFWF	57	C	Sandy SWI with small cobble in midfield. Trace mud at SWI. No penetration.
SFWF	57	D	Coarse sand with rippled SWI. Very low penetration.
SFWF	58	A	Coarse sand with long wave-form ripple evident. No color change through sediment column.
SFWF	58	C	Coarse sand with trace mud at SWI. No color change in sediment column. Stage 1 worm visible in water column.
SFWF	58	D	Coarse sand with few small pebbles at SWI. No color change in sediment column. SWI is sloped slightly into midfield.
SFWF	59	A	Very coarse sand grading to medium sand after upper 2-3cm below SWI. Thin drape of mud over SWI. SWI is slightly rippled. Very shallow penetration.
SFWF	59	B	Coarse sand with very thin drape of mud over SWI. Very shallow penetration.
SFWF	59	C	Coarse sand with sloping SWI covered in thin, patchy mud. Stage 1 tubes visible in water column near sediment surface. Shallow penetration.
SFWF	60	A	Fine sand with trace mu at SWI. No penetration.
SFWF	60	B	Medium sand with trace mud at SWI and dragged into sediment column. SWI is sloping with long wave-form ripple. No change in sediment color or composition through visible sediment column. Shallow penetration.
SFWF	60	C	Medium sand with trace mud at SWI. SWI is sloping with long wave-form ripple. No change in sediment color through visible sediment column. Shallow penetration.
SFWF	61	A	Fine sand with pebbles and cobbles at SWI. Stage 1 tubes in water column. No penetration. No attached fauna
SFWF	61	B	Fine sand with pebbles at SWI. No penetration. No attached fauna
SFWF	61	C	Cobbles with small attached barnacles. Fine sand in thin drape over cobble layer. No penetration.
SFWF	62	A	Medium sand with few larger particles. Short tubes at SWI. Shallow penetration.
SFWF	62	B	Medium sand with few larger particles. Short tubes at SWI. No penetration.
SFWF	62	C	Medium and fine sand draped over pebbles and cobbles. No penetration.
SFWF	63	B	Medium and fine sand draped over pebbles and cobbles. No penetration.
SFWF	63	C	Tan medium sand with trace mud at SWI. Large cobble at SWI with attached tubes. Very shallow penetration.
SFWF	63	D	Tan medium sand with few pebbles and cobbles at SWI, likely buried as well. Very shallow penetration.
SFWF	64	A	Coarse sand with rippled SWI. Trace mud at SWI. Partial penetration.
SFWF	64	B	Coarse sand with rippled SWI. Trace mud at SWI. Stage 1 tube in water column. Partial penetration.
SFWF	64	D	Coarse sand with trace mud at SWI. No significant penetration depth.
SFWF	65	A	Coarse sand with thin drape of mud over SWI. Short tubes at SWI. Shallow penetration.
SFWF	65	B	Coarse sand with trace mud over SWI. No color change visible in sediment column. Small shell particles at SWI.
SFWF	65	C	Coarse sand grading slightly finer after upper few centimeters. No color change visible in sediment column.
SFWF	66	B	Prism has transected ripple trough with medium sand and layer of settled mud. Small organism visible at SWI. Very shallow penetration.
SFWF	66	C	Coarse sand with rippled SWI. Few larger sand grains in sediment column. Sediment is slightly finer near penetration maximum. Trace mud at SWI.
SFWF	66	D	Coarse sand with rippled SWI. Sediment is slightly finer near penetration maximum. Trace mud at SWI. SWI is rippled, with crest visible in nearfield. Stage 1 tubes at SWI.
SFWF	67	B	Coarse sand with trace mud at SWI. SWI is slightly mounded in center of image. Small pebbles at SWI. Shallow penetration.
SFWF	67	C	Coarse sand with sloping SWI. Small bulge in sloping SWI may be biogenic. No color change in sediment column.

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Area	Station ID	Replicate	Comment
SFWF	67	D	Coarse sand with trace mud at SWI. Small tubes at SWI. Sediment surface is slightly rippled into distance. Very shallow penetration.
SFWF	68	A	Poorly sorted sediment containing cobbles, pebbles, sand, and mud grading to mostly fine sand. Drapes of fines over SWI. No color change apparent in sediment column. Stage 1 tubes at SWI.
SFWF	68	B	Large boulder covered with thin drape of mud. Tubes, hydroids, and barnacles attached to hard substrate. No penetration.
SFWF	68	D	Tan, fine sand with slight rippling at SWI. Trace mud at SWI. Small objects at SWI may be decaying tubes. Very slight color change in sediment after upper ~1cm. Very shallow penetration.
SFWF	69	A	Tan coarse sand with thin mud drape over SWI. Sediment surface appears to rise into farfield. No color change in sediment column. Small pebbles at SWI.
SFWF	69	B	Tan coarse sand with ridge in center-left of SWI. No color change visible throughout sediment column.
SFWF	69	C	Tan coarse sand with SWI rising into farfield. No color change visible throughout sediment column.
SFWF	70	A	Tan slightly uneven SWI with trace mud at SWI. Hard substrate visible under sand. No penetration.
SFWF	70	B	Medium sand and mud at SWI with cobbles visible in mid and farfield. Cobbles are covered with attached hydroids and barnacles. Large shell fragment at SWI. No penetration.
SFWF	70	D	Tan medium sand with rippled SWI. No fauna visible. Very shallow penetration.
SFWF	71	A	Tan medium sand with coarse sand near SWI. SWI is covered with thin drape of mud. Sediment surface is sloped. No color change in sediment column.
SFWF	71	B	Tan medium sand with coarse sand near SWI. Sediment surface is sloped. No color change in sediment column. Small mud clast at SWI. Stage 1 tubes in water column.
SFWF	71	C	Tan medium sand with coarse sand near SWI. Trace mud at SWI. Sediment surface is sloped. No color change in sediment column. Shallow penetration.
SFWF	72	A	Pale tan medium sand grading to fine sand near penetration maximum. Thin drape of mud at SWI. Stage 1 tubes visible at SWI. Shallow penetration.
SFWF	72	B	Pale tan medium sand with coarse sediment near SWI. SWI is rippled, sloping to right. No color change through sediment column.
SFWF	72	C	Pale tan medium sand with coarse sediment near SWI. SWI is rippled, sloping slightly to left. No color change through sediment column.
SFWF	73	A	Pale tan medium sand with coarse material near SWI. No color change through sediment column. Slight ripple to SWI.
SFWF	73	B	Pale tan medium sand with coarse material near SWI. No color change through sediment column. Slight ripple to SWI.
SFWF	73	C	Pale tan medium sand with coarse sediment at SWI. Small black particles in sediment column. No color change throughout sediment column.
SFWF	74	A	Tan coarse sand with sloping partially penetrated sediment column.
SFWF	74	C	Tan coarse sand with sloping partially penetrated sediment column.
SFWF	74	D	Tan coarse sand with sloping rippled SWI. No color change in sediment column. Small pebbles at SWI.
SFWF	75	A	Tan coarse sand with slightly wavy SWI. No aRPD visible in coarse sediment.
SFWF	75	B	Tan coarse sand with pebbles at SWI. Sediment surface appears rippled. Small patch of black fines in sediment column. Shallow penetration.
SFWF	75	D	Tan coarse sediment in distinct layer of medium sand. Slight ripple to SWI with sharp ridge. Few short tubes at SWI.
SFWF	76	A	Tan coarse sand over medium sand with trace mud at SWI. Slight slope to sediment column. Short tubes in farfield. Few small shell fragments at SWI.

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Area	Station ID	Replicate	Comment
SFWF	76	B	Tan coarse sand with drape of mud over SWI. Color change in upper ~1cm of fines. Fines are dragged into sediment. Shallow penetration.
SFWF	76	D	Tan coarse sand with sloping SWI. No color change in sediment column. Short tubes are sparse at SWI. Shallow penetration.
SFWF	201	A	Light brown very coarse sand with some very fine multi-colored pebbles, very shallow penetration. Some light yellow and brown coarse and medium pebbles on the surface. Some white shell hash at SWI on left, and buried in center.
SFWF	201	B	Light brown very coarse sand with some very fine multi-colored pebbles. Patch of very reduced black silty sand at very bottom, right. A light greenish-gray very coarse pebble on far right, surface with a small patch of white encrusting bryozoan. Couple small tubes in far field.
SFWF	201	C	Light brown coarse sand with some darker colored very fine pebbles and small white shell hash. Some voids filled with pebbles in the center. Medium tube in far field, possibly amphipod tube.
SFWF	202	A	Light brown very fine sand, over dark brown-black silt/sand layer. Reduced layer extends to the surface on far right. Significant resuspension of tubes and fecal material in center. A few dark gray very fine pebbles on right at SWI. Polychaete at depth on right.
SFWF	202	B	Light brown very fine sand/silt, over dark gray silt/sand layer with streaks of very dark black silt/sand. Significant resuspension into the water column. Two small bivalves at SWI, right. Burrow in center with a polychaete visible, just below aRPD. Other small burrows from the surface. Patch of white shell hash at depth, right. Very small void in far left, at depth.
SFWF	202	C	Light brown very fine sand, over dark gray silt/sand layer with streaks of very dark black silt/sand. Numerous burrows with small rusty brown worms extending deep into the reduced layer.
SFWF	203	B	Light brownish yellow very coarse sand mixed with multi-colored and dark gray pebbles ranging from fine to very coarse. PV trigger weight on far right at SWI. SWI slopes up to the left with a light gray very coarse pebble at the SWI on far left.
SFWF	203	C	Light brownish-yellow very coarse sand mixed with multi-colored very fine pebbles. Patch of darker gray fine sand at depth, towards the right.
SFWF	203	D	Light brownish-yellow very coarse sand with some multi-colored very fine pebbles. Greenish-gray medium pebble on far left at surface. Small red/transparent shrimp on top of sediment.
SFWF	204	A	No penetration. Gravel with attached bryozoans and white barnacles.
SFWF	204	B	No penetration. Large cobble on left with attached bryozoans and barnacles. White shell fragments throughout sediment surface.
SFWF	204	C	No penetration. Some cobble on surface with possible barnacles attached.
SFWF	205	A	Very shallow penetration. Light brownish-yellow very coarse sand mixed with multi-color very fine pebbles. Two orange and black and one white coarse pebbles on the far left. Corymorpha hydroid on sediment surface with a small amphipod on it.
SFWF	205	B	Light yellowish-brown medium sand throughout. SWI slopes up to the right. Some small shallow voids on far left.
SFWF	205	C	SWI slopes up to the right with coarse multi-colored pebbles on far left and light brownish-yellow fine sand on right. Two large Corymorpha hydroid in distance extending from orange cobble.
SFWF	206	A	Very shallow penetration, with small dip in the center of the SWI. Light brownish-yellow coarse sand. Some resuspension of sediment into the water column. A patch of light grayish-brown silt at the surface, far right.
SFWF	206	C	Very shallow penetration. Light whitish-brown coarse sand. Tube in far field at center, possibly amphipod. Cobble with bryozoans and grazed barnacles in far field at right.
SFWF	206	D	Shallow penetration. Light grayish-brown silt over coarse sand with some medium to coarse pebbles on right. Significant resuspension into the water column. Stage 2 tube, possibly amphipod, in suspension.

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Area	Station ID	Replicate	Comment
SFWF	207	A	Shallow penetration. Light yellowish-brown coarse sand mixed with grayish-brown silt and some multi-colored fine to medium pebbles. Thin medium length tube at right in mid-field; possible tube in far field.
SFWF	207	B	Multi-colored very coarse sand at surface, transitioning to light yellowish-brown coarse sand at depth. Some resuspension. Vertical patches of light brown silt extending from the surface, center and far left, and at depth left. Possible worm at max penetration on right.
SFWF	207	C	Shallow penetration. Light brown silt over light yellowish-brown very coarse sand. Some small white shell has on far left, surface. Small void of a type just below SWI at center, not classic feeding void.
SFWF	208	A	Light yellowish-brown fine sand. SWI slopes down on left, where some light grayish-brown silt is at surface. Tubes, likely amphipods, in far field. Small burrow at 1cm below SWI at left.
SFWF	208	B	Light yellowish-brown fine sand. SWI dips down on left, center. Some light grayish-brown material, fecal casts?, on surface of sediment on left, center.
SFWF	208	C	Light yellowish-brown fine sand. Ripple in the center of SWI.
SFWF	209	B	Light yellowish-brown fine sand, flaser bed of dark gray silt at two separate depths, some silt is smeared by faceplate. SWI slopes up towards the left. Some tubes, likely amphipods, on the surface of sediment in the distance.
SFWF	209	C	Light yellowish-brown fine sand with flaser bed of dark gray silt; sand below is more gray than yellow. Two small vertical streaks of very dark gray reduced sediment on right. Tubes, likely amphipods, in far field at right.
SFWF	209	D	Light brown fine sand is the base sediment - deposition of light brown silt is evident at SWI and upper 2 cm, below that ~2/3 of the image width is a thick gray flaser bed of silt, on the left of the image are multi-colored very fine pebbles and in the final ~3 cm to max penetration is a layer of highly reduced dark gray to black silts. Very small void near base of flaser bed.
SFWF	210	A	Homogenous light yellowish-brown medium sand throughout. Possible short tubes just back from SWI at right (resolution too low to discern) and in far field.
SFWF	210	B	Homogenous light yellowish-brown fine sand with a small patch of light grayish-brown silt at the SWI, left. Numerous tubes, likely amphipods, on the surface in the distance. Possible infauna connected to burrow just left of center; indications of shallow burrowing.
SFWF	210	C	Homogenous very light brownish-yellow fine sand throughout. Some ripples in the SWI in the distance.
SFWF	211	A	Yellowish-brown medium sand transitioning to fine sand fraction at depth. SWI slopes down on the left. White medium pebble half way down sediment column on the right. Small white shell hash on the surface at right.
SFWF	211	B	Yellowish-brown medium sand transitioning to fine sand fraction at depth. SWI slopes up at left with some fine pebbles buried at the surface on the left.
SFWF	211	C	Yellowish-brown medium sand with some patches of light gray silt at the surface. Numerous white fine pebbles/shell hash throughout sediment column and across the surface of the sediment in the distance.
SFWF	212	A	Light rusty brownish yellow very coarse sand to very fine pebbles transitioning to very coarse sand mixed with fine sand at depth.
SFWF	212	C	Shallow penetration. SWI slopes down on left. Yellowish brown very coarse sand mixed with light tan fine sand. Patches of light grayish brown fine silt on right surface. Small tube casing on surface, right.
SFWF	212	D	Rusty yellowish-brown very coarse sand at surface, mixing with medium to fine sand at depth. SWI slopes up to the right. Light grayish-brown silt throughout sediment column on far left.
SFWF	213	A	No penetration. Some resuspension. Rusty yellowish-brown and black very coarse pebbles on the surface.
SFWF	213	B	Yellowish-brown coarse to very coarse sand at surface transitioning to light tannish-brown fine sand at depth. SWI slopes up to the left. Some small white and brown shell has on top of sediment.
SFWF	213	C	No penetration. Some resuspension. Sediment surface is not visible. Unidentified, possible worm in lower left.

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Area	Station ID	Replicate	Comment
SFWF	214	B	Yellowish-rusty brown coarse sand transitioning to fine to medium sand at depth. SWI slopes up to the right . Some resuspension.
SFWF	214	C	Yellowish-rusty brown coarse sand transitioning to fine to medium sand at depth. SWI slopes up to the left. Some resuspension. Darker sand on far right, center.
SFWF	214	D	Yellowish-rusty-brown medium to coarse sand homogenous throughout. A few small pieces of white shell near surface.
SFWF	215	A	Multi-colored, predominantly light tan with some darker gray granules and very fine pebbles intermixed with coarse sand. SWI slopes up to right.
SFWF	215	B	Yellowish-rusty brown fine pebbles at surface with coarse to medium sand at depth. SWI slopes up to left. A small yellowish-white shell fragment on right at surface. Very small half of a white clam shell just below surface on left.
SFWF	215	C	Poorly sorted light tan coarse sand with fine pebbles of varying colors throughout. Some small white shell fragments.
SFWF	216	A	Yellowish brown very fine pebbles with some light brown fine sand at depth.
SFWF	216	B	Yellowish brown very fine pebbles mixed with fine to medium sand throughout sediment column. SWI slopes up slightly in the center.
SFWF	216	C	Yellowish-rusty brown very fine pebbles mixed with fine to medium sand homogenous throughout.
SFWF	217	A	Rusty light tan coarse sand transitioning to fine sand at depth. Light grayish brown silt/very fine sand on far left extending from surface to depth. Small pale pink worm near bottom on right. Some small fragments of shell near and on top of the surface.
SFWF	217	C	Rusty light tan coarse sand transitioning to fine sand at depth. Some very small shell fragments at SWI.
SFWF	217	D	Light tannish brown coarse sand with some fine to medium sand at depth. SWI slopes up to the right. An orange coarse pebble at SWI on left.
SFWF	218	A	Well sorted light brown medium sand. SWI slopes up to the right.
SFWF	218	B	Light brown fine sand throughout with some light grayish brown silt on surface in the distance, right.
SFWF	218	C	Very light tan well sorted fine sand throughout sediment column. SWI slopes up to the right. Patches of brown/gray fine silt at surface in far field.
SFWF	219	A	Very light tan well sorted coarse sand throughout sediment column. SWI slopes up to the left. Some sediment in suspension, small tubes in suspension. Void near surface on far left, not classic feeding void shape, possible part of sand tube visible within void.
SFWF	219	B	Light tan well sorted coarse sand throughout shallow penetration. SWI slopes down to the right. A patch of light gray silt/very fine sand on surface on left. Small tubes in suspension.
SFWF	219	C	Light tan coarse sand on right, mixed with multi-colored medium to coarse pebbles on left. SWI slopes up to the right. Reddish orange hydroid extending into the water column on very far left.
SFWF	220	A	Shallow penetration. Light brown medium sand throughout. Some light gray fine sand/silt at SWI center and on surface in the distance.
SFWF	220	B	Light brown medium to fine sand throughout with some light gray silt/very fine sand at SWI and on surface in distance.
SFWF	C01	A	Fine pebbles with cobbles and sand. Thin drape of fines at SWI. Sloped SWI. Shallow penetration.
SFWF	C01	B	Coarse sand with various sized pebbles. No color change in sediment column. Shallow penetration.
SFWF	C01	C	Coarse sand with small pebbles and thin drape of mud at SWI. Stage 1 tubes in mud drape. No color change in sediment column. Shallow penetration.
SFWF	C01	D	Coarse sand with small pebbles. No color change in sediment column. Possible ripple into farfield. Shallow penetration.
SFWF	C01	E	Very coarse sand and organic fines over pale gray silt/clay. SWI is rippled into farfield. Very shallow penetration.
SFWF	C02	A	Tan medium sand with slightly darker coloring near SWI and in burrow halos. Short stage 1 tubes scant at SWI.
SFWF	C02	B	Tan medium sand with no color change in sediment column. Single stage 2 tube at SWI. Slight ripple at SWI.

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Area	Station ID	Replicate	Comment
SFWF	C02	C	Tan medium sand with patches of slightly darker sediment in sediment column. SWI is rippled slightly with sharp peak. Shallow penetration.
SFWF	C02	E	Tan medium sand with long burrow halo visible in sediment and slight change in color at ~2.5cm below SWI. No fauna visible.
SFWF	C02	F	Tan medium sand with no color change in sediment column. Short tubes at SWI. Shallow penetration.
SFEC-OCS	101	A	Cobbles with drape of medium sand. Hydroids and bryozoans attached to cobbles. No penetration.
SFEC-OCS	101	C	Cobbles and mediums and with hydroids attached to cobbles. Long tubes visible. No penetration.
SFEC-OCS	101	D	Very coarse sand, pebbles, and medium sand visible at SWI. Trace mud draped over sediment surface. No penetration.
SFEC-OCS	102	A	Fine tan sand with trace mud over SWI. Sediment surface is slightly hummocky. Thick tube at SWI. Shallow penetration.
SFEC-OCS	102	B	Fine sand with short tubes at SWI. Slight ripple into distance. No penetration.
SFEC-OCS	102	D	Cobbles and coarse pebbles visible at SWI. Few hydroids and bryozoans at SWI. No penetration.
SFEC-OCS	103	A	Very fine sand with slight wav SWI. Subtle color change in sediment where burrow halos extend to penetration maximum. Short tubes at SWI.
SFEC-OCS	103	B	Very fine sand with slight wav SWI. Subtle color change in sediment where burrow halos extend to penetration maximum. Short tubes at SWI.
SFEC-OCS	103	D	Pale gray silt/clay with pale tan layer about 1cm thick. Small tubes at SWI. Long burrow halos ins sediment column. Small mound at SWI.
SFEC-OCS	104	A	Tan fine sand with trace mud at SWI. Very small tubes and gastropod at SWI. SWI is rippled slightly. Very shallow penetration.
SFEC-OCS	104	B	Tan sand at SWI with mostly buried cobble/boulder in sediment. Trace mud at SWI. No penetration./
SFEC-OCS	104	D	Tan medium sand with slight rippling to SWI. Trace mud at SWI. Small tubes and very small (4mm wide) crab. Shallow penetration.
SFEC-OCS	105	A	Tan medium sand with trace mud at SWI. Slightly wavy SWI. Very shallow penetration.
SFEC-OCS	105	B	Tan medium sand with trace mud at SWI. Small organism/carapace at SWI appears to be flipped on its back at SWI. Few tubes visible. Shallow penetration..
SFEC-OCS	105	C	Tan medium sand with uneven SWI. No color change through visible sediment column. Trace mud at SWI.
SFEC-OCS	106	A	Tan coarse sand with sloping SWI. No color change in sediment. No fauna visible. Very little penetration.
SFEC-OCS	106	B	Tan coarse sand with trace mud at SWI and dragged into sediment column. SWI is slightly wavy. Shallow penetration.
SFEC-OCS	106	C	Tan coarse sand with trace mud at SWI and dragged into sediment column. SWI is slightly hummocky. Shallow penetration.
SFEC-OCS	107	A	Poorly sorted very coarse sand with mud drape and pebbles. Very shallow penetration.
SFEC-OCS	107	B	Angular very coarse sand to penetration. Trace ,mud at SWI. Sediment surface rises in farfield.
SFEC-OCS	107	C	Very coarse sand with band of coarse sand in center of visible penetration area. SWI forms crest of ripple. Few pebbles at SWI.
SFEC-OCS	108	A	Tan coarse sand with rippled SWI and trace mud. Very little penetration.
SFEC-OCS	108	C	Tan coarse sand with pebbles and trace mud at SWI. No color change through sediment column. Stage 1 tubes in water column. Shallow penetration.
SFEC-OCS	108	D	Tan coarse sand with very little penetration. Wiper blade is visible in upper part of sediment column suggesting that the prism contacted a sediment mound or ripple.
SFEC-OCS	109	A	Tan coarse sand with thin drape of mud at SWI. Pebbles at SWI. Stage 1 tubes in water column. Shallow penetration.
SFEC-OCS	109	B	Tan very coarse sand with abundant pebbles at SWI. Thin drape of fines at SWI. No fauna visible. Shallow penetration.
SFEC-OCS	109	D	Pebbles over coarse sand. Shell fragments at SWI. Few fines. No fauna present. Shallow penetration.

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Area	Station ID	Replicate	Comment
SFEC-OCS	110	A	Tan coarse sand with no color change through maximum penetration. Trace mud at SWI. Few small tubes at SWI. Shallow penetration.
SFEC-OCS	110	B	Coarse sand with small pebbles at SWI. Very shallow penetration.
SFEC-OCS	110	C	Tan medium sand with prism penetration in trough of ripple. Mud deposit in upper .5 cm of ripple trough. Mediums and extending into midfield as ripple rises.
SFEC-OCS	111	B	Tan coarse sand grading to medium sand. Small shell particles at SWI. Color change associated with grain size in upper 2cm of sediment column. aRPD not visible. Tiny tubes at the SWI.
SFEC-OCS	111	C	Tan coarse sand with slope into farfield. Stage 1 tubes at SWI. Shallow penetration.
SFEC-OCS	111	D	Tan coarse sand with pebbles and shell fragments at SWI. No color change through sediment column. Small hummocks at SWI.
SFEC-OCS	112	A	Tan coarse sand with pebbles at SWI. Ripple trough in center of image. Mud deposit in ripple trough with collapsed tubes and crab carapace fragments. Shallow penetration.
SFEC-OCS	112	B	Tan coarse sand with sloping SWI. No color change through sediment column. Shallow penetration.
SFEC-OCS	112	C	Tan coarse sand with sloping SWI. No color change through sediment column. Shallow penetration.
SFEC-OCS	113	A	Very coarse sand and pebbles over medium sand to penetration maximum. Polychaete visible in sediment column, about 4cm under SWI. Many small test and shell fragments at SWI. Sand dollars at SWI.
SFEC-OCS	113	B	Very coarse sand and pebbles over medium sand to penetration maximum. Many small test and shell fragments at SWI. Sand dollars at SWI. Very shallow penetration.
SFEC-OCS	113	D	Coarse sand with very fine pebbles at SWI. No change in sediment grain size or color throughout sediment column. Sediment surface is rippled into distance.
SFEC-OCS	114	A	Tan medium sand with slightly wavy sediment surface and no color change through sediment column. Short tubes at SWI. Shallow penetration.
SFEC-OCS	114	B	Tan medium sand with abundant sub-rounded shell fragments at SWI and in sediment column. Sediment has low rounded mound. Stage 2 tubes at SWI.
SFEC-OCS	114	C	Tan medium sand with no color change in sediment column. SWI slopes to right in ripple. No fauna present.
SFEC-OCS	115	A	Tan coarse sand with pebbles at SWI. Many small and large shell fragments at SWI. Collapsed tubes and tube casing at SWI. No color change in sediment. Shallow penetration.
SFEC-OCS	115	B	Tan coarse sand with small shell fragments at SWI. Sand dollar visible at sediment surface. Vary little penetration.
SFEC-OCS	115	C	Tan coarse sand with pebbles at SWI. Partially buried sand dollar at SWI. Low grade slope into farfield.
SFEC-OCS	116	A	Tan coarse sand with pebbles at SWI. Partially buried sand dollar at SWI. Sediment is sloped into farfield.
SFEC-OCS	116	C	Tan coarse sand grading slightly finer to penetration depth. Slightly wavy SWI. Trace mud t SWI. Small shell fragments at SWI. Small burrow halo near penetration maximum.
SFEC-OCS	116	D	Tan medium sand with very coarse sand and shell fragments at SWI. Trace mud at SWI. No fauna visible.
SFEC-OCS	117	A	Dark brown very coarse sand over tan coarse sand. SWI is rounded in low mound. Very small organism (fish?) at SWI.
SFEC-OCS	117	B	Very coarse sand mixed with dark brown coarse sand. Small shell fragments at SWI. Very shallow penetration.
SFEC-OCS	117	C	Coarse sand with very coarse grains at SWI. SWI is slightly wavy, possibly rippled into farfield. Slight color change due to grain size change below SWI.
SFEC-OCS	118	A	Dark brown fine sand with slight color change after ~1cm below SWI. Burrow halos extend to penetration maximum. SWI is rippled in long-waveform. SWI is studded with short tubes visible in farfield. Organic matter at SWI and in water column. Very shallow penetration. aRPD likely extends past penetration maximum.
SFEC-OCS	118	B	Dark brown fine sand with slight color change in upper 1-2 cm of sediment column. SWI is slightly hummocky and studded with short tubes. Tube lining in water column. Shallow penetration.

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Area	Station ID	Replicate	Comment
SFEC-OCS	118	C	Dark brown fine sand with slight color change in upper 1-2 cm of sediment column. SWI is slightly hummocky and studded with short tubes. Shallow penetration.
SFEC-OCS	119	A	Dark tan medium sand grading to fine sand. Color changes to pale gray at ~6.5cm below SWI. Small tubes collapsed at SWI. Slightly wavy SWI.
SFEC-OCS	119	B	Tan medium sand with subtle color change after upper 1-2cm of sediment. Long burrow halos in sediment. Short tubes at SWI.
SFEC-OCS	119	C	Tan coarse sand with slight ripple to SWI. Scant small tubes at SWI. Shallow penetration.
SFEC-OCS	120	A	Tan fine sand with slightly darker sediment in upper 1cm of sediment column. Dark brown burrows in sediment. Short tubes at SWI. SWI is slightly rippled.
SFEC-OCS	120	B	Tan fine sand with slightly darker sediment in upper 1cm of sediment column. Dark brown burrows in sediment. Short tubes at SWI. SWI is slightly rippled.
SFEC-OCS	120	C	Tan fine sand with slightly darker sediment in upper 1cm of sediment column. Small shell fragment dragged into sediment. Small patch of nearly black fines. Dark brown burrows in sediment. Short tubes at SWI. SWI is slightly rippled.
SFEC-OCS	121	A	Pale tan fine sand with slight color change in upper 1.5cm. Orange burrow halos extending to penetration maximum. Slightly hummocky SWI with short tubes.
SFEC-OCS	121	B	Pale tan medium sand with slight color change in upper 1.5cm. Orange burrow halos extending to penetration maximum.
SFEC-OCS	121	D	Pale tan fine sand with slight color change in upper 1.5cm. Orange burrow halos extending to penetration maximum. Short tubes at SWI. Shallow penetration.
SFEC-OCS	122	A	Tan medium sand with many small shell fragments at SWI. Sand dollar dragged into sediment column. Short tubes at SWI. SWI is rippled.
SFEC-OCS	122	B	Tan medium sand with slightly hummocky SWI. No color change in sediment. Small shell particles at SWI. Very shallow penetration.
SFEC-OCS	122	C	Tan medium sand with slightly hummocky SWI. No color change in sediment. Small shell particles at SWI. Very shallow penetration.
SFEC-OCS	123	A	Tan coarse sand with very coarse sand and pebbles at SWI. Shell fragments over SWI. SWI is rippled slightly into distance. Very shallow penetration.
SFEC-OCS	123	B	Tan very coarse sand over tan coarse sand. Small pebbles and shell fragments at SWI. Color change visible near penetration maximum.
SFEC-OCS	123	D	Very coarse sand over pocket of pale gray silt/clay. SWI is slightly rippled, sloped to one side.
SFEC-OCS	124	A	Tan medium sand with slightly wavy SWI. Stage 2 tubes at SWI. No color change through sediment column. Shallow penetration.
SFEC-OCS	124	B	Tan medium sand with trace fines dragged into sediment column. Small shell particles. Subtle brown color in upper ~1cm of sediment column. Dark burrows in sediment. Sand dollar at SWI.
SFEC-OCS	124	C	Tan medium sand with slightly wavy SWI. Short tubes at SWI. No color change in sediment column. Shallow penetration.
SFEC-OCS	125	A	Pale tan fine sand with ~1cm layer of brown fines at SWI. Orange-brown burrow halo extends to near penetration maximum. Sand dollar dragged into sediment column. Small tubes at WI.
SFEC-OCS	125	C	Pale tan fine sand with ~1cm layer of brown fines at SWI. Orange-brown burrows halo extends to near penetration maximum. Sand dollars at sediment column. Small tubes at SWI.

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Area	Station ID	Replicate	Comment
SFEC-OCS	125	D	Pale tan fine sand with ~1cm layer of brown fines at SWI. Sediment column becomes fine and pale gray near penetration maximum. Orange-brown burrows halo extends to near penetration maximum. Sand dollars at sediment column. Small tubes at SWI.
SFEC-OCS	126	A	Tan mediums sand with no color change throughout sediment column. Slightly sloped SWI. Many sand dollars at sediment surface.
SFEC-OCS	126	B	Tan mediums sand with no color change throughout sediment column. Many sand dollars at sediment surface.
SFEC-OCS	126	D	Tan mediums sand with no color change throughout sediment column. Many sand dollars at sediment surface. Slightly rippled SWI. Very shallow penetration.
SFEC-OCS	127	A	Tan medium sand with no color change in sediment column. SWI is slightly rippled, with small shell fragments scattered in ripple trough. Shrimp partially visible behind ripple. Very shallow penetration.
SFEC-OCS	127	B	Tan medium sand with shallow ripple at SWI. Small tubes at SWI. No color change in sediment column.
SFEC-OCS	127	C	Tan medium sand with shallow ripple at SWI. Stout, stage 2 tubes at SWI. No color change in sediment column.
SFEC-OCS	128	A	Tan medium sand with wavy SWI. Pellets and short collapsed tubes at SWI. Very low penetration.
SFEC-OCS	128	B	Tan coarse sand with slight slope at SWI. Small fine mound at SWI. No color change in sediment column. Shallow penetration.
SFEC-OCS	128	C	Tan coarse sand with hummocky SWI. Stout tubes at SWI. No color change in sediment.
SFEC-OCS	129	A	Pale gray very fine sand with upper 1.5cm oxidized and pale tan. Thin burrow halos and infauna visible ins sediment column. Trace fines at SWI. Tubes at SWI.
SFEC-OCS	129	B	Pale gray very fine sand with upper 1.5cm oxidized and pale tan. Thin burrow halos and infauna visible ins sediment column. Void in sediment column where animal has been transected (mollusk?) Tubes at SWI.
SFEC-OCS	129	D	Pale gray very fine sand with upper 1.5cm oxidized and pale tan. Thin burrow halos visible in sediment column. Void transected. Tubes at SWI.
SFEC-OCS	130	B	Pale gray very fine sand with upper 1cm oxidized and pale tan. Few coarse sand particles in sediment column. Thin burrow halos visible in sediment column. Tubes at SWI.
SFEC-OCS	130	C	Pale gray very fine sand with upper 1cm oxidized and pale tan. Few coarse sand particles in sediment column. Thin burrow halos visible in sediment column. Tubes at SWI.
SFEC-OCS	130	D	Pale gray very fine sand with upper 1cm oxidized and pale tan. Few coarse sand particles in sediment column. Polychaete visible near penetration maximum. Tubes at SWI.
SFEC-OCS	131	B	Pale tan fine sand with slightly darker color in upper 1cm of sediment column. Thin brown burrow halos in sediment. SWI ripples into farfield. Small tubes at SWI. Shallow penetration.
SFEC-OCS	131	C	Pale tan medium sand with few very coarse grains. Small tubes are scant at SWI. Shallow penetration.
SFEC-OCS	131	D	Coarse sand with sloping SWI. No color change in sediment column. Small half mussel shell at SWI.
SFEC-OCS	132	A	Very coarse sand and pebbles with sloping SWI. No fauna or color change in fines.
SFEC-OCS	132	B	Very coarse sand and pebbles. Shallow ripples at SWI. Very low penetration.
SFEC-OCS	132	C	Very coarse sand and pebbles. Shallow ripples at SWI. Short tubes at SWI. Very low penetration.
SFEC-OCS	133	A	Coarse sand grading to medium sand. Trace mud at SWI. No fauna visible. aRPD is not visible.
SFEC-OCS	133	B	Coarse sand and mud with pebbles at SWI. Shallow penetration.
SFEC-OCS	133	D	Coarse sand with slight color change at SWI. Small pebbles and very coarse sand mixed into sediment column. No fauna visible.
SFEC-OCS	134	A	Very coarse sand with slightly sloping SWI. Shallow penetration.
SFEC-OCS	134	B	Coarse sand with trace mud at SWI. SWI appears slightly wavy in farfield. Shallow penetration.

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Area	Station ID	Replicate	Comment
SFEC-OCS	134	D	Pebbles over coarse sand. Very little penetration.
SFEC-OCS	135	A	Coarse sand with sloping SWI and ripples in farfield. Very little penetration.
SFEC-OCS	135	B	Coarse sand with sloping SWI. No color change in sediment. Shallow penetration.
SFEC-OCS	135	C	Coarse sand with sloping SWI. No color change in sediment. Shallow penetration.
SFEC-OCS	136	B	Coarse sand with trace mud at SWI. SWI sloping to left. Stage 2 tube visible at sediment surface. Shallow penetration.
SFEC-OCS	136	C	Coarse sand with sloping SWI. Few pebbles and trace mud at sediment surface. No color change in sediment column.
SFEC-OCS	136	D	Medium sand with trace mud at SWI. No color change in sediment. Shallow penetration.
SFEC-OCS	137	A	Mud and medium sand. Stage 1 tubes and sand dollar at SWI. Very low penetration.
SFEC-OCS	137	B	Tan coarse sand with slightly sloped SWI. Few very fine pebbles in sediment column. No color change in sediment.
SFEC-OCS	137	C	Tan coarse sand with trace mud at SWI. Very coarse sand just below SWI. Very shallow penetration.
SFEC-OCS	138	A	Tan medium sand with slightly rippled SWI. Sand dollars at SWI. No color change perceptible in sediment. Stage 2 worm located at depth just left of center.
SFEC-OCS	138	B	Tan medium sand with slightly coarser sediment and trace mud at SWI. Shallow penetration.
SFEC-OCS	138	D	Tan medium sand with no color change through sediment column. Sand dollar at SWI. Farfield is not visible.
SFEC-OCS	139	A	Tan medium sand with coarse sand at SWI. Sloping SWI. Sand dollar in midfield.
SFEC-OCS	139	C	Tan medium sand with drape of pale tan mud at SWI. No color change in sediment column. Shallow penetration.
SFEC-OCS	139	D	Pale tan fines with medium sand likely under mud drape. Nearly no penetration.
SFEC-OCS	140	A	Pale tan medium sand with no color change in sediment column. Very shallow penetration.
SFEC-OCS	140	B	Pale tan medium sand with slightly wavy SWI. Short tubes in farfield. No color change in sediment column.
SFEC-OCS	140	C	Pale tan medium sand with slight color change in upper ~1.5cm of sediment. Burrow halo visible in sediment column. Polychaete in lower left corner of image. Sand dollar at slightly rippled SWI.
SFEC-OCS	141	A	Pale tan medium sand with slightly wavy SWI. Small patch of fines in lower left of image. Trace mud at SWI.
SFEC-OCS	141	C	Pale tan coarse sand with sloped SWI. Small pebbles at SWI. Stage 1 tubes in water column.
SFEC-OCS	141	D	Pale tan coarse sand with slightly pale gray color near penetration maximum. SWI is sloped and slightly hummocked.
SFEC-OCS	142	B	Tan coarse sand with trace mud at SWI. No color change in sediment column. Small collapsed tube at SWI. Small gastropod in midfield.
SFEC-OCS	142	C	Tan coarse sand with trace mud at SWI. No color change in sediment column. SWI is slightly wavy. Shallow penetration.
SFEC-OCS	142	D	Tan coarse sand with rippled SWI. No color change in sediment column. Small tubes at SWI.
SFEC-OCS	146	C	Tan coarse sand with slightly hummocky SWI. Slight color change in sediment column at ~4cm below SWI.
SFEC-OCS	146	E	Tan coarse sand with slight color change near penetration maximum. Single tube at SWI. SWI is rippled, with peak to right edge of image.
SFEC-OCS	146	F	Tan coarse sand with no color change in sediment column. Slightly wavy SWI. Shallow penetration.
SFEC-OCS	147	A	Tan coarse sand with slight color change near penetration maximum. SWI is slightly sloped. Possible ripple.
SFEC-OCS	147	B	Tan coarse sand with no color change in sediment column. Sediment is mostly flat at SWI, possibly rippled into farfield.
SFEC-OCS	147	C	Tan coarse sand with no color change in sediment column. Small tubes at SWI.
SFEC-OCS	148	A	Tan medium sand with shell hash in sediment column. Small tubes at SWI. SWI ripples into distance.
SFEC-OCS	148	B	Tan medium sand with trace mud dragged into sediment column. Slightly wavy SWI. Sand dollar at sediment surface.
SFEC-OCS	148	C	Tan medium sand with slight color change in sediment column after 1-2cm. Short tubes on rippled sediment surface.
SFEC-OCS	149	A	Tan medium sand with shell hash at SWI. Small tubes visible at SWI. Shallow penetration depth.

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Area	Station ID	Replicate	Comment
SFEC-OCS	149	B	Tan medium sand. Slight color change after upper 1-2cm of sediment column. Small tubes visible at SWI. Shallow penetration depth.
SFEC-OCS	149	C	Tan medium sand with slight color change in sediment column. Small shell particles buried in sediment.
SFEC-OCS	150	A	Tan medium sand transitioning to pale gray medium sand after top ~1cm of sediment column. Stage 1 tubes at SWI and Small collapsed Stage 2 tubes at SWI. Very shallow penetration.
SFEC-OCS	150	B	Pale tan medium sand transitioning to pale gray medium sand. Hermit crab at SWI. Wavy SWI. Short tube to left of hermit crab.
SFEC-OCS	150	C	Pale tan medium sand to transitioning to pale gray medium sand. Very shallow penetration.
SFEC-OCS	151	B	Fine pebbles with cobbles and sand. Abundant limpets at SWI. Very shallow penetration.
SFEC-OCS	151	C	Pebbles with small cobbles and drape of mud. Limpets at SWI. Short tubes at SWI. Very shallow penetration.
SFEC-OCS	151	D	Pale tan silt/clay with color change in sediment column about 2cm below SWI. Short tubes at SWI. Limpets abundant at SWI. Shallow penetration.
SFEC-OCS	152	A	Tan coarse sand with slightly sloped SWI. Slightly gray patch of fines and shell hash near penetration maximum. Stage 1 tubes at SWI. Shallow penetration.
SFEC-OCS	152	B	Tan coarse sand. No color change in sediment column. Sloping SWI.
SFEC-OCS	152	C	No penetration. Sandy pale tan sediment is partially visible.
SFEC-OCS	153	A	Tan fine sand over pale gray fine sand. Trace mud at SWI. Stage 1 tubes at SWI.
SFEC-OCS	153	B	Tan fine sand with slightly darker color at SWI. Small burrow halos visible ion sediment column. Black particles in sediment. Small tubes at SWI.
SFEC-OCS	153	C	Tan fine sand with small black particles in sediment column. Stage tubes at SWI. Sand dollar and hermit crab at SWI. SWI is slightly sloped to left farfield.
SFEC-OCS	154	A	Tan medium sand with slight color change at 1.5cm below SWI. Burrow halos in sediment column. Short tube visible at SWI.
SFEC-OCS	154	B	Tan medium sand with small black particles in sediment. No color change ins sediment column. Stage 2 tubes at SWI.
SFEC-OCS	154	C	Tan medium sand with small black particles in sediment. No color change ins sediment column. Stage 2 tubes at SWI. San dollar at SWI. Shallow penetration.
SFEC-OCS	155	A	Tan fine sand with slight color change in upper ~1cm sediment column. Small stage 1 tubes at SWI. Sand dollar in midfield. Very shallow penetration,.
SFEC-OCS	155	B	Tan medium sand with small patch of dark gray fines in sediment column. Sand dollar at SWI. Very shallow penetration,.
SFEC-OCS	155	C	Tan fine sand with slight color change in upper ~1cm sediment column. Trace mud in upper 1cm of sediment. Small stage 1 tubes at SWI. Sand dollar in midfield. Very shallow penetration.
SFEC-OCS	156	B	Dark gray-brown mud transitions to near black at 4-5 cm below SWI. Clearly defined, tan, underlying layer of medium sand. Polychaetes and void in mud layer. SWI is hummocky, with small clasts. Gastropod and stage 1 tubes at SWI.
SFEC-OCS	156	C	Pale gray-brown fines over near black silt/clay. SWI is heavily disturbed.
SFEC-OCS	156	D	Gray-brown mud with near black patch of mud. Clearly defined, tan, underlying layer of medium sand. Polychaetes in mud layer.
SFEC-OCS	157	A	Pale tan medium sand with trace mud at SWI. Small shell fragments and black particles in sediment column. Very shallow penetration.

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Area	Station ID	Replicate	Comment
SFEC-OCS	157	B	Pale tan medium sand with trace mud at SWI. Small shell fragments and black particles in sediment column. Very shallow penetration.
SFEC-OCS	157	C	Tan medium sand with trace mud at SWI. Small shell fragments and black particles in sediment column. Short tubes at SWI. Shallow penetration.
SFEC-NYS	143	A	Pale tan fine sand with small black particles in sediment. Sediment becomes paler after upper 1-2cm of sediment column. Burrow halos in sediment column. Short tubes at SWI.
SFEC-NYS	143	B	Pale tan and gray fines over fine sand. Small black patch in sediment column. Short tubes at SWI.
SFEC-NYS	143	C	Pale tan medium sand with dark brown burrow halos and slight color change in sediment. SWI is mostly flat, with no tubes visible.
SFEC-NYS	144	A	Pale tan coarse sand with slightly color change near penetration maximum. Rounded ripple at SWI. Small collapsed tubes at SWI at right.
SFEC-NYS	144	B	Pale tan coarse sand. No color change in sediment column. Small invertebrate in water column.
SFEC-NYS	144	C	Pale tan coarse sand. Slightly gray sediment ~3cm below SWI. Gastropod at SWI.
SFEC-NYS	145	A	Pale tan medium sand with no color change in sediment column. SWI is sloped slightly. Large tubes at SWI.
SFEC-NYS	145	B	Pale tan medium sand with no color change in sediment column. Trace mud at SWI. Large tubes at SWI.
SFEC-NYS	145	C	Pale tan coarse sand with no color change in sediment column. Slightly coarser sediment at SWI. SWI is slightly peaked with small clasts of coarse sediment.
SFEC-NYS	158	A	Tan medium sand with no color change in sediment column. SWI covered with small tubes. Slightly rippled SWI. Shallow penetration.
SFEC-NYS	158	B	Tan mediums and with small black particles in sediment. Small tubes at SWI. Shallow penetration.
SFEC-NYS	158	C	Tan medium sand with small black particles. No color change in sediment. Rippled SWI. Sand dollar at SWI. Shallow penetration.
SFEC-NYS	159	A	Pale tan mud transitions to near black over underlying layer of coarse pale tan sand. Single void near penetration maximum. Short tubes carpet SWI.
SFEC-NYS	159	B	Pale tan mud with bright tan layer in upper 0.5cm of sediment column. Coarse grains mixed with mud near p penetration maximum. SWI is fluffy with organic material and pellets.
SFEC-NYS	159	D	Tan coarse sand with no color change in sediment column. Large deposit of cohesive mud at SWI, likely deposited by camera system.
SFEC-NYS	160	A	Pale tan fine sand with n color change in sediment column. Slightly rippled SWI.
SFEC-NYS	160	B	Pale tan fine sand with n color change in sediment column. Long waveform ripple crest at SWI..
SFEC-NYS	160	C	Pale tan fine sand with n color change in sediment column. Slightly rippled SWI.
Reference	C03	A	Tan coarse sand with small particles of shell at SWI and in sediment column. No color change in sediment. SWI is slightly wavy. Stage 1 tube in sediment column.
Reference	C03	B	Tan coarse sand with pale gray fines in buried layer of sediment. Slightly sloping SWI. Stage 1 tubes in water column. Shallow penetration.
Reference	C03	C	Tan coarse sand with no color change in sediment column.. Slightly sloping SWI. Stage 1 tubes in water column. Shallow penetration.
Reference	C03	D	Tan medium sand with no color change in sediment column. Short tubes at SWI. Shallow penetration.
Reference	C03	E	Tan medium sand with no color change in sediment column. Slightly rippled SWI.

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Area	Station ID	Replicate	Comment
Reference	C04	A	Tan medium sand with trace mud at SWI. No color change in sediment column. Large ampharetid tube indicates stage 3 succession. Shallow penetration.
Reference	C04	B	Tan medium sand with small patches of gray and black fines. No color change in sediment column. Shallow ripple at SWI. Stage 1 tubes in water column. Stage 2 tubes at SWI.
Reference	C04	C	Tan medium sand with small patches of gray fines in sediment column. No color change in sediment column. SWI is slightly rippled. Small collapsed tubes at SWI. Shallow penetration.
Reference	C04	D	Tan medium sand with small patches of gray fines in sediment column. No color change in sediment column. Stage 1 tubes in water column.
Reference	C04	E	Tan medium sand with no color change in sediment column. SWI is rippled. Short stage 2 tubes at SWI.
Reference	C05	A	Tan coarse sand with trace mud at SWI. Polychaete in sediment column, near penetration maximum. Slightly wavy SWI. Short tubes at SWI.
Reference	C05	B	Tan medium sand. Hydroids attached to long objects in farfield. Gastropod at SWI. Very shallow penetration. Stage 1 tubes in water column.
Reference	C05	C	Tan mediums and with thin drape of mud. Large cobble in midfield with attached barnacles and hydroids. Stage 1 tubes in water column. Very shallow penetration.
Reference	C05	D	Tan medium sand with trace mud at SWI and dragged into sediment column. SWI is sloped slightly.
Reference	C05	E	Tan coarse sand with very slight color change after upper 1-2cm of sediment. Trace mud at SWI. Stage 1 tubes in water column.

APPENDIX D

Plan View Image Analysis Results

Notes:

IND=Indeterminate

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	1	B	34	11/11/2017	13:32:17	101.50	67.66	0.69	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	1	C	34	11/11/2017	13:33:13	102.09	68.06	0.69	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	1	D	34	11/11/2017	13:34:13	99.43	66.28	0.66	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	2	A	34	11/11/2017	14:19:57	102.97	68.65	0.71	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	2	B	34	11/11/2017	14:20:54	100.52	67.01	0.67	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	2	C	34	11/11/2017	14:21:56	105.05	70.03	0.74	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	3	A	36	11/11/2017	14:48:09	95.94	63.96	0.61	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	3	B	36	11/11/2017	14:49:06	104.28	69.52	0.72	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	3	C	36	11/11/2017	14:50:03	107.66	71.77	0.77	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	4	A	36	11/11/2017	15:06:54	109.94	73.29	0.81	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	4	B	36	11/11/2017	15:07:57	106.12	70.75	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	4	D	37	11/11/2017	15:10:06	105.98	70.65	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	5	A	37	11/11/2017	15:23:45	108.71	72.47	0.79	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	5	B	36	11/11/2017	15:24:44	104.49	69.66	0.73	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	5	C	36	11/11/2017	15:25:50	106.27	70.84	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	6	A	36	11/11/2017	15:42:43	102.97	68.65	0.71	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	6	D	35	11/11/2017	15:45:43	106.41	70.94	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	7	B	38	11/11/2017	16:11:02	109.63	73.09	0.80	Sandy Gravel	Yes	IND	Soft Sediment Fauna	Attached Fauna

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Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	7	C	38	11/11/2017	16:12:18	106.48	70.99	0.76	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	7	D	37	11/11/2017	16:13:32	51.01	34.01	0.17	Boulder	Yes	IND	Attached Fauna	
SFWF	8	A	38	11/11/2017	19:20:18	108.79	72.52	0.79	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	8	B	37	11/11/2017	19:21:31	105.33	70.22	0.74	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	8	C	37	11/11/2017	19:22:43	100.19	66.80	0.67	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	9	A	36	11/11/2017	19:39:09	105.91	70.60	0.75	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	9	B	36	11/11/2017	19:40:27	105.19	70.13	0.74	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	9	C	36	11/11/2017	19:41:40	106.05	70.70	0.75	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	10	A	38	11/11/2017	16:39:55	109.86	73.24	0.80	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	10	B	39	11/11/2017	16:41:08	110.40	73.60	0.81	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	10	D	39	11/11/2017	16:43:26	111.03	74.02	0.82	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	11	A	38	11/11/2017	18:53:58	110.56	73.71	0.81	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	11	B	37	11/11/2017	18:55:09	108.64	72.42	0.79	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	12	A	40	11/11/2017	17:26:44	104.56	69.71	0.73	Sand	No	IND	Soft Sediment Fauna	
SFWF	12	C	40	11/11/2017	17:29:15	107.14	71.43	0.77	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	12	D	40	11/11/2017	17:30:34	103.24	68.83	0.71	Sand	No	IND	Soft Sediment Fauna	
SFWF	13	A	38	11/11/2017	18:32:34	106.12	70.75	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	13	B	38	11/11/2017	18:33:37	101.96	67.97	0.69	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	13	C	38	11/11/2017	18:34:44	111.11	74.07	0.82	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	14	B	40	11/11/2017	17:51:34	104.28	69.52	0.72	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	14	C	40	11/11/2017	17:52:53	106.56	71.04	0.76	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	14	D	40	11/11/2017	17:54:09	105.55	70.37	0.74	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	15	A	41	11/11/2017	18:08:36	94.66	63.11	0.60	Sand	No	None	Soft Sediment Fauna	
SFWF	15	B	41	11/11/2017	18:09:55	95.41	63.61	0.61	Sand	No	None	Soft Sediment Fauna	
SFWF	15	D	41	11/11/2017	18:12:12	92.97	61.98	0.58	Sand	No	None	Soft Sediment Fauna	
SFWF	16	A	35	11/12/2017	2:39:43	IND	IND		Gravelly Sand	No	Long waveform ripples	IND	
SFWF	16	B	37	11/12/2017	2:40:42	IND	IND		Gravelly Sand	No	Long waveform ripples	IND	Attached Fauna
SFWF	16	C	35	11/12/2017	2:41:44	IND	IND		Slightly Gravelly Sand	No	Long waveform ripples	IND	
SFWF	17	A	35	11/12/2017	2:24:01	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	17	B	35	11/12/2017	2:25:18	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	17	D	34	11/12/2017	2:27:53	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	18	A	35	11/12/2017	2:09:26	IND	IND		Gravelly Sand	No	None	Soft Sediment Fauna	Attached Fauna
SFWF	18	B	35	11/12/2017	2:10:35	IND	IND		Muddy Sand	No	IND	IND	IND
SFWF	18	C	34	11/12/2017	2:11:43	IND	IND		Muddy Sand	No	Irregular mounds/hummocks	IND	IND
SFWF	19	A	35	11/12/2017	1:54:47	IND	IND		Sandy Gravel	No	Long waveform ripples	IND	
SFWF	19	B	35	11/12/2017	1:55:56	IND	IND		Sandy Gravel	No	Long waveform ripples	IND	Attached Fauna
SFWF	19	D	35	11/12/2017	1:58:22	IND	IND		Sandy Gravel	No	Long waveform ripples	IND	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	20	A	35	11/12/2017	1:40:29	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	20	B	34	11/12/2017	1:41:33	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	20	C	35	11/12/2017	1:42:30	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	21	A	34	11/12/2017	1:20:23	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	21	B	34	11/12/2017	1:21:33	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	21	D	35	11/12/2017	1:23:48	IND	IND		Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	22	A	34	11/12/2017	1:03:33	107.96	71.97	0.78	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	22	B	35	11/12/2017	1:04:38	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	22	C	35	11/12/2017	1:05:44	IND	IND		Slightly Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	23	A	35	11/12/2017	0:42:08	105.83	70.56	0.75	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	23	C	36	11/12/2017	0:44:37	101.23	67.49	0.68	Gravelly Sand	Yes	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	23	D	35	11/12/2017	0:45:50	106.05	70.70	0.75	Gravelly Sand	Yes	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	24	A	35	11/12/2017	0:14:05	108.26	72.17	0.78	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	24	B	35	11/12/2017	0:15:30	109.63	73.09	0.80	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	24	C	35	11/12/2017	0:16:29	104.07	69.38	0.72	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	25	A	35	11/11/2017	23:31:20	IND	IND		Muddy Sand	IND	Long waveform ripples	Soft Sediment Fauna	
SFWF	25	B	39	11/11/2017	23:32:40	102.30	68.20	0.70	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	25	C	35	11/11/2017	23:33:53	109.70	73.14	0.80	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	26	A	35	11/11/2017	23:09:43	100.32	66.88	0.67	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	26	B	35	11/11/2017	23:10:53	92.64	61.76	0.57	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	26	D	35	11/11/2017	23:13:13	102.16	68.11	0.70	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	27	A	35	11/11/2017	22:50:18	109.55	73.03	0.80	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	27	B	35	11/11/2017	22:51:22	108.26	72.17	0.78	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	27	C	35	11/11/2017	22:52:35	107.73	71.82	0.77	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	28	A	34	11/11/2017	20:03:21	101.50	67.66	0.69	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	28	B	34	11/11/2017	20:04:37	100.32	66.88	0.67	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	28	C	35	11/11/2017	20:05:56	110.17	73.45	0.81	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	29	A	35	11/11/2017	22:29:26	95.18	63.45	0.60	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	29	B	36	11/11/2017	22:30:34	94.20	62.80	0.59	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	29	C	35	11/11/2017	22:31:47	102.23	68.15	0.70	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	30	A	36	11/11/2017	20:30:34	109.01	72.68	0.79	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	30	C	36	11/11/2017	20:32:37	105.98	70.65	0.75	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	30	D	38	11/11/2017	20:33:45	108.64	72.42	0.79	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	31	A	37	11/11/2017	20:53:26	105.98	70.65	0.75	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	31	B	36	11/11/2017	20:54:30	101.89	67.93	0.69	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	31	D	36	11/11/2017	20:56:33	110.95	73.97	0.82	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	32	A	35	11/11/2017	22:05:47	108.94	72.63	0.79	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	32	B	35	11/11/2017	22:06:58	107.07	71.38	0.76	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	32	C	35	11/11/2017	22:08:06	106.27	70.84	0.75	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	33	A	37	11/11/2017	21:19:19	98.80	65.86	0.65	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	33	B	38	11/11/2017	21:20:23	122.64	81.76	1.00	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	33	C	37	11/11/2017	21:21:34	105.91	70.60	0.75	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	34	A	34	11/11/2017	21:44:29	109.78	73.19	0.80	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	34	B	35	11/11/2017	21:45:38	100.52	67.01	0.67	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	34	D	35	11/11/2017	21:47:47	101.23	67.49	0.68	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	35	A	36	11/12/2017	2:55:06	IND	IND		Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	35	B	36	11/12/2017	2:56:20	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	35	D	37	11/12/2017	2:58:37	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	36	A	38	11/12/2017	3:15:47	IND	IND		Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	36	B	36	11/12/2017	3:17:04	IND	IND		Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	36	D	36	11/12/2017	3:19:23	IND	IND		Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	37	A	36	11/12/2017	3:34:35	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	37	B	35	11/12/2017	3:35:51	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	37	C	36	11/12/2017	3:37:08	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	38	A	35	11/12/2017	3:57:29	106.63	71.09	0.76	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	38	B	35	11/12/2017	4:00:35	88.84	59.23	0.53	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	38	D	35	11/12/2017	4:02:50	101.96	67.97	0.69	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	39	A	36	11/12/2017	4:21:59	98.86	65.91	0.65	Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	39	B	35	11/12/2017	4:24:07	108.41	72.27	0.78	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	39	C	35	11/12/2017	4:25:20	98.30	65.53	0.64	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	40	A	35	11/12/2017	4:40:20	102.56	68.38	0.70	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	40	B	35	11/12/2017	4:41:30	100.65	67.10	0.68	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	40	D	35	11/12/2017	4:44:10	101.83	67.89	0.69	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	41	A	34	11/12/2017	5:24:47	102.77	68.51	0.70	Sand	No	IND	Soft Sediment Fauna	
SFWF	41	B	35	11/12/2017	5:25:58	100.52	67.01	0.67	Sand	No	IND	Soft Sediment Fauna	
SFWF	41	C	35	11/12/2017	5:27:13	96.83	64.56	0.63	Sand	No	IND	Soft Sediment Fauna	
SFWF	42	A	34	11/12/2017	5:40:54	104.00	69.33	0.72	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	42	B	35	11/12/2017	5:42:03	105.12	70.08	0.74	Sandy Gravel	No	Long waveform ripples	IND	Attached Fauna

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	42	C	35	11/12/2017	5:43:18	106.63	71.09	0.76	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	43	A	34	11/12/2017	6:03:56	107.81	71.87	0.77	Sand	No	IND	Soft Sediment Fauna	
SFWF	43	B	35	11/12/2017	6:05:20	100.39	66.92	0.67	Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	43	D	35	11/12/2017	6:07:48	103.45	68.97	0.71	Sand	No	IND	Soft Sediment Fauna	
SFWF	44	A	35	11/12/2017	9:48:48	105.26	70.18	0.74	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	44	B	36	11/12/2017	9:49:57	91.50	61.00	0.56	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	44	D	35	11/12/2017	9:52:11	96.65	64.44	0.62	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	45	A	35	11/12/2017	10:04:37	99.74	66.50	0.66	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	45	B	36	11/12/2017	10:05:52	95.94	63.96	0.61	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	45	C	35	11/12/2017	10:07:01	98.24	65.49	0.64	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	46	A	35	11/12/2017	10:27:13	89.35	59.56	0.53	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	46	B	35	11/12/2017	10:28:22	96.59	64.40	0.62	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	46	C	35	11/12/2017	10:29:51	90.38	60.25	0.54	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	47	A	35	11/12/2017	10:46:54	94.66	63.11	0.60	Sand	No	IND	Soft Sediment Fauna	
SFWF	47	B	35	11/12/2017	10:48:15	95.71	63.80	0.61	Sand	No	IND	Soft Sediment Fauna	
SFWF	47	D	35	11/12/2017	10:50:36	IND	IND		Sand	No	IND	IND	
SFWF	48	A	36	11/12/2017	11:05:46	82.50	55.00	0.45	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	48	B	36	11/12/2017	11:06:59	100.19	66.80	0.67	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	48	C	35	11/12/2017	11:08:15	93.36	62.24	0.58	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	49	A	36	11/12/2017	11:49:52	100.26	66.84	0.67	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	49	B	35	11/12/2017	11:50:56	99.05	66.03	0.65	Sand	No	IND	Soft Sediment Fauna	

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Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	49	D	35	11/12/2017	11:53:57	97.32	64.88	0.63	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	50	A	35	11/12/2017	12:18:34	95.59	63.73	0.61	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	50	B	36	11/12/2017	12:19:51	103.52	69.01	0.71	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	50	C	35	11/12/2017	12:21:00	98.11	65.41	0.64	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	51	B	37	11/12/2017	12:36:08	99.05	66.03	0.65	Sandy Gravel	No	Long waveform ripples	IND	Attached Fauna
SFWF	51	C	36	11/12/2017	12:37:15	100.91	67.27	0.68	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	51	D	35	11/12/2017	12:38:23	97.74	65.16	0.64	Sandy Gravel	No	Long waveform ripples	IND	
SFWF	52	A	35	11/12/2017	17:08:02	92.97	61.98	0.58	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	52	B	35	11/12/2017	17:09:21	93.13	62.09	0.58	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	52	D	36	11/12/2017	17:11:37	105.62	70.41	0.74	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	53	A	35	11/12/2017	17:27:10	102.36	68.24	0.70	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	53	B	36	11/12/2017	17:28:37	104.21	69.47	0.72	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	53	C	36	11/12/2017	17:30:00	98.80	65.86	0.65	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFWF	54	A	36	11/12/2017	17:44:21	100.39	66.92	0.67	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	54	C	35	11/12/2017	17:47:06	102.63	68.42	0.70	Gravelly Sand	Yes	IND	Soft Sediment Fauna	Attached Fauna
SFWF	54	D	36	11/12/2017	17:48:11	110.09	73.39	0.81	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	55	A	36	11/12/2017	17:59:45	97.14	64.76	0.63	Sandy Gravel	No	Long waveform ripples	IND	
SFWF	55	B	36	11/12/2017	18:01:01	94.55	63.03	0.60	Sandy Gravel	No	Long waveform ripples	IND	
SFWF	55	D	38	11/12/2017	18:03:25	107.44	71.63	0.77	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	56	A	36	11/12/2017	16:27:38	99.55	66.37	0.66	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	56	B	34	11/12/2017	16:28:49	100.32	66.88	0.67	Sandy Gravel	No	IND	IND	
SFWF	56	C	36	11/12/2017	16:29:50	100.91	67.27	0.68	Sandy Gravel	No	Long waveform ripples	IND	Attached Fauna
SFWF	57	A	36	11/12/2017	18:18:14	102.16	68.11	0.70	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	57	C	36	11/12/2017	18:20:42	98.98	65.99	0.65	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	57	D	36	11/12/2017	18:21:54	96.59	64.40	0.62	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	58	A	36	11/12/2017	18:35:06	90.23	60.15	0.54	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	58	B	36	11/12/2017	18:36:31	100.71	67.14	0.68	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	58	D	36	11/12/2017	18:38:42	99.17	66.12	0.66	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	59	A	37	11/12/2017	16:01:51	119.17	79.45	0.95	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFWF	59	B	36	11/12/2017	16:03:14	102.97	68.65	0.71	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	59	C	36	11/12/2017	16:04:36	94.32	62.88	0.59	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	60	A	37	11/12/2017	15:47:06	93.53	62.35	0.58	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	60	B	37	11/12/2017	15:48:16	89.35	59.56	0.53	Slightly Gravelly Sand	No	Long waveform ripples	IND	
SFWF	60	C	34	11/12/2017	15:49:31	99.94	66.62	0.67	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	61	A	36	11/12/2017	15:32:06	103.93	69.29	0.72	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	61	C	36	11/12/2017	15:34:16	96.12	64.08	0.62	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	61	D	40	11/12/2017	15:35:32	103.79	69.19	0.72	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	62	A	36	11/12/2017	15:16:21	99.62	66.41	0.66	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	62	C	36	11/12/2017	15:19:00	105.62	70.41	0.74	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	62	D	36	11/12/2017	15:20:23	99.62	66.41	0.66	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	63	A	36	11/12/2017	15:02:07	95.41	63.61	0.61	Gravelly Sand	IND	IND	Attached Fauna	Soft Sediment Fauna
SFWF	63	B	36	11/12/2017	15:03:12	99.30	66.20	0.66	Sandy Gravel	Yes	IND	Attached Fauna	Soft Sediment Fauna
SFWF	63	C	36	11/12/2017	15:04:35	105.48	70.32	0.74	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	64	A	37	11/12/2017	14:47:06	98.24	65.49	0.64	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	64	B	37	11/12/2017	14:48:20	113.87	75.91	0.86	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	64	C	36	11/12/2017	14:49:33	93.53	62.35	0.58	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	65	A	36	11/12/2017	14:31:01	91.71	61.14	0.56	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	65	B	38	11/12/2017	14:32:38	90.38	60.25	0.54	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	65	C	36	11/12/2017	14:33:57	102.56	68.38	0.70	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	66	A	35	11/12/2017	12:53:10	108.11	72.07	0.78	Gravelly Sand	Yes	IND	Soft Sediment Fauna	Attached Fauna

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	66	B	36	11/12/2017	12:54:35	105.83	70.56	0.75	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	66	C	36	11/12/2017	12:56:10	88.89	59.26	0.53	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	67	A	36	11/12/2017	14:17:56	90.43	60.29	0.55	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	67	B	36	11/12/2017	14:19:12	95.88	63.92	0.61	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	67	C	36	11/12/2017	14:20:17	90.75	60.50	0.55	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	68	A	35	11/12/2017	13:13:25	94.20	62.80	0.59	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	68	B	36	11/12/2017	13:14:21	IND	IND		Sandy Gravel	IND	IND	IND	Attached Fauna
SFWF	68	D	35	11/12/2017	13:16:44	97.50	65.00	0.63	Sand	No	IND	Soft Sediment Fauna	
SFWF	69	A	35	11/12/2017	20:32:14	96.65	64.44	0.62	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	69	B	35	11/12/2017	20:33:17	101.76	67.84	0.69	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	69	C	36	11/12/2017	20:34:19	88.74	59.16	0.52	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	70	A	34	11/12/2017	20:54:14	101.50	67.66	0.69	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	70	B	36	11/12/2017	20:55:42	103.38	68.92	0.71	Sandy Gravel	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	70	C	34	11/12/2017	20:56:58	99.05	66.03	0.65	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	71	A	36	11/12/2017	20:11:05	97.87	65.24	0.64	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	71	B	36	11/12/2017	20:12:30	91.17	60.78	0.55	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	71	C	35	11/12/2017	20:13:38	97.87	65.24	0.64	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	72	A	36	11/12/2017	19:45:17	101.50	67.66	0.69	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	72	B	36	11/12/2017	19:46:46	94.72	63.15	0.60	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	72	C	36	11/12/2017	19:47:55	106.92	71.28	0.76	Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	73	A	36	11/12/2017	18:50:41	100.97	67.31	0.68	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	73	C	35	11/12/2017	18:53:02	89.14	59.43	0.53	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	73	D	35	11/12/2017	18:54:09	109.94	73.29	0.81	Sand	No	IND	Soft Sediment Fauna	
SFWF	74	A	36	11/12/2017	19:09:44	100.58	67.05	0.67	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	74	C	37	11/12/2017	19:11:43	100.97	67.31	0.68	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	74	D	35	11/12/2017	19:12:49	93.69	62.46	0.59	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	75	A	36	11/12/2017	19:27:40	91.23	60.82	0.55	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	75	C	36	11/12/2017	19:30:03	102.90	68.60	0.71	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFWF	75	D	36	11/12/2017	19:31:06	91.33	60.89	0.56	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	76	A	38	11/12/2017	14:01:01	97.50	65.00	0.63	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	76	B	36	11/12/2017	14:02:38	104.35	69.57	0.73	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	76	C	37	11/12/2017	14:03:51	102.50	68.33	0.70	Muddy Sand	No	IND	Soft Sediment Fauna	
SFWF	201	A	35	11/20/2018	15:12:40	91.87	61.25	0.56	Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	201	B	35	11/20/2018	15:13:58	86.91	57.94	0.50	Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	201	C	35	11/20/2018	15:15:04	91.76	61.18	0.56	Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	202	A	44	11/20/2018	14:53:04	85.34	56.89	0.49	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	202	B	44	11/20/2018	14:54:13	77.73	51.82	0.40	Muddy Sand	No	None	Soft Sediment Fauna	
SFWF	202	C	44	11/20/2018	14:55:27	83.69	55.79	0.47	Muddy Sand	No	None	Soft Sediment Fauna	
SFWF	203	A	37	11/20/2018	14:13:35	93.36	62.24	0.58	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	203	C	37	11/20/2018	14:14:45	85.34	56.89	0.49	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	203	D	37	11/20/2018	14:16:58	89.14	59.43	0.53	Gravelly Sand	No	None	Soft Sediment Fauna	
SFWF	204	A	35	11/20/2018	14:29:07	90.75	60.50	0.55	Sandy Gravel	No	None	Attached Fauna	Soft Sediment Fauna
SFWF	204	B	35	11/20/2018	14:30:23	76.66	51.11	0.39	Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFWF	204	C	35	11/20/2018	14:31:51	66.84	44.56	0.30	Sandy Gravel	No	None	Soft Sediment Fauna	Attached Fauna
SFWF	205	A	35	11/20/2018	13:57:32	83.74	55.82	0.47	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	205	B	35	11/20/2018	13:58:44	78.79	52.53	0.41	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	205	C	35	11/20/2018	14:00:03	86.67	57.78	0.50	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	206	A	36	11/20/2018	9:37:19	79.35	52.90	0.42	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	206	C	36	11/20/2018	9:39:21	88.14	58.76	0.52	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	206	D	36	11/20/2018	9:40:13	78.95	52.63	0.42	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	207	A	37	11/20/2018	13:40:19	82.45	54.97	0.45	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	207	B	37	11/20/2018	13:41:14	66.70	44.46	0.30	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	207	C	37	11/20/2018	13:42:18	81.50	54.34	0.44	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	208	A	34	11/20/2018	13:22:36	96.42	64.28	0.62	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	208	B	34	11/20/2018	13:23:38	97.93	65.29	0.64	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	208	C	34	11/20/2018	13:24:46	IND	IND	IND	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	209	B	37	11/20/2018	10:02:30	78.23	52.16	0.41	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	209	C	37	11/20/2018	10:03:29	77.42	51.61	0.40	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	209	D	37	11/20/2018	10:04:24	69.99	46.66	0.33	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	210	A	34	11/20/2018	12:31:59	88.79	59.19	0.53	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	

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Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	210	B	34	11/20/2018	12:33:02	76.62	51.08	0.39	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	210	C	34	11/20/2018	12:33:57	78.08	52.05	0.41	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	211	A	35	11/20/2018	12:47:53	81.46	54.31	0.44	Muddy Sand	No	None	Soft Sediment Fauna	
SFWF	211	B	35	11/20/2018	12:48:56	86.00	57.33	0.49	Muddy Sand	No	None	Soft Sediment Fauna	
SFWF	211	C	35	11/20/2018	12:49:54	77.53	51.69	0.40	Muddy Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	
SFWF	212	A	34	11/20/2018	12:07:35	84.87	56.58	0.48	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	212	C	34	11/20/2018	12:09:38	80.66	53.77	0.43	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	212	D	34	11/20/2018	12:10:34	92.31	61.54	0.57	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	213	A	34	11/20/2018	13:03:39	101.76	67.84	0.69	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	213	B	34	11/20/2018	13:05:04	70.59	47.06	0.33	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	213	C	34	11/20/2018	13:06:15	84.51	56.34	0.48	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	214	B	34	11/20/2018	10:18:38	66.67	44.44	0.30	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	214	C	34	11/20/2018	10:19:57	81.04	54.03	0.44	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFWF	214	D	34	11/20/2018	10:20:56	75.95	50.63	0.38	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	215	A	35	11/20/2018	11:40:43	85.81	57.21	0.49	Sandy Gravel	No	IND	IND	
SFWF	215	B	35	11/20/2018	11:41:53	79.15	52.77	0.42	Sandy Gravel	No	IND	Attached Fauna	
SFWF	215	C	35	11/20/2018	11:42:53	75.95	50.63	0.38	Gravelly Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	216	A	33	11/20/2018	11:53:48	89.35	59.56	0.53	Gravelly Sand	No	None	Soft Sediment Fauna	
SFWF	216	B	33	11/20/2018	11:54:48	96.42	64.28	0.62	Gravelly Sand	No	None	Soft Sediment Fauna	
SFWF	216	C	33	11/20/2018	11:55:41	65.85	43.90	0.29	Gravelly Sand	No	None	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFWF	217	A	34	11/20/2018	11:25:42	58.04	38.69	0.22	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	217	C	34	11/20/2018	11:28:46	78.59	52.39	0.41	Gravelly Sand	Yes	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	217	D	34	11/20/2018	11:29:19	81.93	54.62	0.45	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	218	A	33	11/20/2018	10:49:08	81.55	54.36	0.44	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	218	B	33	11/20/2018	10:50:32	75.14	50.10	0.38	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	218	C	33	11/20/2018	10:51:30	88.34	58.89	0.52	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	219	A	34	11/20/2018	10:34:10	93.19	62.13	0.58	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFWF	219	B	34	11/20/2018	10:35:19	75.88	50.58	0.38	Gravelly Sand	No	Irregular short period ripples	Soft Sediment Fauna	Attached Fauna
SFWF	219	C	34	11/20/2018	10:35:56	83.20	55.47	0.46	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	220	A	36	11/20/2018	11:11:12	74.96	49.98	0.37	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	220	B	36	11/20/2018	11:12:24	83.20	55.47	0.46	Muddy Sand	No	Irregular short period ripples	Soft Sediment Fauna	
SFWF	220	C	36	11/20/2018	11:13:50	80.25	53.50	0.43	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	C01	A	38	11/15/2017	17:27:01	IND	IND		IND	IND	IND	IND	
SFWF	C01	B	38	11/15/2017	17:28:04	IND	IND		IND	IND	IND	IND	
SFWF	C01	C	38	11/15/2017	17:29:18	IND	IND		Sandy Gravel	No	Long waveform ripples	IND	
SFWF	C01	E	38	11/15/2017	17:31:28	IND	IND		Sandy Gravel	No	IND	IND	
SFWF	C01	F	36	11/15/2017	17:32:44	IND	IND		Sandy Gravel	No	IND	IND	
SFWF	C02	A	37	11/15/2017	16:53:38	100.58	67.05	0.67	Sand	No	IND	Soft Sediment Fauna	
SFWF	C02	B	37	11/15/2017	16:55:12	105.98	70.65	0.75	Sand	No	IND	Soft Sediment Fauna	
SFWF	C02	C	36	11/15/2017	16:56:23	100.32	66.88	0.67	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFWF	C02	D	36	11/15/2017	16:57:21	100.65	67.10	0.68	Sand	No	IND	Soft Sediment Fauna	
SFWF	C02	E	36	11/15/2017	16:58:27	103.93	69.29	0.72	Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	101	A	35	11/12/2017	21:18:51	102.77	68.51	0.70	Sandy Gravel	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	101	C	35	11/12/2017	21:21:12	100.13	66.75	0.67	Sandy Gravel	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	101	D	35	11/12/2017	21:22:30	103.52	69.01	0.71	Sandy Gravel	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	102	A	36	11/12/2017	21:46:34	101.69	67.80	0.69	Sandy Gravel	Yes	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	102	C	36	11/12/2017	21:48:41	99.81	66.54	0.66	Gravelly Sand	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	102	D	35	11/12/2017	21:49:52	103.79	69.19	0.72	Sandy Gravel	No	Irregular mounds/hummocks	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	103	A	39	11/12/2017	22:12:47	106.05	70.70	0.75	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-OCS	103	B	38	11/12/2017	22:13:55	102.16	68.11	0.70	Muddy Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-OCS	103	D	39	11/12/2017	22:16:03	IND	IND		Muddy Sand	IND	IND	IND	
SFEC-OCS	104	A	39	11/12/2017	22:37:54	102.90	68.60	0.71	Sandy Gravel	Yes	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	104	B	38	11/12/2017	22:39:28	99.81	66.54	0.66	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	104	C	37	11/12/2017	22:40:39	103.79	69.19	0.72	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	105	A	41	11/12/2017	23:05:31	103.17	68.78	0.71	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	105	B	40	11/12/2017	23:06:52	100.97	67.31	0.68	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	105	D	41	11/12/2017	23:09:00	96.24	64.16	0.62	Muddy Sand	No	IND	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	106	A	43	11/12/2017	23:24:54	103.52	69.01	0.71	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	106	B	43	11/12/2017	23:26:03	91.50	61.00	0.56	Sand	IND	Long waveform ripples	IND	
SFEC-OCS	106	C	43	11/12/2017	23:27:01	IND	IND		Sand	IND	IND	IND	
SFEC-OCS	107	A	43	11/12/2017	23:48:00	109.24	72.83	0.80	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	107	B	43	11/12/2017	23:49:13	82.15	54.77	0.45	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	107	C	42	11/12/2017	23:50:22	98.42	65.62	0.65	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	108	A	43	11/13/2017	0:10:22	115.38	76.92	0.89	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	108	B	43	11/13/2017	0:11:31	103.72	69.15	0.72	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	108	C	43	11/13/2017	0:12:58	106.34	70.89	0.75	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	109	A	43	11/13/2017	0:27:58	88.09	58.72	0.52	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	109	B	43	11/13/2017	0:29:14	90.59	60.39	0.55	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	109	D	43	11/13/2017	0:31:33	89.14	59.43	0.53	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	110	A	45	11/13/2017	0:50:32	90.75	60.50	0.55	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	110	B	45	11/13/2017	0:53:45	103.38	68.92	0.71	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	110	C	45	11/13/2017	0:54:51	IND	IND		Sand	IND	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	111	A	47	11/13/2017	1:21:43	111.35	74.23	0.83	Sandy Gravel	No	Long waveform ripples	IND	
SFEC-OCS	111	B	47	11/13/2017	1:22:51	91.33	60.89	0.56	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	111	C	47	11/13/2017	1:24:03	108.56	72.37	0.79	Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	112	A	45	11/13/2017	1:45:43	95.94	63.96	0.61	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	112	B	45	11/13/2017	1:47:20	86.67	57.78	0.50	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	112	C	46	11/13/2017	1:48:29	88.99	59.33	0.53	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	113	A	44	11/13/2017	2:08:56	91.71	61.14	0.56	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	113	B	43	11/13/2017	2:09:55	106.41	70.94	0.75	Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	113	C	43	11/13/2017	2:11:04	107.81	71.87	0.77	Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	114	A	43	11/13/2017	2:32:12	101.69	67.80	0.69	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	114	B	42	11/13/2017	2:33:37	98.61	65.74	0.65	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	114	C	42	11/13/2017	2:34:34	107.81	71.87	0.77	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	115	A	45	11/13/2017	2:56:18	93.53	62.35	0.58	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	115	B	44	11/13/2017	2:57:19	101.56	67.71	0.69	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	115	C	44	11/13/2017	2:58:33	84.69	56.46	0.48	Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	116	A	45	11/13/2017	3:20:57	108.56	72.37	0.79	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	116	B	44	11/13/2017	3:22:08	100.78	67.18	0.68	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	116	C	45	11/13/2017	3:23:19	100.52	67.01	0.67	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	117	A	48	11/13/2017	3:43:20	IND	IND		Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	117	B	48	11/13/2017	3:44:38	95.94	63.96	0.61	Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	117	C	48	11/13/2017	3:46:01	92.86	61.90	0.57	Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	118	A	48	11/13/2017	4:08:45	92.20	61.47	0.57	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	118	B	48	11/13/2017	4:10:06	98.24	65.49	0.64	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	118	C	46	11/13/2017	4:11:22	IND	IND		IND	IND	IND	IND	
SFEC-OCS	119	A	47	11/13/2017	4:33:47	94.03	62.69	0.59	Sand	No	IND	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	119	B	47	11/13/2017	4:35:09	94.66	63.11	0.60	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	119	C	47	11/13/2017	4:36:32	101.56	67.71	0.69	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	120	A	45	11/13/2017	4:59:30	97.01	64.68	0.63	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	120	B	45	11/13/2017	5:00:38	97.87	65.24	0.64	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	120	C	46	11/13/2017	5:01:56	98.42	65.62	0.65	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	121	A	44	11/13/2017	5:26:19	81.46	54.31	0.44	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	121	B	43	11/13/2017	5:27:54	101.36	67.58	0.68	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	121	D	45	11/13/2017	5:30:11	104.77	69.85	0.73	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	122	A	41	11/13/2017	6:08:31	94.37	62.92	0.59	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	122	B	40	11/13/2017	6:09:40	101.89	67.93	0.69	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	122	C	40	11/13/2017	6:11:01	96.47	64.32	0.62	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	123	A	41	11/13/2017	6:33:41	97.50	65.00	0.63	Sandy Gravel	No	IND	IND	
SFEC-OCS	123	B	41	11/13/2017	6:34:50	104.77	69.85	0.73	Sandy Gravel	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	123	C	41	11/13/2017	6:36:15	98.05	65.37	0.64	Sandy Gravel	No	IND	Soft Sediment Fauna	
SFEC-OCS	124	A	43	11/13/2017	6:56:58	100.32	66.88	0.67	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	124	B	42	11/13/2017	6:58:09	97.20	64.80	0.63	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	124	D	43	11/13/2017	7:00:46	95.01	63.34	0.60	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	125	A	47	11/13/2017	7:20:58	103.31	68.87	0.71	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	125	C	47	11/13/2017	7:23:23	98.86	65.91	0.65	Muddy Sand	No	IND	Soft Sediment Fauna	

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Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	125	D	48	11/13/2017	7:24:32	99.43	66.28	0.66	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	126	A	41	11/13/2017	7:43:35	94.49	62.99	0.60	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	126	B	41	11/13/2017	7:44:49	96.95	64.64	0.63	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	126	C	41	11/13/2017	7:46:12	93.69	62.46	0.59	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	127	A	41	11/13/2017	8:09:31	99.55	66.37	0.66	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	127	B	41	11/13/2017	8:10:48	101.10	67.40	0.68	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	127	C	41	11/13/2017	8:12:19	99.05	66.03	0.65	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	128	A	47	11/13/2017	8:35:24	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	128	B	47	11/13/2017	8:37:05	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	128	C	46	11/13/2017	8:38:36	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	129	A	48	11/13/2017	9:01:57	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	129	C	48	11/13/2017	9:04:15	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	129	D	47	11/13/2017	9:05:32	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	130	A	48	11/13/2017	9:25:16	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	130	B	46	11/13/2017	9:26:51	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	130	C	46	11/13/2017	9:28:28	IND	IND		Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	131	A	45	11/13/2017	9:48:12	IND	IND		IND	IND	IND	IND	
SFEC-OCS	131	C	45	11/13/2017	9:50:55	IND	IND		IND	IND	IND	IND	
SFEC-OCS	131	D	45	11/13/2017	9:52:10	IND	IND		IND	IND	IND	IND	
SFEC-OCS	132	A	41	11/13/2017	10:06:32	IND	IND		IND	IND	IND	IND	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	132	C	43	11/13/2017	10:09:35	IND	IND		IND	IND	IND	IND	
SFEC-OCS	132	D	42	11/13/2017	10:11:01	IND	IND		Gravelly Sand	No	IND	IND	
SFEC-OCS	133	A	39	11/13/2017	10:41:49	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	133	B	39	11/13/2017	10:43:24	IND	IND		IND	IND	IND	IND	
SFEC-OCS	133	D	39	11/13/2017	10:46:13	IND	IND		IND	IND	IND	IND	
SFEC-OCS	134	A	36	11/13/2017	11:11:45	97.01	64.68	0.63	Sandy Gravel	No	IND	IND	
SFEC-OCS	134	B	35	11/13/2017	11:13:16	98.61	65.74	0.65	Gravelly Sand	No	IND	IND	
SFEC-OCS	134	C	36	11/13/2017	11:14:43	IND	IND		Gravelly Sand	No	IND	IND	
SFEC-OCS	135	A	34	11/13/2017	11:37:58	108.48	72.32	0.78	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	135	B	34	11/13/2017	11:39:16	100.00	66.67	0.67	IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	135	C	34	11/13/2017	11:40:20				IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	136	A	33	11/13/2017	12:07:49	104.14	69.43	0.72	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	136	B	33	11/13/2017	12:09:10	106.34	70.89	0.75	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	136	C	33	11/13/2017	12:10:06	96.42	64.28	0.62	Slightly Gravelly Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-OCS	137	A	35	11/13/2017	12:35:08	105.05	70.03	0.74	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	137	B	31	11/13/2017	12:36:07	96.12	64.08	0.62	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	137	C	32	11/13/2017	12:37:07	105.76	70.51	0.75	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	138	A	31	11/13/2017	12:58:46	86.19	57.46	0.50	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	138	B	32	11/13/2017	12:59:45	90.91	60.61	0.55	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	138	D	32	11/13/2017	13:01:50	106.34	70.89	0.75	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	139	A	31	11/13/2017	13:23:12	100.78	67.18	0.68	Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	139	B	32	11/13/2017	13:24:08	100.19	66.80	0.67	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	139	C	31	11/13/2017	13:25:00	96.06	64.04	0.62	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	140	A	31	11/13/2017	13:53:17	98.24	65.49	0.64	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	140	B	31	11/13/2017	13:54:21	104.14	69.43	0.72	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	140	C	31	11/13/2017	13:55:23	99.81	66.54	0.66	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	141	A	30	11/13/2017	14:57:04	104.98	69.99	0.73	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	141	B	30	11/13/2017	14:58:05	104.42	69.61	0.73	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	141	C	30	11/13/2017	14:59:19	100.13	66.75	0.67	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	142	A	28	11/13/2017	17:47:47	97.32	64.88	0.63	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	142	B	28	11/13/2017	17:49:50	94.66	63.11	0.60	Sand	IND	IND	IND	
SFEC-OCS	142	C	23	11/13/2017	17:51:28	81.12	54.08	0.44	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	146	C	30	11/14/2017	15:00:49	89.66	59.77	0.54	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	146	E	30	11/14/2017	15:02:25	IND	IND		IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	146	F	30	11/14/2017	15:03:11	IND	IND		IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	147	A	31	11/14/2017	15:28:52	92.36	61.57	0.57	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	147	B	31	11/14/2017	15:29:33	94.66	63.11	0.60	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	147	C	31	11/14/2017	15:30:29	96.83	64.56	0.63	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	148	A	30	11/14/2017	15:53:26	91.87	61.25	0.56	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	148	B	30	11/14/2017	15:54:42	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	148	C	30	11/14/2017	15:55:51	98.48	65.66	0.65	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	149	A	29	11/14/2017	16:19:17	IND	IND		IND	IND	IND	IND	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	149	B	29	11/14/2017	16:20:12	104.77	69.85	0.73	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	149	C	29	11/14/2017	16:21:08	90.38	60.25	0.54	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	150	A	31	11/14/2017	16:43:39	97.14	64.76	0.63	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	150	C	31	11/14/2017	16:45:50	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	150	D	31	11/14/2017	16:46:55	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	151	A	31	11/14/2017	17:11:20	93.81	62.54	0.59	Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	151	B	31	11/14/2017	17:12:33	95.88	63.92	0.61	Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	151	D	31	11/14/2017	17:14:41	IND	IND		Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-OCS	152	A	31	11/14/2017	17:34:19	95.06	63.38	0.60	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-OCS	152	B	31	11/14/2017	17:35:24	86.09	57.40	0.49	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	152	C	31	11/14/2017	17:36:25	86.24	57.49	0.50	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	153	A	31	11/14/2017	17:59:51	95.41	63.61	0.61	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	153	B	31	11/14/2017	18:01:08	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	153	C	31	11/14/2017	18:02:15	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	154	A	31	11/14/2017	18:23:42	IND	IND		IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	154	B	31	11/14/2017	18:24:52	IND	IND		Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	154	D	31	11/14/2017	18:26:55	IND	IND		IND	IND	IND	Soft Sediment Fauna	
SFEC-OCS	155	A	32	11/14/2017	18:48:53	105.83	70.56	0.75	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	155	B	32	11/14/2017	18:49:55	IND	IND		Sand	No	IND	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-OCS	155	C	32	11/14/2017	18:50:52	92.80	61.87	0.57	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	156	B	32	11/14/2017	19:15:25	IND	IND		IND	IND	IND	IND	
SFEC-OCS	156	C	32	11/14/2017	19:16:29	76.55	51.03	0.39	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	156	D	32	11/14/2017	19:17:36	75.73	50.49	0.38	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	157	A	30	11/14/2017	19:36:09	103.79	69.19	0.72	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	157	B	30	11/14/2017	19:37:13	94.83	63.22	0.60	Sand	No	IND	Soft Sediment Fauna	
SFEC-OCS	157	D	30	11/14/2017	19:39:13	IND	IND		Slightly Gravelly Sand	No	IND	Soft Sediment Fauna	Attached Fauna
SFEC-NYS	143	A	26	11/13/2017	15:42:11	100.52	67.01	0.67	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-NYS	143	B	26	11/13/2017	15:43:43	95.35	63.57	0.61	Muddy Sand	No	IND	Soft Sediment Fauna	
SFEC-NYS	143	C	26	11/13/2017	15:44:49	100.78	67.18	0.68	IND	No	IND	IND	
SFEC-NYS	144	A	22	11/13/2017	17:03:18	102.36	68.24	0.70	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	144	B	22	11/13/2017	17:04:38	99.74	66.50	0.66	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	144	C	23	11/13/2017	17:05:55	99.43	66.28	0.66	Slightly Gravelly Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	145	A	17	11/13/2017	16:27:06	101.30	67.53	0.68	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	145	B	17	11/13/2017	16:28:11	96.42	64.28	0.62	Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	145	C	17	11/13/2017	16:29:26	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	
SFEC-NYS	158	A	25	11/14/2017	20:03:30	96.24	64.16	0.62	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-NYS	158	B	25	11/14/2017	20:04:29	94.37	62.92	0.59	Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-NYS	158	C	25	11/14/2017	20:05:38	IND	IND		Sand	No	Short waveform irregular ripples	Soft Sediment Fauna	
SFEC-NYS	159	A	21	11/14/2017	20:30:58	IND	IND		IND	IND	IND	IND	
SFEC-NYS	159	B	21	11/14/2017	20:31:59	IND	IND		IND	IND	IND	IND	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Water Depth (m)	Date	Time	Image Width (cm)	Image Height (cm)	Field of View (m ²)	Sediment Type	Boulders	Bedforms	Biotic Subclass	Co-occurring Biotic Subclass
SFEC-NYS	159	C	21	11/14/2017	20:33:02	IND	IND		IND	IND	IND	IND	
SFEC-NYS	160	A	16	11/14/2017	20:52:00	IND	IND		IND	IND	IND	IND	
SFEC-NYS	160	B	16	11/14/2017	20:53:01	IND	IND		IND	IND	IND	IND	
SFEC-NYS	160	D	16	11/14/2017	20:55:04	IND	IND		IND	IND	IND	IND	
Reference	C03	A	35	11/15/2017	16:19:33	98.86	65.91	0.65	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C03	B	35	11/15/2017	16:20:54	107.96	71.97	0.78	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C03	C	36	11/15/2017	16:21:59	98.24	65.49	0.64	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C03	D	35	11/15/2017	16:22:58	IND	IND		Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C03	E	36	11/15/2017	16:24:14	104.56	69.71	0.73	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C04	A	36	11/15/2017	15:49:31	105.41	70.27	0.74	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C04	B	36	11/15/2017	15:50:33	106.85	71.23	0.76	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C04	C	38	11/15/2017	15:51:42	106.34	70.89	0.75	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C04	D	36	11/15/2017	15:52:53	104.42	69.61	0.73	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C04	F	36	11/15/2017	15:55:11	109.01	72.68	0.79	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C05	A	35	11/15/2017	15:17:37	104.98	69.99	0.73	Muddy Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C05	B	36	11/15/2017	15:19:09	114.45	76.30	0.87	Sandy Gravel	Yes	IND	Soft Sediment Fauna	Attached Fauna
Reference	C05	C	33	11/15/2017	15:20:24	116.07	77.38	0.90	Sandy Gravel	No	IND	Soft Sediment Fauna	Attached Fauna
Reference	C05	D	35	11/15/2017	15:21:36	106.48	70.99	0.76	Sand	No	Long waveform ripples	Soft Sediment Fauna	
Reference	C05	F	35	11/15/2017	15:24:55	97.32	64.88	0.63	Sand	No	Long waveform ripples	Soft Sediment Fauna	

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	1	B	No		Pale tan slightly gravelly sand with thin drape of mud in trough of long waveform ripple. Small perpendicular short-form ripples visible to left of image. Small burrow with possible fecal pellets below lasers, nearby thin track.
SFWF	1	C	No		Pale tan gravelly sand with gravel bar running up-down through center of image. Long waveform ripple present. Shallow foraging pits present in lower right. Hydroids attached on far right.
SFWF	1	D	No		Pale tan gravelly sand with gravel bar running up-down through center of image. Long waveform ripple present. Potential tracks present in bottom right. Hydroids and barnacles (and grazing of these) attached to larger cobbles and debris present.
SFWF	2	A	No		Pale tan muddy sand with areas of darker mud in lower left and right corners. Potentially older longform ripple present that has been modified by fauna since, indicated by burrows. Sparse coverage of shell hash throughout. Fecal pellets and casts throughout, particularly through lower half.
SFWF	2	B	No		Pale tan muddy sand with slightly darker areas of mud in lower quarter. Sparse shell hash throughout. Irregular short period ripples particularly highlighted in lower left of image. Numerous foraging pits with fecal casts present throughout. Potential small fish present in top center.
SFWF	2	C	No		Pale tan muddy sand. Numerous foraging pits with fecal casts present throughout.
SFWF	3	A	No		Pale tan slightly muddy sand with irregular short period ripples. Ripples run from lower left to top right. Burrows at top center. Several foraging pits and fecal casts in lower center and lower right. Tracks present in center-top and left side.
SFWF	3	B	No		Pale tan slightly muddy sand with irregular short period ripples. Rippling is inconsistent in direction. Numerous foraging pits and tracks present throughout, few burrows. Potential foraging divots present just above left laser.
SFWF	3	C	No		Pale tan slightly muddy sand with irregular short period ripples. Fecal casts on surface, potential old burrows present in bottom center.
SFWF	4	A	No		Pale tan slightly muddy sand and irregular short period ripples. Few burrows, foraging pits, and fecal casts.
SFWF	4	B	No		Pale tan slightly muddy sand and irregular short period ripples. Few burrows, foraging pits and fecal casts. Numerous tracks present throughout.
SFWF	4	D	No		Pale tan slightly muddy sand and irregular short period ripples. Few foraging pits and fecal casts. Potential old tracks just below lasers, particularly right laser.
SFWF	5	A	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits with fecal cast in center through center and bottom right. Tracks prevalent through lower quarter.
SFWF	5	B	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits with fecal casts in far lower left. Tracks prevalent through lower quarter.
SFWF	5	C	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits with fecal casts in center through center and bottom right. Tracks prevalent through lower quarter and left side.
SFWF	6	A	No		Pale tan slightly muddy sand with biologically modified surface and potential irregular short period ripples. Potential tubes in center bottom below the right laser. Tracks prevalent throughout lower three quarters, some coming from burrows at lower center. Fecal casts on surface too.
SFWF	6	D	No		Pale tan slightly muddy sand with irregular short period ripples. Shell hash throughout, larger debris in top center. Foraging pits in center bottom. Tracks in lower center. Fecal casts. Some type of fauna, potentially a gastropod, on surface at lower center.
SFWF	7	B	No		Pale tan sand through center and bottom left. Mud and finer sediment in far bottom left. Mixed gravel and cobble in bottom right quarter. Sand through center with gravel/cobble/boulder on either side indicate possible long waveform rippling. Small boulder in top left corner with attached hydroids and sparse barnacles and grazed patches. Sandy area contains burrows with fecal pellets. Scallop shell on far left.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	7	C	No		Pale tan sand with extensive broken shell hash throughout. Gravel/cobble deposit in top right, sparse cobble down center of image. Dead sand dollar and clam shells mixed in with cobble in top right of image. Possible ripples indicated by sand/shell deposit distribution running from bottom left to top right of image. Sparse attached hydroids and potential barnacles on cobbles in top right. Burrows in sand/mud deposits in lower right corner.
SFWF	7	D	No		Large boulder in bottom 3/4ths of image. Top 1/4 slightly gravelly sand with shell hash. Boulder is colonized by hydroids and barnacles, many of which have been grazed. A large orange anemone is attached to the boulder on the far left of the image. Potential burrow in top right corner in sandy sediment.
SFWF	8	A	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits with fecal casts throughout lower half of image. Sparse shell hash evenly distributed throughout. Tracks prevalent through lower quarter. Low level turbidity in water column (as white specks).
SFWF	8	B	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits and fecal casts on surface. Low level turbidity in water column (as white specks).
SFWF	8	C	No		Pale tan slightly muddy sand with irregular short period ripples. Foraging pits and clusters of fecal casts throughout image including just above right laser and immediately to the left and top left of left laser. Low level turbidity in water column (as white specks).
SFWF	9	A	No		Dark tan slightly muddy sand. Biogenically modified surface. Potential mud clasts from SPI frame in bottom left corner of image. Shell hash, including sand dollars, sparsely distributed throughout image. Very high coverage of fecal casts. No indications of burrows, tracks, or tubes.
SFWF	9	B	No		Dark tan slightly muddy sand. Biogenically modified surface. Shell hash sparsely distributed throughout image. Very high coverage of fecal casts. Likely tube in bottom right corner.
SFWF	9	C	No		Dark tan slightly muddy sand. Biogenically modified surface. Very high coverage of fecal casts. Gastropod on far left center of image.
SFWF	10	A	No		Tan sandy mud with generally high water turbidity (as white specks). Biogenically modified surface visible in top right corner of image. Foraging pits in bottom left quarter.
SFWF	10	B	IND		Tan sparsely muddy sand. Very high turbidity level in water column. Not able to discern bedforms or biota.
SFWF	10	D	No		Tan muddy sand in top left corner transitions to increased dark brown mud in lower right corner of image. Biogenically modified surface. Foraging pits in lower left and lower right areas of image with fecal casts. Turbid water column.
SFWF	11	A	No		Pale tan slightly muddy sand and biogenically modified surface. Sparse shell hash evenly distributed. Turbid water column. Potential foraging pits with fecal casts along bottom of image.
SFWF	11	B	No		Pale tan slightly muddy sand and biogenically modified surface. Turbid water column. Foraging pits with fecal casts along bottom of image and far left bottom corner.
SFWF	12	A	No		Pale tan sand with potentially sparse presence of finer muds. No bedform able to be distinguished, in part due to turbidity. Burrows in center right, foraging pits in lower right.
SFWF	12	C	No		Pale tan sand with potentially sparse presence of finer muds. No bedform able to be distinguished, in part due to turbidity. Potential foraging pit with fecal pellets under left laser.
SFWF	12	D	No		Pale tan sand with potentially sparse presence of finer muds. No bedform able to be distinguished, in part due to turbidity. Unable to determine presence of burrows due to turbidity.
SFWF	13	A	No		Pale tan slightly muddy sand and irregular short period ripples. Turbid water column (as white specks). Foraging pits present in lower quarter of image, particularly lower right corner with fecal casts. Potential track in lower left corner on top of sand ridge and far left center.
SFWF	13	B	No		Pale tan slightly muddy sand and biogenically modified surface. Turbid water column (as white specks). Foraging pits present in lower quarter of image, particularly lower right corner with fecal casts. Ctenophore in left center of image.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	13	C	No		Pale tan slightly muddy sand and biogenically modified surface. Very turbid water column (as white specks). Foraging pits present in lower quarter of image. Potential tracks in bottom center of image. Image too turbid to confirm burrow or track presence.
SFWF	14	B	No		Pale tan sand and biogenically modified surface vaguely visible throughout image. Very sparse shell hash present, including center just above lasers. Foraging pits and other areas contain fecal casts.
SFWF	14	C	No		Tan sand with very turbid water column. Biogenically modified surface vaguely visible through turbidity. Turbidity makes it impossible to discern burrows, tracks, or tubes. Cancer (Jonah?) crab present on far right center of image.
SFWF	14	D	No		Tan sand with very turbid water column. Biogenically modified surface vaguely visible through turbidity. Turbidity makes it impossible to discern burrows, tracks, or tubes. Small fish present in lower right corner.
SFWF	15	A	No		Pale tan sand with high turbidity in water column. Dark spot, potential boulder, in bottom right corner. Fecal casts and/or tubes across surface. Shrimp in top right corner.
SFWF	15	B	No		Pale tan sand with high turbidity in water column. Potential fecal casts in bottom right corner, not possible to pick out other biotic features due to turbidity. Flat fish at right edge partway up.
SFWF	15	D	No		Pale tan sand with high turbidity in water column. Fecal casts and/or tubes across surface. Not possible to pick out other biotic features due to turbidity. Potential fish along bottom center.
SFWF	16	A	No		Long waveform ripple running left to right across image. Tan coarse sand on left of image, center of image is washed gravel and right is dark tan sand/mud followed by lighter sand. Small rivulets or tracks on sand bank on left. Potential for attached fauna in gravel bed. Potential burrows on far right.
SFWF	16	B	No		Long waveform ripple running top left to bottom right across image. Sandy mud in top right, center of image is coarse sand wave, and bottom right in washed gravel. Shell hash interspersed with gravel. Potential barnacles on gravel in bottom right. Skate egg in bottom left corner.
SFWF	16	C	No		Tan sand with sparse gravel in top center and left of image. Large shell debris on left center of image. No clear indication of burrows or tracks.
SFWF	17	A	No		Pale tan muddy sand and long waveform ripple. Very sparse presence of gravel in top and right of image. Small burrows and fecal casts.
SFWF	17	B	No		Pale tan muddy sand and ripples. Large shell debris in center of image. Possible Chaetopterus tube on far right. No evidence of burrows or tubes.
SFWF	17	D	No		Pale tan muddy sand and ripples. Slight turbidity in water column (as white specks). Tube in top left of image. Foraging pits, no evidence of fecal casts.
SFWF	18	A	No		Tan sand interspersed equally with darker mud deposits and gravel/cobble. Sparse distribution of shell hash around gravel. Gravel and cobble have attached hydroids and sparse barnacle colonies that have been grazed. Smaller gravel are uncolonized. Burrow in bottom left corner of image.
SFWF	18	B	IND		Pale tan sand with likely mud present. Very high turbidity in water column limit further analysis.
SFWF	18	C	No		Pale tan sand with likely mud present. Very high turbidity in water column limit further analysis.
SFWF	19	A	No		Pale tan sand with gravel and small cobble. Long waveform rippling visible running from top right to bottom left following a progression of sand, gravel, and finer sand/mud in the trough in the far bottom left. Sparse amounts of shell hash distributed in all three sediment types. No biotic components or attached fauna visible.
SFWF	19	B	No		Pale tan sand in top right corner with gravel and small cobble running from top left to bottom right as ripples. Bottom left of image is darker sand/mud. Sparse shell hash distributed throughout. Cobble near center of image is colonized by attached hydroids. Other gravel/cobble in uncolonized.
SFWF	19	D	No		Pale tan sand in top left corner with gravel and small cobble running from bottom left to top right as ripples. Bottom right of image is darker sand/mud. Sparse shell hash distributed throughout. Live scallop in bottom center of image.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	20	A	No		Pale tan sand with darker mud deposits in top left of image. Long waveform ripple runs from top right to bottom left. Potential foraging pits in bottom left and center bottom of image. Track running across ripple crest.
SFWF	20	B	No		Pale tan sand with finer muds present and sparse shell hash in trough of long waveform ripple. Long waveform rippling present. Biotic mounds, small tubes and fecal casts on far left center and bottom middle of image.
SFWF	20	C	No		Pale tan sand with finer muds present and sparse shell hash. Long waveform rippling present. Few small burrows, tubes, and fecal casts in muddy areas.
SFWF	21	A	IND		Pale tan sand with finer muds present. Ripples that have been biogenically modified. Foraging pits with fecal casts in some. Small fish or squid present in top center of image.
SFWF	21	B	No		Pale tan sand with finer muds present and ripples. Sparse shell hash throughout image. Tube casing just above and to the right of left laser.
SFWF	21	D	No		Pale tan sand with finer muds scattered throughout and ripples. Sparse shell hash in all sediment types. Fecal casts scattered in bottom left of image. Single skate egg in top right of image.
SFWF	22	A	No		Tan muddy sand with sparse shell hash distributed evenly throughout. Single stray gravel or shell fragment present in lower right. Foraging pits present in lower quarter of image, evident below right laser.
SFWF	22	B	No		Tan muddy sand. Highly turbid water column limits analysis. Seafloor appears to be biogenically modified
SFWF	22	C	No		Tan muddy sand with gravel and small cobble present on left and top right of image. Sparse shell debris and shell hash distributed throughout. Potential foraging pits at bottom center. Burrow with fecal casts in center at bottom right. Likely dead seaweed with gravel on left of image.
SFWF	23	A	No		Tan muddy sand with gravel and small cobble present in lower left corner and sparsely throughout. Sand ridge in bottom left. Sparse shell debris (top left) and sparse shell hash throughout. Larger cobbles on right have attached hydroids. Slightly buried sand dollar in top left. Skate egg adjacent to cobble in top right.
SFWF	23	C	No		Tan slightly muddy sand with sparse gravel in top right corner and small boulder in left middle. Sparse shell hash throughout. Gravel and shell hash is uncolonized. Foraging pits just below boulder and on far right. Boulder colonized by hydroids. Polymastia sp. sponge present just above boulder on far left.
SFWF	23	D	No		Tan slightly muddy sand with cobble and small boulders sparsely distributed throughout. No clear bedform present. Sparse shell hash throughout. Uncolonized small boulder in bottom right, hydroid colonized boulders in top right and bottom left, hydroid colonized cobble in center left. Emergent debris in bottom right.
SFWF	24	A	No		Pale tan slightly muddy sand with biogenically modified surface. Sparse shell hash distributed throughout. Burrow at middle left. Numerous foraging pits throughout image.
SFWF	24	B	No		Pale tan sand with biogenically modified surface. Numerous foraging pits throughout image. Turbidity in water column (as white specks).
SFWF	24	C	No		Pale tan sand with sparse shell hash throughout biogenically modified surface, subtle indication of ripples. Foraging pits mostly in lower left.
SFWF	25	A	No		Pale tan muddy sand with darker mud on far right of image. Left half of image is obscured by turbidity, potentially from SPI weight. Sparse shell hash throughout. Potential burrows in lower right corner.
SFWF	25	B	No		Pale tan sand along right of image with darker slightly muddy sand on left half of image. Sparse shell hash throughout. Small burrows in finer sediments in trough of ripple. Potential tracks in bottom center of image.
SFWF	25	C	No		Pale tan slightly muddy sand with sparse shell hash throughout. Bedform unclear. Potential foraging pits present below left laser.
SFWF	26	A	No		Pale tan slightly muddy sand with irregular short period ripples. Sparse shell hash throughout. Numerous foraging pits with fecal casts in centers of some.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	26	B	No		Pale tan slightly muddy sand with biogenically modified surface. Sparse shell hash throughout. Area of recent turbidity in top left corner potentially from SPI weight. A few foraging pits with fecal casts and several tracks in bottom quarter of image.
SFWF	26	D	No		Pale tan slightly muddy sand with irregular short period ripples. Sparse shell hash throughout. Area of recent turbidity in top left corner potentially from SPI weight. A few foraging pits with fecal casts. Other fecal casts present outside of association with pits.
SFWF	27	A	No		Pale tan slightly muddy sand with biogenically modified surface. Sparse shell hash throughout. Numerous foraging pits with fecal casts in centers of some.
SFWF	27	B	No		Pale tan slightly muddy sand with biogenically reworked surface. Sparse shell hash throughout. Numerous foraging pits with fecal casts. Ctenophore in water column in lower left corner.
SFWF	27	C	No		Pale tan slightly muddy sand with biogenically reworked surface. Sparse shell hash throughout. A few foraging pits with fecal casts.
SFWF	28	A	No		Pale tan sand with presence of darker muddy sand. Bedform indeterminate. Foraging pits interspersed throughout image, particularly along left side. Some debris or dead seaweed with attached hydroids below left laser.
SFWF	28	B	No		Pale tan sand with presence of darker muddy sand. Bedform indeterminate. Potential foraging pits interspersed throughout image, particularly along left side. Potential tube or organism remains half way between right laser and top of image. Image has turbid water column (as white specks).
SFWF	28	C	No		Tan and dark tan slightly muddy sand with long waveform ripple. Shell hash throughout and large dead sand dollar in center. Burrows and foraging pits in lower and left sides of image.
SFWF	29	A	No		Pale sand interspersed with tan slightly muddy sand. Large shell debris in lower left, shell hash throughout. Long waveform ripple apparent. Significant tracks, likely from crustacean, present along ridge of ripple. Ctenophores present in top of image. Potential fish along right side of image. Small burrows at center and right.
SFWF	29	B	No		Pale tan sand interspersed with slightly muddy sand, with ripples. Sparse shell hash throughout. Biogenically modified surface in lower half of image - burrows and/or foraging pits.
SFWF	29	C	No		Pale tan sand interspersed with slightly muddy sand, with ripples. Sparse shell hash throughout. Biogenically modified surface, especially in lower left of image - mostly foraging pits.
SFWF	30	A	No		Tan sand with slight mud and gravel present. Ripples evident. Shell hash present throughout. Visible gravel (pebbles) just above right laser. Potential tracks in lower center and lower right of image.
SFWF	30	C	No		Pale tan slightly muddy sand with long waveform ripple. Shell hash interspersed throughout. Potential foraging pits in lower left of image. Top and far right of image are obscured by high turbidity.
SFWF	30	D	No		Pale tan slightly muddy sand with sparse gravel (pebbles) present and long waveform ripple. Shell hash present throughout. Potential burrows or foraging pits in lower left corner.
SFWF	31	A	No		Tan slightly muddy sand with shell hash throughout and an indeterminate bedform. Sand dollar debris on left center of image. Turbidity in the water column. Burrows in lower right corner of image. Potential fecal casts through right side of image.
SFWF	31	B	No		Tan slightly muddy sand with shell hash throughout and an indeterminate bedform. High turbidity in water column. Potential track in bottom center of image.
SFWF	31	D	No		Tan slightly muddy sand with shell debris and shell hash throughout. Bedform indeterminate. High turbidity along left side of image. Large burrow/pit in center of image.
SFWF	32	A	No		Pale tan slightly muddy sand with shell hash throughout with biogenically reworked surface. Numerous foraging pits throughout particularly visible below lasers and in bottom right. Potential fecal casts associated with several pits
SFWF	32	B	No		Pale tan slightly muddy sand with shell hash throughout with biogenically modified surface. Numerous feeding pits throughout particularly visible below lasers and in bottom right. Potential fecal casts associated with several feeding pits. Ctenophore in water column in bottom left corner.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	32	C	No		Pale tan slightly muddy sand with shell hash throughout with biogenically modified surface. Numerous foraging pits throughout particularly visible below lasers and in bottom right. Potential fecal casts associated with several pits. Ctenophores present above left laser and on bottom center of image.
SFWF	33	A	No		Pale tan sand with long waveform rippling running from top of image to bottom of image. Shell hash distributed throughout. No presence of infauna. Ctenophore in bottom center of image. Potential burrows and foraging pits.
SFWF	33	B	No		Tan slightly gravelly sand with the gravel occurring in the center top of the image. Ripples running from top right to bottom left of image. Shell debris, including sand dollar, and shell hash distributed throughout. Increased presence of shell hash with gravel. Potential foraging pit in bottom left and far right of image. Ctenophore on bottom left of image.
SFWF	33	C	No		Tan sand with extensive shell debris and shell hash throughout. Ripples running from top right to bottom left of image. Potential foraging pits left of and above the left laser and in far right bottom corner.
SFWF	34	A	No		Tan sand with sparse cobble (6) distributed evenly throughout. Bedform indeterminate. Sparse shell hash distributed throughout. Cobbles show signs of grazing on barnacles. Sparse hydroid coverage on cobble in top right corner. Small burrows in lower right.
SFWF	34	B	No		Tan sand with sparse shell hash and long waveform ripple running from bottom left to top right of image. Pebbles and small cobble present in bottom right. Possible foraging divots to the left and below left laser. Potential grazed barnacles and low coverage of hydroids on gravel/cobble in bottom right.
SFWF	34	D	No		Tan sand with shell hash distributed throughout and long waveform ripple running from top to bottom of image. Complete (both halves) clam shell debris in bottom right of image. Astarte (?) clam directly to the left of clam shell. Foraging pits on and below left laser and right and below right laser. Ctenophores above left laser and over clam shell.
SFWF	35	A	No		Dark tan slightly gravelly sand with potential finer muds interspersed. Cobbles on lower 1/8th of image. Sparse shell hash throughout. Potential sparse hydroids and grazed barnacles on gravel in lower right and lower left. Foraging pits present in top right and bottom left. Potential tracks just above and to the left of gravel. Lefteye flatfish in center of image. Patches of textured surface likely small tubes or fecal casts.
SFWF	35	B	No		Pale tan sand with potential darker finer muds on top 1/4 of image. Sparse shell hash throughout. Foraging pits/mounds present to right and right/above the right (only) laser. Clear track above laser.
SFWF	35	D	No		Pale tan sand with potential finer darker muds in bottom half of image. Bedform indeterminate. Sparse shell hash throughout. Foraging pits and fecal casts present throughout image. Patches of textured surface likely small tubes or fecal casts.
SFWF	36	A	No		Tan gravelly sand with sparse cobbles throughout. Bedform indeterminate. Sparse shell hash throughout with larger shell debris to the upper right of left (only) laser. Foraging pits present in lower half of image. Two skate eggs present. Larger cobbles in center of image colonized by hydroids. Potential barnacle on small cobble in bottom left.
SFWF	36	B	No		Tan gravelly sand with cobble accounting for ~20% of sediment. Potential sparse occurrence of finer muds. Bedform indeterminate. Sparse shell hash throughout with larger debris in lower left. Foraging pits in lower right of image. Larger gravel/cobble colonized by hydroids and barnacles. Evidence of grazing on barnacles. One skate egg in upper right. Potential track in lower right corner.
SFWF	36	D	No		Tan gravelly sand with darker finer muds present. Bedform indeterminate. Potential foraging pits in bottom right and middle right. Attached hydroids on gravel/cobble. Barnacles and grazed barnacles present on a few cobbles. Two skate eggs, one in center and one in top right.
SFWF	37	A	No		Pale tan sand with darker finer muds running down center of image between ripples. Sparse shell hash throughout. Few small burrows. Potential foraging pits and tracks in darker sediment through center of image and to left of left (only) laser.
SFWF	37	B	No		Pale tan sand and long waveform ripple with sparse shell hash throughout. Cobble in lower right and upper right corners. Foraging pits and fecal casts in lower left of image.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	37	C	No		Pale tan sand with potential sparse darker finer muds throughout. Sparse shell hash throughout. Evidence of long waveform ripple indicated by long ridge along bottom of image. Potential tracks along ridge. Windowpane flounder in lower left corner.
SFWF	38	A	No		Pale tan sand along right side of image, darker sand with finer muds along center of image, and pebbles along left side of image. Layout of sediment suggestive of ripples. Small burrows and tracks in bottom right 1/4 of image. Potential tubes in upper left portion of darker sand sediment.
SFWF	38	B	No		Pale tan gravelly sand with potential darker finer sands in top left of image. Long waveform ripple present. Sparse shell hash and shell debris throughout. Potential foraging pits along top of sand ridge in lower right quadrant of image.
SFWF	38	D	No		Pale tan sand along top of image, darker muddy sand along bottom half of image. Sparse shell hash in sand. Extensive shell hash and large shell debris in darker muddy sediment. Small amount of cobble in muddy section as well. Long waveform ripple present. Foraging pits on right at border of sand and muddy sections.
SFWF	39	A	No		Pale tan sand with sparse darker finer muds present. Sparse shell hash present, particularly around large cobble on top center of image. Foraging pits present through lower half of image. Large cobble colonized by hydroids with sand covering rest of cobble. Skate egg in top right of image.
SFWF	39	B	No		Ridge of pale tan sand bordered by gravel. Gravel ranges in size from small pebbles to cobble. Long waveform ripple present. Foraging pits present on top of sand ridge, particularly on left side of image. Evidence of grazed barnacles in lower gravel ridge. Shell hash and debris prominent in gravel.
SFWF	39	C	No		Ridge of pale tan sand bordered by gravel. Gravel ranges from small pebbles to cobble. Long waveform ripple present. Burrows present on top of sand ridge, particularly on center right of image. Evidence of grazed barnacles in lower gravel ridge. Shell hash and debris prominent in gravel.
SFWF	40	A	No		Tan sand with two sections of cobble, one in the top right and one running from bottom left to top right. Shell debris common in cobble areas. Long waveform ripple present. Potential foraging in lower right quadrant and middle left area of image. Potential tube in top left corner.
SFWF	40	B	No		Tan sand ridge bordered by cobble. Shell hash present with cobble. Long waveform ripple present. Potential foraging pits and tracks along sand ridge on left of image. Barnacles and grazed barnacles on cobble on right middle part of image. Large shell debris in top right of image.
SFWF	40	D	No		Tan sand ridge along top of image, cobble in top left corner and bottom half of image. Long waveform ripple present. Shell hash present throughout. Shell debris common in gravel. Potential foraging pits on left side of sand ridge. Potential barnacles and grazed barnacles on gravel. Dead seaweed on far right bottom corner. Small unknown fish in lower right of image.
SFWF	41	A	No		Pale tan sand with sparse shell hash throughout. Subtle irregular short period ripples present. Numerous feeding pits present throughout, particularly in lower half of image. Fecal casts associated with feeding pits. Potential tracks in lower right quadrant of image.
SFWF	41	B	No		Pale tan sand with sparse shell hash throughout. Subtle irregular short period ripples present. Numerous feeding pits present throughout. Fecal casts associated with pits.
SFWF	41	C	No		Pale tan sand with sparse shell hash throughout. Subtle irregular short period ripples present. Numerous feeding pits present throughout, particularly in lower half of image. Potential fecal casts associated with feeding pits. Potential track in 'c' shape on right side of image.
SFWF	42	A	No		Sandy gravel with darker finer mud on bottom half of image. Gravel through middle (left-right) of image and sand on top 1/8 of image. Shell hash present throughout and shell debris with gravel. Long waveform ripple present. Sparse coverage of hydroids and barnacles on gravel. Scallop in center of image. Few small burrows in lower right in area of finer sediment.
SFWF	42	B	No		Sandy gravel with abundant shell hash throughout. Likely long waveform ripple present. Sparse barnacles on gravel.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	42	C	No		Gravelly sand with gravel along top half of image. Sparse shell hash throughout. Evidence of feeding pits and potential track on bottom center of image.
SFWF	43	A	No		Pale tan sand. Sparse shell hash throughout. Numerous feeding pits with fecal casts throughout image. Two unknown fish above right laser.
SFWF	43	B	No		Pale tan sand with depression at right center edge. Sparse shell hash throughout. Numerous feeding pits with fecal casts throughout image. Potential tracks in lower left corner and middle left image.
SFWF	43	D	No		Pale tan sand with possible former ripple at lower left. Sparse shell hash throughout. Numerous feeding pits with fecal casts throughout image. Hatched or eaten skate egg in center of image with drag marks to upper right.
SFWF	44	A	No		Pale tan sand with ripples and sparse shell hash throughout. Feeding pits below left laser and along bottom of image. Fecal casts on the top right. Potential track on left of image. Medium burrow to right of center.
SFWF	44	B	No		Pale tan sand with long waveform ripple present. Potential burrows and feeding divots along top of sand ridge.
SFWF	44	D	No		Pale tan sand with long waveform ripple sparse shell hash throughout. Likely mud clasts from SPI frame in top left of image. Feeding pits with potential fecal casts to the lower right of right laser and in left corner.
SFWF	45	A	No		Pale tan sand with potential finer darker muds in the top right quadrant. Sparse shell hash throughout. Long waveform ripple present. Numerous feeding pits with fecal casts in bottom quarter of image. Numerous tracks throughout image, particularly on bottom and right sides of image.
SFWF	45	B	No		Pale tan sand with potential darker finer muds in bottom left. Sparse shell hash throughout. Sand dollar debris in top left. Long waveform ripple evident. Feeding pits present on top of sand ridge. Tracks present in finer muds on bottom left corner and top right as well as along sand ridge.
SFWF	45	C	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Feeding pits present throughout, particularly along left side of image. Tracks present throughout image.
SFWF	46	A	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Feeding pits present along sand ridge. Tracks prevalent in lower half of image.
SFWF	46	B	No		Pale tan sand with sparse shell hash throughout. High turbidity limits ability to determine other characteristics.
SFWF	46	C	No		Pale tan sand with potential darker, finer mud on left half of image. Sparse shell hash throughout and partially buried sand dollar debris left of left laser. Tracks prevalent throughout image.
SFWF	47	A	No		Pale tan sand with sparse shell hash throughout. Bedform indeterminate. Feeding pits in lower left quarter of image. Tracks in lower left quadrant.
SFWF	47	B	No		Pale tan sand with sparse shell hash throughout. Bedform indeterminate. Potential tracks along lower 1/4 of image particularly lower left.
SFWF	47	D	IND		Pale tan sand. High turbidity limits further analysis.
SFWF	48	A	No		Pale tan slightly gravelly sand. Sparse shell hash in top left corner of image. Long waveform ripple present. Feeding pits present in lower left and bottom right of image.
SFWF	48	B	No		Pale tan slightly gravelly sand. Sparse shell hash present throughout image. Long waveform ripple present. Potential barnacles present on gravel in bottom and bottom left of image.
SFWF	48	C	No		Pale tan sand with gravel in trough of long waveform ripple. Sparse shell hash throughout. Feeding pits on sand ridge. Potential barnacles on gravel on left of image.
SFWF	49	A	No		Pale tan sand with sparse darker, finer, muds. Biogenically modified seafloor. Sparse shell hash throughout. Indications of ripples. Feeding pits in bottom left with fecal casts.
SFWF	49	B	No		Pale tan sand. Sparse shell hash throughout. Bedform indeterminate. Potential feeding pits with fecal casts throughout, particularly bottom and left of image.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	49	D	No		Pale tan sand. Sparse shell hash throughout. Indications of ripples. Potential feeding pits with fecal casts throughout, particularly bottom and left of image. Tracks present along bottom of image. Dead seaweed at bottom center of image.
SFWF	50	A	No		Pale tan sand with very sparse gravel to the upper right of the right laser and below the right laser. Sparse shell hash throughout. Indications of ripples. Fecal casts and potential feeding pits near left laser and on far right of image. Potential tracks between lasers and right of the right laser.
SFWF	50	B	No		Pale tan gravelly sand. Gravel aggregated on far right of image with sparse gravel throughout remainder. Shell hash and shell debris throughout. Indications of long waveform ripple. High turbidity through water column. Potential feeding pits in far right bottom corner.
SFWF	50	C	No		Pale tan sand with irregular short period ripples. Numerous feeding pits with potential fecal casts associated throughout image.
SFWF	51	B	No		Sandy gravel with small cobbles in center and lower right of image. Long waveform ripple present. Sparse shell hash present with gravel. Potential grazed barnacles on pebbles and cobbles.
SFWF	51	C	No		Pale tan sand with gravel along top half of image. Shell hash and shell debris found with gravel. Long waveform ripple present. Feeding pits along sand ridge in lower half of image.
SFWF	51	D	No		Sandy gravel with gravel along left half of image and sand predominantly in the lower right. Shell hash and shell debris associated with the gravel. Long waveform ripple present. No indication of burrows, feeding pits, or tracks.
SFWF	52	A	No		Pale tan sand with gravel in top left corner. Very sparse gravel and shell hash distributed throughout sand. Long waveform ripple present. Very long tubes present at top center and on left side of image. Foraging pits present to right of left laser, above left laser, and in lower right quadrant. Potential fecal casts associated with a few feeding pits. Potential track on far right of image.
SFWF	52	B	No		Slightly gravelly sand with gravel most prominent running up-down through middle of image. Sparse gravel throughout. Sand is pale tan. Long waveform ripple present. Potential foraging pits in bottom right corner and along left side of image. Skate egg on far right. Potential barnacles on orange gravel near center of image.
SFWF	52	D	No		Gravelly sand with gravel bar running up-down along right edge of image. Sparse gravel throughout remainder of image. Sparse shell hash throughout sand and gravel. Long waveform ripple present. Potential foraging pits in lower left of image. Skate egg in lower left.
SFWF	53	A	No		Pale tan sand with irregular short period ripples. Sparse shell hash throughout with a larger shell debris in bottom left. Extensive foraging pits with associated fecal casts throughout. Biogenically modified surface. Potential tracks to the right of the right laser.
SFWF	53	B	No		Pale tan sand with irregular short period ripples. Sparse shell hash throughout. Several foraging pits with associated fecal casts throughout. Biogenically modified surface. Potential tracks visible in the lower quarter of the image. Three or more skate eggs in top left of image. Burrows on far right of image. Potential old collapsed tube to left of left laser in foraging pit.
SFWF	53	C	No		Pale tan sand with irregular short period ripples. Numerous feeding pits with associated fecal casts throughout. Tracks visible between lasers and to the lower right of the right laser. Larger casts in bottom right.
SFWF	54	A	No		Pale tan sand with sparse pebbles through center of image. Shell hash throughout with shell debris in lower center of image. Long waveform ripple present with coarser sand on left of image. Feeding pit in lower right and top right of image. Small burrows through middle and right.
SFWF	54	C	No		Pale tan sand with sparse cobbles throughout. Large boulder in bottom left of image. Sparse shell hash throughout with larger shell debris on right of image. Bedform indeterminate. Attached hydroids with minimal grazing of barnacles on side of boulder.
SFWF	54	D	No		Tan sand with cobbles present in bottom left corner and running through center, top to bottom. Bedform indeterminate. Sparse shell hash in bottom left corner. Attached hydroids on single cobble near right laser.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	55	A	No		Pale tan sandy gravel with pebble coverage of ~40%. Long waveform ripple visible in bottom left corner. Sparse shell hash throughout. Hatched or eaten skate eggs in top right corner. Sea pen near skate eggs. Sea robin in bottom right of image.
SFWF	55	B	No		Pale tan sandy gravel with sparse shell hash. Long waveform ripple visible in bottom left corner. Gravel is comprised of pebbles.
SFWF	55	D	No		Pale tan sand with finer, darker muds in center of image. Long waveform ripple present. Feeding divots present throughout. Few burrows. Small fish on far left center of image.
SFWF	56	A	No		Pale tan sandy gravel with long waveform ripple at left. Sparse shell hash throughout. Live scallop in center has exposed cobbles below surface sand. Feeding pits present along right side of image.
SFWF	56	B	No		Pebbles and small cobbles covering ~40% with tan sand. Sparse shell hash throughout. Potential grazed hydroids on cobbles on right of image. Sea pens to the top left of right laser and in lower center left of image. Small fish below right laser.
SFWF	56	C	No		Tan sand with small to medium cobbles along left side of image. Shell debris mixed in with cobble. Layout of cobble indicative of long waveform ripple. Potential grazed hydroids and barnacles on cobble. High turbidity along right side of image.
SFWF	57	A	No		Pale tan with large cobbles distributed throughout. Bedform indeterminate. Sparse shell hash throughout. Feeding pits throughout. Few small burrows near bottom of image. Tracks on far left of image. Large cobbles have attached hydroids, potential grazing of hydroids on cobble at top of image. Potential barnacles on cobble on top of image.
SFWF	57	C	No		Pale tan sand with pebbles, small and large cobble in center of image. Shell hash associated with cobbles. Attached hydroids on cobble in center. Potential grazed barnacles on cobble in center. Feeding pits throughout. Small tubes and burrows in middle and lower part of image.
SFWF	57	D	No		Pale tan sand with cobble and shell hash in bottom right corner. Long waveform ripple in center. Feeding pits on far left and bottom of image. Burrows in lower quarter of image. Cobble in bottom right of image has attached hydroids and barnacles. Sea pen on left of image.
SFWF	58	A	No		Pale tan sand with long waveform ripple. Feeding pits, burrows, and tracks visible in bottom left corner. Hermit crab in top left corner. Tube in upper right quadrant.
SFWF	58	B	No		Pale tan sand with pebbles and small cobbles along left of image. Sparse shell hash throughout. Long waveform ripple present. Sea pen below left laser. Potential grazed barnacles on cobbles. Feeding pits in bottom left of image.
SFWF	58	D	No		Pale tan sand with sparse pebbles along right side of image. Sparse shell hash throughout. Long waveform ripple.
SFWF	59	A	No		Tan sand with cobble in bottom left with extensive shell hash throughout. Bedform indeterminate. Feeding pits present in lower right of image and lower left of image. Small burrows in upper left.
SFWF	59	B	No		Tan sand with sparse small cobble throughout. Sparse shell hash throughout. Burrows below lasers and at upper edge above right laser.
SFWF	59	C	No		Pale tan sand with very sparse cobble in center and lower right of image. Sparse shell hash throughout. High turbidity in top and right of image.
SFWF	60	A	No		Pale tan slightly gravelly sand. Pebbles in top half of image. Sparse shell hash throughout. Feeding pits and few small burrows visible in lower half of image.
SFWF	60	B	No		Pale tan slightly gravelly sand. Pebbles along top half of image. High turbidity. Long waveform ripple present.
SFWF	60	C	No		Pale tan gravelly sand. Pebbles and small cobbles present on left and right of image. Sparse shell hash throughout. Feeding pits in top left of image. Extensive tracks throughout image.
SFWF	61	A	No		Pale tan gravelly sand with small to moderately sized cobbles. Bedform indeterminate. Sparse shell hash and shell debris throughout. Attached hydroids and barnacles on cobble. Evidence of grazing on barnacles. Numerous feeding pits and few burrows in sandy sections.

Sediment Profile and Plan View Imaging Physical Ground-Truth Survey in Support of the SFWF Site Assessment

Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	61	C	No		Pale tan gravelly sand with small and moderate sized cobbles. Long waveform ripple present with sand ridge in bottom left corner. Sparse shell hash throughout. Sea pen in top right quadrant with hydroids attached. Cobbles have attached hydroids and barnacles. Many barnacles have been grazed. Feeding pits present throughout sandy sections. Scallop in bottom right quadrant.
SFWF	61	D	No		Pale tan gravelly sand with small to moderate sized cobbles. Sparse shell hash distributed with cobbles. Long waveform ripple present. A few cobbles have attached hydroids and barnacles. High turbidity in water column.
SFWF	62	A	No		Pale tan sand with sparse cobbles. Small through large cobbles present with particularly large cobble on right of image. Sparse shell hash throughout. Bedform indeterminate. Small tubes and few medium burrows, mostly on left. Sea pens- one in top left, two in bottom right with attached hydroids. Several cobbles have attached hydroids. Large cobble also has attached barnacles. Feeding pits along left of image.
SFWF	62	C	No		Tan gravelly sand with small and moderate cobbles in top left of image. Very large cobble partially buried by sand in top right of image. Sparse small cobble throughout sand. Sparse shell hash throughout. Bedform indeterminate. Attached hydroids and barnacles on larger cobbles. Barnacles have been grazed upon. Burrows and feeding pits visible in bottom half of image. Tracks in bottom center.
SFWF	62	D	No		Pale tan sand with sparse pebble throughout. Large cobble near left laser. Sparse shell hash throughout. Bedform indeterminate. Large cobble has attached hydroids and attached barnacles. Several sea pens in top and center of image with attached hydroids. Foraging pits and small short tubes throughout, particularly in lower half.
SFWF	63	A	No		Pale tan sand with small cobble sparsely distributed throughout. Larger cobbles along right side of image. Bedform indeterminate. Extensive (~40%) coverage of Polymastia sp. sponges attached to cobbles and/or boulders just barely exposed through sand. Cobbles on left of image have attached hydroids. Visible tracks in bottom left of image. Small burrows and tubes, mainly in bottom left of image.
SFWF	63	B	No		Right half of image is large boulder with cobble and sand deposited on top. Left side of image is slightly gravelly sand. Extensive shell hash in sand. Bedform indeterminate. Hydroids, sea star, and sea pens on top of boulder. Small patch of Polymastia sp. sponges on right of image.
SFWF	63	C	No		Pale tan sand with sparse cobble throughout. Larger cobble in upper center and top right. Bedform indeterminate. Numerous feeding pits throughout. Attached hydroids on larger cobbles. Tubes below right laser. Tube casing to top left of left laser. Small burrows near center. Sea pen to top left of left laser.
SFWF	64	A	No		Pale tan sand with pebbles in lower left corner. Sparse shell hash throughout. Long waveform ripple present with sand ridge visible in lower right corner. A few barnacles on cobbles in lower left. A few feeding pits to the right of the cobbles. Few small burrows in lower left quadrant of image.
SFWF	64	B	No		Pale tan sand with sparse cobbles on far right and far left of image. Sparse shell hash throughout. High turbidity in water column. Few small burrows and feeding pits visible, particularly below left laser.
SFWF	64	C	No		Pale tan sand with long waveform ripple at bottom of image and fines gathered in trough. Small burrows near base of ripple to left of center. Large cobble at very top of image with attached hydroids. Sea pen directly to left of cobble.
SFWF	65	A	No		Pale tan sand with long waveform ripple visible from ridge in bottom right corner and fines gathered in trough. Sparse shell hash throughout. Small burrows at left edge.
SFWF	65	B	No		Pale tan sand with long waveform ripple and fines gathered in trough; with extremely sparse pebbles throughout. Sparse shell hash throughout. Sea pen with attached hydroids in top right. Small foraging pits on far left of image.
SFWF	65	C	No		Pale tan sand with extremely sparse pebbles and long waveform rippling evidence. Sparse shell hash throughout. Feeding pits and burrows present throughout. Very visible in bottom left corner of image.
SFWF	66	A	No		Pale tan sand with sparse shell hash and shell debris. Top left ~15% of image is a large boulder. indeterminate bedform. Boulder has attached hydroids, a sea pen, and barnacles. Signs of grazing present on boulder. Small burrows and a couple foraging pits in lower part of image. High turbidity in water column.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	66	B	No		Pale tan slightly gravelly sand with evidence of long waveform rippling. Small cobbles present. Sparse shell hash throughout. Small burrows at left. Feeding pits in lower left.
SFWF	66	C	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present with sand ridge in lower right corner. Feeding pits in top left and left. Few small burrows in lower left. Sea pen above left laser with some hydroids attached.
SFWF	67	A	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple. Feeding pits and small burrows present in lower half of image.
SFWF	67	B	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple. Feeding pits and few small burrows present in lower left of image.
SFWF	67	C	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple. Few small burrows. High turbidity in bottom center of image.
SFWF	68	A	No		Sandy gravel with pebbles and small cobble running in a band from top left to bottom right. Sand with a couple cobbles in bottom left of image. Extensive shell hash throughout pebbles/cobbles. Distribution of pebbles indicative of long waveform ripple. Tracks and small burrows present in sand.
SFWF	68	B	IND		Top 3/4 of image clouded by high turbidity. Sandy gravel present in bottom and far right of image. indeterminate bedform. A single small cobble in the bottom right has numerous barnacles. Potential collapsed tube next to barnacle cobble.
SFWF	68	D	No		Pale tan sand with indeterminate bedform. Feeding pits with associated fecal casts throughout. Tube in bottom left corner. Burrow in bottom center of image.
SFWF	69	A	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Feeding pits present throughout. Small fish and sand dollar above left laser. Swimming sea scallop in bottom right of image. Possible small burrows.
SFWF	69	B	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Small burrows below right laser.
SFWF	69	C	No		Pale tan sand with very sparse shell hash throughout. Long waveform ripple present. Tracks present in lower left quadrant of image. Small burrow at bottom center.
SFWF	70	A	No		Pale tan sand with large cobbles along bottom of image. Sparse shell hash throughout. Bedform indeterminate. Large cobbles covered in hydroids. Sea pen above lasers. Small burrows in interspersed fines, near center.
SFWF	70	B	No		Sandy gravel with moderate and large cobbles. Shell hash and shell debris throughout. Bedform indeterminate. Large cobbles covered in hydroids and barnacles. Small burrows in interspersed fines.
SFWF	70	C	No		Slightly gravelly sand with cobbles in bottom of image. Sparse shell hash throughout and shell debris. Barnacles on cobble in bottom left of image. Sea pen in bottom center of image. Small burrows in interspersed fines
SFWF	71	A	No		Slightly gravelly sand with pebbles distributed along right side of image. Long waveform ripple present. Feeding pits on far right and far left of image. Small fish in top right quadrant. Small burrows in fines, center and right; possible bivalve siphon openings near right laser.
SFWF	71	B	No		Gravelly sand with pebbles along right side of image. Long waveform ripple present. Sea pen in bottom left and upper right. Small fish on far right center.
SFWF	71	C	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple at left. Feeding pits to bottom right of right laser.
SFWF	72	A	No		Pale tan sand with sparse shell hash throughout. Evidence of ripples. Feeding pits and burrows present in bottom quarter and left side of image.
SFWF	72	B	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple at center. Small burrows in lower right.
SFWF	72	C	No		Pale tan sand with sparse shell hash throughout. Evidence of ripples. Feeding pit present below lasers.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	73	A	No		Pale tan sand with long waveform ripple with fines in trough. Burrows and feeding pits around lasers in fines. Tracks in lower right quadrant. Hermit in top right corner.
SFWF	73	C	No		Pale tan sand with long waveform ripple. Sparse shell hash throughout. Potential tube just below lasers. Tracks below lasers.
SFWF	73	D	No		Tan sand with indeterminate bedform. Feeding pits in top left corner and bottom of image. Tracks near left laser.
SFWF	74	A	No		Pale tan sand with long waveform ripple, with fines in trough. Sparse shell hash throughout. Small burrows throughout fines.
SFWF	74	C	No		Pale tan sand with a single pebble on far right center. Long waveform ripple present. Feeding pits in lower left corner. Tracks in bottom right corner.
SFWF	74	D	No		Pale tan slightly gravelly sand with very sparse pebbles. Very sparse shell hash throughout. Long waveform ripple present. Feeding pits along sand ridge on bottom; large fecal casts in top right corner. Small fish in bottom left corner.
SFWF	75	A	No		Pale tan sand with very sparse small pebbles and very sparse shell hash throughout. Long waveform ripple present. Feeding pit below lasers.
SFWF	75	C	No		Tan sand with sparse pebbles and small cobbles evenly distributed throughout. Sparse shell hash throughout. Bedform indeterminate. Two sea pens by right laser. Potential sparse hydroids on medium cobble above left laser. Small burrow near bottom at right.
SFWF	75	D	No		Pale tan sand with sparse pebble along bottom and top of image. Shell hash mixed in with pebbles. Long waveform ripple present. Feeding pit and tracks to left of left laser.
SFWF	76	A	No		Tan sand with a single medium cobble in top left and fines in troughs of long waveform ripple that runs through center. Sparse shell hash throughout. Feeding pits between lasers and in bottom left. Small burrows in fines. Tracks in darker sediment in lower right quadrant.
SFWF	76	B	No		Sand with long waveform ripple at right and darker, finer muds in trough. Sparse shell hash throughout. Mud clasts from camera to lower left of left laser. Feeding pit below right laser. Small burrows in fines.
SFWF	76	C	No		Sand with thin layer of fines and extensive shell hash and shell debris throughout. Feeding pits to right of right laser and along right side of image. Small burrows near image bottom at center.
SFWF	201	A	No		Pale tan gravelly sand with irregular mounds in upper left. Bryozoans attached to pebble in lower right. Skate egg case in top, center. Fecal coil in lower right corner.
SFWF	201	B	No		Pale tan gravelly sand with irregular mounds/hummocks and divots. A small tube on left, center. Pebbles with grazed barnacles in upper left corner. Shrimp below middle of lasers.
SFWF	201	C	No		Pale tan sand with clusters of pebbles. Some barnacles on pebbles in top left and bottom right corners. Small burrow holes with light gray sand surrounding them in lower right corner and directly above right laser.
SFWF	202	A	No		Light tan sandy mud with indication of slight rippling and numerous divots and burrows throughout.
SFWF	202	B	No		Light tan sandy mud with numerous large burrows throughout. Circular single groove track on far right.
SFWF	202	C	No		Light tan sandy mud with numerous large burrows/divots on left side.
SFWF	203	A	No		Light tan muddy sand with longwave form ripple on top and a gravel bar running horizontally across center, composed of mainly grayish-blue pebbles.
SFWF	203	C	No		Light tan gravelly sand with longwave form ripples. Large sea scallop center, top. Some shell hash.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	203	D	No		Light tan sand with burrows in upper right half and gravelly sand with small pebbles in lower half of image. Some white shell hash.
SFWF	204	A	No		Light tan sand with shell hash and small pebbles/cobbles throughout. Empty oyster shell at left laser. Bryozoans, barnacles and grazed barnacles scars on cobble/pebble substrate throughout.
SFWF	204	B	No		Light tan gravelly sand with some shell hash and pebbles/cobbles. Light bluish-gray grazed barnacle scars on pebbles above the lasers, and in the lower right and left corners.
SFWF	204	C	No		Light tan sand with shell hash and with three cobbles in the center and one in the top right corner. Pebbles are encrusted with bryozoans, barnacles, and light bluish-white grazed barnacle scars. One shrimp above the right laser and another to the left and slight up from the left laser.
SFWF	205	A	No		Light rusty tan sand with patches of multi-colored very coarse sand along ripple crest and pebbles on all sides of ripple crest. Hydroids attached to pebbles on far right. Possible sand lance emerging from sand in lower right corner.
SFWF	205	B	No		Light rusty tan sand with patches of multi-colored pebbles and small irregular mounds throughout. Numerous hydroids attached to small gravel on right and top.
SFWF	205	C	No		Light tan and grayish-brown sand with multi-colored granules, pebbles, and a few small cobbles in the center and top right corner; gravel sections separated by long form ripple. Hydroids attached to cobbles at center and right.
SFWF	206	A	No		Light tan muddy sand with short single groove tracks. Some shell hash in upper right corner and lower left corner.
SFWF	206	C	No		Light tan sand with pebbles and small cobbles gravel in lower right and light cover of fines. Sand ridge through the middle, top. Half clam shell in lower left corner. Barnacles, bryozoans, and hydroids attached to cobble on far right and lower right corner.
SFWF	206	D	No		Light tan sand with some pebbles in bottom center, top right corner, and top left corner. Ripple crest of coarser sand through center. Some large burrows to the right of right laser.
SFWF	207	A	No		Light tan muddy sand with longwave form ripple, horizontal through the center. Some burrows and tracks in upper portion. Some white shell has in lower left corner
SFWF	207	B	No		Light tan muddy sand with longwave form ripple horizontal through the center. Some divots and burrows in the upper left.
SFWF	207	C	No		Light tan muddy sand with two longwave form ripples through center. Some white shell hash in top right corner.
SFWF	208	A	No		Light tan muddy sand with irregular ripples and foraging pits throughout, fecal casts associated with pit in lower left. Unidentified fish in the upper left corner. Possible double groove track through left center.
SFWF	208	B	No		Light tan muddy sand with irregular short form ripples and feeding pits throughout. Monkfish just below left laser.
SFWF	208	C	No		Light tan muddy sand with irregular hummocks/mounds. Some burrows throughout. Turbidity obscures view of seafloor at image edges.
SFWF	209	B	No		Light tan muddy sand with irregular short form ripples. Small burrows throughout, particularly on left. Few feeding pits.
SFWF	209	C	No		Light tan muddy sand with irregular short form ripples throughout. Small burrows throughout.
SFWF	209	D	No		Light tan muddy sand with a wide ripple diagonal through the center, with finer sand/silt on either side (lower right corner and upper left corner). Some very small shell hash on the ripple.
SFWF	210	A	No		Light tan muddy sand with some feeding pits and burrows throughout. Some very small white shell hash scattered throughout. Short, single groove track to the left of left laser.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	210	B	No		Light tan muddy sand with feeding pits and associated fecal casts throughout. Small short tubes visible below lasers. Some long single groove tracks on right.
SFWF	210	C	No		Light tan muddy sand with some feeding pits with associated fecal casts and irregular mounds throughout. Small white shell in center, top.
SFWF	211	A	No		Light tan muddy sand with some small shell hash throughout. Some feeding pits in upper left corner. Short tracks in upper right corner.
SFWF	211	B	No		Light tan muddy sand with some small shell hash throughout, some single groove tracks in upper left corner and lower right corner.
SFWF	211	C	No		Light tan muddy sand with small white shell hash throughout. An unidentified organism above right laser, possible sand lance.
SFWF	212	A	No		Light rusty tan sand with longform wave ripple across the upper left and finer muddy sand in lower right. Cluster of white shell hash (half a clam shell) in lower right.
SFWF	212	C	No		Light rusty tan sand with long waveform ripple in upper left, fines on remainder of surface. One light reddish-white shrimp to the right of the right laser and another above and slightly to the left of that one.
SFWF	212	D	No		Light tan sand ripple through center of image, with lighter gray-tan finer muddy sand on either side. Long tubes of unknown type in top, center. Possible pinkish crab carapace below left laser.
SFWF	213	A	No		Light tan sand with long waveform ridge in upper left corner and another on right. Pale yellow and multi-colored pebbles clustered in the center and in the upper right corner. Bryozoans attached to a red cobble in upper right corner and a hydroid just below this, with distinct circular tracks around it.
SFWF	213	B	No		Light rusty tan sand mound on right with a small patch of gravel in top center and light grayish tan sand in center and left. Few medium burrows at left.
SFWF	213	C	No		Light rusty tan sand on longwave form ripple on right with light grayish-tan sand/silt through the center and a patches of gravel in the top center and lower left corner. Barnacles and bryozoans attached to cobble in lower left. Some larger burrows in the center.
SFWF	214	B	No		Light rusty tan sand with some grayish-tan sand/silt in upper left corner. Some multi-colored pebbles in upper right with attached hydroids, possible tubes to the left of these pebbles.
SFWF	214	C	No		Light tan sand with some light grayish-tan sand/silt in the center and lower right corner. Patch of multi-colored pebbles in upper right corner with an attached hydroid in the upper right.
SFWF	214	D	No		Light grayish tan sand with patch of yellowish brown pebbles in the center, depositional layer of fines over most of field of view; edge of long waveform ripples at lower right and upper left.
SFWF	215	A	No		Multi-colored pebbles with light tan-brown sand running diagonal through the center.
SFWF	215	B	No		Yellowish-orange brown pebbles and some small white shell hash throughout with a few larger bluish-gray pebbles. Some light tan sand on the far left and center right. Barnacles attached to larger pebbles, in bottom center and next to left laser. Transparent pinkish shrimp next to the right laser, and three more directly below the center of the lasers (2 on/near the light bluish-gray pebble with barnacles and the other to the left of it).
SFWF	215	C	No		Light tan sand with some small patches of yellowish-brown pebbles in the top right and left corners, bottom right corner and bottom center. Ripple running halfway through center, fines on surface at top and left. Some white shell hash throughout.
SFWF	216	A	No		Light tan sand with yellowish brown small pebbles throughout. Depositional fines at left. Clam shell valve above right laser.
SFWF	216	B	No		Light tan muddy sand with small yellowish-brown pebbles on left. Clam shell valve above right laser. Some distinct divots above middle of the lasers.
SFWF	216	C	No		Light tan gravely sand with some patches of light grayish tan muddy sand on the far right and towards the left.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFWF	217	A	No		Light tan sand with a ripple crest running diagonal through center, left. Muddy sand in lower right corner and small divots in the top left corner.
SFWF	217	C	No		Light grayish tan muddy sand with a ripple along top left. A small boulder with attached bryozoans and barnacles in bottom right corner with some small shell hash around it. Another boulder with bryozoans and pinkish white coralline algae in top right corner. Two tubes in top left corner.
SFWF	217	D	No		Light tan sand with a strip of multi-colored gravelly sand with white shell hash running diagonal through the center. Small unknown fish in center to the right of a white shell fragment, possible sand lance.
SFWF	218	A	No		Light tan muddy sand with small white shell fragments throughout. Irregular small mounds/hummocks. Possible tube to the left of left laser. Small burrows throughout.
SFWF	218	B	No		Light tan muddy sand, with darker grayish-greenish brown muddy sand on top. Numerous burrows, small divots, and tracks throughout. Fecal cast below left laser.
SFWF	218	C	No		Light tan muddy sand with greenish-brown muddy sand in upper left corner. Small mounds and feeding pits throughout. Small hermit crab to the right of the right laser.
SFWF	219	A	No		Light tan sand with patches of gravelly sand on right, upper left and lower left corners. Reddish pink hydroid in upper left and one at far right center. Hydroid in center between lasers. Barnacles, bryozoans, and coralline algae attached to small gravel in upper left corner and far right, center. Green unknown organism/detritus, possible algae frond in right center.
SFWF	219	B	No		Light tan sand with patches of multi-colored gravelly sand and irregular mounds/hummocks. Reddish-pink hydroid above left laser. Burrows with excavated material around them below left laser and above right laser
SFWF	219	C	No		Multi-colored gravelly sand with a ripple of light tan sand diagonal from left corner to right corner.
SFWF	220	A	No		Light tan muddy sand with small burrows throughout. Two long shallow ridges across image and small patches of slightly gravelly sand. Unknown, possible fish directly above left laser towards the top.
SFWF	220	B	No		Light tan muddy sand with small burrows throughout. Irregular short period ripples. Few feeding pits in upper right corner.
SFWF	220	C	No		Light tan muddy sand with small burrows throughout and longwave form ripples running diagonal. Some larger burrows and small divots in lower left corner. Pinkish white shell fragment above lasers. Large tracks in upper right corner.
SFWF	C01	A	IND		High turbidity in water column does not allow for analysis. Appears to be gravelly sand with shell hash.
SFWF	C01	B	IND		High turbidity in water column does not allow for analysis
SFWF	C01	C	No		Tan sandy gravel with pebbles and small cobbles. Gravel arranged in long waveform ripple. Shell hash and shell debris throughout. Unidentified water column invertebrate near center of image. Low water column turbidity limits biotic analysis.
SFWF	C01	E	No		Moderately high turbidity limits analysis. Tan sandy gravel present with pebbles and small cobbles. Indeterminate bedform. Small shrimp present in upper center image.
SFWF	C01	F	No		High turbidity limits analysis. Appears to be sandy gravel plus shell hash, including sand dollar test.
SFWF	C02	A	No		Pale tan sand with very sparse shell hash throughout. Indeterminate bedform with biogenically modified seafloor. Numerous feeding pits, some with associated fecal casts. Small burrows throughout.
SFWF	C02	B	No		Pale tan sand with sparse shell hash throughout and shell debris in bottom right of image. Indeterminate bedform. Several feeding pits throughout. Few small burrows, medium burrow above shell debris.
SFWF	C02	C	No		Pale tan sand with very sparse shell hash and long waveform ripple. Several feeding pits present throughout, fecal casts in upper one. Small burrows, especially in lower part of image.
SFWF	C02	D	No		Pale tan sand with shell hash throughout. Feeding pits with fecal casts present. Tracks present below and to the right of lasers.
SFWF	C02	E	No		Pale tan sand with long waveform ripple. Numerous feeding pits with associated fecal casts throughout. Few medium burrows at lower left.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	101	A	No		Pale tan sandy gravel with gravel ranging from pebbles to large cobble. Shell hash and shell debris distributed throughout. Hydroids attached on ~50% of cobbles. Cobble in bottom left quadrant has grazed barnacles. Track running across right laser. Small to medium burrows at center.
SFEC-OCS	101	C	No		Pale tan sandy gravel with gravel ranging from pebbles to large cobbles. Shell hash and shell debris distributed throughout. Hydroids attached on larger cobbles. Cobble in bottom center has grazed barnacles. Feeding pits along right of image and bottom left. Small burrow below right laser.
SFEC-OCS	101	D	No		Pale tan sandy gravel with gravel ranging from pebbles to large cobbles. Shell hash and shell debris distributed throughout. Hydroids attached on larger cobbles. Cobbles in bottom right and top left have grazed barnacles. Feeding pits along right of image and bottom left. Small burrows in area of fines near lasers.
SFEC-OCS	102	A	No		Pale tan sandy gravel with gravel ranging from pebbles to small boulder. Shell hash distributed throughout. Bedform is irregular mounds. Burrows present in bottom center of image. Feeding pits in lower right and lower left of image. Hydroids on large cobbles and boulder. Grazed barnacles on large cobbles and boulder. Sea pen in sand above lasers. Anemone between lasers. Small unidentified fish on right side of image.
SFEC-OCS	102	C	No		Pale tan gravelly sand with a mix of small and moderate sized cobbles. Sparse shell hash throughout. Bedform is irregular mounds. Small burrows throughout. Feeding pits visible below lasers. Tracks in far lower left of image. Sea pen on far left center of image. Large cobbles have grazed barnacles and hydroids.
SFEC-OCS	102	D	No		Pale tan gravelly sand with small through large cobbles. Shell hash and shell debris interspersed with cobble. Bedform in irregular mounds. Feeding pits on far right of image. Small burrows at right at bottom. Large cobbles have grazed and un-grazed barnacles and attached hydroids. Closed anemone on large cobble on far left. Sea pen in sand to left of anemone cobble. Small black sea bass in bottom left corner.
SFEC-OCS	103	A	No		Pale tan muddy sand with sparse shell hash throughout. Short waveform rippling present. Feeding pits throughout. Fecal casts associated with feeding pits. Burrow mound between lasers. Tubes throughout.
SFEC-OCS	103	B	No		Pale tan muddy sand. Unidentified round object in far bottom left of image, could be small cobble. Short waveform rippling present. Feeding pits throughout with associated fecal casts. Small burrows.
SFEC-OCS	103	D	IND		Very high turbidity. Pale tan muddy sand with fecal casts visible on far right of image.
SFEC-OCS	104	A	No		Pale tan sandy gravel with cobble ranging from small pebbles to small boulders. Sparse shell hash and shell debris mixed in with cobble. Hermit crab in top left. Numerous sea pens throughout. Large cobbles/small boulders have attached hydroids and sparse barnacles. Anemone on small boulder in center. Sand dollar in between two center boulders. Small burrow at left upper edge.
SFEC-OCS	104	B	No		Tan sand with gravel ranging from small pebbles to cobbles evenly dispersed throughout. Very sparse shell hash throughout. indeterminate bedform. Large cobbles have attached hydroids and grazed barnacles. Several sea pens on the right side of the image, some protruding from the sand, others from cobble. Scallop in top left corner. Hermit crab in top left corner. Small burrows in areas of fines.
SFEC-OCS	104	C	No		Pale tan sand with very sparse pebbles along bottom of image and a medium cobble on the far left. Very sparse shell hash throughout. indeterminate bedform. Numerous sea pens throughout. Cobble on far left of image has attached hydroids. Fecal casts immediately to the left of this large cobble. Foraging pits along bottom. Few small burrows.
SFEC-OCS	105	A	No		Pale tan muddy sand with indeterminate bedform. High turbidity in water column. Numerous feeding pits and some small burrows throughout including very large example of foraging pit on left laser. Fish below right laser, potentially a scup.
SFEC-OCS	105	B	No		Pale tan muddy sand with biogenically modified surface. Numerous foraging pits and small burrows throughout image. Turbidity in water column (as white specks).
SFEC-OCS	105	D	No		Pale tan muddy sand with biogenically modified surface. Numerous foraging pits and small burrows throughout image. Turbidity in water column (as white specks). Hermit crab or small gastropod in top left of image with trailing track.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	106	A	No		Pale tan sand with biogenically modified surface. Ripples with fines in trough. Large shell debris in bottom left of image. Numerous foraging pits throughout image. Small burrows in fines. Turbidity in water column (as white specks).
SFEC-OCS	106	B	IND		Very high turbidity. Pale tan sand and indications of ripples visible on bottom left corner of image.
SFEC-OCS	106	C	IND		Very high turbidity. Pale tan sand visible on bottom of image. Shell debris in bottom right of image.
SFEC-OCS	107	A	No		Tan gravelly sand with pebbles and small cobbles running from top left to bottom right of image. Sparse pebbles distributed throughout remainder of sand. Sparse shell hash throughout. Long waveform ripple indicated by gravel arrangement. Sea pen in top left corner protruding from sand. Few small burrows in area of fines.
SFEC-OCS	107	B	No		Pale tan sand with small pebbles in lower left corner. Long waveform ripple indicated by sand ridge.
SFEC-OCS	107	C	No		Pale tan sand with sparse pebbles and very small cobbles visible at top and bottom of image. Shell hash in upper right corner of image. Long waveform ripple present. Sea pens with attached hydroids in bottom right of image.
SFEC-OCS	108	A	No		Pale tan sand with very sparse pebbles in bottom right image. Very sparse shell debris throughout. High turbidity in water column.
SFEC-OCS	108	B	No		Pale tan sand with sparse pebbles throughout. Larger pebbles on right side of image. Sparse shell hash throughout. Indications of ripples. Feeding pits and small burrows present on bottom half of image in fines. Sea pen with attached hydroids in bottom right of image. Small fish on far right of image.
SFEC-OCS	108	C	No		Tan sand with pebbles throughout, Shell debris and shell hash through center of image. Long waveform ripple present. High turbidity in water column.
SFEC-OCS	109	A	No		Pale tan sand with pebbles distributed throughout. Sparse shell hash throughout. Long waveform ripple present. Few small burrows near left laser toward ripple.
SFEC-OCS	109	B	No		Very high (~75%) pebble coverage with pale tan sand. Extensive shell hash and shell debris throughout. Evidence of ripples.
SFEC-OCS	109	D	No		Very high (~65%) pebble coverage with pale tan sand. Extensive shell hash and shell debris throughout. indeterminate bedform. Scallop above left laser. Sea pen to the top right of the right laser.
SFEC-OCS	110	A	No		Pale tan sand with long waveform ripple. High turbidity along right side of image. Very sparse shell hash throughout. Small burrows in area of fines. Wide gastropod or sand dollar track at left.
SFEC-OCS	110	B	No		Pale tan sand with biogenically modified seafloor; ripples with fines in trough. Single large cobble on left side of image. Sparse shell hash visible in top half of image. Small burrows and feeding pits in area of fines.
SFEC-OCS	110	C	IND		Pale tan sand in bottom left of image. Very high turbidity in remainder of image.
SFEC-OCS	111	A	No		Tan sand with a band of gravel running from bottom left to mid right of image. Gravel primarily pebbles and small cobble. Shell hash extensive within gravel. High turbidity in top half of image.
SFEC-OCS	111	B	No		Pale tan sand with pebbles and small cobbles distributed throughout. Shell hash distributed throughout. Long waveform ripple present. Sea pen in bottom center of image. Translucent shrimp in mid-center of image.
SFEC-OCS	111	C	No		Tan sand with sparse pebbles and small cobbles on bottom half of image. Indeterminate bedform. Sea pen to the right of right laser.
SFEC-OCS	112	A	No		Pale tan slightly gravelly sand with very sparse pebbles. Very sparse shell hash throughout. Long waveform ripple present. Partially buried sea pen in upper center, shrimp to the upper left of left laser, and sand dollars in the lower center and upper center of image. Potential small fish on far right of image.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	112	B	No		Pale tan slightly gravelly sand with pebbles in upper right corner. Sparse shell hash distributed with gravel. Long waveform ripple present. Sand dollars present to left of left laser and below right laser. Shrimp below lasers near bottom of image. Tracks in lower left.
SFEC-OCS	112	C	No		Pale tan gravelly sand with pebbles and small cobbles along right of image. Shell hash distributed in with gravel. Long waveform ripple present. Sand dollar above right laser.
SFEC-OCS	113	A	No		Tan gravelly sand with evenly distributed pebbles throughout. Very high coverage of shell hash and shell debris. Bedform indeterminate. About 28 sand dollars present with related tracks.
SFEC-OCS	113	B	No		Tan gravelly sand with evenly distributed pebbles throughout. Very high coverage of shell hash and shell debris. Bedform indeterminate. About 32 sand dollars present with related tracks.
SFEC-OCS	113	C	No		Tan gravelly sand with evenly distributed pebbles throughout. Very high coverage of shell hash and shell debris. Bedform indeterminate. About 27 sand dollars present with related tracks. Unidentified fish in bottom right corner.
SFEC-OCS	114	A	No		Pale tan sand with extensive shell hash throughout. indeterminate bedform. Sand dollar in bottom left of image. Tracks in upper center, likely from sand dollar. Few small burrows in lower right.
SFEC-OCS	114	B	No		Pale tan sand with extensive shell hash throughout. Sand dollar debris in bottom right corner. Feeding pits visible throughout image.
SFEC-OCS	114	C	No		Pale tan sand with extensive shell hash throughout. indeterminate bedform. Feeding pits throughout.
SFEC-OCS	115	A	No		Tan gravelly sand with pebbles distributed throughout. Extensive shell hash and shell debris throughout. Long waveform bedform present. About 18 sand dollars. Sand dollar tracks also visible. Few fecal casts near center.
SFEC-OCS	115	B	No		Tan gravelly sand with extensive pebbles and shell hash throughout. Long waveform ripple with sand dollars on crest. Approximate 40% surface coverage of sand dollars. Hermit crab just below lasers.
SFEC-OCS	115	C	No		Tan gravelly sand with extensive pebbles and shell hash throughout. Long waveform ripple with sand dollars on crest. Approximate 50% surface coverage of sand dollars. Sand dollar tracks present throughout bottom right of image.
SFEC-OCS	116	A	No		Tan sand with extensive shell hash and sparse shell debris throughout. Indeterminate bedform. Dead seaweed between lasers. About 14 sand dollars throughout. Track visible to right of right laser. Few small burrows in areas with fines.
SFEC-OCS	116	B	No		Tan sand with extensive shell hash and sparse shell debris throughout. Apparent vertebrae to top left of left laser. indeterminate bedform. About 21 sand dollars throughout. Tracks visible on left side of image.
SFEC-OCS	116	C	No		Tan sand with shell hash throughout. indeterminate bedform. About 8 sand dollars throughout. Tracks visible in bottom right of image.
SFEC-OCS	117	A	No		Very high water column turbidity. Appears to be slightly gravelly sand with pebbles and extensive shell hash throughout. Bedform and biotic components indeterminate due to turbidity. About 6 sand dollars.
SFEC-OCS	117	B	No		Tan gravelly sand with very sparse pebbles throughout. Very extensive shell debris and shell hash throughout. Indeterminate bedform. Potential gastropod just below lasers.
SFEC-OCS	117	C	No		Tan gravelly sand with very sparse pebbles throughout. Very extensive shell debris and shell hash throughout. Indeterminate bedform. 2 Sand dollars. Moderate sized indeterminate fish below lasers.
SFEC-OCS	118	A	No		Pale tan sand with indeterminate bedform. Feeding pits and some small burrows in lower half of image. Hermit crab in top right, shrimp in center right and bottom center of image. Small fish in bottom left of image.
SFEC-OCS	118	B	No		Pale tan sand with very sparse shell hash throughout. Indeterminate bedform. High turbidity in water column limits analysis of biotic components.
SFEC-OCS	118	C	IND		High turbidity in water column does not allow for analysis
SFEC-OCS	119	A	No		High turbidity clouds top half of image. Tan sand with indeterminate bedform in bottom half of image. Fecal casts in bottom left of images. Sea star in far bottom left corner.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	119	B	No		Very high water column turbidity. Tan sand with indeterminate bedform. Potential fecal casts in center of image.
SFEC-OCS	119	C	No		Tan sand with shell hash throughout. indeterminate bedform. Sand dollar and sea star below lasers.
SFEC-OCS	120	A	No		Pale tan sand with very sparse shell hash throughout. Indeterminate bedform. Potential feeding pits below lasers. Two hermit crabs of right of right laser. Small burrows at left.
SFEC-OCS	120	B	No		Tan sand with very sparse shell hash and an indeterminate bedform. Feeding pit and fecal casts between and below lasers.
SFEC-OCS	120	C	No		Tan sand with very sparse shell hash and an indeterminate bedform. Feeding pit and fecal casts between and below lasers. Sand dollar by left laser. Small indeterminate fish in upper center of image.
SFEC-OCS	121	A	No		Pale tan sand with very sparse shell hash. Indeterminate bedform. Numerous feeding pits with associated fecal casts. Burrows between and below lasers. Hermit crab in top center of image.
SFEC-OCS	121	B	No		Pale tan sand with very sparse shell hash throughout. Biogenically modified seafloor. Extensive feeding pits throughout with associated fecal casts. Three sand dollars on right side of image. Few small burrows in lower right.
SFEC-OCS	121	D	No		Pale tan sand with shell hash throughout. Indeterminate bedform. Numerous burrows with associated mounds. About 9 sand dollars. Large winter skate in top left.
SFEC-OCS	122	A	No		Pale tan sand with very extensive shell debris and shell hash coverage. Shell debris includes sand dollars and clams. indeterminate bedform. Feeding pit with associated fecal casts below right laser. 3 sand dollars. Small burrow near left laser and small tubes in lower left quadrant.
SFEC-OCS	122	B	No		Pale tan sand with very extensive shell debris and shell hash coverage. Shell debris includes sand dollars and clams. indeterminate bedform. Feeding pit with associated fecal casts below right laser and on right of image. 2 sand dollars. indeterminate mound under right laser - looks like fecal matter.
SFEC-OCS	122	C	No		Pale tan sand with shell hash and shell debris throughout. Indeterminate bedform. Tracks present on right side of image. Sand dollar below right of laser. Biogenically modified seafloor to left of left laser. Few small burrows and foraging pits at left quadrants.
SFEC-OCS	123	A	No		Tan sandy gravel with extensive pebble coverage. Very extensive shell hash and shell debris coverage. Indeterminate bedform.
SFEC-OCS	123	B	No		Tan sandy gravel with extensive pebble coverage. Extensive shell hash and shell debris throughout. Long waveform ripple indicated by shell hash coverage. Feeding pits to left of left laser.
SFEC-OCS	123	C	No		Tan sandy gravel with extensive pebble coverage. Very extensive shell debris and shell hash coverage. Indeterminate bedform. 2 sand dollars in top of image.
SFEC-OCS	124	A	No		Pale tan muddy sand with sparse shell hash. indeterminate bedform. Medium burrow in lower right corner; small burrows throughout. Feeding pits/tracks visible in lower half of image.
SFEC-OCS	124	B	No		Pale tan muddy sand with very sparse shell hash. Indeterminate bedform. Several burrows in center of screen with associated mounds. Tracks present on bottom and bottom right of image. Sand dollar on far right of image. Tube cast on far right of image.
SFEC-OCS	124	D	No		Pale tan muddy sand with indeterminate bedform. Two sand dollars with associated tracks. Feeding pits visible below lasers. Fecal casts and tracks visible above lasers. Small burrows throughout, medium burrow near left edge.
SFEC-OCS	125	A	No		Pale tan muddy sand with sparse shell hash throughout. Indeterminate bedform. Numerous burrows with associated mounds in lower half of image. Feeding pits in lower and left side of image. >25 sand dollars.
SFEC-OCS	125	C	No		Tan muddy sand with indeterminate bedform. About 20 sand dollars present. Feeding pits with associated fecal casts in top half of image. Tracks visible in lower half of the image. Small burrows throughout.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	125	D	No		Pale tan muddy sand with indeterminate bedform. Feeding pit directly below right laser. > 3 dozen sand dollars present. Small to medium burrows throughout.
SFEC-OCS	126	A	No		Pale tan sand with shell hash on right and bottom left of image. Indeterminate bedform. Sand dollar coverage at ~75% of image. Sand dollar tracks present. Few small burrows.
SFEC-OCS	126	B	No		Pale tan sand with shell hash. Indeterminate bedform. Sand dollar coverage at ~65% of image. Numerous tracks present in sand. Unidentified gastropod to right of right laser.
SFEC-OCS	126	C	No		Pale tan sand with shell hash throughout. Indeterminate bedform. Sand dollar coverage a ~40% of image. Sand dollar tracks present.
SFEC-OCS	127	A	No		Pale tan sand with shell hash throughout. Long waveform ripple present. Tracks and/or feeding pits present in lower left corner of image.
SFEC-OCS	127	B	No		Pale tan sand with sparse shell hash throughout. Indeterminate bedform. Single sand dollar in top left quadrant. Feeding pits in bottom right with sparse fecal casts.
SFEC-OCS	127	C	No		Pale tan sand with sparse shell hash throughout. Indeterminate bedform with rippling present in lower right corner. Two sand dollars on far left of image. One buried sand dollar on far right of image. Tracks present in lower right corner. Fecal casts in lower part of image.
SFEC-OCS	128	A	No		Very high turbidity in water column. Tan sand with sparse shell hash on bottom of image. Shrimp in bottom left of image. Turbidity too high to determine bedform or identify other biotic features.
SFEC-OCS	128	B	No		Tan sand with sparse shell hash and shell debris throughout. Moderately high turbidity in water column. Indeterminate bedform. Feeding pits on left and lower center of image. Gastropod in lower center of image. Shrimp present in lower half of image.
SFEC-OCS	128	C	No		Tan sand with very sparse shell hash throughout. Moderate turbidity in water column. Indeterminate bedform. Numerous shrimp in lower half of image, particularly lower right image. Tracks present in lower left of image.
SFEC-OCS	129	A	No		Muddy sand and burrows and/or foraging pits visible through high turbidity in water column; all other parameters are indeterminate.
SFEC-OCS	129	C	No		Muddy sand and burrows and/or foraging pits visible through high turbidity in water column; all other parameters are indeterminate.
SFEC-OCS	129	D	No		Muddy sand and burrows and/or foraging pits visible through high turbidity in water column; all other parameters are indeterminate.
SFEC-OCS	130	A	No		Very high turbidity, top half of image obscured. Tan muddy sand visible with very sparse shell hash and possible burrows or foraging pits. Sea pen? in center of image.
SFEC-OCS	130	B	No		Muddy sand with possible burrows and/or foraging pits visible through high turbidity in water column; all other parameters are indeterminate.
SFEC-OCS	130	C	No		Muddy sand with possible burrows and/or foraging pits visible through high turbidity in water column; all other parameters are indeterminate.
SFEC-OCS	131	A	IND		High turbidity in water column does not allow for analysis; shell hash visible
SFEC-OCS	131	C	IND		High turbidity in water column does not allow for analysis; shell hash visible
SFEC-OCS	131	D	IND		Very high turbidity in water column limits analysis. Visible sand and shell hash.
SFEC-OCS	132	A	IND		High turbidity in water column does not allow for analysis; some shell hash visible.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	132	C	IND		High turbidity in water column does not allow for analysis; shell hash, possible scallop in lower left visible.
SFEC-OCS	132	D	IND		Very high turbidity limits analysis. Pebbles across sand and shell debris and shell hash visible.
SFEC-OCS	133	A	IND		Sand with burrows and/or foraging pits visible in lower part of image with high turbidity in water column rendering all other parameters indeterminate.
SFEC-OCS	133	B	IND		High turbidity in water column does not allow for analysis
SFEC-OCS	133	D	IND		High turbidity in water column does not allow for analysis
SFEC-OCS	134	A	No		Sandy gravel with extensive pebble and small cobble coverage. Indeterminate bedform. Vertebrae in center of image.
SFEC-OCS	134	B	No		Tan sand with pebbles evenly distributed. Turbidity limits analysis. Sparse shell hash present.
SFEC-OCS	134	C	No		High turbidity in water column does not allow for analysis. Gravelly sand and shell debris visible.
SFEC-OCS	135	A	No		Tan sand with pebbles and small cobbles. High turbidity limits analysis. Sand dollar in top left corner.
SFEC-OCS	135	B	IND		High turbidity limits analysis. Gastropod in center of image
SFEC-OCS	135	C	IND		High turbidity limits analysis. Sand dollar on far left of image. Shell debris in top left.
SFEC-OCS	136	A	No		High turbidity limits analysis. Sand with very sparse pebbles or small cobbles present. Four sand dollars visible. Possible burrows and/or foraging pits at bottom.
SFEC-OCS	136	B	No		High turbidity limits analysis. Sand with very sparse pebbles present. One sand dollar visible in top left corner.
SFEC-OCS	136	C	No		High turbidity limits analysis. Pale tan sand visible with small cobble to upper right of right laser. Slight rippling evident. Two sand dollars on far right of image.
SFEC-OCS	137	A	No		Pale tan sand with very sparse pebbles and small cobbles. Indeterminate bedform. Seven sand dollars with tracks visible. Moderately high turbidity limits analysis.
SFEC-OCS	137	B	No		Pale tan sand with sparse pebbles and small cobbles. Very sparse shell hash throughout. indeterminate bedform. Seven sand dollars visible. Potential tracks or feeding burrows in lower left of image.
SFEC-OCS	137	C	No		Pale tan sand with two cobbles in center. Shell debris and shell hash throughout. Indeterminate bedform. Potential slipper shells on lower cobble. Three sand dollars along top of image.
SFEC-OCS	138	A	No		Pale tan sand with long waveform rippling. 11 sand dollars visible. Sand dollar tracks visible in sand.
SFEC-OCS	138	B	No		Moderate turbidity in water column. Pale tan sand with long waveform ripple. Three sand dollars visible.
SFEC-OCS	138	D	No		Moderate turbidity in water column. Pale tan sand with long waveform bedform. Ten sand dollars visible.
SFEC-OCS	139	A	No		Pale tan sand with long waveform ripple. About 38 sand dollars running through center of image. Numerous tracks present. Few small to medium burrows, at center and above left laser.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	139	B	No		Pale tan sand with indeterminate bedform. Moderate turbidity limits detailed analysis. Fourteen sand dollars distributed throughout.
SFEC-OCS	139	C	No		Pale tan sand with long waveform ripple. Moderate turbidity limits detailed analysis. Shell debris in top right corner. Six sand dollars distributed throughout.
SFEC-OCS	140	A	No		Pale tan sand with long waveform ripple. Five sand dollars present. Tracks visible on sand ridge.
SFEC-OCS	140	B	No		Pale tan sand with indeterminate bedform. Four sand dollars visible. Tracks visible in lower half of image. Potential fecal casts in top left quadrant.
SFEC-OCS	140	C	No		Pale tan sand with sparse shell hash and indeterminate bedform. Two sand dollars in center of image. Few small burrows.
SFEC-OCS	141	A	No		Pale tan sand with sparse shell hash throughout long waveform ripple. Tracks visible below left laser. A few feeding pits with associated fecal casts on far left of image and below lasers. Few small burrows.
SFEC-OCS	141	B	No		Tan sand with sparse shell hash and very sparse shell debris. Long waveform ripple present.
SFEC-OCS	141	C	No		Pale tan sand with sparse shell hash and very sparse shell debris throughout. Long waveform ripple present. Potential cobble in top left of image with attached slipper shells. Potential tracks to lower right of right laser.
SFEC-OCS	142	A	No		Pale tan sand with very sparse shell hash throughout. Indeterminate bedform; patch of fines at left.. Tracks to lower right of right laser. Potential gastropod or hermit crab above left laser.
SFEC-OCS	142	B	No		Very high turbidity limits analysis. Pale tan visible in lower left of image.
SFEC-OCS	142	C	No		Pale tan sand with indeterminate bedform. Feeding pit below right laser. SPI camera frame track at upper center of image.
SFEC-OCS	146	C	No		Dark tan sand with shell hash throughout. Indeterminate bedform. Tracks in bottom right corner. Fecal casts and small burrows in bottom left of image.
SFEC-OCS	146	E	IND		Tan sand with shell hash throughout. Indeterminate bedform. Numerous burrows throughout image, some with associated mounds. Track running from left side of image through left laser. Unidentified debris on far right side of image.
SFEC-OCS	146	F	IND		High turbidity limits analysis. Pale tan sand with shell hash visible. Indeterminate bedform.
SFEC-OCS	147	A	No		Pale tan slightly gravelly sand with sparse pebbles throughout. Long waveform ripple present. Tracks in top right of image. Feeding pits in bottom right and far left of image. Potential tube of shell hash in bottom left of image.
SFEC-OCS	147	B	No		Pale tan slightly gravelly sand with sparse pebbles distributed throughout. Sparse shell hash distributed throughout. Long waveform ripple present. Feeding pits visible in lower half of image.
SFEC-OCS	147	C	No		Pale tan slightly gravelly sand with sparse pebbles distributed throughout. Sparse shell hash distributed throughout. Long waveform ripple present. Feeding pits visible in lower half of image. Tracks in lower left of image. Small cobble/pebble aggregation in bottom right of image, may be biogenically derived perhaps Crepidula.
SFEC-OCS	148	A	No		Pale tan sand with long waveform ripple present. Feeding divots along top of sand ridge in center of image. Small burrow in fines in ripple trough. About 8 sand dollars throughout.
SFEC-OCS	148	B	No		Pale sand with very sparse shell hash. Long waveform ripple present. Feeding pits present on sand ridge near lasers. Small burrows in area of fines in trough of ripples. Five sand dollars present.
SFEC-OCS	148	C	No		Moderately high water column turbidity limits analysis. Pale tan sand with long waveform ridge present. About 7 sand dollars present.
SFEC-OCS	149	A	IND		Pale tan sand with very sparse shell hash. Long waveform ripple present. Extensive tracks visible in lower half of image. About 7 sand dollars visible.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	149	B	No		Very high turbidity limits analysis. Four sand dollars present
SFEC-OCS	149	C	No		Very high turbidity limits analysis. Three sand dollars present
SFEC-OCS	150	A	IND		Pale tan sand with shell hash throughout. Long waveform ripple present. Extensive tracks visible in lower half of image. About 5 sand dollars visible. Small burrow in area of fines to right of center. Small gastropod or hermit crab at center lower edge.
SFEC-OCS	150	C	No		Pale tan sand with a single moderate cobble in the top right quadrant. Cobble has attached barnacles. Evidence of long wavelength ripple. Tracks visible in the lower half of image. About 7 sand dollars.
SFEC-OCS	150	D	No		Pale tan sand with sparse shell hash. Indeterminate bedform. Moderately high turbidity limits analysis. About 9 sand dollars present.
SFEC-OCS	151	A	No		Pale tan sand with shell hash and very sparse shell debris throughout. Long waveform ripple present. One sand dollar in center of image. Likely tracks on sand ridge near bottom of image.
SFEC-OCS	151	B	No		Pale tan sand with shell hash throughout. Long waveform ripple present. Extensive tracks visible in lower half of image. About 10 sand dollars visible. Potential gastropod (moon snail) in lower left corner with attached barnacles.
SFEC-OCS	151	D	No		Pale tan sand with shell hash throughout. Long waveform ripple present. Seven sand dollars present. Potential tracks present on far left of image. Potential burrow at center.
SFEC-OCS	152	A	No		Very high turbidity limits analysis. Pale tan sand visible.
SFEC-OCS	152	B	No		Pale tan sand with extensive shell hash throughout. Indeterminate bedform. Slipper shells, unattached to substrate in lower right of image. Five sand dollars present. Tracks present in lower left of image. Few small burrows, one to lower left of middle sand dollar.
SFEC-OCS	152	C	No		Moderately high turbidity limits analysis. Pale tan sand with shell hash throughout. About five sand dollars present.
SFEC-OCS	153	A	No		Very high turbidity limits analysis. Pale tan sand visible. Sand dollar in center of image. Possible burrows in lower part of image.
SFEC-OCS	153	B	No		Very high turbidity limits analysis. Pale tan sand visible. Sand dollar in top left of image. Possible burrows in lower right.
SFEC-OCS	153	C	No		Moderately high turbidity limits analysis. Pale tan sand with sparse shell hash. Small gastropod in center of image. Four sand dollars present. Potential tracks in bottom left of image.
SFEC-OCS	154	A	IND		Tan slightly gravelly sand with very sparse pebbles and small cobbles. Indeterminate bedform. Small burrows and fecal casts throughout, particularly in bottom left of image. Extensive coverage of slipper shells throughout. A few slipper shells have barnacles.
SFEC-OCS	154	B	No		Tan gravelly sand with pebbles and small cobbles present. Indeterminate bedform. Sparse shell hash throughout. Extensive coverage of slipper shells throughout, numerous slipper shells have attached barnacles. Small gastropod in bottom center of image. Fecal casts present in with slipper shells.
SFEC-OCS	154	D	IND		Tan gravelly sand with pebbles and cobbles. Small cobbles have attached barnacles. Very high coverage of slipper shells present, ~ 75% coverage.
SFEC-OCS	155	A	No		Pale tan sand with shell hash throughout. Indeterminate bedform. About 8 sand dollars present. Few small burrows left of center.
SFEC-OCS	155	B	IND		Pale tan sand with very sparse shell hash. Indeterminate bedform. Two sand dollars present. Large cobble or gastropod on far left of image. Fecal casts on surface near center.

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-OCS	155	C	No		Pale tan sand with very sparse shell hash. Indeterminate bedform. Two sand dollars present. Track visible in bottom left corner. Few small burrows near center.
SFEC-OCS	156	B	IND		Tan sand with indeterminate bedform. Moderately high turbidity limits analysis. Four sand dollars present. Small burrows in lower left. Large female winter skate present.
SFEC-OCS	156	C	No		High turbidity limits analysis. Appears to be sand. About 8 sand dollars present.
SFEC-OCS	156	D	No		High turbidity limits analysis. Appears to be sand. About 6 sand dollars present.
SFEC-OCS	157	A	No		High turbidity limits analysis. Appears to be sand. About 2 sand dollars present.
SFEC-OCS	157	B	No		Pale tan sand with indeterminate bedform. Moderately high turbidity. A single sand dollar and single hermit crab present.
SFEC-OCS	157	D	No		High turbidity limits analysis. Appears to be sand. About 4 sand dollars present.
SFEC-NYS	143	A	No		Pale tan sand with sparse shell hash. Indeterminate bedform. High coverage of sand dollars ~25%. Sand dollar tracks present. Medium burrows at right center.
SFEC-NYS	143	B	No		High turbidity limits analysis. High coverage of sand dollars ~25%.
SFEC-NYS	143	C	No		Pale tan sand with sparse shell hash throughout. Indeterminate bedform. Hermit crab or gastropod in upper left quadrant. About 16 sand dollars present.
SFEC-NYS	144	A	No		High turbidity limits analysis
SFEC-NYS	144	B	No		Moderately high turbidity limits analysis. Muddy sand with small to medium burrows. Some dark reduced sediment reveals at middle-appears to be in a line of disturbance, perhaps from trigger ball.
SFEC-NYS	144	C	No		Moderately high turbidity limits analysis. Appears to be sand.
SFEC-NYS	145	A	No		Moderately high turbidity limits analysis. Pale tan sand shell hash throughout. Indeterminate bedform. Several dozen sand dollars present with related tracks. Hermit crab on sand dollar below right laser. Few small burrows in lower part of image.
SFEC-NYS	145	B	No		Moderately high turbidity limits analysis. Pale tan sand with shell hash throughout. Indeterminate bedform. Several dozen sand dollars present with related tracks.
SFEC-NYS	145	C	No		Moderately high turbidity limits analysis. Pale tan sand with shell hash throughout. Indeterminate bedform. Several dozen sand dollars present with related tracks. Gastropod or hermit crab in lower right corner. Large cobble in bottom center with attached barnacles.
SFEC-NYS	158	A	No		Pale tan sand with irregular short period ripples. Moderately high turbidity limits biotic analyses. Two sand dollars present. Potential foraging pit near right laser.
SFEC-NYS	158	B	No		Pale tan sand with irregular short period ripples. Moderately high turbidity limits biotic analyses. One sand dollar present.
SFEC-NYS	158	C	No		Pale tan sand with irregular short period ripples. Moderately high turbidity limits biotic analyses. Three sand dollars present.
SFEC-NYS	159	A	IND		High turbidity in water column does not allow for analysis
SFEC-NYS	159	B	IND		High turbidity in water column does not allow for analysis

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Area	Station ID	Replicate	Sensitive Taxa Present?	Type of Sensitive Taxa	Comments
SFEC-NYS	159	C	IND		High turbidity in water column does not allow for analysis
SFEC-NYS	160	A	IND		High turbidity in water column does not allow for analysis
SFEC-NYS	160	B	IND		High turbidity in water column does not allow for analysis
SFEC-NYS	160	D	IND		High turbidity in water column does not allow for analysis
Reference	C03	A	No		Pale tan sand with shell hash throughout and long waveform ripple. A few feeding pits and burrows, including in lower left corner.
Reference	C03	B	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Track visible to lower right of right laser. Sea robin in upper left quadrant. Unidentified fish below lasers in center of images. A few feeding pits throughout. Small burrows in area of fines in ripple trough.
Reference	C03	C	No		Pale tan sand with shell hash throughout. Long waveform ripple present. Feeding pits present below left laser. Fecal casts to lower left of left laser. Tracks present to left of left laser. Small burrows in areas for fines in ripple troughs.
Reference	C03	D	No		Tan sand with shell hash throughout. Long waveform ripple. Small to medium burrows and/or feeding pits visible.. Moderate water turbidity limits biotic analysis.
Reference	C03	E	No		Tan sand with shell hash throughout. Long waveform ripple present. Feeding pits present along sand ridge in center of image. Few small burrows in area of fines in ripple trough. Unidentified fish in top right of image.
Reference	C04	A	No		Pale tan sand with shell hash throughout. Long waveform ripple present. Tracks and feeding pits present below lasers. Fecal casts present associated with tracks/feeding pits. Potential sea pens in top and bottom right of image with attached hydroids.
Reference	C04	B	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Numerous feeding pits throughout. Unidentified fish in lower center of image, potentially an Atlantic cod.
Reference	C04	C	No		Tan sand with sparse shell hash throughout. Long waveform ripple present. Feeding pits and fecal casts present along sand ridge.
Reference	C04	D	No		Pale tan sand with sparse shell hash throughout. Long waveform ripple present. Tracks visible below left laser. Feeding pit in lower left. Fecal casts and short tubes throughout, more on left side.
Reference	C04	F	No		Pale tan sand with long waveform ripple present. Sea pen with attached hydroids in top right of image. Tracks and feeding pits present along left side of image.
Reference	C05	A	No		Pale tan sand with finer, darker muds; long waveform ripple. Small burrows in fine at bottom of image. Small clumps of muds visible in lower half of image. Sparse shell hash throughout.
Reference	C05	B	No		Pale tan sand with cobble and a small boulder present. Sparse shell hash and shell debris throughout. Numerous sea pens throughout, likely attached to cobble and boulders covered by sand. Most sea pens have attached hydroids (also attached to cobbles); one in bottom right has attached sponges.
Reference	C05	C	No		Pale tan sand with pebbles, small and large cobbles. Sparse shell hash and debris throughout. Numerous sea pens present including a large aggregation in top right corner. Sparse attached hydroids on sea pens.
Reference	C05	D	No		Pale tan sand with very sparse shell hash throughout. Long waveform ripple present. Small mud clasts in lower left may have dropped off of SPI camera frame. Tracks and feeding pits to the right of right laser. Small tubes or fecal casts at left; possible small burrows in area of fines in ripple trough.
Reference	C05	F	No		Pale tan sand with long waveform ripple present. Potential tracks to left and below left laser. Windowpane flounder to lower left of left laser.