NORTH FALLS

Offshore Wind Farm

ENVIRONMENTAL STATEMENT

Appendix 10.1 Benthic and Intertidal Ecology Survey Report

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NORTH FALLS
Offshore Wind Farm

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Fugro -WPM1-WPM2-WPM3-Array, ECR and Intertidal-Benthic Ecology Monitoring Report

North Falls Offshore Site Investigation | UK, North Sea

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Client	North Falls Offshore Wind Farm Limited
Client Address	Windmill Hill Business Park, Swindon, SN5 6PB, UK
Client Contact	David Higgs
Client Document No.	003921990 02

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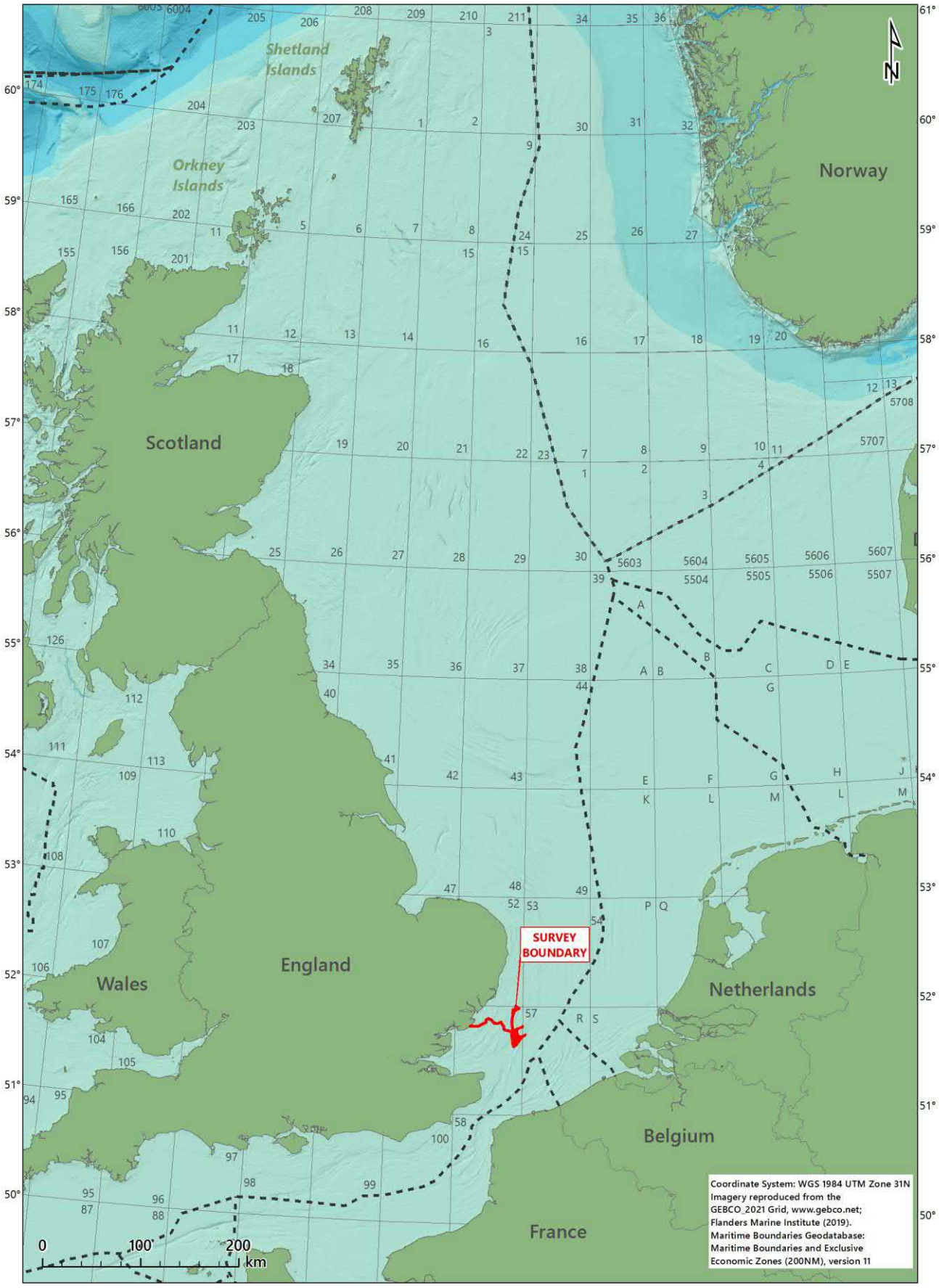
Project Team

Initials	Name	Role
CAB	Craig Barrett	Project Manager
PMF	Peter Falkner	Deputy Project Manager
AJR	Andrew Rawlins	Principal Chemist (Organics and QC Lead)
JLL	Jo Lusted	Environmental Group Survey and Reporting Manager
SDG	Stefania De Gregorio	Principal Marine Ecologist
SGW	Séamus Whyte	Principal Marine Ecologist / Senior Project Manager

Frontispiece



Executive Summary

Introduction

North Falls Offshore Wind Farm Limited contracted Fugro to perform a benthic site characterisation survey at the North Falls Offshore Wind Farm (OWF) development area. The development area is off the east coast of Suffolk, England and consists of a north and south array with an interconnector in between and an export cable route (ECR). Operations were conducted using the DSV Curtis Marshall during the survey period 12 to 22 July 2021. An intertidal survey of the nearshore section of the proposed export cable route (ECR) was undertaken during the survey period 26 to 27 May 2021.

The results of the study will inform the project final development consent order (DCO) application and environmental impact assessment (EIA).

The aim of the benthic survey was to provide a baseline characterisation of the benthic ecology and to supplement the existing data across the area of interest. The aim was fulfilled through acquisition of sediment samples and seabed video and photographic data. Sediment samples were acquired to characterise the benthic environment in terms of physico-chemical characteristics and biological communities. Seabed video and photographic data provided information on habitat types, with focus on habitats of conservation importance, such as those listed under Annex I of the Conservation of Habitats and Species Regulations 2019 and habitats listed on the Oslo and Paris (OSPAR) list of threatened and/or declining habitats and species. The results of the seabed video and photographic data were integrated with those from the grab samples to further define the habitats and associated biological communities in terms of biotopes in line with the European Nature Information System (EUNIS) habitat classification.

Survey Strategy

Intertidal

A modified Phase I walkover habitat mapping survey was conducted to record intertidal habitats and associated fauna and flora to provide information on habitat composition and distribution. The entire vertical profile of the shore was investigated, from the supralittoral zone to the low water spring tide level (subject to safe access), as identified by standard Admiralty tidal predictions.

Subtidal

Forty-nine subtidal environmental stations, to be assessed through drop-down camera and single replicate grab samples, were proposed based on revision of available regional and geophysical data. Revision of side scan sonar (SSS) data placed emphasis on areas of potential conservation value, boundaries between areas of differing sonic reflectivity, bathymetric highs and lows and areas representative of the general background conditions of the site. Acquisition of grab samples for chemistry analysis was proposed at 26 stations. Seabed video and photography were acquired prior to grab sampling to ensure no damage to potential habitats of conservation importance.

Seabed video and photography were acquired using a Subsea Technology and Rentals (STR) deep-sea camera system. In areas of poor visibility, seabed video and photography were acquired using a Bowtech SeaKnight underwater camera system mounted within a freshwater frame.

Seabed samples were acquired using a 0.1 m^2 mini Hamon grab for faunal and sediment particle size distribution (PSD) analyses, and a 0.1 m^2 Day grab (0.1 m^2 Dual van Veen grab as back up) for chemistry analysis.

Grab samples for sediment particle distribution (PSD) and biological analyses were successfully acquired at 39 of the 49 proposed stations. At 19 of these stations samples for chemistry analysis were successfully acquired.

Eight stations were not sampled owing to the presence of habitats of potential conservation importance, as indicated by the seabed video and photography. Two stations were not sampled following unsuccessful attempts owing to the coarseness of the sediment, whereas one station was successfully sampled for PSD and biological analyses but not for chemistry analysis. Two stations were relocated to avoid a habitat of conservation importance and fishing gear. The relocated stations were re-named with station name with the suffix ALT.

Sediment Characteristics

Sediments across the North Falls survey area comprised a mix of gravel, sand and fines, the latter being recorded at 26 stations, with percentages of fines being high at stations along the nearshore section of the ECR. Sand was the predominant sediment type at the offshore stations, particularly those in the south array, whereas gravel was recorded across most of the survey area. A notable contribution to gravel emanated from shell fragments, as recorded through the seabed video and photography and qualitative description of the grab samples. The heterogeneity of the sediment was reflected in the sediment sorting which ranged from well sorted to extremely poorly sorted, with most stations having very poorly sorted sediments.

The sediment diversity resulted in eight sediment classes being identified under the Folk (British Geological Survey [BGS modified]) classification, of which ‘sand’ and ‘muddy, sandy gravel’ typified most stations. Eight sediment classes described the sediment along the ECR, including ‘muddy sand’, ‘sandy gravel’, ‘gravelly mud’ and ‘sandy mud’, which were not recorded elsewhere in the survey area. Four sediment classes described the sediment in the south array including ‘gravelly sand’ and ‘gravelly muddy sand’, the latter also describing the sediment along the interconnector.

The Wentworth (1922) scale was used to assess the coarseness of the sediment resulting in nine sediment descriptions, ranging from ‘medium silt’ to ‘fine pebble’. All nine descriptions were represented along the ECR, whereas ‘very coarse sand’ ‘coarse sand’ and ‘medium sand’ described the offshore stations along the interconnector and the north and south arrays.

Most stations had bimodal or polymodal distributions, typical of areas with different sources of sediment likely associated with sediment disturbance in a high energy environment, such as that of the study area.

Sediment Chemistry

Sediment samples were analysed for polycyclic aromatic hydrocarbons (PAHs) and metals. Twenty-two PAHs were analysed, including the United States Environmental Protection Agency (US EPA) 16 PAHs, selected alkyl naphthalenes and phenanthrenes, benzo[e]pyrene and perylene.

Results were compared against marine sediment quality guidelines (SQGs) including the OSPAR effects range low (ERL), the National Oceanic and Atmospheric Administration effects range median (ERM), the Centre for Environment, Fisheries and Aquaculture Science (Cefas) Guideline Action Levels (ALs) and the Canadian threshold effect level (TEL) and probable effect level (PEL).

The concentrations of all PAHs analysed were below their respective marine SQGs. Regional contextualisation of the results indicated that concentrations of PAHs were generally higher than those reported for the Outer Thames Estuary, most likely due to sedimentary differences particularly at the nearshore stations.

Of the 11 metals analysed, arsenic was above the Cefas AL1 at nine stations, including four along the ECR, one in the north array, one along the interconnector and three in the south array. Arsenic concentrations above the Canadian PEL were recorded at stations ST28 in the north array and ST31ALT along the interconnector. The arsenic concentration at station ST28 was also above the NOAA ERM. Concentrations of arsenic were above the Canadian TEL at 18 stations, however these were not deemed to be of concern, considering that the Canadian TEL value for arsenic is lower than that of the background assessment concentration (BAC) used to evaluate the contamination status of marine sediment across the OSPAR maritime area.

Of the metal analysed, concentrations of nickel were above the Cefas AL1 at three stations, including one along the nearshore section of the ECR, one in the north array and one along the interconnector. The remaining metals had concentrations below their respective SQGs.

Regional contextualisation of the results indicated that concentrations of arsenic and nickel are within the range reported for the Outer Thames Estuary.

Macrofauna

The macrofaunal community comprised infaunal and epifaunal taxa, the latter being represented by solitary and colonial organisms. Annelida and Mollusca represented most of the community structure and composition of the enumerated fauna, which comprised infauna and solitary epifauna. There was considerable variability in the number of taxa and individuals across the survey area. In general, stations with predominantly sandy sediments, typical of offshore stations, had low macrofauna richness and abundance, likely associated with the mobility of the sediment, which featured mostly well sorted to moderately well sorted sand, with sand ripples visible from the seabed video and photography.

Stations characterised by mixed sediments, with varying proportions of gravel, sand and fines, hosted higher richness and abundance, including higher number of colonial epifaunal taxa. Predominantly muddy sediment, typical of stations along the nearshore section of the ECR had numerical dominances of bivalves.

Characterising taxa within the Annelida included the polychaetes *Lagis koreni*, *Scalibregma inflatum*, *Lumbrineris cingulata* (agg.), *Spiophanes bombyx* and species of *Notomastus*/*Pseudonotomastus*, whereas Arthropoda were represented by fast swimming crustaceans, such as *Ampelisca spinipes* and *Gastrosaccus spinifer*. The polychaete *Sabellaria spinulosa* was recorded in grab samples from 11 stations, with abundances of between one and 42 individuals.

Molluscs were represented by opportunistic species such as *Kurtiella bidentata*, *Abra alba*, *Nucula nucleus, Nucula nitidosa* and *Saxicavella jeffreysi*, whereas Echinodermata were represented by species typical of habitats exposed to strong tidal currents including brittlestars such as *Ophiura albida*, *Ophiura fragilis* and *Amphipholis squamata*, and the sea urchins *Echinocyamus pusillus* and *Psammechinus miliaris*.

Other taxa were represented mainly by species of Nemertea, anemones of the order Actiniaria, phoronid of the genus *Phoronis* and ascidians of the genus *Molgula*.

Seven macrofaunal assemblages were identified through the multivariate analysis, each assemblage having <40 % similarity and broadly associated with sediment type.

Overall, the macrobenthic communities recorded in this study are indicative of habitats subject to a degree of surface sediment disturbance. The presence of coarse sediment such as shells, pebbles and cobbles, increases the complexity of the habitats and offers suitable substrate for the attachment of epifauna, thus increasing biodiversity. This was reflected in the values of faunal diversity which ranged from bad to high in line with the thresholds values descriptions of Dauvin et al (2012).

Annelida and Mollusca comprised most of the infaunal biomass owing to their numerical dominance, whereas the Echinodermata biomass was associated with the size of invertebrates, notably sea urchins.

Epibiotic communities recorded through the seabed video and photography were represented by crustaceans, gastropods, scallops, brittlestars and starfish. Several fish were also recorded, including species of the families Ammodytidae, Gadidae, Trachinidae and Rajidae. The colonial epifauna, which was also recorded in the grab samples, was represented mainly by bryozoans, ascidians and tunicates.

Intertidal Habitats and Biotopes

One habitat complex, one habitat, two biotope complexes, eight biotopes and one sub-biotope were identified across the intertidal survey area:

1. 'Littoral rock and other hard substrata' (A.1)
2. '*Verrucaria maura* on very exposed to very sheltered upper littoral fringe rock' (B3.1132)
3. 'Mussel and/or barnacle communities' (A1.11)
4. 'Robust fucoid and/or red seaweed communities' (A1.12)
5. '*Semibalanus balanoides* on exposed to moderately exposed or vertical sheltered eulittoral rock' (A1.113)
6. '*Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock' (A1.212)
7. '*Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock' (A1.213)
8. '*Fucus serratus* on moderately exposed lower eulittoral rock' (A1.214)
9. '*Enteromorpha* spp. on freshwater-influenced and/or unstable upper eulittoral rock' (A1.451)
10. '*Porphyra purpurea* and *Entermorpha* spp. on sand-scoured mid or lower eulittoral rock' (A1.452)

11. 'Littoral sand and muddy sand' (A2.2)
12. 'Barren littoral shingle' (A2.111)
13. '*Lanice conchilega* in littoral sand' (A2.245)

Seabed Habitats and Biotopes

One habitat, two biotope complexes and five biotopes were identified from the grab samples:

14. 'Sublittoral sands' (A5.2)
15. 'Infralittoral coarse sediment' (A5.13)
16. 'Circalittoral coarse sediment' (A5.14)
17. 'Infralittoral mobile clean sand with sparse fauna' (A5.231)
18. '*Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333),
19. 'Polychaete-rich deep *Venus* community in offshore mixed sediments' (A5.451),
20. '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261)
21. '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143)

In addition, the biotope '*Sabellaria spinulosa* on stable circalittoral mixed sediment' (A5.611) was assigned to station ST39 in the south array, which was assessed only though seabed video and photography, owing to the presence of habitats of potential conservation importance.

Similarly, the biotope 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231), was assigned to areas of firm clay with round burrows of piddocks recorded through seabed video and photography.

Potentially Sensitive Habitats and Species

Aggregations of *S. spinulosa* at station ST39 were assessed for the potential for Annex I habitat 'Reef', in line with criteria for the evaluation of biogenic reef. The seabed video and photography was undertaken along two additional transects 50 m east and west of station ST39, to ensure maximum coverage of the habitat. The results of the overall assessment were of 'not a reef' or 'low reefiness' for most of the transects. Areas evaluated as 'medium reefiness' and 'high reefiness' were recorded along portions of the transect 50 m east of station ST39.

Aggregation of cobbles were recorded at station ST25 and ST24, the latter surveyed through additional transects 50 m to the east and west. These aggregations were assessed for the potential to constitute Annex I habitat 'Reef', in line with criteria for the evaluation of stony reef. The overall assessment was of 'low resemblance' to a stony reef and as such, unlikely to represent Annex I habitat under the current marine nature conservation legislation.

Two UK Biodiversity Action Plan (BAP) priority habitat were recorded, namely 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231) and the broad scale habitat (BSH) 'Subtidal sands and gravel', which encompass sandy and coarse sediment habitats and biotopes. 'Subtidal sands and gravel' is also a habitat of conservation importance (HOCI) in Marine Protected Zones (MCZs), whereas 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231) may occur in the habitat 'Peat and clay exposure' which is a HOCI in MCZ.

Of the species recorded through the seabed and video and photography, the fish *Pleuronectes platessa* and *Solea solea* are UK BAP priority species, along with *Ammodytes marinus* and *Gadus morhua*, which were potentially present within the families Ammodytidae and Gadidae, both of which were recorded. *Gadus morhua* is also on the OSPAR list of threatened and/or declining habitats and species for regions II and III, the Outer Thames Estuary being part of OSPAR region II, and on the International Union for Conservation of Nature (IUCN) red list of threatened species as vulnerable.

A single specimen of the nationally scarce crab *Thia scutellata* was recorded in the grab sample from a station in the south array.

Cryptogenic and Non-native Species (NNS)

Four non-native species (NNS) were recorded in this study, namely the brown alga *Sargassum muticum* and the bivalves *Ruditapes philippinarum*, *Petricolaria pholadiformis* and *Magallana gigas*.

Three cryptogenic species were recorded, namely the polychaetes *Polydora cornuta* and *Aphelochaeta* (formerly *Tharyx*) *marioni* and the crustacean amphipod *Crassicorophium crassicorne*. There is also the potential for the ascidians *Diplosoma listerianum* and *Molgula manhattensis* to occur, as invertebrates of the family Didemnidae and the genus *Molgula* were recorded in the grab samples.

Document Arrangement

Fugro -Mobilisation and Calibration Report -Fugro Mercator

Fugro -Mobilisation and Calibration Report -Fugro Seeker

Fugro -Mobilisation and Calibration Report –DSV Curtis Marshall

Fugro –WPM1 & WPM2 Array, Interconnector & ECR Operations Report -Fugro Mercator

Fugro –WPM1 & WPM3 Array & ECR Operations Report -Fugro Seeker

Fugro –WPM1, WPM2 & WPM3 Array, ECR Operations Report –DSV Curtis Marshall

Fugro –WPM1 & WPM2 Array, Interconnector & ECR Processing Report –Fugro Mercator

Fugro –WPM1 & WPM3 Array & ECR Processing Report –Fugro Seeker

Fugro –WPM1 Array Seafloor and Shallow Geological Results Report

Fugro –WPM2 & WPM3 ECR Seafloor and Shallow Geological Results Report

Fugro - WPM1, WPM2 & WPM3 - Main Array & ECR - Environmental Features Report

Fugro –WPM1, WPM2 & WPM3 Array, ECR & Intertidal Benthic Ecology Monitoring Report

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Abbreviations

2DHR	Two-dimensional high resolution
AFDW	Ash free dry weight
AL1/AL2	Action Level 1 or 2
BAC	Background assessment concentration
BC	Background concentration
BGS	British Geological Survey
BSH	Broad-scale habitat
BIOENV	Biological and Environmental
BS	British Standards
CBD	Convention on Biological Diversity
CCME	Canadian Council of Ministers of the Environment
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CEMP	Coordinated Environmental Monitoring Programme
CSEMP	Clean Seas Environmental Monitoring Programme
CM	Central meridian

DAISIE	Delivering Alien Invasive Species Inventories for Europe
DCO	Development Consent Order
DDV	Drop down video
DSV	Dive support vessel
DVV	Dual van Veen grab
EBS	Environmental baseline survey
EC	European Commission
ECR	Export cable route
EEA	European Environment Agency
EIA	Environmental Impact Assessment
EMODnet	European Marine Observation Data Network
EOL	End of line
ERL	Effects range low
ERM	Effects range median
EU	European Union
EUNIS	European Nature Information System
FA	Faunal sample A
FOCI	Feature of Conservation Importance
GC	Gas chromatography
GC-MS	Gas chromatography – mass spectrometry
GES	Good environmental status
HC	Hydrocarbon
HD	Hard drive
HM	Heavy metal (sample)
HOCI	Habitat of Conservation Importance
IC	Interconnector
ICES	International Council for the Exploration of the Sea
ICP-MS	Inductively coupled plasma-mass spectrometry
ICP-OES	Inductively coupled plasma-optical emission spectrometry
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
JNCC	Joint Nature Conservation Committee
KP	Kilometre point
LAT	Lowest Astronomical Tide
LED	Light-emitting diode
LOD	Limit of detection
MBES	Multi beam echosounder
MCZ	Marine Conservation Zone
MERMAN	Marine Environment Monitoring and Assessment National (database)
MALSF	Marine Aggregate Levy Sustainability Fund
MMO	Marine Management Organisation
MNCR	Marine Nature Conservation Review
MPA	Marine Protected Area
MSL	Mean Sea Level
MV	Motor vessel
NA	North array
NBN	National Biodiversity Network
NEMESIS	National Exotic Marine and Estuarine Species Information System
NERC	Natural Environment and Rural Communities

NF	No fix
NMBAQC	North East Marine Biological Association Quality Control
NNS	Non-native species
NNSS	Non-native Species Secretariat
nMDS	Non-metric multi-dimensional scaling
NOAA	National Oceanic and Atmospheric Administration
NS	No sample
OSPAR	Oslo and Paris Commission
OWF	Offshore Wind Farm
PAH	Polycyclic aromatic hydrocarbon
PC	Physico-chemical sample
PCA	Principal component analysis
PEL	Probable effects level
PRIMER	Plymouth Routines in Multivariate Ecological Research
PSA	Particle size analysis
PSD	Particle size distribution
RSD	Relative standard deviation
SA	South array
SAC	Special Area of Conservation
SACFOR	Superabundant, abundant, common, frequent, occasional, and rare (semi-quantitative abundance scale)
SIMPER	Similarity percentage (analysis)
SIMPROF	Similarity Profile
SOL	Start of line
SPA	Special Protection Area
SQG	Sediment quality guideline
SSS	Side scan sonar
SSSI	Site of Special Scientific Interest
STR	Subsea Technology and Rentals
TEL	Threshold effects level
UKAS	United Kingdom Accreditation Service
US EPA	Unites States Environmental Protection Agency
USBL	Ultra short baseline
UTC	Coordinated Universal Time
UTM	Universal Transverse Mercator
WGS 84	World Geodetic System 1984
WoRMS	World Register of Marine Species

1. Introduction

1.1 General Project Description

North Falls Offshore Wind Farm Limited contracted Fugro to perform a benthic site characterisation survey at the North Falls Offshore Wind Farm (OWF) development area. Operations were conducted using the DSV Curtis Marshall during the survey period 12 to 22 July 2021.

An intertidal survey of the nearshore section of the proposed export cable route (ECR) was undertaken during the survey period 26 to 27 May 2021.

North Falls Offshore Wind Farm Limited is developing an extension to the Greater Gabbard offshore wind farm, called the North Falls OWF, located 24 km (north array) and 46 km (south array) off the Suffolk coast, in the North Sea. The water depth of the site ranges from 3 m to 60 m Lowest Astronomical Tide (LAT). The North Falls OWF will cover an area of approximately 150 km^2 split across the north and south sites. The ECR landfall lies directly between Holland-on-Sea and Frinton-on-Sea. Water depths within the export cable route ranges from 1.5 m above LAT to 42 m LAT.

Before development can begin, an offshore site investigation is necessary to collect baseline characterisation data, which will be used to inform the project final development consent Order (DCO) application and environmental impact assessment (EIA).

The benthic study included geophysical and environmental surveys, the latter comprising a habitat assessment and a benthic characterisation survey. The Environmental Features Report (Fugro 2021a) details the results of the habitat assessment, whereas this report details the results of the baseline benthic characterisation survey.

Appendix A outlines the guidelines for use of this report.

1.2 Scope of Work

The aim of the benthic subtidal survey was to investigate the physico-chemical and biological properties of the sediment to provide a baseline characterisation of the site and to supplement the existing benthic ecology data across the area of interest. The aim of the study was fulfilled through acquisition of seabed video and photographic data and sediment samples. The seabed video and photography allowed evaluation of the habitat types across the North Falls survey area, with particular focus on habitats of conservation importance, such as those listed under Annex I of the of the Conservation of Habitats and Species Regulations 2019 and on the Oslo and Paris (OSPAR) list of threatened and/or declining habitats and species (OSPAR, 2021). Sediment samples allowed evaluation of the physico-chemical and biological properties of the seabed.

The aim of the intertidal survey was to investigate the habitats across the export cable corridor and adjacent areas, with particular focus on habitats of conservation importance.

1.3 Environmental Legislation

The relevant environmental legislation applying to the North Falls offshore site investigation has been detailed in the Environmental Features Report (Fugro, 2021a) and summarised in Tables 1.1 and 1.2. Together they guided the identification of habitats and species of conservation importance in the study area.

Table 1.1: Marine Environmental Legislation

Legislation	Key aims
Conservation of Habitats and Species (Amendment (EU Exit) Regulations 2019), referred to as the 2019 Regulations	Transposes the requirements of the European Union (EU) Habitats Directive and some elements of the Wild Birds Directive (together forming the Nature Directives) into UK law; aims at conserving biodiversity through measures for protection of habitats listed in Annex I and species listed in Annex II of the Directives through the establishment of a national site network of protected sites, referred to as Special Areas of Conservation (SACs) and Special Protection Area (SPA).
UK Marine Strategy	Provides a framework for community action in the field of marine environmental policy through three components: 1. assessment of the state of UK seas and revised objectives for good environmental status (GES) for 2018 to 2024; 2. monitoring progress against set targets and indicators; 3. measuring the achievement of GES.
Marine and Coastal and Access Act 2009	Enables the designation of Marine Conservation Zones (MCZs) in England, Wales and UK offshore waters
Natural Environment and Rural Communities Act 2006 (NERC)	Requires the relevant Secretary of State to compile a list of habitats and species of principal importance for the conservation of biodiversity
The Wildlife and Countryside Act 1981 (as amended)	Regulates the designation of Site of Special Scientific Interest (SSSIs), which underpins the designation of Ramsar sites
Oslo and Paris (OSPAR) Convention	Establishes Marine Protected Areas (MPAs)
Convention on Biological Diversity (CBD)	Conservation of biological diversity and sustainable use of its components
Ramsar Convention	Aims at the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development

Table 1.2: Marine Protected Areas Biodiversity Features

Biodiversity Features	Description
Broad-scale habitats (BSH)	Represent the main types of seabed and associated biota in UK; their conservation ensures preservation of the full range of marine biodiversity
Features of conservation importance (FOCI)	Represent habitats and/or species that may be highly sensitive to human activities and therefore need protection
UK Post-2010 Biodiversity Framework priority habitats and/or species	List of important (priority) habitats and species, produced by the UK Biodiversity Action Plan (BAP), superseded by the UK Post-2010 Biodiversity Framework, under the CBD. Under the NERC Act 2006, the UK

Biodiversity Features	Description
	BAP priority species and habitats in England are referred to as habitats and species of principal importance
Oslo and Paris (OSPAR) list of threatened and/or declining (T&D) species and habitats	Allows setting priorities for further conservation and protection of marine biodiversity

1.4 Regional Habitats, Species and Protected Areas

Background regional information on protected benthic habitats and species has been detailed in the Environmental Features Report (Fugro, 2021a) and summarised in Table 1.3 and illustrated in Figure 1.1.

Table 1.3: Summary of nearby protected areas, North Falls Offshore Site Investigation

Protected Area	Status	Distance* [km]	Direction*	Protected Habitats/Species
Southern North Sea	SAC	Within survey area		Annex II species ■ Harbour porpoise *Phocoena phocoena*
Margate and Long Sands	Special Area of Conservation	Adjacent to ECR		Annex I habitat ■ Sandbanks which are slightly covered by sea water all the time
Kentish Knock East	Marine Conservation Zone	Within survey area		Broad-scale habitats ■ Subtidal coarse sediment ■ Subtidal sand ■ Subtidal mixed sediments
Blackwater, Crouch, Roach and Colne Estuary	Marine Conservation Zone	7.8	SW	UK BAP priority and OSPAR T&D species and habitats ■ Native oyster (*Ostrea edulis*) beds ■ Native oyster (*Ostrea edulis*) Broad-scale habitat ■ Intertidal mixed sediments
Orford Inshore	Marine Conservation Zone	9.3	N	Broad-scale habitat ■ Subtidal mixed sediments

Notes
FOCI = Feature of conservation importance
UK BAP = United Kingdom Biodiversity Action Plan
OSPAR T&D = Oslo and Paris List of threatened and/or declining species and habitats
* = Distance and direction from closest sampling site

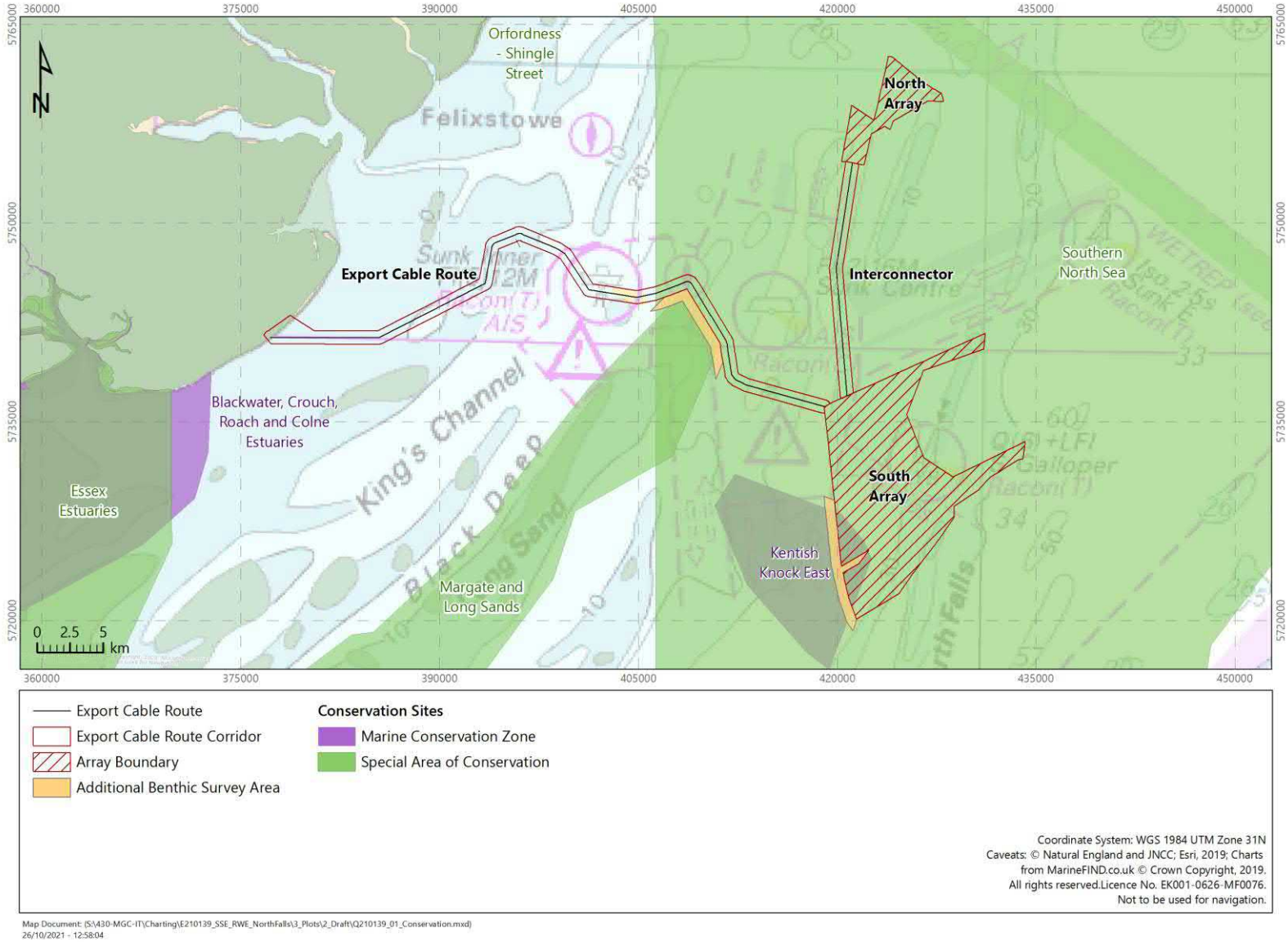


Figure 1.1: Protected areas relevant to the survey area, North Falls Offshore Site Investigation

1.5 Environmental Quality Standards for Sediment Chemical Concentrations

Sediment quality guidelines (SQGs) to evaluate the chemical concentrations included:

- The effects range low (ERL) and effects range median (ERM) concentrations;
- the Centre for Environment, Fisheries and Aquaculture Science (Cefas) Guideline Action Levels (ALs) for the disposal of dredged material;
- the Canadian SQGs for the Protection of Aquatic Life

The ERL value is defined as the lower tenth percentile of the dataset of concentrations in sediments associated with biological effects; the ERM is defined as the median (or 50th percentile) of the concentrations associated with biological effects (OSPAR, 2009). Adverse effects on organisms are rarely observed when concentrations fall below the ERL, whilst are often or always observed at concentrations above the ERM (OSPAR, 2009). The numerical values of ERL and ERM were derived from biological toxicity assays and synoptic sampling and are incorporated in SQGs developed for the National Oceanic and Atmospheric Administration (NOAA) National Status and Trends program, as informal tools to evaluate whether a contaminant concentration in sediment might have toxicological effects (Long et al., 1995).

The UK adopts the ERLs as a signatory of the Oslo and Paris (OSPAR) Convention for the assessment of monitoring data of hazardous substances in the environment (OSPAR, 2014), delivering its commitment through the Clean Seas Environmental Monitoring Programme (CSEMP). Some ERLs, however, have not been used in the OSPAR assessment, because their values are less than the OSPAR Background Assessment Concentration (BAC) used to evaluate the contamination status of marine sediment across the OSPAR maritime area. This is the case of the metals arsenic and nickel (OSPAR, 2009). Background Assessment Concentrations are normalised to 5 % aluminium, while no normalisation is made when deriving the ER values (OSPAR, 2009).

The CSEMP extracts data from the Marine Environment Monitoring and Assessment National (MERMAN) database. Fifteen marine stations around England and Wales are monitored by Cefas as part of the CSEMP programme (Cefas, 2012). Of these, station 475, in the Outer Thames Gabbard area, was referred to for regional contextualisation of this study's results.

The Cefas ALs are non-statutory guidelines for assessment of disposal of dredged materials to sea. In general, concentrations below Cefas AL1 are of no concern, whilst concentrations above Cefas AL2 indicate that dredged material is unsuitable for disposal at sea. Values between Cefas AL1 and AL2 may require further investigatory work prior to a disposal decision (Marine Monitoring Organisation [MMO], 2015).

The Canadian SQGs for the Protection of Aquatic Life are numerical concentrations or narrative statements intended to protect all forms of freshwater and marine (including estuarine) aquatic life for an indefinite period of exposure to substances associated with seabed sediments (Canadian Council of Ministers of the Environment [CCME], 2021). The

guidelines consist of threshold effects levels (TELs) and probable effects levels (PELs). Together, they are used to identify three ranges of chemical concentrations for biological effects:

1. Values below TEL indicate the minimal effect range within which adverse effects rarely occur;
2. Values between TEL and PEL indicate the possible effect range where adverse effects occasionally occur;
3. Values above the PEL indicate the probable effect range within which adverse effects frequently occur.

1.6 Coordinate Reference System

All coordinates detailed in this report are referenced to WGS84, Universal Transverse Mercator (UTM) projection Zone 31N central meridian 3° East (CM 3° E). Table 1.4 provides the detailed geodetic and projection parameters.

Table 1.4: Project geodetic and projection parameters

Global Positioning System Geodetic Parameters*	
Datum:	World Geodetic System 1984 (WGS 84)
Spheroid:	World Geodetic System 1984
Semi major axis:	a = 6 378 137.000 m
Reciprocal flattening:	1/f = 298.257 223 563
Project Projection Parameters	
Grid Projection:	Universal Transverse Mercator (UTM)
UTM Zone:	31N
Central Meridian:	3° 00′ 00″ East
Latitude of Origin:	00° 00′ 00″ North
False Easting:	500 000 m
False Northing:	0 m
Scale factor on Central Meridian:	0.9996
Units:	metre

2. Survey Strategy

2.1 Intertidal

Figure 2.1 presents the extent of the intertidal survey of the nearshore section of the proposed ECR.

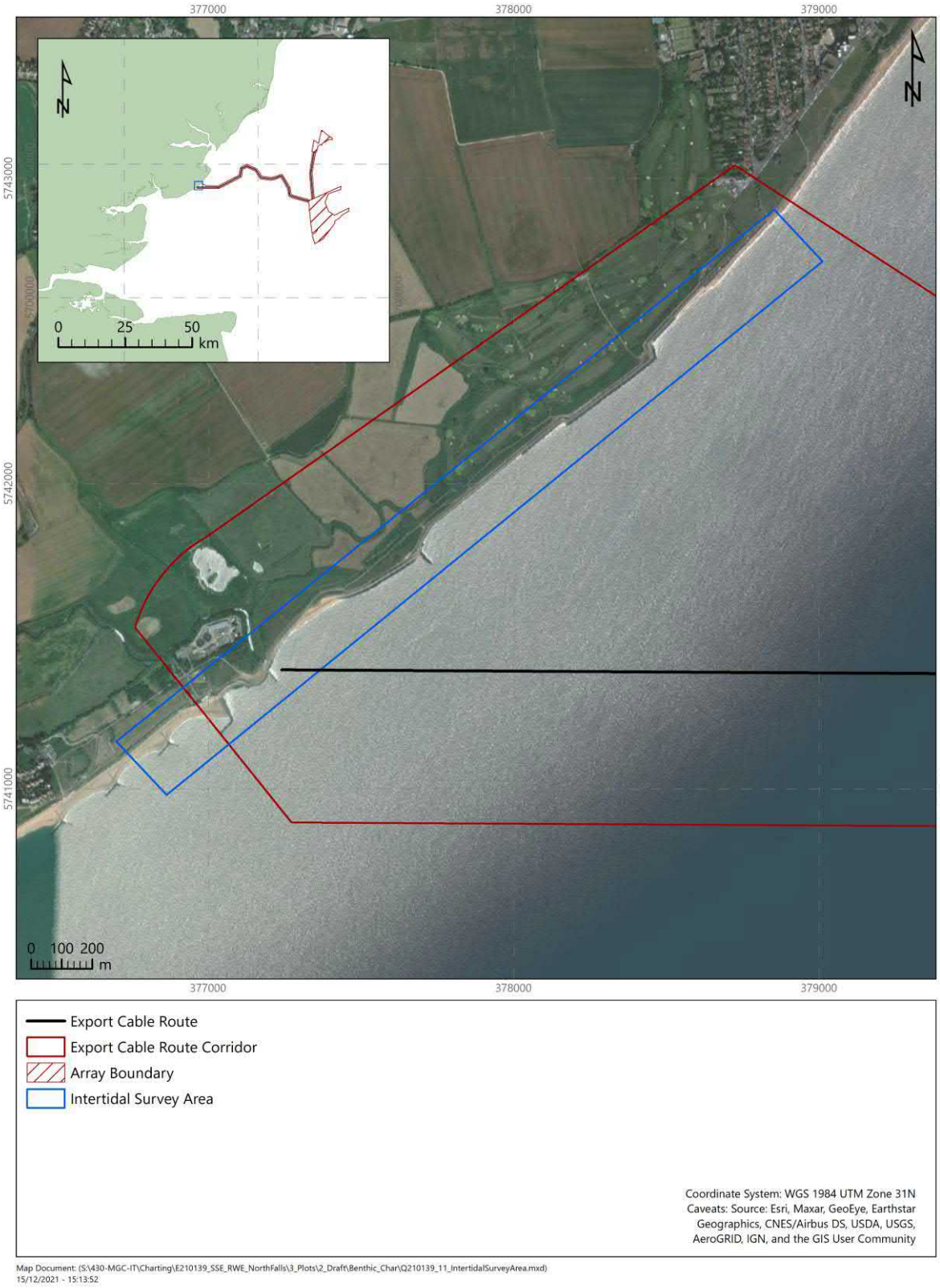


Figure 2.1: Intertidal project location, North Falls Offshore Site Investigation

2.2 Subtidal

A total of 49 subtidal environmental sampling stations including drop-down video (DDV), still photography and grab sampling was predetermined by Fugro environmental scientists and approved by the client. Of these, 16 stations were located in the south array, 7 stations in the north array, 23 stations (including 3 transects) along the ECR and 3 stations along the interconnector.

At each environmental sampling station, acquisition of DDV and stills photography was proposed prior to obtaining macrofaunal and physico-chemical grab samples. Acquisition of sediment chemistry samples was proposed at 26 of the sampling stations.

Rationale for the environmental survey strategy was based on an initial review of publicly available regional data. The sample locations were further refined based on the findings of the geophysical survey. Additional stations/transects were selected after a review of the side scan sonar (SSS) and bathymetric data, with emphasis on locating areas of potential conservation importance (e.g. Annex I listed habitats), boundaries between areas of differing sonic reflectivity, bathymetric highs and lows and areas characteristic of the general background conditions of the site.

Tables 2.1 and 2.2 provide the coordinates, rationale and proposed data acquisition for each proposed survey location. Figure 2.2 presents the proposed survey locations across the survey area.

Table 2.1: Proposed sampling stations, North Falls Offshore Site Investigation

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Rationale	Data and Sample Acquisition
Export Cable Route (ECR)					
ST01	2.5	379 985	5 741 353	Area of rough ground southerly adjacent to proposed ECR - potential Annex I to investigate	DDV, PSD, Fauna, HM, HC
ST02	3.6	381 073	5 741 369	Predicted circalittoral coarse sediment patch in predicted circalittoral mixed sediments, adjacent to the 5 m LAT limit; SSS/MBES indicates representative habitat of area	DDV, PSD, Fauna
ST03	6.0	383 492	5 741 352	Predicted circalittoral mixed sediments (predicted 9.4 km section to approximately 3 m LAT (vessel limit 5 m), including EC11); SSS/MBES indicates representative of area of coarse ground mixed with raised, potentially sandy, regular areas	DDV, PSD, Fauna, HM, HC
ST04	10.8	388 074	5 742 433	Predicted circalittoral mixed sediments, border onto predicted sandy mud/muddy sand; micro-sited to likely margin of habitats on ECR using SSS data; to be used as centre of proposed DDV transects, running along line SE to NW, if possible	DDV, PSD, Fauna

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Rationale	Data and Sample Acquisition
ST05	11.9	388 987	5 743 193	Within area with rough SSS signature. Additional location within mixed sediments with some irregular structures that may indicate potential for reef	DDV, PSD, Fauna, HM, HC
ST06	13.2	390 116	5 743 702	Predicted circalittoral sandy mud (predicted 1.9 km section); SSS indicates rougher ground than predicted and EC10 representative of area, micro-sited to ECR	DDV, PSD, Fauna
ST07	14.4	391 192	5 744 291	Additional location in mixed sediments as indicated by SSS data, also in localised patch of potential high reflectivity within megaripples with potential for reef	DDV, PSD, Fauna, HM, HC
ST08	15.2	391 917	5 744 663	Predicted circalittoral coarse sediment (predicted 2.4 km section); SSS data shows localised areas of low reflectivity in survey area. Location represents general area and small area of low reflectivity, micro-sited further with Block F data	PSD, Fauna
ST09	17.6	393 565	5 746 208	Predicted circalittoral mixed sediments (predicted 2 km section); SSS indicates representative of areas on this section of route with rough signature	PSD, Fauna, HM, HC
ST10	19.0	393 846	5 747 621	Added location representative of 'smooth' signature with potential boulders between ST08 and ST07; located on potential boulder signature; microsite after DDV	DDV, PSD, Fauna
ST11	20.4	394 526	5 748 593	Predicted circalittoral fine sand or muddy sand (predicted 3.8 km section): SSS indicates representative of rippled sandy area – micro-sited to proposed ECR	DDV, PSD, Fauna, HM, HC
ST12	20.8	394 881	5 748 778	Edge of rippled sandy area of ST11; SSS indicates representative of habitat border and rough signature patches in area	DDV, PSD, Fauna
ST13	21.8	395 710	5 749 161	Coincides with TR13, currents allowing to investigate irregular ground amongst sand ripples; scope out potential sensitive habitat	PSD, Fauna, HM, HC
ST14	24.7	398 378	5 748 267	Predicted circalittoral coarse sediment (predicted 5.5 km section 'deep' and 'shallow'). SSS/MBES indicates border rough to 'smooth' surface and adjacent area with sand ripples and moving ridges. Location micro-sited within patch of irregular rough ground	DDV, PSD, Fauna
ST15	29.3	401 415	5 744 932	Predicted deep circalittoral coarse sediment (predicted 2 km section); SSS indicates representative of large area of sand ripples and megaripples	DDV, PSD, Fauna, HM, HC

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Rationale	Data and Sample Acquisition
ST16	32.5	404 555	5 744 452	Predicted (shallow) circalittoral coarse sediment (predicted 2.7 km section); SSS indicates representative of large area of ripples and megaripples, likely sandy, as ST15	DDV, PSD, Fauna
ST17	36.2	408 149	5 745 360	Predicted deep circalittoral mixed sediments (predicted 4.5 km section); SSS indicates representative of area of irregular rougher ground with some patches of sand ripples	DDV, PSD, Fauna, HM, HC
ST18	38.5	409 777	5 744 431	SSS indicates section of rough ground and shadowing, extending over proposed route that has potential for reef but may be artefact of non-fully processed data	DDV, PSD, Fauna
ST19	40.1	409 747	5 742 513	Proposed extended licenced zone for investigation; SSS data to north indicates extension of rough ground, with potential for reef	DDV, PSD, Fauna, HM, HC
ST20	41.8	410 699	5 741 083	Proposed extended licenced zone for investigation; SSS data to north indicates extension of rough ground with some sand ripples and potential for reef	DDV, PSD, Fauna
ST21	42.3	411 620	5 741 073	Predicted deep circalittoral coarse sediment (approx. 14 km section from array); spatial coverage; SSS indicates representative of area of rough ground with trawl scars noted	DDV, PSD, Fauna, HM, HC
ST22	47.3	414 194	5 737 504	Predicted deep circalittoral coarse sediment (approx. 14 km section from array); spatial coverage; SSS indicates representative of rough ground, likely same as predicted coarse sediment	DDV, PSD, Fauna
ST23	51.3	418 027	5 736 430	Predicted circalittoral coarse sediment; SSS data indicates rough ground with ripples/megaripples but also irregular undulations with potential for reef	DDV, PSD, Fauna, HM, HC
North Array (NA)					
ST24		424 106	5 761 690	Predicted deep circalittoral coarse sediment. Spatial coverage, SSS suggests representative of area of rough ground with trawl scars	DDV, PSD, Fauna, HM, HC
ST25		426 729	5 759 733	Predicted deep circalittoral sand. Northern extent of Inner Gabbard ridge; SSS indicates representative of patchiness in area (sand ripples mixed with rough), moved to area with potential for reef	DDV, PSD, Fauna
ST26		424 759	5 759 833	Predicted deep circalittoral coarse sediment. Spatial coverage	DDV, PSD, Fauna, HM, HC

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Rationale	Data and Sample Acquisition
ST27		422 500	5 757 360	Predicted deep circalittoral coarse sediment, spatial coverage; SSS indicates representative of area - mixed rough ground with sand ripples	DDV, PSD, Fauna
ST28		421 119	5 755 766	Predicted deep circalittoral coarse sediment. Spatial coverage. SSS suggests representative of rough area, including number of likely trawl scars. Moved 100 m to slightly rougher ground with potential for Annex I	DDV, PSD, Fauna, HM, HC
Interconnector (IC)					
ST29		420 743	5 751 976	Predicted border of deep circalittoral coarse sediment and mixed sediment; SSS indicates no border but representative of area	DDV, PSD, Fauna, HM, HC
ST30		419 914	5 746 592	Predicted deep circalittoral mixed Sediment. Spatial coverage; SSS indicates same, micro-sited to IC	DDV, PSD, Fauna
ST31		420 491	5 739 816	Predicted border deep circalittoral coarse sediment and mixed sediment. SSS indicates representative of area. Evidence of trawl scars in wide area adjacent to IC	DDV, PSD, Fauna, HM, HC
South Array (SA)					
ST32		430 087	5 740 732	Border predicted circalittoral sand (fine sand or muddy sand) and coarse substrate. Northern extension of ridge from Greater Gabbard for ground truthing; pending geophysical data	DDV, PSD, Fauna, HM, HC
ST33		424 295	5 737 091	Predicted deep circalittoral coarse sediment. Spatial coverage, potential slope	DDV, PSD, Fauna
ST34		419 554	5 734 896	Provisional pending further geophysical data. Potential seabed feature for investigation or artefact of geophysical data	DDV, PSD, Fauna, HM, HC
ST35		420 655	5 735 133	Predicted deep circalittoral coarse sediment. Spatial coverage, relocated to adjacent area of interest with similar signature to provisional ST34 survey location	DDV, PSD, Fauna
ST36		423 165	5 733 376	Predicted deep circalittoral coarse Sediment. Spatial coverage, potential ridge	DDV, PSD, Fauna, HM, HC
ST37		424 759	5 732 535	Predicted deep circalittoral coarse sediment. Spatial coverage	DDV, PSD, Fauna
ST38		426 303	5 731 780	Predicted (shallow) circalittoral coarse sediment. Southern extension of ridge from Greater Gabbard for ground truthing	DDV, PSD, Fauna
ST39		431 244	5 731 416	Predicted deep circalittoral coarse sediment. Spatial coverage; moved outside of 250 m buffer of indicated cable route. Pending geophysical data	DDV, PSD, Fauna, HM, HC

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Rationale	Data and Sample Acquisition
ST40		421 446	5 730 841	Predicted deep circalittoral coarse sediment. Spatial coverage	DDV, PSD, Fauna
ST41		424 614	5 728 693	Predicted deep circalittoral sand (patch for ground truthing)	DDV, PSD, Fauna, HM, HC
ST42		427 804	5 726 990	Predicted circalittoral fine sand or muddy sand. Sandbank, pending SSS data to confirm	DDV, PSD, Fauna
ST43		426 980	5 726 546	Predicted deep circalittoral sand. Sandbank slope - potential presence of *Sabellaria*; pending SSS data to confirm	DDV, PSD, Fauna, HM, HC
ST44		420 344	5 727 332	Kentish Knock East MCZ coverage within south array. Predicted deep circalittoral coarse sediment. SSS also indicates sparse sand ripples	DDV, PSD, Fauna, HM, HC
ST45		421 306	5 725 756	Predicted deep circalittoral coarse sediment. Spatial coverage within south array. Moved to Kentish Knock East MCZ	DDV, PSD, Fauna
ST46		421 223	5 722 937	Kentish Knock East MCZ coverage within south array. Predicted deep circalittoral coarse sediment. SSS indicates sand ripples	DDV, PSD, Fauna, HM, HC
ST47		423 556	5 723 665	Predicted deep circalittoral sand. Spatial coverage, SSS indicates similar	DDV, PSD, Fauna
ST48		419 780	5 726 009	Kentish Knock East MCZ coverage outside south array. Predicted deep circalittoral coarse sediment. SSS also indicates sparse sand ripples	DDV, PSD, Fauna
ST49		420 785	5 720 654	Kentish Knock East MCZ coverage outside south array. Predicted deep circalittoral coarse sediment. SSS indicates sand ripples	DDV, PSD, Fauna, HM, HC

Notes
ECR = Export cable route
DDV = Drop down video
PSD = Particle size distribution
HM = Heavy metal
HC = Hydrocarbon
LAT = Lowest Astronomical Tide
SSS = Side scan sonar
MBES = Multi beam echosounder
IC = Interconnector
MCZ = Marine Conservation Zone
KP = Kilometre point - on the survey centreline

Table 2.2: Proposed transects, North Falls Offshore Site Investigation

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Transect		Easting	Northing	Rationale	Data Acquisition
Export Cable Route (ECR)					
TR08	SOL	391 917	5 744 663	Crossing ST08, coverage of rough ground identified from SSS data, lying in mixed sediments and area with very rough signature	Video, stills
	EOL	392 039	5 744 698		
TR09	SOL	393 565	5 746 208	Crossing ST09, coverage of rough ground identified from SSS data, lying in mixed sediments and area with very rough signature	Video, stills
	EOL	393 572	5 746 027		
TR13	SOL	395 710	5 749 161	Crossing ST13, currents allowing to investigate irregular ground amongst sand ripples, scope out potential sensitive habitat	Video, stills
	EOL	395 775	5 749 106		
Notes SOL = Start of line EOL = End of line SSS = Side scan sonar					

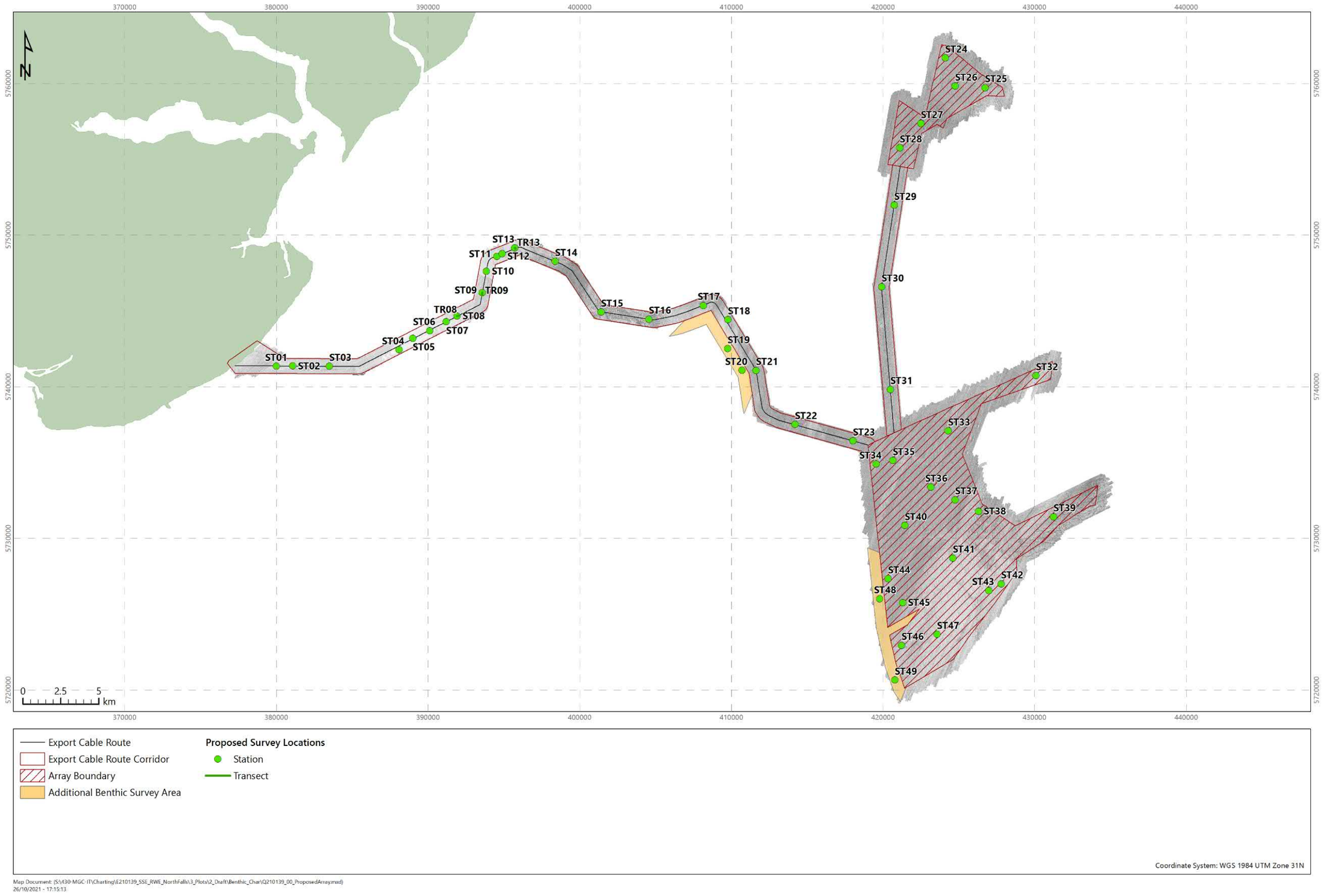


Figure 2.2: Proposed survey locations overlaid on a side scan sonar mosaic, North Falls Offshore Site Investigation

3. Methods

3.1 Survey Methods

Survey methods have been presented in the Acquisition/Operations Report (Fugro, 2021b) and are summarised below.

3.1.1 Intertidal

The intertidal habitat mapping surveys were undertaken following the JNCC Marine Monitoring Handbook Procedural Guideline 3.1: In situ intertidal biotope recording (Davies et al., 2001), the Common Standards Monitoring Guidance Procedural Guidelines for Littoral Sediment (JNCC, 2004a) and Littoral Rock and Inshore Sublittoral Rock Habitats (JNCC, 2004b). The resolution of intertidal mapping using this combination of methods is between Phase 1 terrestrial mapping (JNCC, 2010) and the Marine Nature Conservation Review (MNCR) Phase 2 methods (Hiscock, 1996).

A modified Phase I walkover habitat mapping survey was conducted to record intertidal habitats and associated fauna and flora to derive information on habitat composition and distribution including sub-features. The entire vertical profile of the shore was investigated, from the supralittoral zone to the low water spring tide level (where safe access allowed), as identified by standard Admiralty tidal predictions.

Walkovers were supplemented by occasional qualitative dig-overs of representative sedimentary habitats. Approximately 0.1 m^2 of surface sediment was processed through a 1 mm mesh sieve to provide a rapid in situ assessment of substrate type and conspicuous benthic infauna.

Colour aerial photographs covering the survey areas were produced as field maps. Habitat boundaries were established and manually mapped onto field maps and any associated faunal and floral assemblages recorded. Digital photographs were captured (using a Fujifilm XP series camera) and georeferenced within each habitat to facilitate detailed ground truthing of the mapping process.

Target notes were made for unmappable features (e.g. vertical faces, fine scale habitats of < 5 m^2 or those occurring as mosaics), as well as anthropogenic features (e.g. coastal protections, shore access, sewage and/or debris) and features of interest. Target notes were also made with reference to saltmarsh encroachment, non-native species (NNS), localised erosion and sediment accretion.

3.1.2 Subtidal

3.1.2.1 Seabed Video and Photography

Seabed video and photography was acquired using a Subsea Technology and Rentals (STR) deep-sea camera system mounted within a purpose-built camera frame complete with one high-definition video camera, one high resolution stills camera, a separate strobe and four light-emitting diode (LED) lamps. An ultra short baseline beacon was attached to the video frame.

Seabed video and photographic data were displayed on a computer monitor and recorded directly onto a local hard drive. A video overlay was used to overlay a navigation string from the Hemisphere differential GPS, including time, date, depth and location (easting and northing). The survey location and station number were also displayed (manually updated). The stills camera imagery was visible on a second window of the computer. Photographic data were viewed in real time via a sonar cable, assisting in the control of the camera in the water. Two lasers were set up 17 cm apart to provide a scale.

In areas of poor visibility, seabed photography was acquired also using the back-up Bowtech SeaKnight underwater camera system mounted within a freshwater frame.

3.1.2.2 Sediment Sampling

Faunal and sediment particle size distribution (PSD) samples were acquired using a 0.1 m^2 mini Hamon grab. Chemistry samples were acquired using a 0.1 m^2 Day grab (0.1 m^2 Dual van Veen as back-up). Appendix B provides further details of survey methods.

3.2 Laboratory Methods

A sample delivery log accompanied the samples to Fugro laboratories as part of the chain of custody. Upon receipt of samples at Fugro laboratories, sample handling and labelling of each sample was inspected to ascertain correct storage in line with the sampling methods. Any potential deviations from sampling methods are addressed and resolved at this stage in line with Fugro Quality Assurance Management System.

3.2.1 Sediment Characteristics

3.2.1.1 Particle Size Distribution

Sediment samples were analysed by Fugro using dry sieve analysis and laser diffraction.

Dry sieve PSD analysis was undertaken in accordance with FGBML in-house methods based on the North East Atlantic Marine Biological Association Quality Control scheme's (NMBAQC) best practice guidance document – Particle Size Analysis (PSA) for Supporting Biological Analysis: 2016 (Mason, 2016), and British Standards (BS) 1377: Parts 1: 2016 and 2: 1990). Representative material > 1 mm was split from the bulk sub-sample and oven dried before being sieved through a series of sieves with apertures corresponding to 0.5 phi intervals between 63 mm and 1 mm as described by the Wentworth scale (Wentworth, 1922). The

weight of the sediment fraction retained on each mesh was subsequently measured and recorded.

Laser diffraction PSD analysis was undertaken in accordance with FGBML in-house methods based on Mason (2016), and BS International Organization for Standardization (ISO) 13320: 2020. Representative material < 1 mm was removed from the bulk subsample for laser analysis, with a minimum of three triplicate analyses performed using the laser sizer at 0.5 phi intervals between < 1 mm to < 0.98 µm. Laser diffraction was carried out using a Malvern Mastersizer 2000 with a Hydro 2000G dispersion unit.

3.2.2 Sediment Polycyclic Aromatic Hydrocarbons

The sediment samples were analysed for polycyclic aromatic hydrocarbon (PAH) content by SOCOTEC by means of solvent extraction and clean up (wet sediment) followed by gas chromatography-mass spectrometry (GC-MS) analysis.

3.2.3 Sediment Metals

The sediment samples were analysed for trace and heavy metal content by SOCOTEC using an aqua regia digest followed by multi-element analysis inductively coupled plasma-mass spectrometry (ICP-MS) (arsenic, cadmium, chromium, copper, lead, mercury, nickel, tin and zinc) or by inductively coupled plasma-optical emission spectrometry (ICP-OES) (aluminium and barium).

This analytical technique provides a strong partial digest, releasing into solution metals associated with the fines fraction within the sediments (but does not extract all trace elements associated with the coarse fraction). The concentrations of metals released by an aqua regia digest are considered indicative of those influencing biological interactions, as the released metals are not incorporated into the mineral matrix and are therefore potentially available for biological uptake.

3.2.4 Sediment Macrofauna

Samples were analysed by APEM benthic laboratory in accordance with the NMBAQC scheme (Worsfold et al., 2010). Fugro undertook QC in accordance with in-house quality assured procedures, which are consistent with the requirements of the NMBAQC scheme and the relevant ISO standards. Samples were sieved over a 1.0 mm mesh sieve and taxa were identified to the lowest possible taxonomic level and enumerated. Sessile colonial epifauna was recorded as present (P). Species nomenclature is consistent with that of World Register of Marine Species (WoRMS Editorial Board, 2021). The taxonomic order is based on Species Directory codes (Howson & Picton, 1997). Taxa of doubtful identification due to damage of specimen or unresolved taxonomic status are indicated by a question mark preceding the genus (e.g. ?*Capitella*) or species (e.g. *Capitella* ?*capitata*) name.

Biomass was undertaken at phylum level for infaunal invertebrates from grab samples using the blotted wet weigh method; biomass was not undertaken on epifauna.

3.3 Data Analysis

Summary statistics (minimum, maximum, mean, standard deviation) for all reported datasets were derived in Excel.

Correlation between physico-chemical variables was undertaken by mean of the Spearman's correlation coefficient using Plymouth Routines in Multivariate Ecological Research (PRIMER) version 7 (v7) to generate the correlation matrix.

3.3.1 Sediment Particle Size Distribution Statistics

Data from the sieve and laser analysis were merged and entered in Gradistat version 8 (v8) (Blott, 2010) to derive statistics including cumulative percentage of each particle size passing through each sieve, percentage retained on each sieve stack, mean and median grain size, bulk sediment classes (percentage fines, sand and gravel), skewness and sorting coefficients, and Folk (1954) classification. Table 3.1 summarises the sediment PSD statistics that were calculated using Gradistat v8. Statistics are based on the Folk and Ward (1957) method.

The Wentworth (1922) sediment classification is based on mean sediment particle size. The Folk (British Geological Survey (BGS) modified) classification (Long, 2006) is based on percentages of main sediment fractions (fines, sand and gravel). Results are reported in micron (µm) and phi (ϕ) measurement units. Phi is a logarithmic scale which allows particle size data to be expressed in unit of equal value for graphical plotting and statistical calculations; the scale is based on the relationship:

$Phi\ (\phi) = -log2d$, where d is the particle size diameter in mm.

Table 3.1: Sediment particle size distribution statistics

Statistic	Definition and Descriptive Terminology
Mean	The arithmetic mean of all the sediment particles in a sample, expressed in metric and phi units
Median	A measure of central tendency, that is the midpoint of the grain size distribution where half of the sediment grains resides above this point and half below
Mode	The peak of the frequency distribution, that is the particle size (or size range), most commonly found in the distribution
Modality	A measure of the number of peaks in the frequency distribution
Sorting	A measure of the grain size range and magnitude of their spread around the mean, presented as a coefficient and descriptor (as a range of values)
Skewness	A measure of the degree of symmetry, presented as a coefficient and descriptor (as a range of values)

3.3.2 Sediment Macrofauna Data Rationalisation

Prior to analysis, the macrofaunal dataset was rationalised. To avoid spurious enhancement of the species list, damaged taxa were removed whereas some taxa were merged with a higher corresponding taxon identified. Juveniles were also removed as they represent an ephemeral stage of the macrofaunal community and are, therefore, not representative of prevailing

benthic conditions. Sessile colonial epifauna recorded as P was also removed prior to analysis and assessed separately from the enumerated data set.

3.3.3 Sediment Macrofaunal Univariate Analysis

Table 3.2 summarises the univariate statistics derived from PRIMER v7.

Table 3.2: Macrofaunal Univariate Statistics

Statistic	Definition
Number of taxa (S)	Count of taxa
Abundance (N)	Count of individuals
Margalef's index of richness (d)	A measure of the number of species present for a given number of individuals
Shannon-Wiener index of diversity ($H'log_2$)	A measure of the number of taxa in a sample and the distribution of abundance across these taxa; results were assessed in line with the threshold values in Dauvin et al. (2012): ■ High diversity ($H'log_2 > 4.00$); ■ Good diversity ($3.00 < H'log_2 < 4.00$); ■ Moderate diversity ($2.00 < H'log_2 < 3.00$); ■ Poor diversity ($1.00 < H'log_2 < 2.00$); ■ Bad diversity ($H'log_2 < 1.00$).
Pielou's index of evenness (J)	A measure of how evenly distributed the individuals are among the different species
Simpson's index of dominance (λ)	A measure of dominance whereby its largest value corresponds to assemblages the total abundance of which is dominated by one or very few of the taxa present

3.3.4 Macrofaunal Biomass Analysis

The macrofaunal blotted wet weight biomass dataset was converted to ash free dry weight (AFDW) by applying the appropriate standard corrections, as outlined in Eleftheriou and Basford (1989). Table 3.3 summarises the corrections applied.

Table 3.3: Macrofaunal standard biomass corrections by phyla

Phyla	Standard Biomass Correction [%]
Annelida	15.5
Arthropoda	22.5
Mollusca	8.5
Echinodermata	8.0
Other phyla	15.5
Notes Standard biomass corrections to convert blotted wet weight to ash free dry weight, from Eleftheriou & Basford (1989)	

3.3.5 Multivariate Analysis

Table 3.4. summarises the multivariate analysis undertaken for macrofaunal and sediment datasets in PRIMER v7 (Clarke & Gorley, 2015). Data transformation was undertaken prior to multivariate analysis, where deemed necessary. Transformation was applied to sediment

particle size data to reduce the degree of skewness and allow optimal performance of the multivariate analysis (detailed in Section 4.2.2). Transformation was applied to macrofaunal data matrix to reduce the influence of the numerically dominant taxa which may mask the underlying community composition (detailed in Section 4.4.1.3) (Clarke et al., 2014).

Table 3.4: Multivariate Statistics

Statistic	Definition
Cluster	Hierarchical clustering, 'Cluster' analysis, groups samples based on the nearest neighbour sorting of a matrix of sample similarities using Bray Curtis similarity (for biological datasets) or Euclidean distance measure (for environmental datasets)
Dendrogram and nMDS	Dendrogram and non-metric multidimensional scaling (nMDS) ordination are outputs of Bray Curtis and Euclidean Distance similarity/distance matrices. The dendrogram is a tree-like diagram illustrating the relationships between samples based on their level of similarity. The nMDS ordinates the samples in a two-dimensional plane where the more similar samples are, the nearer they are. The extent to which these relations can be adequately represented in a two-dimensional map is expressed as the stress coefficient statistic, low values (< 0.1) indicating a good ordination with no real prospect of misleading interpretation (Clarke et al., 2014). Used together, dendrogram and nMDS allow checking adequacy and mutual consistency of both representations to ensure correct interpretation
SIMPER	Similarity Percentage analysis gauges the distinctiveness of each of the multivariate groups of samples, by listing the species that most contribute to the multivariate group in terms of abundance and frequency of occurrence
SIMPROF	Similarity profiling (SIMPROF test), to identify statistically significant sample groupings from the cluster analysis, depicted as red lines; the PRIMER default significance level of 5 % was adopted; in ecological terms the statistical relevance of SIMPROF was assessed in line with the recommendation of Clarke et al. (2008), thus '*defining coarser grouping can be appropriate if the resulting groups are always supersets of the similarity profile groups*'
PCA	Principal component analysis (PCA), to identify multidimensional patterns and relationships between variables, subsequently compressed by reducing the number of dimensions without loss of information. The degree to which a 2D PCA succeeds in representing the full multidimensional information is in the percentage of the total variance expressed by the first two principal component axes. A picture which accounts for as much as 70 % to 75 % of the original variation describes the overall structure well (Clarke et al., 2014)
BIOENV	Identifies relationships between biological and environmental variables; available in PRIMER v7 as BEST, which amalgamates the Bio-Env and Stepwise procedures, and allows to evaluate the strength of association between the variables tested and the significance level

3.3.6 Seabed Habitats and Biotopes

Habitats and biotopes within the survey area were classified in line with the hierarchical European Nature Information System (EUNIS) habitat classification (European Environment Agency [EEA], 2019), which has compiled criteria for habitat identification across Europe into a single database. Table 3.5 presents the EUNIS hierarchy, with an example of the coding system. Habitats and biotopes were classified by integrating the results of the grab sampling, detailed in this report, with the results of the video and still image analysis, detailed in the

Environmental Features Report (Fugro, 2021a). Habitats and biotopes were subsequently assessed for their ecological and conservation importance drawing upon the current marine nature conservation legislation.

Table 3.5: EUNIS (EEA, 2019) biotope classification hierarchy example

Level	Example Classification Name	Example Classification Code
1. Environment	Marine habitats	A
2. Broad habitat types	Sublittoral sediments	A5
3. Main habitats	Sublittoral sand	A5.2
4. Biotope complexes	Circalittoral muddy sand	A5.26
5 Biotopes	*Amphiura brachiata* with *Astropecten irregularis* and other echinoderms in circalittoral muddy sand	A5.262

3.3.6.1 Sensitive Habitats and Species Assessments

Habitats were assessed for their conservation status using the Annex I habitat list (Joint Nature Conservation Committee [JNCC], n.d.). Sensitive habitats such as stony reefs were assessed in line with the criteria in Irving (2009) and Golding et al. (2020). Biogenic reefs such as *Sabellaria spinulosa* reefs were assessed in line with the criteria in Gubbay et al. (2007), Hendrick and Foster-Smith (2006) and Limpenny et al. (2010). Geogenic and biogenic reefs assessments are detailed in the Environmental Features Report (Fugro 2021a).

Species were assessed for their conservation status using the Annex II species list (JNCC, n.d), the OSPAR list of threatened and/or declining species and habitats (OSPAR, 2021) and the UK BAP priority habitats and species lists (JNCC, 2019). The International Union for Conservation of Nature [IUCN] red list of threatened species (IUCN, 2021) was also consulted, although the latter is not a list of conservation priorities, rather a comprehensive inventory of the global conservation status of species and is used to assist with decision making about conserving biodiversity at local and global levels.

3.3.7 Cryptogenic and Non-native Species (NNS)

Species of unknown origin (cryptogenic) and NNS were assessed using pertinent literature and databases including Invasive Species Compendium (CABI, 2021), National Exotic Marine and Estuarine Species Information System [NEMESIS] (Fofonoff et al., 2021), National Biodiversity Network [NBN] (NBN, 2021), Non-native Species Secretariat [NNSS] (NNSS, 2021), Delivering Alien Invasive Species Inventories for Europe [DAISIE] (DAISIE, 2020) and World Register of Marine Species [WoRMS] (WoRMS Editorial Board, 2021).

4. Results

4.1 Field Operations

4.1.1 Intertidal

All areas of the shore to be surveyed were safely accessed, allowing investigation of the entire width of the export cable corridor.

4.1.2 Grab Sampling

Grab samples were successfully acquired at 39 of the 49 proposed stations. One macrofauna and one PSD sample were retained at all sampled stations (Table 4.1). At station ST14, one faunal and one PSD sample were acquired, but not a chemistry sample following three consecutive unsuccessful attempts.

Stations ST08 and ST09 were abandoned after three unsuccessful attempts due to stones in the jaws of the grab. Sampling was not attempted at ST13 owing to the potential presence of biogenic reef, following evidence of *S. spinulosa* along transect TR13. Similarly, sampling was not attempted at stations ST23, ST24, ST26, ST29, ST30, ST37 and ST39 due to the presence of potential Annex I habitats.

Station ST31 was relocated to avoid an Annex I habitat whereas station ST45 was relocated to avoid fishing gear. The relocated stations were renamed ST31ALT and ST45ALT.

Where equipment was positioned using the ultra-short baseline (USBL) water, depths are expressed below Mean Sea Level (MSL) for the WGS84 datum. Where the USBL transponder was not used (e.g. in very shallow water and on the freshwater lens system), vessel echosounder depths have been provided.

Table 4.1: Completed sediment sampling stations, North Falls Offshore Site Investigation

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Depth [m MSL]	Sample Acquisition
Export Cable Route (ECR)					
ST01	2.5	379 986.2	5 741 344.0	8.2	HM, HC, PSD, FA
ST02	3.6	381 080.7	5 741 374.9	12.2	PSD, FA
ST03	6.0	383 496.6	5 741 341.1	12.5	HM, HC, PSD, FA
ST04	10.8	388 083.3	5 742 436.9	14.4	PSD, FA
ST05	11.9	388 976.8	5 743 194.6	10.3	HM, HC, PSD, FA
ST06	13.2	390 111.7	5 743 700.3	7.4	PSD, FA
ST07	14.4	391 176.2	5 744 285.2	16.8	HM, HC, PSD, FA
ST10	15.2	393 847.5	5 747 618.6	7.8	PSD, FA
ST11	17.6	394 516.4	5 748 592.1	7.8	HM, HC, PSD, FA

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]					
Station	KP	Easting	Northing	Depth [m MSL]	Sample Acquisition
ST12	19.0	394 885.1	5 748 761.8	11.8	PSD, FA
ST14	20.4	398 389.7	5 748 262.0	19.0	PSD, FA
ST15	20.8	401 424.0	5 744 940.5	24.5	HM, HC, PSD, FA
ST16	21.8	404 562.7	5 744 462.0	22.8	PSD, FA
ST17	24.7	408 149.9	5 745 369.2	26.3	HM, HC, PSD, FA
ST18	29.3	409 757.6	5 744 439.6	25.4	PSD, FA
ST19	32.5	409 749.1	5 742 513.4	25.6	HM, HC, PSD, FA
ST20	36.2	410 695.7	5 741 072.5	35.2	PSD, FA
ST21	38.5	411 600.3	5 741 068.5	29.1	HM, HC, PSD, FA
ST22	40.1	414 171.0	5 737 498.2	38.3	PSD, FA
North Array (NA)					
ST25		426 716.1	5 759 737.9	29.4	PSD, FA
ST27		422 491.5	5 757 354.3	37.7	PSD, FA
ST28		421 115.7	5 755 746.4	47.8	HM, HC, PSD, FA
Interconnector (IC)					
ST31ALT		420 485.5	5 739 775.2	29.8	HM, HC, PSD, FA
South Array (SA)					
ST32		430 069.6	5 740 734.4	12.3	HM, HC, PSD, FA
ST33		424 299.9	5 737 073.2	41.2	PSD, FA
ST34		419 540.9	5 734 904.2	33.7	HM, HC, PSD, FA
ST35		420 652.9	5 735 113.6	30.7	PSD, FA
ST36		423 169.6	5 733 364.8	31.7	HM, HC, PSD, FA
ST38		426 306.0	5 731 773.1	32.8	PSD, FA
ST40		421 442.9	5 730 827.8	38.2	PSD, FA
ST41		424 624.6	5 728 695.8	39.4	HM, HC, PSD, FA
ST42		427 820.1	5 726 995.0	20.6	PSD, FA
ST43		426 982.4	5 726 554.3	35.8	HM, HC, PSD, FA
ST44		420 341.4	5 727 330.1	47.7	HM, HC, PSD, FA
ST45ALT		420 833.5	5 723 789.3	47.1	PSD, FA
ST46		421 235.4	5 722 932.1	46.5	HM, HC, PSD, FA
ST47		423 566.4	5 723 653.3	37.6	PSD, FA
ST48		419 776.4	5 725 997.1	47.6	PSD, FA
ST49		420 794.9	5 720 642.9	45.3	HM, HC, PSD, FA

Notes
FA = Faunal sample A
HM = Heavy metal
MSL = Mean Sea Level
HC = Hydrocarbon
KP = Kilometre point - on the survey centreline
PSD = Particle size distribution

4.1.3 Seabed Photography

Video and photographic data were successfully acquired at the 46 proposed DDV stations (Table 4.2) and along three transects (Table 4.3). Two parallel transects were added to either side of stations ST23, ST24, ST26, ST29, ST20, ST30, ST31, ST37 and ST39 due to the presence of potential Annex I habitats identified in the video data. These additional parallel transects per station had the suffixes "_50W" and "_50E" after the station name. Figure 4.1 presents the completed survey locations.

Table 4.2: Completed transects North Falls Offshore Site Investigation

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Station		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
Export Cable Route (ECR)						
ST01a	SOL	380 008.4	5 741 392.6	7.8	77.8	4 mins 28 secs 17 stills
	EOL	379 975.4	5 741 322.2			
ST02	SOL	381 101.9	5 741 399.4	8.8	66.8	3 mins 25 secs 13 stills
	EOL	381 038.9	5 741 377.4			
ST03	SOL	383 530.6	5 741 383.0	9.3	80.8	3 mins 54 secs 12 stills
	EOL	383 462.2	5 741 340.1			
ST04c	SOL	388 115.6	5 742 441.9	9.3	73.1	3 mins 2 secs 10 stills
	EOL	388 045.7	5 742 463.3			
ST05	SOL	387 527.1	5 743 197.0	9.8	57.6	7 mins 54 secs 19 stills
	EOL	388 957.5	5 743 193.6			
ST06	SOL	390 137.7	5 743 694.4	9.8	44.5	5 mins 22 secs 19 stills
	EOL	390 104.2	5 743 665.1			
ST07	SOL	391 132.9	5 744 280.7	11.2	52.1	3 mins 55 secs 13 stills
	EOL	391 170.3	5 744 317.0			
ST10	SOL	393 864.4	5 747 669.1	7.8	80.3	2 mins 29 secs 9 stills
	EOL	393 817.5	5 747 603.9			
ST11	SOL	394 533.6	5 748 647.1	7.8	68.2	10 mins 48 secs 19 stills
	EOL	394 500.8	5 748 587.4			
ST12a	SOL	394 893.4	5 748 811.1	11.8	70.3	2 mins 47 secs 9 stills
	EOL	394 876.8	5 748 742.7			
ST14a	SOL	398 388.2	5 748 246.6	18.4	73.2	2 mins 44 secs 12 stills
	EOL	398 354.6	5 748 311.6			
ST15a	SOL	401 392.6	5 744 883.5	14.8	93.8	5 mins 7 secs 15 stills
	EOL	401 420.3	5 744 973.1			

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Station		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
ST16a	SOL	404 536.9	5 744 416.9	17.8	74.4	3 mins 40 secs 12 stills
	EOL	404 579.0	5 744 478.2			
ST17a	SOL	408 134.3	5 745 325.0	22.8	60.8	3 mins 4 secs 9 stills
	EOL	408 176.5	5 745 368.7			
ST18	SOL	409 778.1	5 744 396.7	27.7	66.1	2 mins 49 secs 9 stills
	EOL	409 770.7	5 744 462.4			
ST19b	SOL	409 791.6	5 742 530.5	29.8	73.1	3 mins 11 secs 14 stills
	EOL	409 718.7	5 742 534.9			
ST20	SOL	410 690.9	5 741 042.5	35.4	65.7	3 mins 17 secs 19 stills
	EOL	410 679.1	5 741 107.1			
ST21	SOL	411 613.0	5 741 037.7	30.1	62.2	4 mins 7 secs 21 stills
	EOL	411 639.8	5 741 093.7			
ST22	SOL	414 163.3	5 737 462.7	45.0	81.8	3 mins 36 secs 34 stills
	EOL	414 206.3	5 737 532.2			
ST23	SOL	417 997.0	5 736 400.4	44.8	71.4	2 mins 24 secs 25 stills
	EOL	418 049.7	5 736 448.6			
ST23_50W	SOL	417 930.8	5 736 409.8	44.0	81.2	2 mins 42 secs 26 stills
	EOL	418 005.9	5 736 440.6			
ST23_50E	SOL	418 061.3	5 736 390.1	43.2	73.4	2 mins 47 secs 23 stills
	EOL	418 092.5	5 736 456.5			
North Array (NA)						
ST24a	SOL	424 087.3	5 761 649.4	29.6	62.3	3 mins 43 secs 13 stills
	EOL	424 069.4	5 761 709.0			
ST24_50W	SOL	424 036.9	5 761 658.7	29.2	69.4	3 mins 17 secs 20 stills
	EOL	424 051.9	5 761 726.4			
ST24_50E	SOL	424 140.0	5 761 662.0	28.8	65.2	2 mins 30 secs 20 stills
	EOL	424 184.2	5 761 709.9			
ST25	SOL	426 761.5	5 759 761.5	28.4	73.6	4 mins 15 secs 25 stills
	EOL	426 718.6	5 759 701.7			
ST26	SOL	424 759.0	5 759 870.9	28.7	74.7	2 mins 21 secs 18 stills
	EOL	424 757.9	5 759 796.2			

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Station		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
ST26_50W	SOL	424 671.1	5 759 817.1	31.1	68.9	2 mins 20 secs 11 stills
	EOL	424 739.8	5 759 822.0			
ST26_50Ea	SOL	424 785.4	5 759 814.8	32.6	65.4	2 mins 36 secs 17 stills
	EOL	424 836.2	5 759 855.9			
ST27	SOL	422 515.2	5 757 393.6	34.2	68.3	2 mins 17 secs 18 stills
	EOL	422 480.0	5 757 335.1			
ST28	SOL	421 140.1	5 755 813.2	55.2	74.7	4 mins 23 secs 26 stills
	EOL	421 073.1	5 755 780.2			
Interconnector (IC)						
ST29	SOL	420 770.3	5 752 008.7	50.8	69.7	5 mins 13 secs 26 stills
	EOL	420 742.5	5 751 944.7			
ST29_50W	SOL	420 677.8	5 751 935.7	55.1	74.6	2 mins 8 secs 21 stills
	EOL	420 722.5	5 751 995.4			
ST29_50E	SOL	420 780.1	5 751 939.7	51.9	69.8	1 min 57 secs 20 stills
	EOL	420 787.9	5 752 009.1			
ST30	SOL	419 943.3	5 746 644.0	45.8	78.6	4 mins 42 secs 20 stills
	EOL	419 934.1	5 746 565.9			
ST30_50W	SOL	419 836.5	5 746 556.9	48.2	79.2	2 mins 31 secs 22 stills
	EOL	419 889.3	5 746 615.9			
ST30_50E	SOL	419 946.6	5 746 554.9	47.1	76.5	2 mins 26 secs 23 stills
	EOL	419 983.1	5 746 622.1			
ST31	SOL	420 476.9	5 739 771.6	26.7	73.1	4 mins 9 secs 22 stills
	EOL	420 505.2	5 739 839.0			
ST31_50W	SOL	420 446.2	5 739 770.7	28.0	71.2	3 mins 15 secs 20 stills
	EOL	420 400.9	5 739 825.7			
ST31_50E	SOL	420 536.1	5 739 778.7	28.2	63.9	3 mins 0 secs 16 stills
	EOL	420 552.9	5 739 840.4			
South Array (SA)						
ST32	SOL	430 100.1	5 740 764.0	13.6	21.2	3 mins 29 secs 19 stills
	EOL	430 079.3	5 740 767.9			
ST33	SOL	424 303.4	5 737 131.6	42.8	63.2	2 mins 50 secs 22 stills
	EOL	424 260.3	5 737 085.3			

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Station		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
ST34	SOL	419 573.7	5 734 860.8	33.2	62.5	2 mins 14 secs 13 stills
	EOL	419 567.2	5 734 923.0			
ST35	SOL	420 695.2	5 735 135.5	31.6	70.7	2 mins 39 secs 16 stills
	EOL	420 624.9	5 735 141.8			
ST36	SOL	423 175.3	5 733 345.9	30.4	69.0	2 mins 55 secs 21 stills
	EOL	423 155.6	5 733 412.0			
ST37	SOL	424 753.6	5 732 483.5	44.2	91.0	3 mins 52 secs 16 stills
	EOL	424 749.3	5 732 574.4			
ST37_50W	SOL	424 672.9	5 732 568.2	44.2	88.6	2 mins 58 secs 25 stills
	EOL	424 733.8	5 732 503.9			
ST37_50E	SOL	424 803.1	5 732 494.9	46.0	93.6	3 mins 3 secs 24 stills
	EOL	424 809.1	5 732 588.3			
ST38	SOL	426 278.8	5 731 750.6	28.1	70.9	2 mins 55 secs 13 stills
	EOL	426 338.9	5 731 788.1			
ST39	SOL	431 217.6	5 731 367.4	38.0	57.6	7 mins 56 secs 24 stills
	EOL	431 198.8	5 731 421.9			
ST39_50W	SOL	431 170.8	5 731 438.0	38.1	57.4	2 mins 9 secs 17 stills
	EOL	431 227.4	5 731 428.0			
ST39_50Eb	SOL	431 252.6	5 731 429.9	37.4	68.3	3 mins 26 secs 28 stills
	EOL	431 320.6	5 731 436.3			
ST40	SOL	421 450.0	5 730 884.9	39.6	73.0	2 mins 59 secs 25 stills
	EOL	421 431.8	5 730 814.2			
ST41	SOL	424 613.7	5 728 716.2	41.2	58.5	3 mins 18 secs 22 stills
	EOL	424 609.8	5 728 657.8			
ST42	SOL	427 788.4	5 726 951.4	17.7	79.0	4 mins 34 secs 13 stills
	EOL	427 830.8	5 727 018.1			
ST43	SOL	426 965.8	5 726 506.7	34.0	66.4	3 mins 32 secs 24 stills
	EOL	427 000.4	5 726 563.4			
ST44	SOL	420 327.8	5 727 374.9	50.4	73.7	2 mins 42 secs 19 stills
	EOL	420 343.7	5 727 303.0			
ST45ALT	SOL	420 822.4	5 723 815.8	48.0	57.8	3 mins 37 secs 24 stills
	EOL	420 819.9	5 723 758.0			

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Station		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
ST46	SOL	421 224.3	5 722 919.4	49.8	20.9	5 mins 0 secs 18 stills
	EOL	421 210.2	5 722 904.0			
ST47	SOL	423 543.0	5 723 635.3	39.0	63.0	4 mins 1 sec 20 stills
	EOL	423 566.9	5 723 693.6			
ST48	SOL	419 740.0	5 725 996.5	50.9	73.9	3 mins 16 secs 24 stills
	EOL	419 811.7	5 726 014.6			
ST49	SOL	420 760.5	5 720 602.0	45.8	86.6	3 mins 50 secs 20 stills
	EOL	420 792.4	5 720 682.5			
Notes MSL = Mean Sea Level SOL = Start of line EOL = End of line						

Table 4.3: Completed transects, North Falls Offshore Site Investigation

Geodetic Parameters: WGS 84, UTM Zone 31 North [m]						
Transect		Easting	Northing	Depth [m MSL]	Length [m]	Data Acquisition
Export Cable Route (ECR)						
TR08	SOL	391 896.0	5 744 639.0	8.8	161.8	5 mins 17 secs 20 stills
	EOL	392 048.2	5 744 694.1			
TR09a	SOL	393 563.0	5 746 017.7	7.7	188.5	8 mins 31 secs 23 stills
	EOL	393 584.3	5 746 205.0			
TR13b	SOL	395 769.6	5 749 114.6	11.8	105.8	7 mins 8 secs 18 stills
	EOL	395 694.2	5 749 188.8			
Notes MSL = Mean Sea Level SOL = Start of line EOL = End of line						

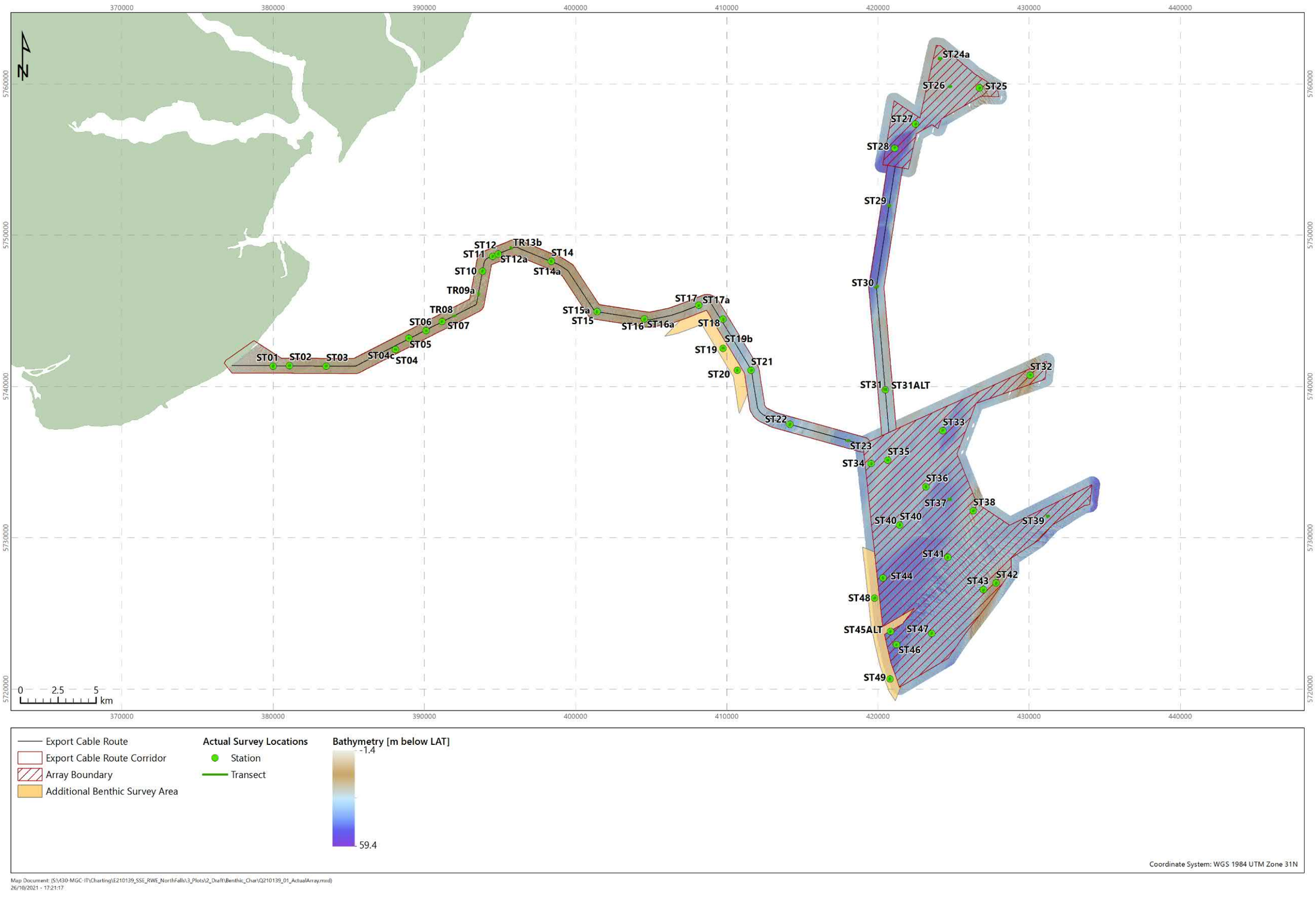


Figure 4.1: Completed survey locations, North Falls Offshore Site Investigation

4.2 Sediment Characterisation

4.2.1 Univariate Analysis

Table 4.4 presents the sediment particle size characteristics and Table 4.5 presents the sediment particle distribution across the North Falls survey area. Figure 4.3 presents an overview of the variations of the fractional composition of the sediments. Figure 4.4 presents the spatial variation of the median sediment particle size. Appendix D presents the histograms of particle size class summary for each station and the analysis certificate.

Sediment across the survey area comprised a mix of sand, gravel and fines (or mud). Sand content ranged from 14.96 % (station ST02) to 100.00 % (station ST42), with a mean of 66.90 % across the survey area. Gravel was absent from station ST42 and at the remaining stations, the gravel content ranged from 0.03 % (station ST32) to 71.33 % (station ST18), with a mean of 19.13 %. Fines were absent from 13 stations, of which ten in the south array, one in the north array and two along the ECR. At the remaining stations, the fines content ranged from 1.56 % (station ST11) to 78.44 % (station ST02), with a mean of 13.97 % across the survey area (Table 4.4 and Figure 4.2). Of the fines, the silt content was consistently higher than the clay content (Table 4.4 and Figure 4.3).

Eight sediment classes were identified using the Folk (BGS modified) classification (Table 4.4 and Figure 4.5), including:

1. ‘Sand’, which typified 11 stations;
2. ‘Muddy, sandy gravel’, which typified 11 stations;
3. ‘Gravelly sand’, which typified 7 stations;
4. ‘Gravelly muddy sand’, which typified 4 stations;
5. ‘Muddy sand’, which typified 2 stations;
6. ‘Gravelly mud’, which typified 2 stations;
7. ‘Sandy gravel’, which typified 1 station;
8. ‘Sandy mud’, which typified 1 station.

Of the 39 stations investigated, 18 had unimodal distributions, 14 had polymodal distributions and seven had bimodal distributions (Table 4.5). Investigation of the particle size histograms (Appendix D) indicated that the most frequently occurring peak in the first mode was the 426.8 µm sediment particle size (medium sand) followed by the 19 200 µm (coarse pebble) and the 603.6 µm (coarse sand) sediment particle sizes. The 426.8 µm (medium sand) was the most frequently occurring peak also in the second mode, followed by the 603.6 µm (coarse sand), the 13 600 µm and 9600 µm (medium pebble) sediment particle sizes, the 3400 µm (granule) and 6.665 µm (very fine silt) sediment particle sizes. The 6800 µm (medium pebble) and the 426.8 µm (medium sand) sediment particle sizes were the most frequently occurring peaks in the third mode.

The median sediment particle size ranged from 11 µm (fine silt) (station ST02) to 11 718 µm (medium pebble), with a mean of 1028 µm (very coarse sand) and a median of 547 µm

(coarse sand). The median sediment particle size at stations along the ECR varied more compared to that of stations in the south array and north array (Figure 4.4).

The mean sediment particle size underpinned the Wentworth (1922) description, through which nine grain size classes were identified (Table 4.5 and Figure 4.6), including:

1. 'Coarse sand', which typified 11 stations;
2. 'Medium sand', which typified 11 stations;
3. 'Very coarse sand', which typified 8 stations;
4. 'Coarse silt', which typified 3 stations;
5. 'Very fine sand', which typified 2 stations;
6. 'Fine pebble', which typified 1 station;
7. 'Fine sand', which typified 1 station;
8. 'Granule', which typified 1 station;
9. 'Medium silt', which typified 1 station.

Of the 39 stations investigated, 15 had very poorly sorted sediment, 9 had moderately well sorted sediment, 6 had extremely poorly sorted sediment, 4 had poorly sorted sediment, 3 had well sorted sediment and 2 had moderately sorted sediment. Sediment distribution was symmetrical at 15 stations, coarse skewed at 6 stations, very coarse skewed at 6 stations, fine skewed at 6 stations and very fine skewed at 6 stations.

Table 4.4: Summary of sediment characteristics, North Falls Offshore Site Investigation

Station	KP	Fractional Composition			Fines		Folk Description (BGS modified)
		Gravel [%]	Sand [%]	Fines [%]	Silt [%]	Clay [%]	
Export Cable Route (ECR)							
ST01	2.5	46.64	28.15	25.22	18.85	6.37	Muddy, sandy gravel
ST02	3.6	6.60	14.96	78.44	55.57	22.87	Gravelly mud
ST03	6.0	10.91	22.94	66.15	48.03	18.12	Gravelly mud
ST04	10.8	0.04	59.16	40.79	31.27	9.53	Muddy sand
ST05	11.9	0.24	47.48	52.29	39.90	12.39	Sandy mud
ST06	13.2	48.23	35.64	16.13	11.89	4.24	Muddy, sandy gravel
ST07	14.4	49.30	42.99	7.70	5.55	2.15	Muddy, sandy gravel
ST10	15.2	5.78	88.20	6.02	4.04	1.97	Gravelly sand
ST11	17.6	0.05	98.39	1.56	1.08	0.48	Sand
ST12	19.0	26.03	72.02	1.95	1.59	0.36	Gravelly sand
ST14	20.4	39.15	56.44	4.41	3.29	1.12	Sandy gravel
ST15	20.8	3.43	96.57	0.00	0.00	0.00	Sand
ST16	21.8	2.27	97.73	0.00	0.00	0.00	Sand
ST17	24.7	60.68	32.79	6.53	4.55	1.99	Muddy, sandy gravel
ST18	29.3	71.33	23.44	5.23	3.68	1.55	Muddy, sandy gravel
ST19	32.5	0.66	76.69	22.65	16.02	6.64	Muddy sand
ST20	36.2	32.96	36.38	30.66	21.94	8.72	Muddy, sandy gravel
ST21	38.5	27.56	40.23	32.22	22.40	9.82	Gravelly muddy sand
ST22	40.1	5.51	49.68	44.80	28.61	16.19	Gravelly muddy sand
North Array (NA)							
ST25		6.01	93.99	0.00	0.00	0.00	Gravelly sand
ST27		13.74	84.51	1.74	1.15	0.59	Gravelly sand
ST28		47.43	33.65	18.92	12.01	6.91	Muddy, sandy gravel
Interconnector (IC)							
ST31ALT		27.55	58.00	14.45	8.97	5.49	Gravelly muddy sand

Station	KP	Fractional Composition			Fines		Folk Description (BGS modified)
		Gravel [%]	Sand [%]	Fines [%]	Silt [%]	Clay [%]	
South Array (SA)							
ST32		0.03	99.97	0.00	0.00	0.00	Sand
ST33		37.08	52.73	10.19	6.62	3.57	Muddy, sandy gravel
ST34		6.21	91.52	2.28	1.43	0.84	Gravelly sand
ST35		37.29	45.03	17.68	11.06	6.62	Muddy, sandy gravel
ST36		41.80	47.70	10.50	6.71	3.79	Muddy, sandy gravel
ST38		8.36	91.64	0.00	0.00	0.00	Gravelly sand
ST40		38.23	46.23	15.54	10.11	5.43	Muddy, sandy gravel
ST41		0.94	99.06	0.00	0.00	0.00	Sand
ST42		0.00	100.00	0.00	0.00	0.00	Sand
ST43		0.73	99.27	0.00	0.00	0.00	Sand
ST44		1.85	98.15	0.00	0.00	0.00	Sand
ST45ALT		4.10	95.90	0.00	0.00	0.00	Sand
ST46		1.95	98.05	0.00	0.00	0.00	Sand
ST47		0.36	99.64	0.00	0.00	0.00	Sand
ST48		25.44	63.90	10.66	7.57	3.09	Gravelly muddy sand
ST49		9.70	90.30	0.00	0.00	0.00	Gravelly sand
Minimum		**0.00**	**14.96**	**0.00**	**0.00**	**0.00**	
Maximum		**71.33**	**100.00**	**78.44**	**55.57**	**22.87**	
Median		**8.36**	**63.90**	**6.02**	**4.04**	**1.97**	-
Mean		**19.13**	**66.90**	**13.97**	**9.84**	**4.12**	
Standard Deviation		**20.40**	**28.20**	**19.44**	**13.99**	**5.56**	

Notes:
BGS = British Geological Survey
Fines = silt and clay content
KP = Kilometre point - on the survey centreline
Silt = < 4.0 phi to +8.0 phi (<62.5 µm to 3.9 µm)
Clay = Clay = < 8.0 phi to +10.0 phi (<3.9 µm to

Table 4.5: Summary of particle size distribution, North Falls Offshore Site Investigation

Station	KP	Modality	Median [µm]	Mean Particle Size			Sorting Coefficient		Skewness	
				[µm]	[phi]	Wentworth (1922) Description	[µm]	Description†	[µm]	Description
Export Cable Route (ECR)										
ST01	2.5	Polymodal	1209	756	0.40	Coarse sand	22.36	Extremely poorly sorted	−0.26	Fine skewed
ST02	3.6	Polymodal	11	20	5.64	Medium silt	9.65	Very poorly sorted	0.44	Very coarse skewed
ST03	6.0	Polymodal	22	37	4.75	Coarse silt	14.24	Very poorly sorted	0.35	Very coarse skewed
ST04	10.8	Bimodal	76	44	4.50	Coarse silt	4.23	Very poorly sorted	−0.54	Very fine skewed
ST05	11.9	Bimodal	56	34	4.87	Coarse silt	4.71	Very poorly sorted	−0.43	Very fine skewed
ST06	13.2	Bimodal	1200	1225	−0.29	Very coarse sand	16.87	Extremely poorly sorted	−0.13	Fine skewed
ST07	14.4	Polymodal	1654	1760	−0.82	Very coarse sand	9.21	Very poorly sorted	−0.12	Fine skewed
ST10	15.2	Unimodal	171	173	2.53	Fine sand	2.78	Poorly sorted	0.10	Coarse skewed
ST11	17.6	Unimodal	259	259	1.95	Medium sand	1.46	Moderately well sorted	−0.02	Symmetrical
ST12	19.0	Polymodal	553	1261	−0.33	Very coarse sand	6.29	Very poorly sorted	0.54	Very coarse skewed
ST14	20.4	Bimodal	590	1049	−0.07	Very coarse sand	5.30	Very poorly sorted	0.36	Very coarse skewed
ST15	20.8	Unimodal	547	553	0.86	Coarse sand	1.54	Moderately well sorted	0.07	Symmetrical
ST16	21.8	Unimodal	531	537	0.90	Coarse sand	1.49	Moderately well sorted	0.00	Symmetrical
ST17	24.7	Bimodal	8161	3402	−1.77	Granule	8.27	Very poorly sorted	−0.63	Very fine skewed
ST18	29.3	Unimodal	11718	4823	−2.27	Fine pebble	6.56	Very poorly sorted	−0.73	Very fine skewed
ST19	32.5	Unimodal	117	79	3.66	Very fine sand	3.87	Poorly sorted	−0.49	Very fine skewed
ST20	36.2	Polymodal	597	338	1.56	Medium sand	20.73	Extremely poorly sorted	−0.27	Fine skewed
ST21	38.5	Polymodal	375	258	1.96	Medium sand	20.39	Extremely poorly sorted	−0.18	Fine skewed
ST22	40.1	Polymodal	256	92	3.44	Very fine sand	11.47	Very poorly sorted	−0.49	Very fine skewed
North Array (NA)										
ST25		Unimodal	715	729	0.46	Coarse sand	1.59	Moderately well sorted	0.18	Coarse skewed
ST27		Bimodal	537	631	0.66	Coarse sand	2.53	Poorly sorted	0.37	Very coarse skewed
ST28		Polymodal	988	805	0.31	Coarse sand	23.84	Extremely poorly sorted	−0.18	Fine skewed
Interconnector (IC)										
ST31ALT		Polymodal	579	1006	−0.01	Very coarse sand	9.27	Very poorly sorted	0.10	Symmetrical

Station	KP	Modality	Median [µm]	Mean Particle Size			Sorting Coefficient		Skewness	
				[µm]	[phi]	Wentworth (1922) Description	[µm]	Description†	[µm]	Description
South Array (SA)										
ST32		Unimodal	489	493	1.02	Medium sand	1.41	Moderately well sorted	0.02	Symmetrical
ST33		Polymodal	872	1642	−0.72	Very coarse sand	9.40	Very poorly sorted	0.12	Coarse skewed
ST34		Unimodal	671	651	0.62	Coarse sand	1.71	Moderately sorted	0.07	Symmetrical
ST35		Bimodal	610	654	0.61	Coarse sand	18.01	Extremely poorly sorted	−0.09	Symmetrical
ST36		Polymodal	917	1540	−0.62	Very coarse sand	9.18	Very poorly sorted	0.07	Symmetrical
ST38		Unimodal	702	735	0.45	Coarse sand	1.80	Moderately sorted	0.22	Coarse skewed
ST40		Polymodal	880	1011	−0.02	Very coarse sand	10.64	Very poorly sorted	−0.09	Symmetrical
ST41		Unimodal	447	449	1.15	Medium sand	1.43	Moderately well sorted	0.05	Symmetrical
ST42		Unimodal	342	345	1.53	Medium sand	1.33	Well sorted	0.01	Symmetrical
ST43		Unimodal	393	391	1.35	Medium sand	1.39	Well sorted	0.00	Symmetrical
ST44		Unimodal	608	605	0.72	Coarse sand	1.46	Moderately well sorted	0.01	Symmetrical
ST45ALT		Unimodal	487	495	1.01	Medium sand	1.43	Moderately well sorted	0.16	Coarse skewed
ST46		Unimodal	442	445	1.17	Medium sand	1.45	Moderately well sorted	0.08	Symmetrical
ST47		Unimodal	432	433	1.21	Medium sand	1.38	Well sorted	0.00	Symmetrical
ST48		Polymodal	549	816	0.29	Coarse sand	6.54	Very poorly sorted	0.13	Coarse skewed
ST49		Unimodal	325	332	1.59	Medium sand	2.38	Poorly sorted	0.42	Very coarse skewed
Minimum		-	**11**	**20**	**−2.27**	-	**1.33**	-	**−0.73**	-
Maximum			**11718**	**4823**	**5.64**		**23.84**		**0.54**	
Median			**547**	**553**	**0.86**		**4.71**		**0.01**	
Mean			**1028**	**793**	**1.14**		**7.17**		**−0.02**	
Standard Deviation			**2165**	**913**	**1.75**		**6.75**		**0.30**	

Notes
Statistics based on Folk and Ward (1957) method derived in Gradistat (Blott, 2010)
KP = Kilometre point - on the survey centreline

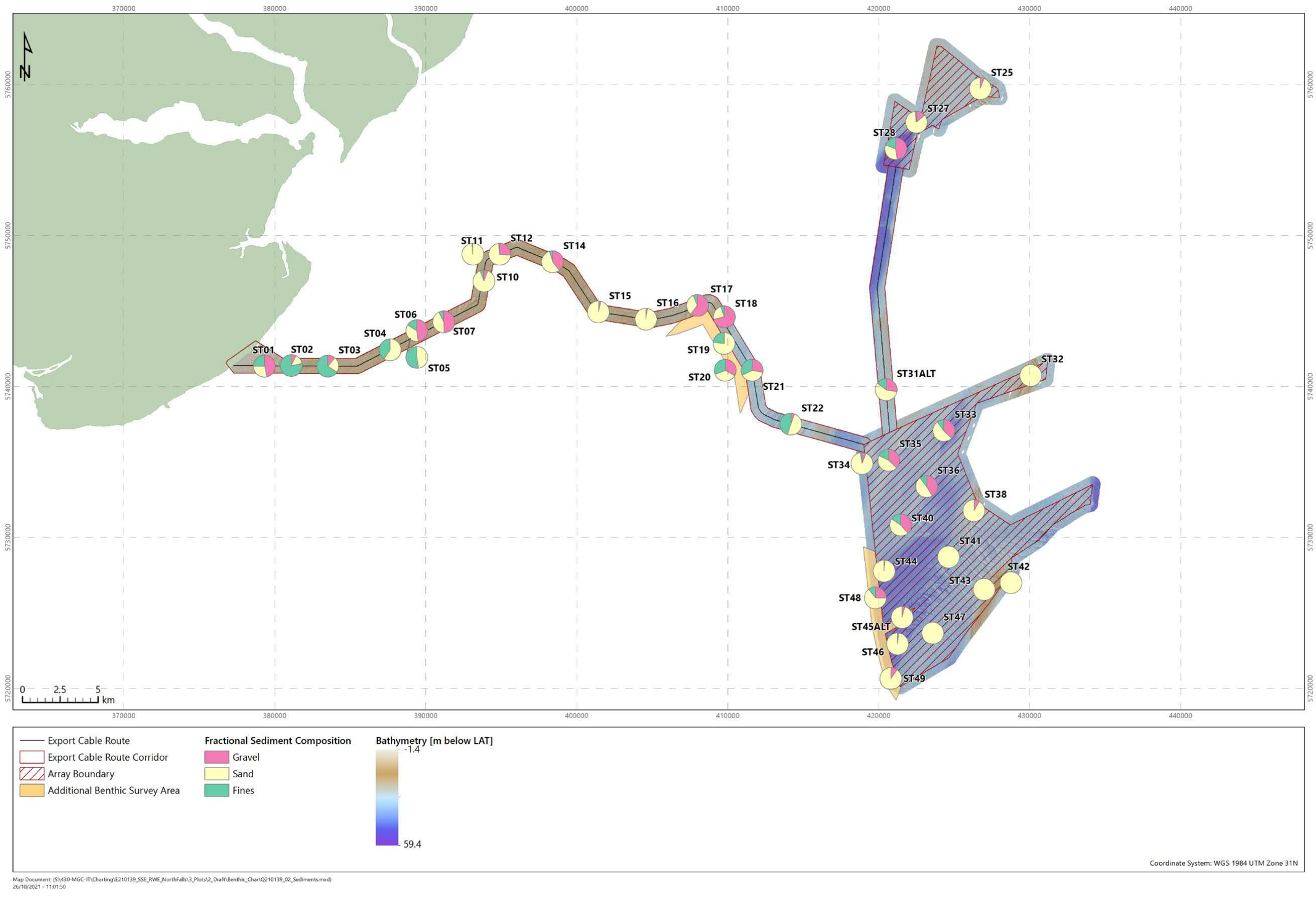
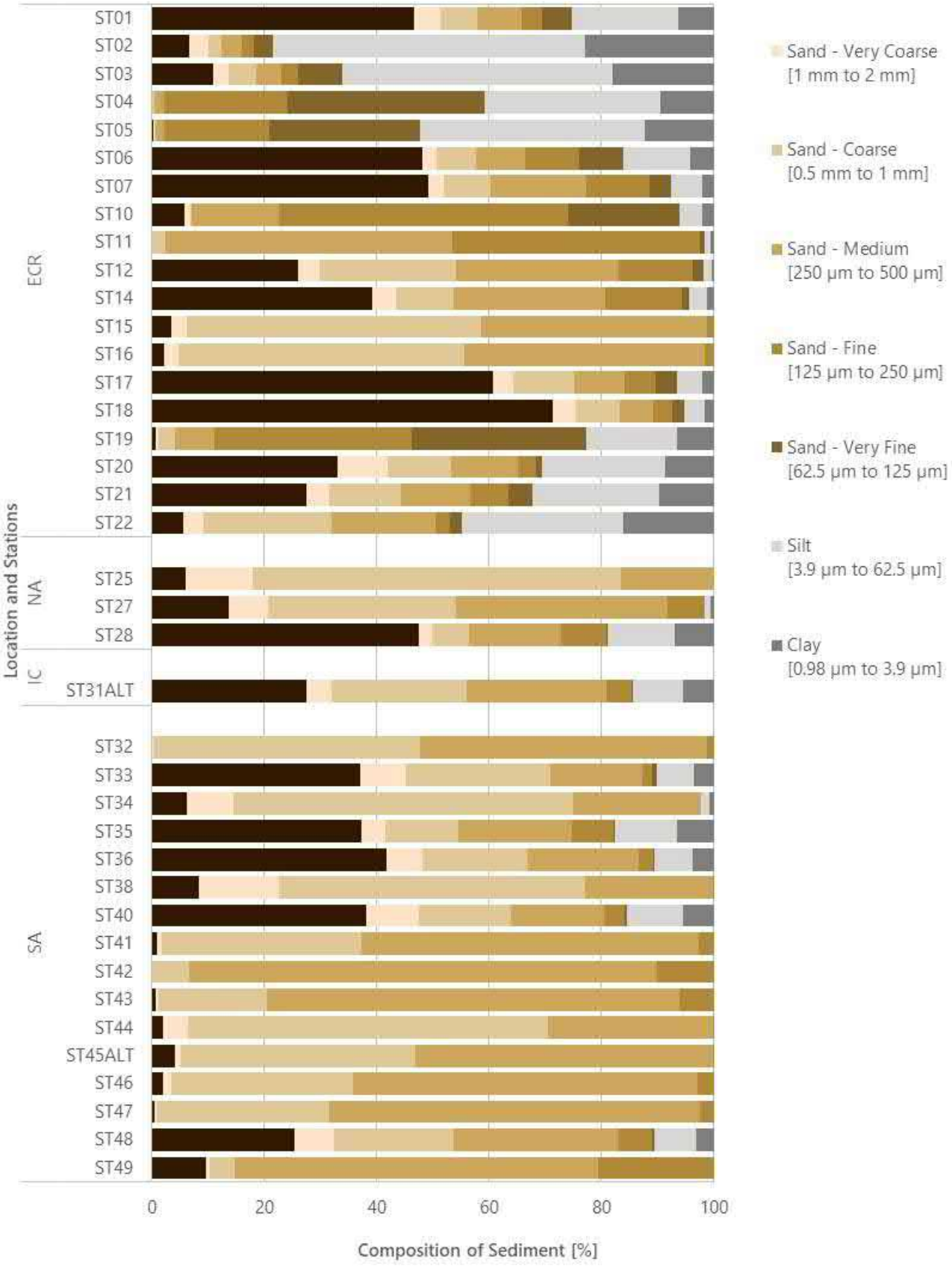


Figure 4.2: Spatial variations of percentage of sand, gravel and fines, North Falls Offshore Site Investigation



Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

Figure 4.3: Sediment fractional composition, North Falls Offshore Site Investigation

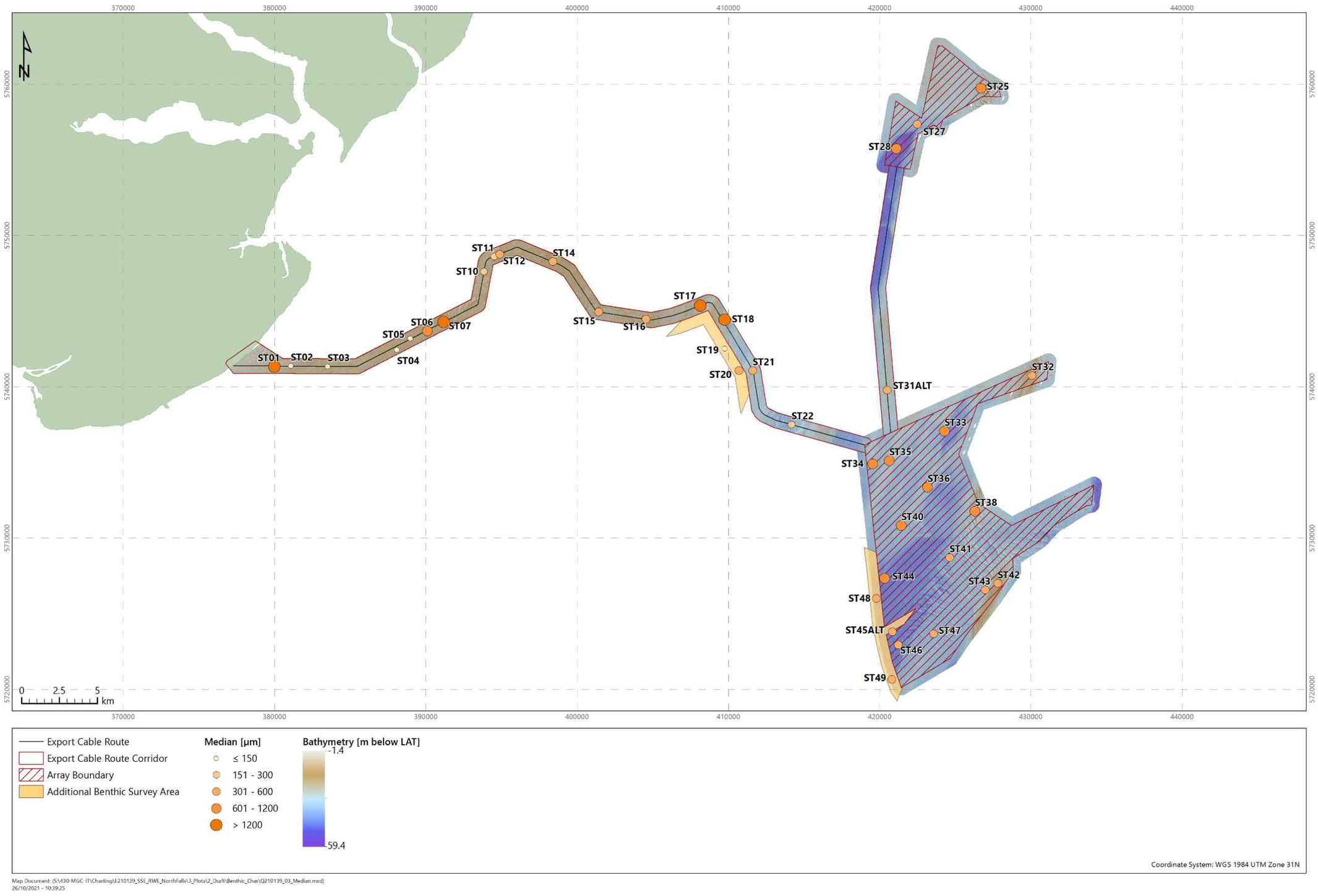
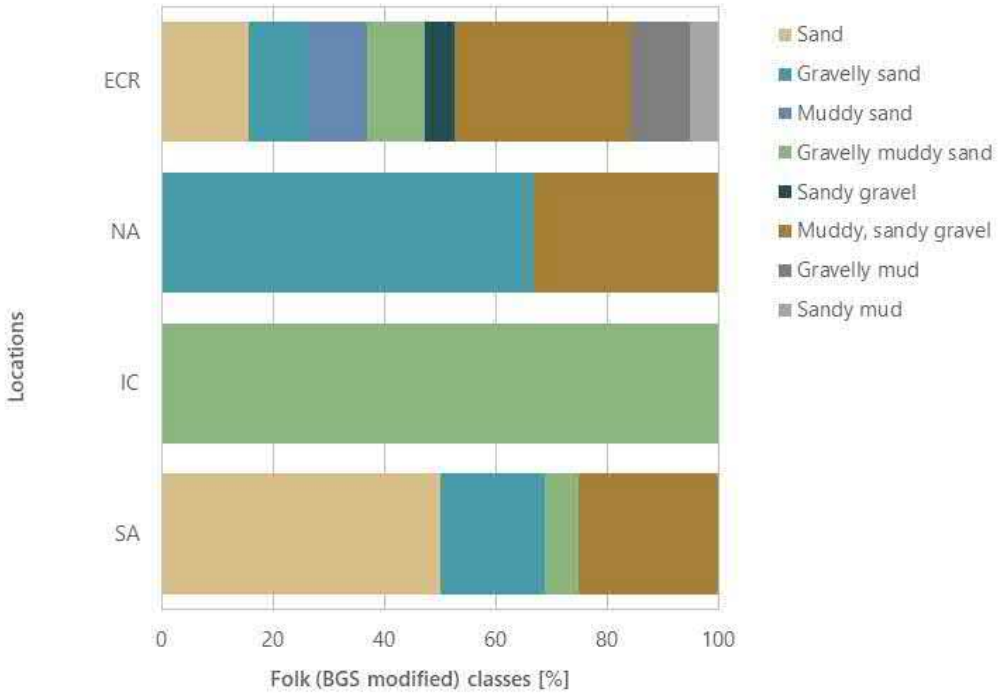
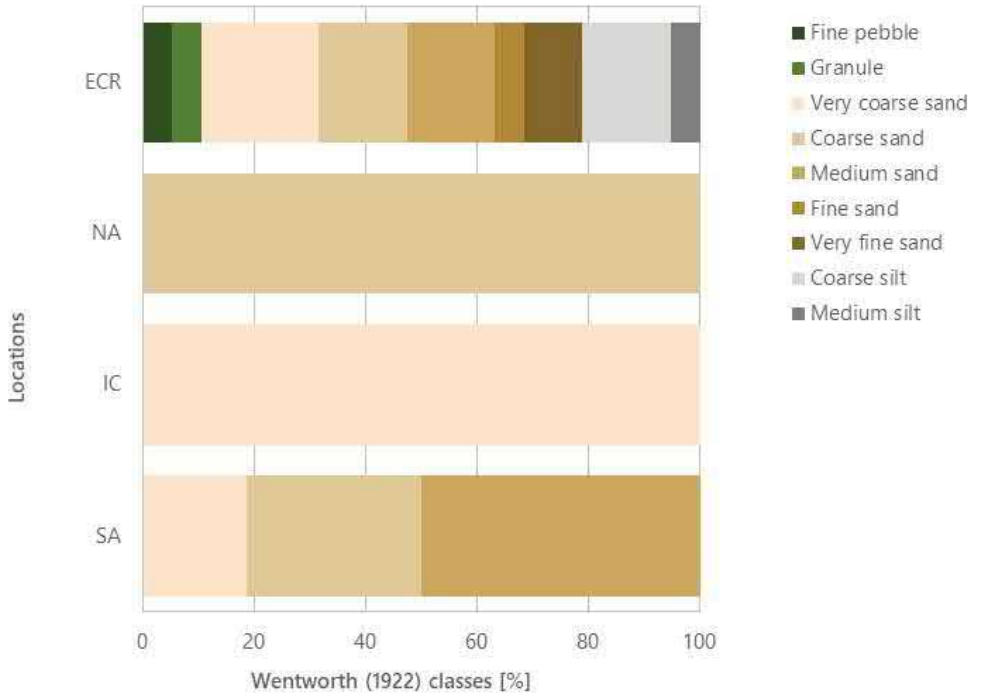


Figure 4.4: Spatial variations of the median [µm] sediment particle size, North Falls Offshore Site Investigation



Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

Figure 4.5: Folk (BGS modified) sediment classes, North Falls Offshore Site Investigation



Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

Figure 4.6: Wentworth (1922) sediment description, North Falls Offshore Site Investigation

4.2.2 Investigation of Granulometric Similarities

The cluster analysis, using Euclidean distance, was applied to the sediment PSD to investigate sedimentological characteristics. Data were fourth root transformed. The SIMPROF test, undertaken in conjunction with the cluster analysis, was interpreted in ecological terms and, where appropriate, coarser groups were created (see Section 3.3.5). Figure 4.7 presents the dendrogram and the nMDS of the Euclidean distance matrix of sediment particle size.

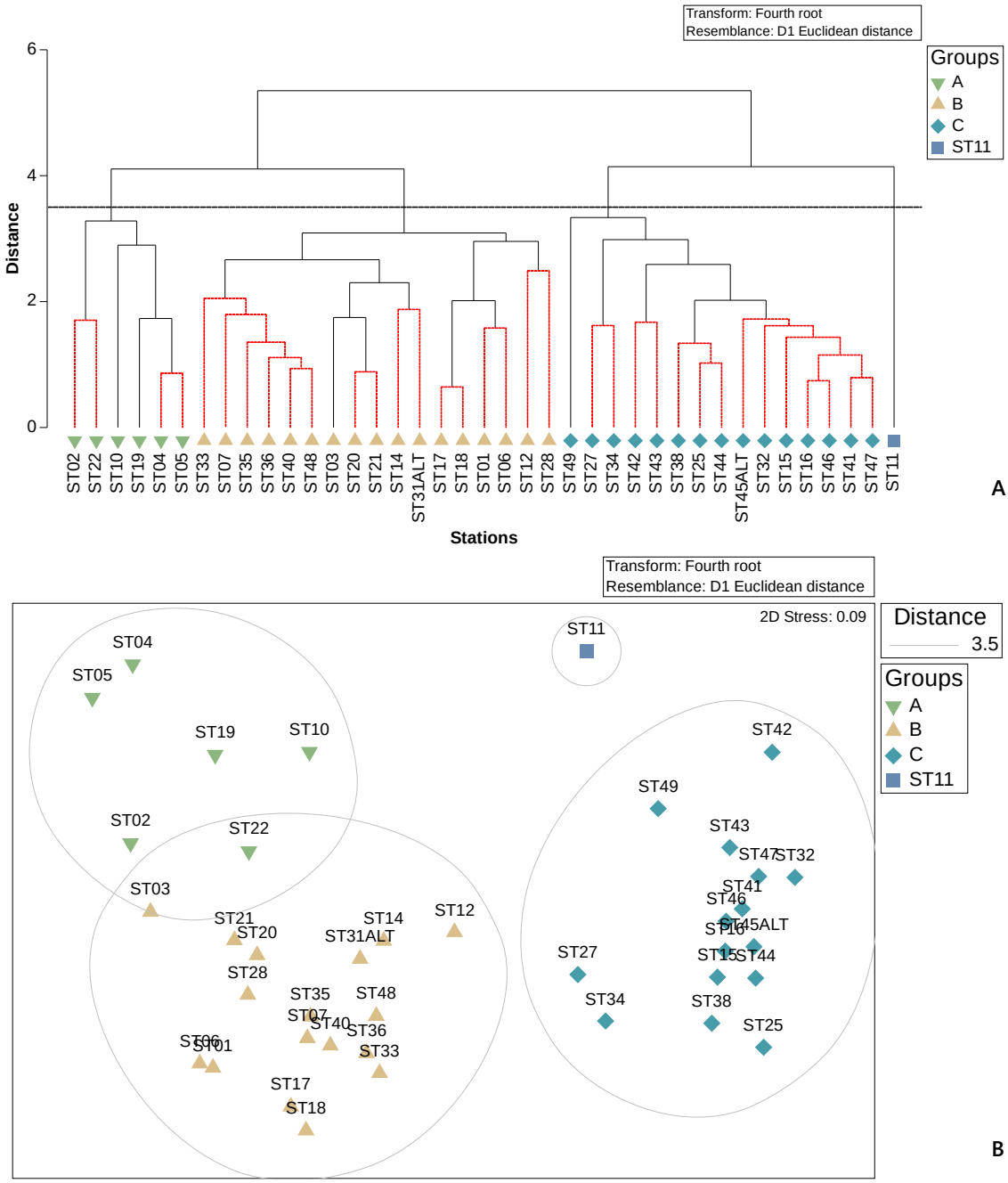


Figure 4.7: (A) dendrogram and (B) nMDS of hierarchical clustering analysis of sediment particle size, North Falls Offshore Site Investigation

Three multivariate groups (A, B and C) and station ST11 were identified through the multivariate analysis at the Euclidean distance of 3.5. Each group was split into further groups and single stations, at Euclidean distance of 2.5 or less. These groups were not deemed of

ecological significance. Table 4.6 summarises the mean physical characteristics of the sediment groups identified through the multivariate analysis which included:

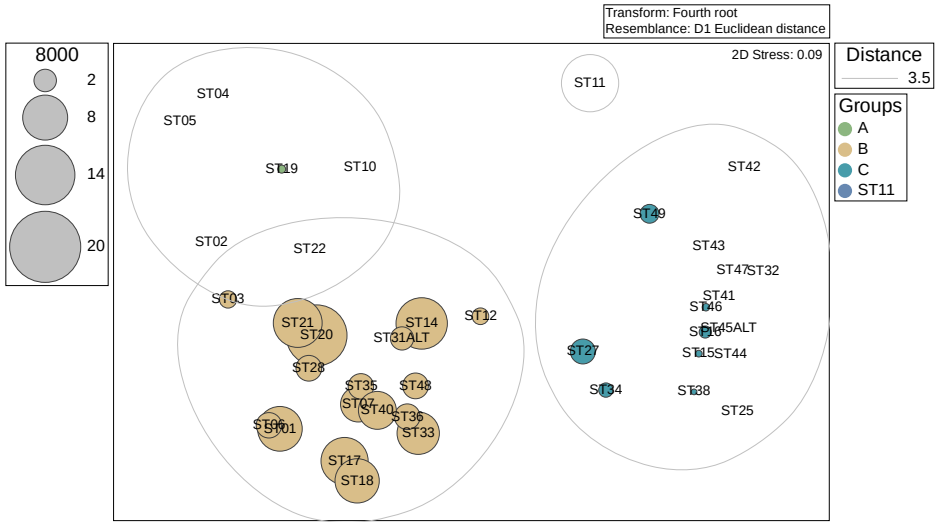
- Group A comprised six stations along the ECR and had the highest squared Euclidean distance (4.09). Group A was characterised by very poorly sorted muddy sand (Folk BGS modified) with a median sediment particle size ranging from 11 µm to 256 µm, mean of 86 µm (very fine sand), in water depth of 7.8 m to 38.3 m, mean of 18.1 m;
- Group B comprised 17 stations, including 10 along the ECR and five from the south array, in addition to station ST28 from the north array and station ST31ALT along the interconnector. Group B had an average Euclidean distance of 3.87 and was characterised by very poorly sorted muddy sandy gravel (Folk BGS modified), with a median sediment particle size ranging from 22 µm to 11 718 µm, mean of 1851 µm (very coarse sand), in water depth of 7.4 m to 47.8 m, mean of 27.0 m;
- Group C comprised 15 stations, including two along the ECR, two from the north array and 11 from the south array. Group B had the lowest average Euclidean distance (3.22) and was characterised by moderately well sorted sand, with a median sediment particle size ranging from 325 µm to 715 µm, mean of 511 µm (coarse sand), in water depth of 12.3 m to 47.7 m, mean of 34.2 m.
- Station ST11 along the ECR was different enough to separate at the Euclidean distance of 4.1; it was characterised by moderately well sorted sand (Folk BGS modified), with a median of 259 µm (medium sand) in water depth of 7.8 m.

The sediment particle sizes mainly responsible for the separation of the multivariate groups included (but were not limited to) the 8000 µm (medium pebble), the 500 µm (coarse sand), the 125 µm (fine sand) and the 15.63 µm (medium silt) sediment particle sizes (Figure 4.8).

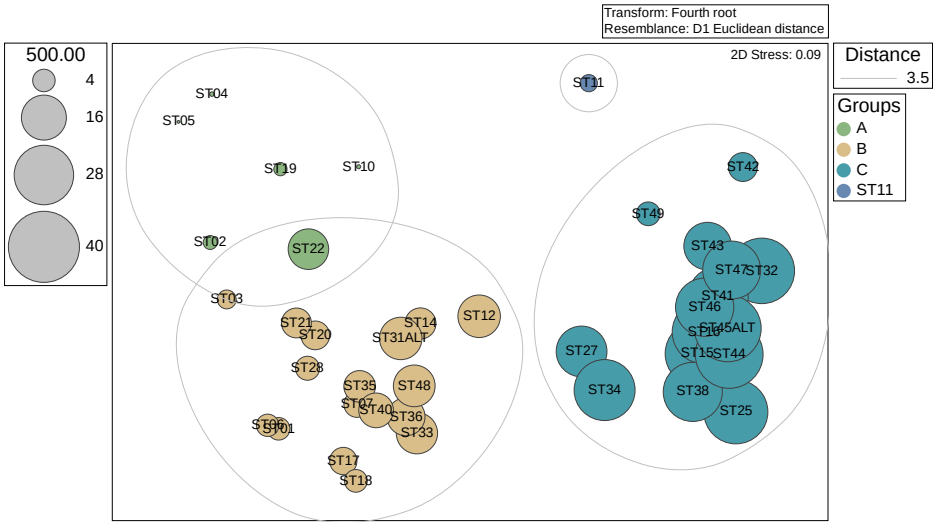
Table 4.6: Summary of physical characteristics of sediment groups identified through the cluster analysis, North Falls Offshore Site Investigation

Multivariate Group	Location and stations	Depth [m MSL]	Median Particle Size [µm]	Fractional Composition [%]			Sorting	
				Gravel	Sand	Fines	[µm]	Description
A Average distance²: 4.09	ECR (ST02, ST04, ST05, ST10, ST19, ST22)	18.1	86	3.14	56.03	40.83	6.12	Very poorly sorted
B Average distance²: 3.87	ECR (ST01, ST03, ST06, ST07, ST12, ST14, ST17, ST18, ST20, ST21) North array (ST28) IC (ST31ALT) South array (ST33, ST35, ST36, ST40, ST48)	27.0	1851	39.27	43.43	17.30	12.77	Very poorly sorted
C Average distance²: 3.22	ECR (ST15, ST16) North array (ST25, ST26) South array (ST32, ST34, ST38, ST41, ST42, ST43, ST44, ST45ALT, ST46, ST47, ST49)	34.2	511	3.98	95.75	0.27	1.62	Poorly sorted
ST11	ECR (ST11)	7.8	259	0.05	98.39	1.56	1.46	Moderately well sorted

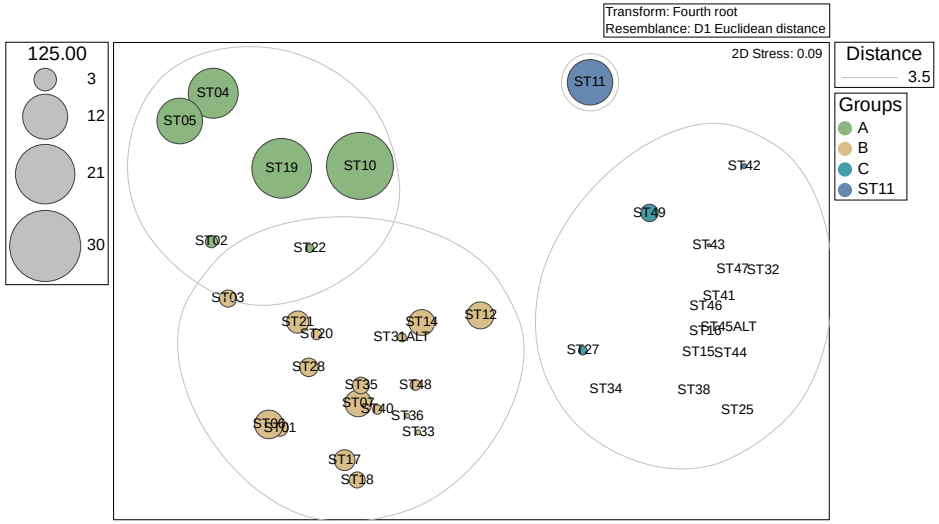
Notes
Data refer to mean values in each multivariate group; values are fourth root transformed
ECR = Export cable route
IC = Interconnector
MSL = Mean Sea Level



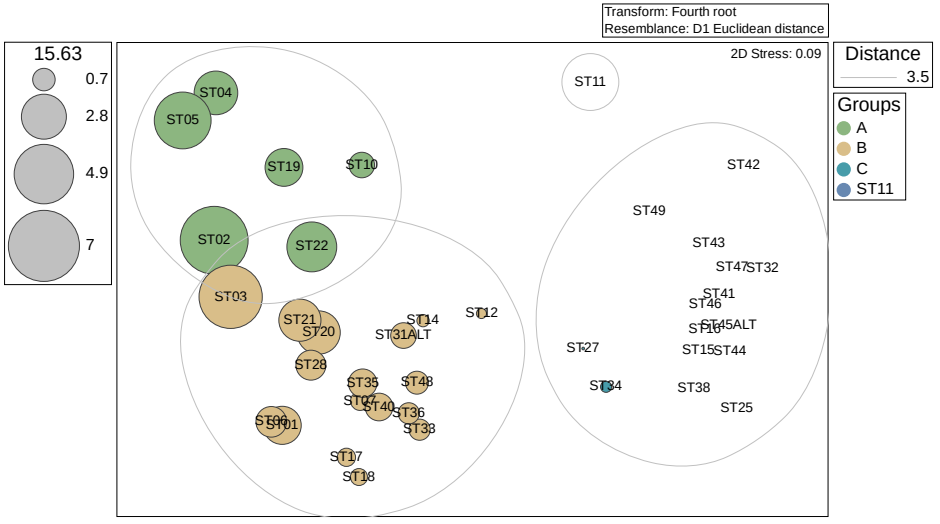
Notes
Circles proportional in diameter to the 8000 µm sediment particle size (medium pebble)



Notes
Circles proportional in diameter to the 500 µm sediment particle size (coarse sand)



Notes
Circles proportional in diameter to the 125.00 µm sediment particle size (fine sand)



Notes
Circles proportional in diameter to the 15.63 µm sediment particle size (medium silt)

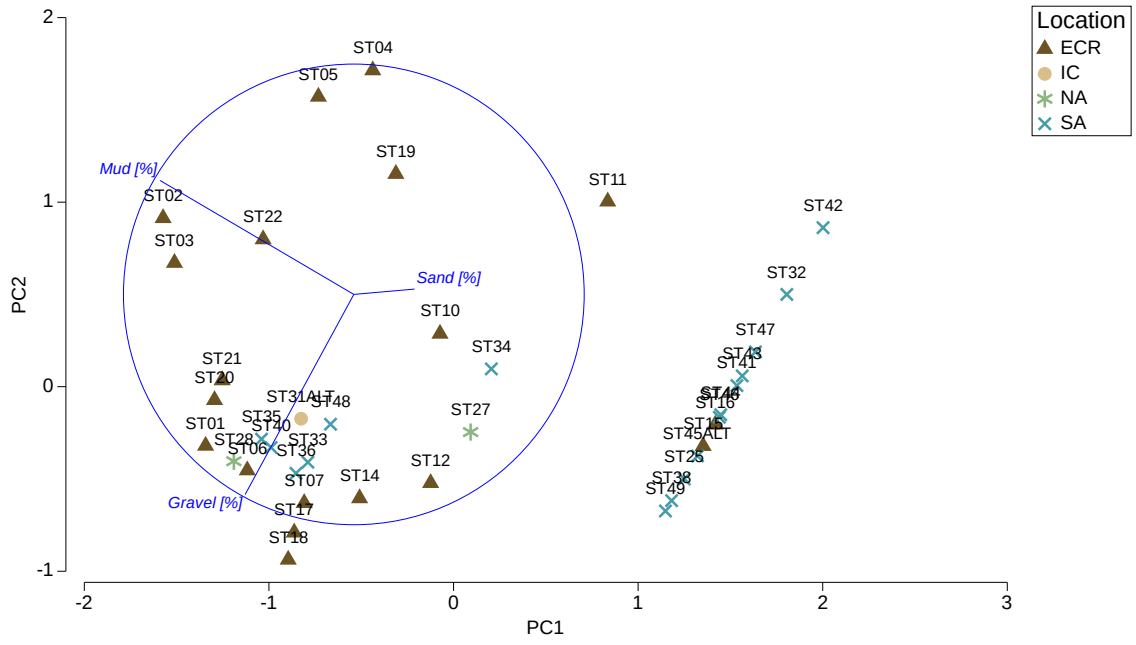
Figure 4.8: nMDS ordination of hierarchical clustering analysis of PSD with superimposed circles proportional in diameter to percentage of particles driving the separation of groups, North Falls Offshore Site Investigation

4.2.2.1 Principal Components Analysis

The principal component analysis (PCA) was used to reduce the sediment PSD across all samples into a smaller number of key variables (gravel, sand and mud). This highlighted the importance of the less represented sediment fractions in accounting for grain size variations, which are critical factors in determining the associated biological communities. The PCA also allowed visual representation of the association between sediment type and biological variables. Data were fourth root transformed. All data were in percentage therefore normalisation was not required.

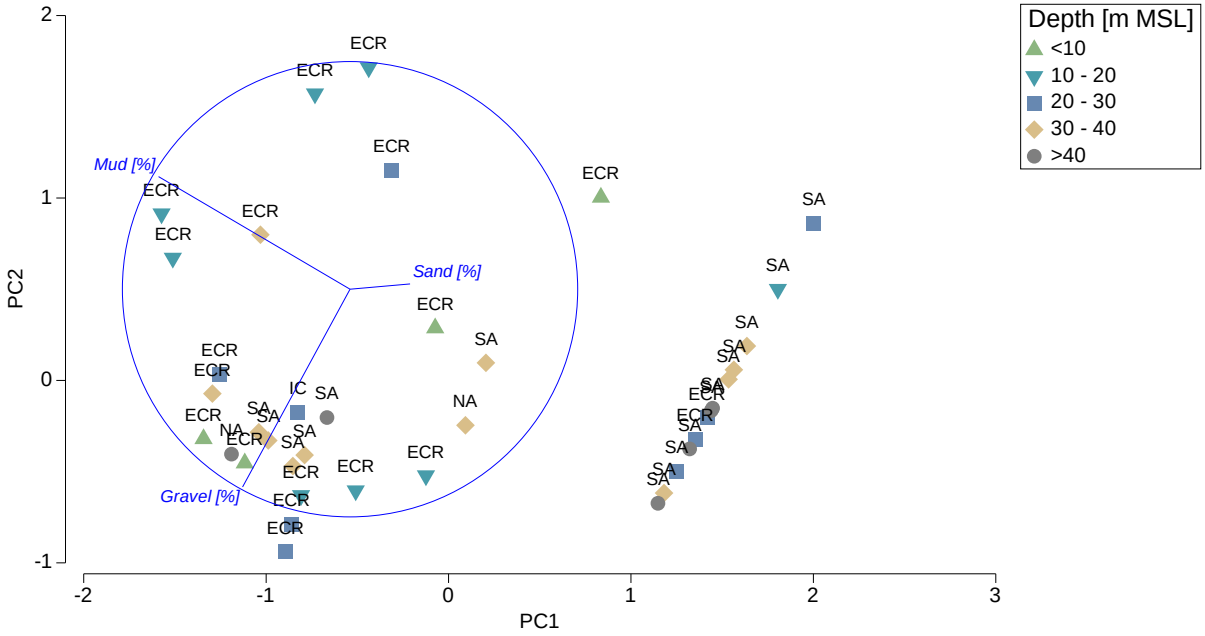
Results of the PCA indicated that the first two principal components accounted for 98.7 % of the variation, with the percentage of mud explaining most of the variation (69.9 %) along principal component one and the percentage of gravel explaining most of the variation (28.8 %) along principal component two. Sand explained 1.3 % of the variation along principal component three.

Figure 4.9 presents the results of the PCA with, superimposed, the ECR, the interconnector and the north and south arrays. Figure 4.10 presents the results of the PCA with, superimposed the depth range, highlighting the little influence of depth on the sediment distribution, as stations grouped on the basis of sediment characteristics. Figure 4.11 presents the results of the PCA with superimposed locations and the groups identified through the cluster analysis (Section 4.2.2), highlighting the sediment heterogeneity, particularly at stations along the ECR characterised by a mix of sand, gravel and mud, resulting in very poorly to extremely poorly sediment sorting.



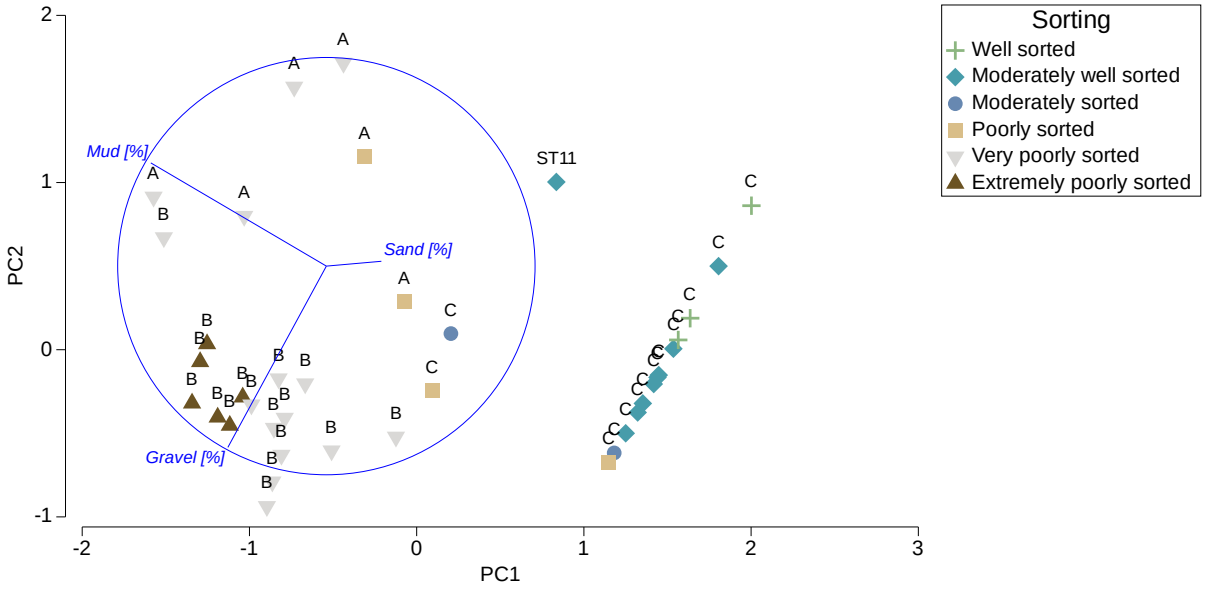
Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array
PC = Principal component

Figure 4.9: 2D PCA of sediment composition with superimposed locations with superimposed locations, North Falls Offshore Site Investigation



Notes
ECR = Export cable route
IC = Interconnector
NA = North Array
SA = South Array
PC = Principal component
MSL = Mean Sea Level

Figure 4.10: 2D PCA of sediment composition with superimposed locations and depth range [m MSL], North Falls Offshore Site Investigation



Notes
PC = Principal component

Figure 4.11: 2D PCA of sediment composition with superimposed multivariate groups and sediment sorting coefficient, North Falls Offshore Site Investigation

4.3 Sediment Chemistry

Results of the sediment chemistry were assessed in terms of descriptive statistics, including the relative standard deviation (RSD) to indicate the extent of variability in the dataset. The RSD is defined as the ratio of the standard deviation to the mean and is expressed as a percentage. For this report, RSD of less than 30 % were considered low variability, 30 % to 70 % were considered moderate variability and more than 70 % were considered high variability.

The total PAH concentrations were calculated as the sum of individual PAH concentrations. Some of the individual PAH concentrations were less than the LOD, as such unlikely to significantly influence the total 2 to 6 ring PAH concentrations. For this report, PAH concentrations less than LOD have been treated as being equal to their respective LODs. Consequently, the total PAH concentrations resulted in a less than value.

4.3.1 Sediment Polycyclic Aromatic Hydrocarbons (PAHs)

Table 4.7 presents the results of the polycyclic aromatic hydrocarbons (PAHs) and the marine SQGs (details in Section 1.5). Appendix E presents the analysis certificates.

The concentrations of all analytes were below their respective marine SQGs.

Concentrations of total PAHs ranged from < 22 µg/kg (stations ST32 and ST41 to ST49, in the south array), to 894.3 µg/kg (station ST03 along the nearshore section of the ECR).

High concentrations of total PAHs were also recorded at stations ST01, ST05 and ST19, along the nearshore section of the ECR had.

At station ST15, along the ECR, most of the PAHs analysed were below the LOD; exceptions were C1-naphthalenes and naphthalene, the concentrations of which were 1.01 µg/kg.

At station ST34, in the south array, concentrations above the LOD were recorded for benzo[e]pyrene, C1- naphthalenes, C2- naphthalenes, C3-naphthalenes and pyrene, with values of between 1.01 µg/kg and 1.47 µg/kg.

The total PAHs concentration correlated with percentage of fines, as indicated by the correlation coefficient which returned a value of 0.961 ($p<0.01$).

Table 4.7: Summary of sediment aromatic hydrocarbon analysis, North Falls Offshore Site Investigation

Analyte	Station																		CEMP (OSPAR, 2014)	NOAA (Long et al., 1995)	Canadian SQGs (CCME, 2021)	
	ECR									NA	IC	SA							ERL	ERM	TEL	PEL
	ST01	ST03	ST05	ST07	ST11	ST15	ST17	ST19	ST21	ST28	ST31 ALT	ST32	ST34	ST36	ST41	ST43	ST44	ST46	ST49				
	Kilometre Point (KP) on the survey centreline																					
	2.5	3.6	11.9	14.4	20.4	29.3	36.2	40.1	42.3													
Acenaphthene	2.33	4.77	1.41	< 1	< 1	< 1	< 1	1.54	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	500	6.71	88.9
Acenaphthylene	2.94	4.17	1.28	< 1	< 1	< 1	< 1	1.21	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	640	5.87	128
Anthracene	5.01	10.1	2.58	< 1	< 1	< 1	< 1	2.97	1.93	< 1	< 1	< 1	< 1	27.3	< 1	< 1	< 1	< 1	< 1	85	1100	46.9	245
Benzo[a]anthracene	16.9	26.5	8.19	2.03	1.66	< 1	< 1	8.43	5.32	1.85	< 1	< 1	< 1	3.89	< 1	< 1	< 1	< 1	< 1	261	1600	74.8	693
Benzo[a]pyrene	21.2	33.8	10.7	2.72	1.65	< 1	1.01	11.1	6.80	2.78	1.88	< 1	< 1	2.54	< 1	< 1	< 1	< 1	< 1	430	1600	88.8	763
Benzo[b]fluoranthene	30.5	45.8	16.5	3.16	1.38	< 1	1.30	14.2	9.25	4.14	1.94	< 1	< 1	3.34	< 1	< 1	< 1	< 1	< 1	-	-	-	-
Benzo[e]pyrene	27.7	43.9	15.4	4.28	1.29	< 1	1.76	13.4	9.03	4.02	2.50	< 1	1.08	2.54	< 1	< 1	< 1	< 1	< 1	-	-	-	-
Benzo[ghi]perylene	26.4	42.4	15.2	3.93	1.54	< 1	1.50	13.3	8.69	3.53	2.21	< 1	< 1	2.90	< 1	< 1	< 1	< 1	< 1	85	-	-	-
Benzo[k]fluoranthene	13.8	22.4	7.41	2.19	< 1	< 1	< 1	6.29	5.18	2.17	1.58	< 1	< 1	1.90	< 1	< 1	< 1	< 1	< 1	-	-	-	-
C1-naphthalenes	56.3	96.9	35.4	9.25	2.07	1.01	2.78	25.7	11.3	6.20	3.08	< 1	1.33	4.53	< 1	< 1	< 1	< 1	< 1	155	-	-	-
C1-phenanthrene	40.0	66.7	23.7	5.81	3.70	< 1	1.99	17.6	9.33	4.38	2.06	< 1	< 1	5.03	< 1	< 1	< 1	< 1	< 1	170	-	-	-
C2-naphthalenes	53.9	94.6	34.3	8.25	1.73	< 1	2.92	26.3	11.7	6.84	2.72	< 1	1.47	3.16	< 1	< 1	< 1	< 1	< 1	150	-	-	-
C3-naphthalenes	47.2	83.7	32.1	6.43	1.78	< 1	2.56	21.2	9.84	5.33	2.48	< 1	1.01	2.42	< 1	< 1	< 1	< 1	< 1	-	-	-	-
Chrysene	22.0	33.6	10.5	2.53	1.65	< 1	< 1	10.5	6.00	2.20	1.66	< 1	< 1	5.22	< 1	< 1	< 1	< 1	< 1	384	2800	108	846
Dibenzo[ah]anthracene	4.76	7.92	2.29	< 1	< 1	< 1	< 1	2.35	1.56	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	260	6.22	135
Fluoranthene	33.2	58.8	15.8	4.38	2.13	< 1	1.57	18.4	12.4	3.89	2.31	< 1	< 1	6.83	< 1	< 1	< 1	< 1	< 1	600	5100	113	1494
Fluorene	4.62	9.47	2.92	< 1	< 1	< 1	< 1	2.50	1.22	< 1	< 1	< 1	< 1	6.79	< 1	< 1	< 1	< 1	< 1	-	540	21.2	144
Indeno[1,2,3-cd]pyrene	24.1	39.1	13.5	3.85	1.29	< 1	1.55	12.6	8.33	3.85	2.37	< 1	< 1	2.61	< 1	< 1	< 1	< 1	< 1	240	-	-	-
Naphthalene	19.0	31.4	11.6	3.37	1.28	1.01	1.39	9.13	4.99	2.52	1.41	< 1	< 1	2.18	< 1	< 1	< 1	< 1	< 1	160	2100	34.6	391
Perylene	13.9	24.5	8.26	1.68	< 1	< 1	< 1	6.75	4.16	1.73	<1	< 1	< 1	1.21	< 1	< 1	< 1	< 1	< 1	-	-	-	-
Phenanthrene	30.7	60.0	18.2	4.45	1.10	< 1	1.56	15.8	8.76	3.58	1.84	< 1	< 1	12.0	< 1	< 1	< 1	< 1	< 1	240	1500	86.7	544
Pyrene	31.4	53.8	16.0	4.17	3.24	< 1	1.67	16.8	11.7	3.78	2.33	< 1	1.03	5.86	< 1	< 1	< 1	< 1	< 1	665	2600	153	1398
Total	**528**	**894**	**303**	**77.5**	**34.5**	**< 22**	**32.6**	**258**	**150**	**67.8**	**39.4**	**< 22**	**< 22.9**	**106**	**< 22**	**< 22**	**< 22**	**< 22**	**< 22**	-	-	-	-

Notes
Concentrations expressed in µg/kg dry sediment
CCME = Canadian Council of Ministers of the Environment
CEMP = Coordinated Environmental Monitoring Programme
ECR = Export cable route
ERL = Effects range low
ERM = Effects range median
IC = Interconnector
NA = North Array
NOAA = National Oceanic and Atmospheric Administration
OSPAR = Oslo and Paris Commission
PEL = Probable effects level
SA = South Array
SQG = Sediment quality guidelines
TEL = Threshold effects level

4.3.2 Sediment Metals

Table 4.8 summarises the concentrations of the extractable metals in the sediment samples. Appendix E presents the analysis certificates.

Concentrations of arsenic were above the Cefas AL1 (20 mg/kg) at nine stations. At station ST28, the arsenic concentration was 73.6 mg/kg, above the Canadian PEL (41.6 mg/kg) and the NOAA ERM (70 mg/kg). At station ST31ALT the arsenic concentration was 58.1 mg/kg, above the Canadian PEL. Concentrations of arsenic were above the Canadian TEL (7.24 mg/kg) at all stations except station ST49.

Concentrations of nickel were above the Cefas AL1 (20 mg/kg) at stations ST05, ST28 and ST31ALT, which had nickel concentrations between 23.3 mg/kg and 27.8 mg/kg.

The remaining metals analysed were below their respective marine SQGs.

The highest variability was recorded for barium concentrations, which had RSD of 130 % and concentrations ranging from 10.0 mg/kg (station ST32) to 283 mg/kg (station ST17), with a mean of 51.4 mg/g.

The lowest variability was recorded for zinc concentrations which had RSD of 57 % and concentrations ranging from 11.9 mg/kg (station ST43) to 89.1 mg/kg (station ST05), with a mean of 32.4 mg/kg.

The remaining metals analysed had moderate to high variability with RSD values ranging from 64 % (chromium and lead) to 101 % (mercury).

Most metals correlated with the percentage of fines, as indicated by the correlation coefficient which ranged from 0.704 for barium to 0.907 for aluminium ($p < 0.01$). Exceptions were arsenic and mercury, which, when correlated with the percentages of fines, returned correlation coefficient values of 0.393 and 0.242, respectively ($p > 0.05$).

Table 4.8: Summary of sediment metals analysis, North Falls Offshore Site Investigation

Station	KP	Al	As	Ba	Cd	Cr	Cu	Hg	Ni	Pb	Sn	Zn
Export Cable Route (ECR)												
ST01	2.5	8370	30.2	66.5	0.13	17.4	12.9	0.07	16.1	17.1	0.8	62.0
ST03	6.0	6020	9.7	29.0	0.08	14.2	6.9	0.03	9.1	10.3	0.6	35.5
ST05	11.9	13200	19.6	109	0.23	26.5	18.0	0.07	25.9	18.0	1.2	89.1
ST07	14.4	2270	16.1	15.7	< 0.04	8.6	5.0	0.01	6.1	8.4	< 0.5	33.6
ST11	20.4	1540	23.5	11.0	< 0.04	6.8	3.9	< 0.01	4.6	9.6	< 0.5	31.9
ST15	29.3	1190	17.5	11.0	< 0.04	4.9	3.4	0.04	4.2	4.1	< 0.5	18.6
ST17	36.2	4240	33.0	283	0.16	9.6	5.0	< 0.01	11.9	6.2	< 0.5	26.6
ST19	40.1	6150	10.5	52.5	0.07	15.3	6.2	0.01	8.9	8.9	0.6	35.8
ST21	42.3	5900	33.1	146	0.10	13.8	7.0	< 0.01	13.8	8.7	0.5	32.9
North Array (NA)												
ST28		7720	73.6	40.0	0.16	15.8	11.7	< 0.01	27.8	7.7	<0.5	38.0
Interconnector (IC)												
ST31ALT		12800	58.1	41.3	0.24	22.6	9.5	0.03	23.3	8.3	0.5	47.1
South Array (SA)												
ST32		1150	23.2	10.0	0.06	5.6	3.7	< 0.01	4.2	2.7	< 0.5	29.3
ST34		1430	21.0	14.1	0.09	4.9	3.4	0.02	6.3	5.6	< 0.5	29.8
ST36		4960	26.3	51.5	0.16	14.0	5.6	0.01	10.8	5.3	< 0.5	26.6
ST41		911	14.9	31.3	< 0.04	4.4	2.4	< 0.01	3.5	2.6	< 0.5	13.0
ST43		1130	8.8	13.1	< 0.04	4.2	2.5	< 0.01	3.5	2.4	< 0.5	11.9
ST44		756	10.5	21.4	0.06	3.5	2.7	0.04	3.1	3.5	< 0.5	15.4
ST46		880	12.0	12.3	< 0.04	3.7	2.4	0.02	3.4	2.9	< 0.5	20.5
ST49		1390	4.7	17.0	< 0.04	5.9	4.5	0.01	4.2	2.5	< 0.5	18.1
Minimum		**756**	**4.7**	**10.0**	**0.04**	**3.5**	**2.4**	**< 0.01**	**3.1**	**2.4**	**< 0.5**	**11.9**
Maximum		**13200**	**73.6**	**283**	**0.24**	**26.5**	**18.0**	**0.07**	**27.8**	**18.0**	**1.2**	**89.1**
Median		**2270**	**19.6**	**29.0**	**0.07**	**8.6**	**5.0**	**0.01**	**6.3**	**6.2**	**-**	**29.8**
Mean		**4320**	**23.5**	**51.4**	**0.09**	**10.6**	**6.1**	**0.02**	**10.0**	**7.1**	**-**	**32.4**
Standard deviation		**3960**	**17.3**	**66.7**	**0.073**	**6.81**	**4.18**	**0.021**	**7.96**	**4.55**	**-**	**18.4**
RSD		**92**	**73**	**130**	**82**	**64**	**68**	**101**	**79**	**64**	**-**	**57**

Station	KP	Al	As	Ba	Cd	Cr	Cu	Hg	Ni	Pb	Sn	Zn
Cefas Guideline Action Levels												
AL1		-	20	-	0.4	40	40	0.3	20	50	-	130
AL2		-	100	-	5	400	400	3	200	500	-	800
CEMP Assessment Criteria (OSPAR, 2014)												
ERL		-	-	-	1.20	81.0	34.0	0.150	-	47.0	-	150
National Oceanic and Atmospheric Administration (NOAA) Effects Ranges (Long et al., 1995)												
ERM		-	70	-	9.6	370	270	0.71	51.6	218	-	410
Canadian Sediment Quality Guidelines (CCME, 2021)												
TEL		-	7.24	-	0.7	52.3	18.7	0.13	-	30.2	-	124
PEL		-	41.6	-	4.2	160	108	0.7	-	112	-	271

Notes

Concentrations expressed in mg/kg dry sediment

For datasets with values below the limit of detection (LOD) < 50 %, these have been treated as equal to ½ the value of LOD to derive the summary statistics

Cefas action levels available at https://www.gov.uk/guidance/marine-licensing-sediment-analysis-and-sample-plans

Al = Aluminium | As = Arsenic | Ba = Barium | Cd = Cadmium | Cr = Chromium | Cu = Copper

Hg = Mercury | Ni = Nickel | Pb = Lead | Sn = Tin | Zn = Zinc

AL1 = Action level 1

AL2 = Action level 2

Cefas = Centre for Environment, Fisheries and Aquaculture Science

CEMP = Coordinated Environmental Monitoring Programme

ERL = Effects range low

ERM = Effects range median

KP = Kilometre point - on the survey centreline

OSPAR = Oslo and Paris Commission

PEL = Probable effects level

TEL = Threshold effects level

Key	Below Cefas AL1	Above Cefas AL1	Above Cefas AL2

4.4 Sediment Macrofauna

The macrofauna from the grab samples included infauna and epifauna, the latter comprising solitary and sessile organisms. The infauna and solitary epifauna were enumerated and were analysed together in terms of phyletic composition, species diversity, abundance and distribution. The sessile colonial epifauna, recorded as P, was removed from the enumerated dataset and assessed for taxa composition and distribution. Appendix F presents the full species list.

4.4.1 Enumerated Macrofauna

4.4.1.1 Phyletic Composition

Following rationalisation (details in Section 3.3.2), the enumerated macrofaunal dataset comprised 246 taxa represented by 6957 individuals. The excluded taxa included juveniles, meiofauna, pelagic, parasitic and damaged fauna. Animalia eggs, recorded as P at eight stations, and one egg of the fish gigaclass Actinopterygii, recorded at station ST36, were also removed. In addition, *Cheirocratus assimilis* and *Thracia distorta* were aggregated to their respective genus level; *Aora gracilis* and *Gnathia oxyuraea* were aggregated to their respective family level; *Tubulanus polymorphus* and *Cerebratulus* were aggregated to phylum level (Nemertea).

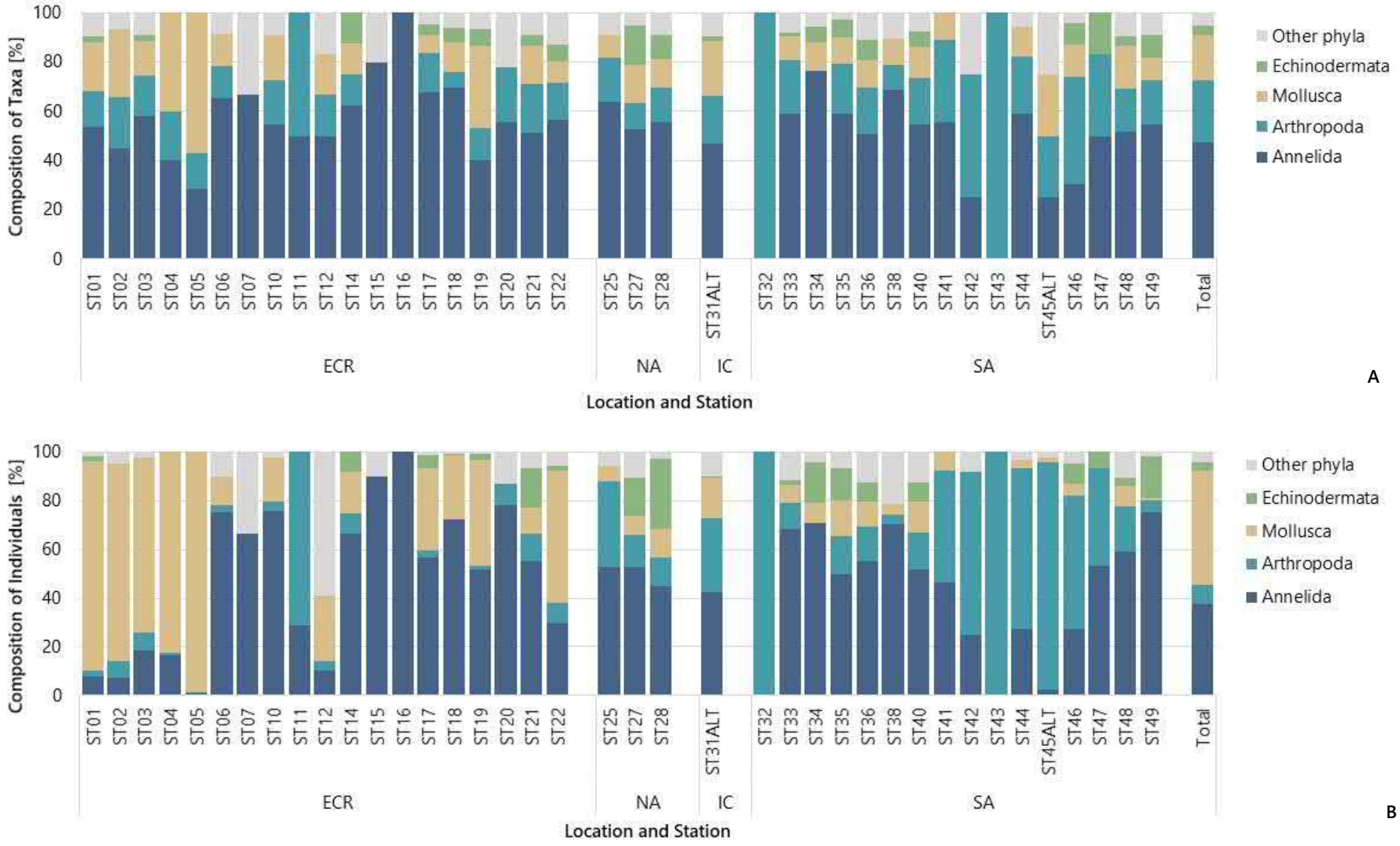
Of the juveniles, ascidians of the class Ascidiacea, with 304 individuals, were numerically dominant, followed by species of *Ensis*, with 180 individuals, and *Mytilus edulis* with 93 individuals.

Table 4.9 summarises the phyletic composition of the enumerated macrofauna across the survey area and Figure 4.12 presents the phyletic composition of taxa and individuals of the enumerated macrofauna.

Table 4.9: Taxonomic groups of enumerated macrofauna, North Falls Offshore Site Investigation

Taxonomic Group	Number of Taxa	Composition of Taxa [%]	Abundance	Composition of Individuals [%]
Annelida	116	47.2	2598	37.3
Arthropoda	62	25.2	545	7.8
Mollusca	45	18.3	3286	47.2
Echinodermata	10	4.1	228	3.3
Other phyla	13	5.3	300	4.3
Total	**246**	**100**	**6957**	**100**

Notes
Macrofaunal samples were processed through a 1 mm sieve
Other phyla included: Chaetognatha, Chordata, Cnidaria, Enteropneusta, Phoronida, Platyhelminthes and Sipuncula



Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

Figure 4.12: Phyletic composition of enumerated macrofaunal (A) taxa and (B) individuals, North Falls Offshore Site Investigation

Annelida comprised most of the enumerated taxa composition (47.2 %), followed by Arthropoda (25.2 %), Mollusca (18.3 %) and Echinodermata (4.1 %). Other phyla comprised 5.3 % of the taxa composition and were represented by Chaetognatha (*Spadella cephaloptera*), Chordata (*Polycarpa fibrosa*, *Dendrodoa grossularia*, *Molgula* and *Ammodytes tobianus*), Actiniaria, Enteropneusta, *Phoronis*, Platyhelminthes and Sipuncula (*Golfingia elongata*, *Golfingia vulgaris* and *Nephasoma minutum*) (Table 4.9)

When assessed on a station basis, Annelida were recorded at 37 of the 39 stations sampled and comprised the highest number of taxa at most stations, and was the only phylum recorded at station ST16. Arthropoda were recorded at 34 stations and comprised the highest number of taxa at stations ST42 and ST46, and were the only phylum recorded at stations ST32 and ST43. Analysis of the species list indicated that station ST32 had a single individual of the cumacean *Haustorius arenarius* whereas station ST43 had a single individual of the mysid *Gastrosaccus spinifer*.

Mollusca were recorded at 30 stations and comprised the highest number of taxa at station ST05. Echinodermata were recorded at 20 stations and comprised the highest percentage at station ST47. Other phyla were recorded at 30 stations and comprised the highest percentage at station ST07. Station ST11 comprised two taxa represented by the polychaete *Travisia forbesii* and the amphipod *Bathyporeia elegans*, resulting in Annelida and Arthropoda having equal percentage contributions to the taxa composition at this station. Similarly, station ST45ALT comprised four taxa, represented by the polychaete *Nephtys cirrosa*, the mysid *G. spinifer*, the bivalve *Abra alba* and worms of the Nemertea phylum, resulting in Annelida, Arthropoda, Mollusca and other phyla having equal percentage contributions to the taxa composition at this station (Figure 4.12).

Mollusca comprised most of the enumerated macrofaunal abundance (47.2 %) followed by Annelida (37.3 %), Arthropoda (7.8 %) and Echinodermata (3.3 %), whereas other phyla comprised 4.3 % of the enumerated macrofaunal abundance Table 4.9.

When assessed on a station basis, Annelida comprised most of the abundance at 24 stations and was associated with a numerical dominance of polychaetes such as *Lagis koreni*, *Scalibregma inflatum* and *Lumbrineris cingulata* (agg). Mollusca comprised most of the abundance at stations ST01 to ST05 and ST22. Analysis of the species indicated a numerical dominance of the bivalves *Nucula nucleus*, *Nucula nitidosa*, *Musculus discors*, *A. alba* and *Saxicavella jeffreysi* at stations ST01 to ST05, and a numerical dominance of *S. jeffreysi* and *Kurtiella* (formerly *Mysella*) *bidentata* at station ST22.

Arthropoda comprised most of the abundance at stations ST11 and ST42 and stations ST44 to ST46 which was associated with a numerical dominance of *B. elegans* or *G. spinifer*. Echinodermata had the highest abundance at station ST28, which was associated mainly with the abundance of *Ophiura albida*. Other phyla comprised most of the abundance at station ST12 which was associated with a numerical dominance of tunicates of the genus *Molgula* (Figure 4.12).

4.4.1.2 Community Statistics

Table 4.10 presents the results of the univariate analysis of the enumerated macrofaunal dataset, which provided information on faunal richness and diversity and allow contextualising the results within the geographical context of the study area. Univariate indices included faunal richness (Margalef's index d), diversity (Shannon-Wiener Index H'Log_2), evenness (Pielou's index J') and dominance (Simpson's index λ). Richness, evenness and dominance could not be calculated for stations ST32 and ST43 owing to the presence of a single individual at both stations. Figures 4.13 and 4.14 present the spatial distribution of enumerated macrofaunal taxa and individuals.

The number of taxa ranged from 1 (stations ST32 and ST43) to 64 (station ST40) with a mean of 24. Station ST33 and ST31ALT, with 63 and 62 taxa, respectively, had high number of taxa, whereas 11 stations had less than 10 taxa. The median of the number of taxa was 17.

The number of individuals ranged from 1 (stations ST32 and ST43) to 1324 (station ST01) with a mean of 178. Station ST18, with 1092 individuals, had high abundance, whereas stations ST07 and ST11, with 6 and 7 individuals, respectively, had low abundances. The median of the number of individuals was 102.

Values of richness reflected the abundance per taxa recorded, with values ranging from 0.51 (station ST11) to 12.5 (station ST31ALT), with a mean of 5.01 and a median of 4.57.

The Shannon-Wiener Diversity, assessed in line with the Dauvin et al (2012) criteria (details in Section 3.3.3), was:

- high (H'Log_2 > 4.00) at eight stations;
- good (H'Log_2 of 3.00 to 4.00) at nine stations;
- moderate (H'Log_2 of 2.00 to 3.00) at 12 stations;
- poor (H'Log_2 of 1.00 to 2.00) at five stations;
- bad (H'Log_2 = < 1.00) at five stations, including stations ST32 and ST43 which had a single individual.

The evenness ranged from 0.120 (station ST05) to 1.000 (ST07), with a mean of 0.725 and a median of 0.776. Analysis of the species list indicated that the low evenness value at station ST05 was associated with a numerical dominance of *N. nitidosa* which comprised 333 individuals, representing over 96 % of the faunal abundance at this station. Low evenness values were also recorded at stations ST45ALT, ST18 and ST01 and were associated with numerical abundances of *G. spinifer*, *L. koreni* and *M. discors*, respectively. It is worth noting that *M. discors* comprised 986 individuals across the entire survey area, of which 980 were recorded at station ST01. Station ST07 comprised six taxa and six individuals, which resulted in the highest possible evenness. High value of evenness (J' > 0.900) were recorded at seven stations which were characterised by low number of individuals relative to the taxa recorded.

Values of dominance were inversely related to those of evenness, so that low values of evenness corresponded to high values of dominance and vice-versa as it would be expected.

Table 4.10: Macrofaunal community statistics (0.1 m^2), North Falls Offshore Site Investigation

Station	KP	Numbers		Richness	Diversity	Evenness	Dominance
		Taxa	Individuals	Margalef [d]	Shannon-Wiener [H'Log_2]	Pielou [J']	Simpson [λ]
Export Cable Route (ECR)							
ST01	2.5	41	1324	5.56	1.768	0.330	0.559
ST02	3.6	29	398	4.68	2.159	0.444	0.466
ST03	6.0	43	637	6.50	3.008	0.554	0.254
ST04	10.8	10	263	1.62	1.411	0.425	0.547
ST05	11.9	7	347	1.03	0.335	0.120	0.921
ST06	13.2	23	109	4.69	3.222	0.712	0.197
ST07	14.4	6	6	2.79	2.585	1.000	0.167
ST10	15.2	22	123	4.36	2.932	0.658	0.239
ST11	17.6	2	7	0.51	0.863	0.863	0.592
ST12	19.0	12	78	2.52	2.172	0.606	0.338
ST14	20.4	8	12	2.82	2.918	0.973	0.139
ST15	20.8	5	10	1.74	2.171	0.935	0.240
ST16	21.8	6	15	1.85	1.872	0.724	0.396
ST17	24.7	43	345	7.19	3.077	0.567	0.236
ST18	29.3	33	1092	4.57	1.605	0.318	0.496
ST19	32.5	15	118	2.93	2.937	0.752	0.176
ST20	36.2	9	23	2.55	2.258	0.712	0.346
ST21	38.5	45	141	8.89	4.706	0.857	0.059
ST22	40.1	46	226	8.30	3.818	0.691	0.162
North Array (NA)							
ST25		11	17	3.53	3.125	0.903	0.149
ST27		19	38	4.95	3.873	0.912	0.084
ST28		43	178	8.11	4.309	0.794	0.100
Interconnector (IC)							
ST31ALT		62	132	12.5	5.275	0.886	0.054
South Array (SA)							
ST32		1	1	-	0.000	-	1.000
ST33		63	177	11.98	5.161	0.863	0.053
ST34		17	24	5.03	3.918	0.959	0.076
ST35		38	102	8.22	4.813	0.911	0.046
ST36		63	221	11.49	5.168	0.865	0.052
ST38		19	47	4.68	3.814	0.898	0.094
ST40		64	178	12.2	5.336	0.889	0.037

Station	KP	Numbers		Richness	Diversity	Evenness	Dominance
		Taxa	Individuals	Margalef [d]	Shannon-Wiener [H'Log$_2$]	Pielou [J']	Simpson [λ]
ST41		9	13	3.12	2.931	0.925	0.160
ST42		4	12	1.21	1.551	0.776	0.417
ST43		1	1	-	0.000	-	1.000
ST44		17	59	3.92	2.968	0.726	0.205
ST45ALT		4	48	0.77	0.436	0.218	0.880
ST46		23	85	4.95	3.445	0.762	0.180
ST47		6	15	1.85	2.283	0.883	0.236
ST48		52	229	9.56	4.828	0.843	0.057
ST49		11	106	2.14	2.035	0.588	0.391
Minimum		**1**	**1**	**0.51**	**0.000**	**0.120**	**0.037**
Maximum		**64**	**1324**	**12.5**	**5.336**	**1.000**	**1.000**
Median		**17**	**102**	**4.57**	**2.932**	**0.776**	**0.205**
Mean		**24**	**178**	**5.01**	**2.848**	**0.725**	**0.303**
Standard deviation		**20**	**279**	**3.43**	**1.482**	**0.223**	**0.272**

Notes
KP = Kilometre point - on the survey centreline

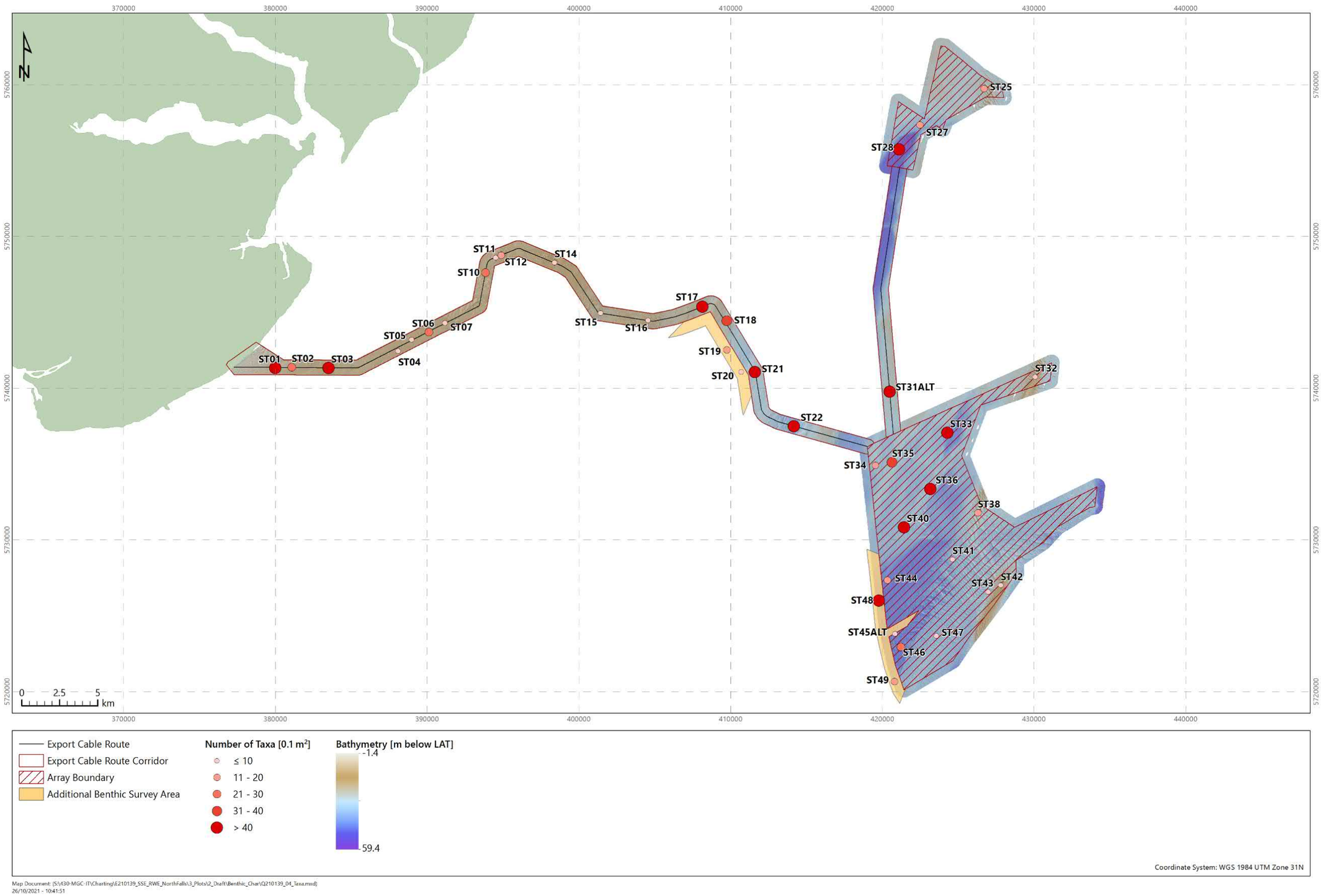


Figure 4.13: Number of macrofaunal taxa (0.1 m²), North Falls Offshore Site Investigation

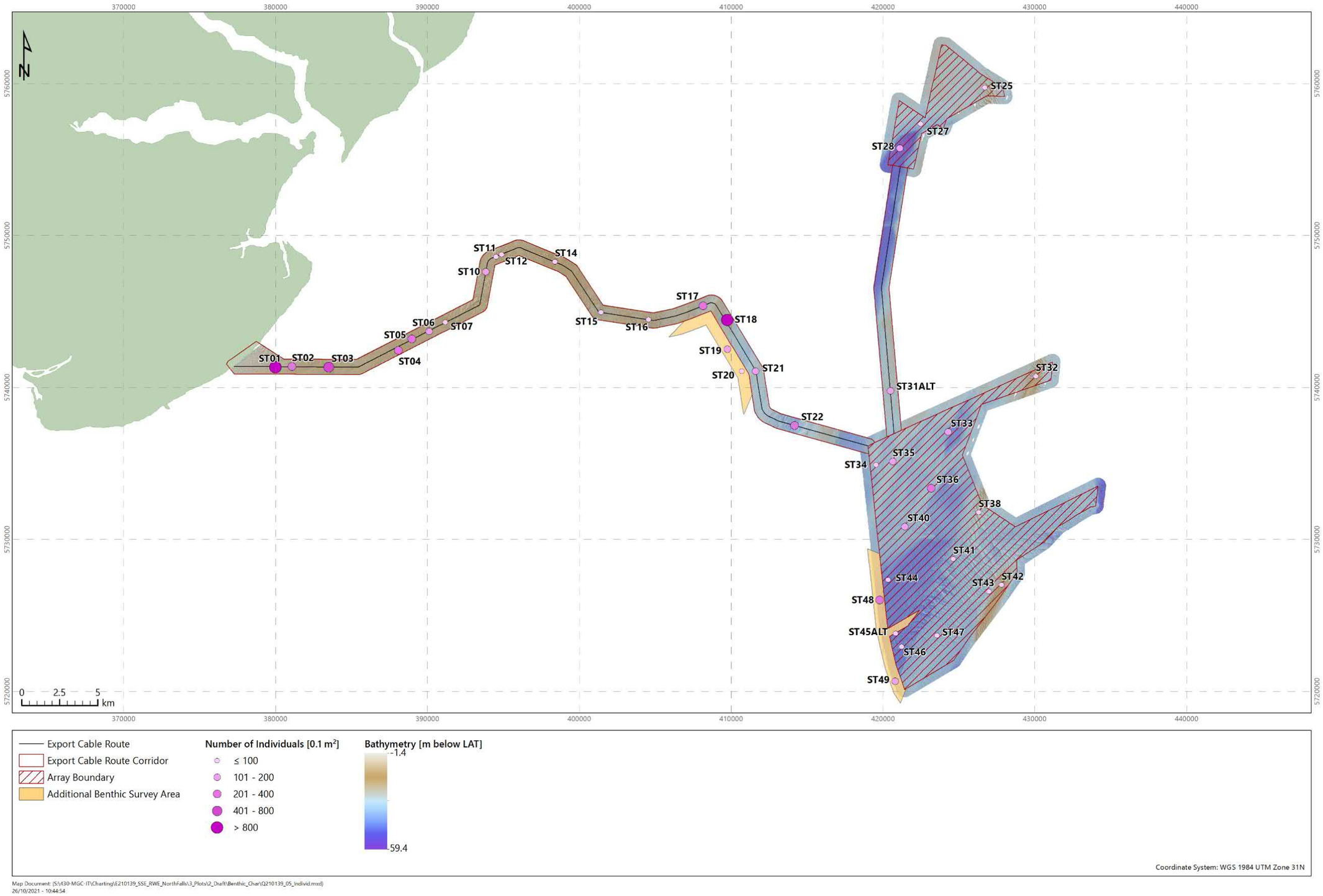


Figure 4.14: Number of macrofaunal individuals (0.1 m²) overlaid on bathymetry, North Falls Offshore Site Investigation

4.4.1.3 Investigation of Faunal Similarities

The enumerated macrofaunal dataset was transformed prior to multivariate analysis. A fourth root transformation provided the best assessment, down weighting the numerically dominant species and allowing more detailed interrogation of less abundant taxa and the underlying community.

Faunal similarities were investigated using the hierarchical clustering analysis, results of which are in Figures 4.15and 4.16. The SIMPROF test, undertaken in conjunction with the cluster analysis, was interpreted in ecological terms and, where appropriate, coarser groups were created (see Section 3.3.5). The stress coefficient of the nMDS is relatively high (details in Section 3.3.5), however, there is good correspondence between dendrogram and nMDS and as such the nMDS is deemed representative of the stations' two-dimensional ordination.

Three multivariate groups (A, B and C) and station ST11 were identified at a similarity of 5 %. Group B was further split into six groups at a similarity of 19 %; of these, group B6 comprised a single station (ST07).

The groups identified through the multivariate analysis were further assessed by means of the SIMPER analysis. Table 4.11 presents the top ten characterising taxa identified through the SIMPER analysis along with a summary of the physical variables characterising each multivariate group; the average abundance of the characterising taxa refers to untransformed data.

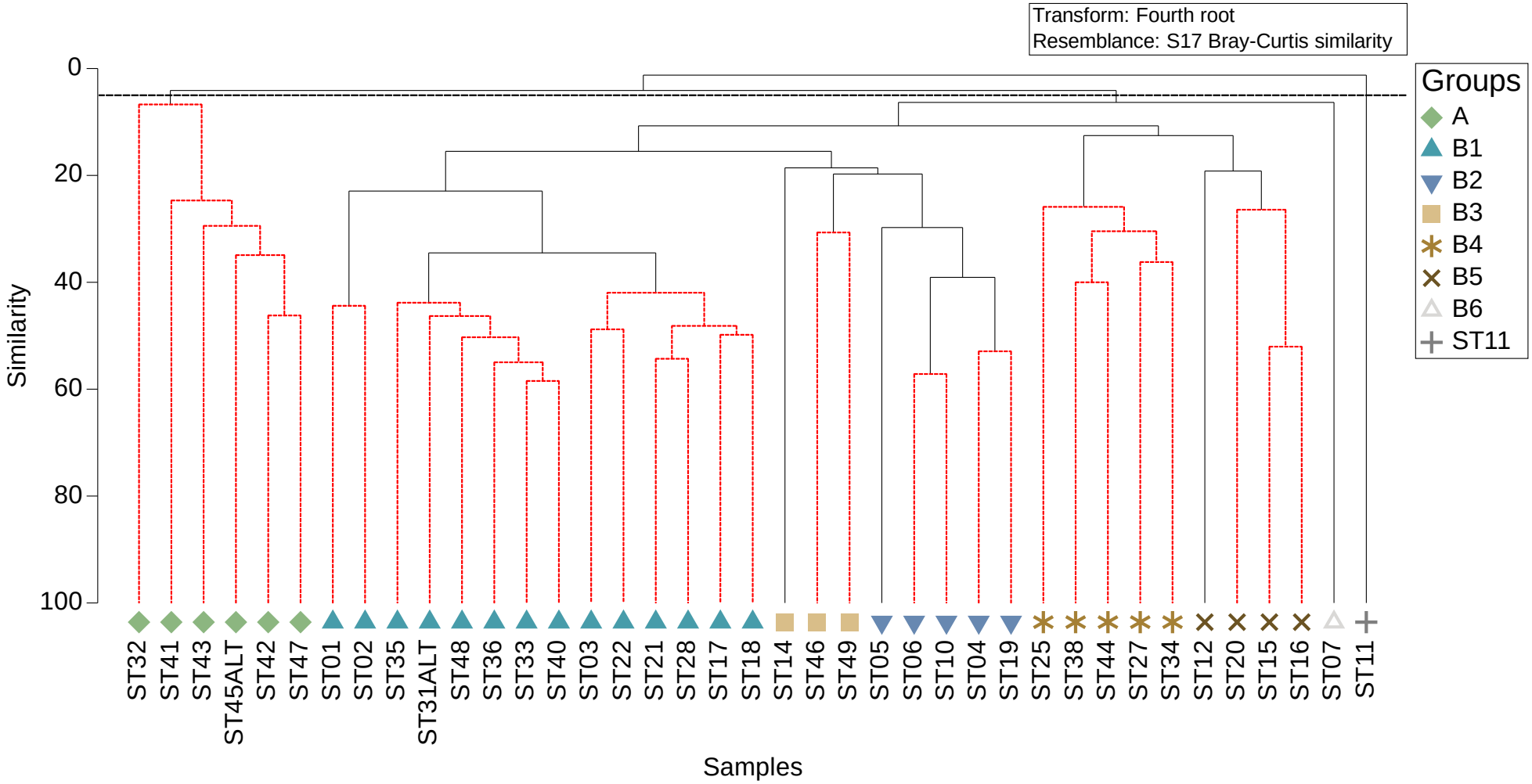


Figure 4.15: Dendrogram of hierarchical clustering analysis of enumerated fauna, North Falls Offshore Site Investigation

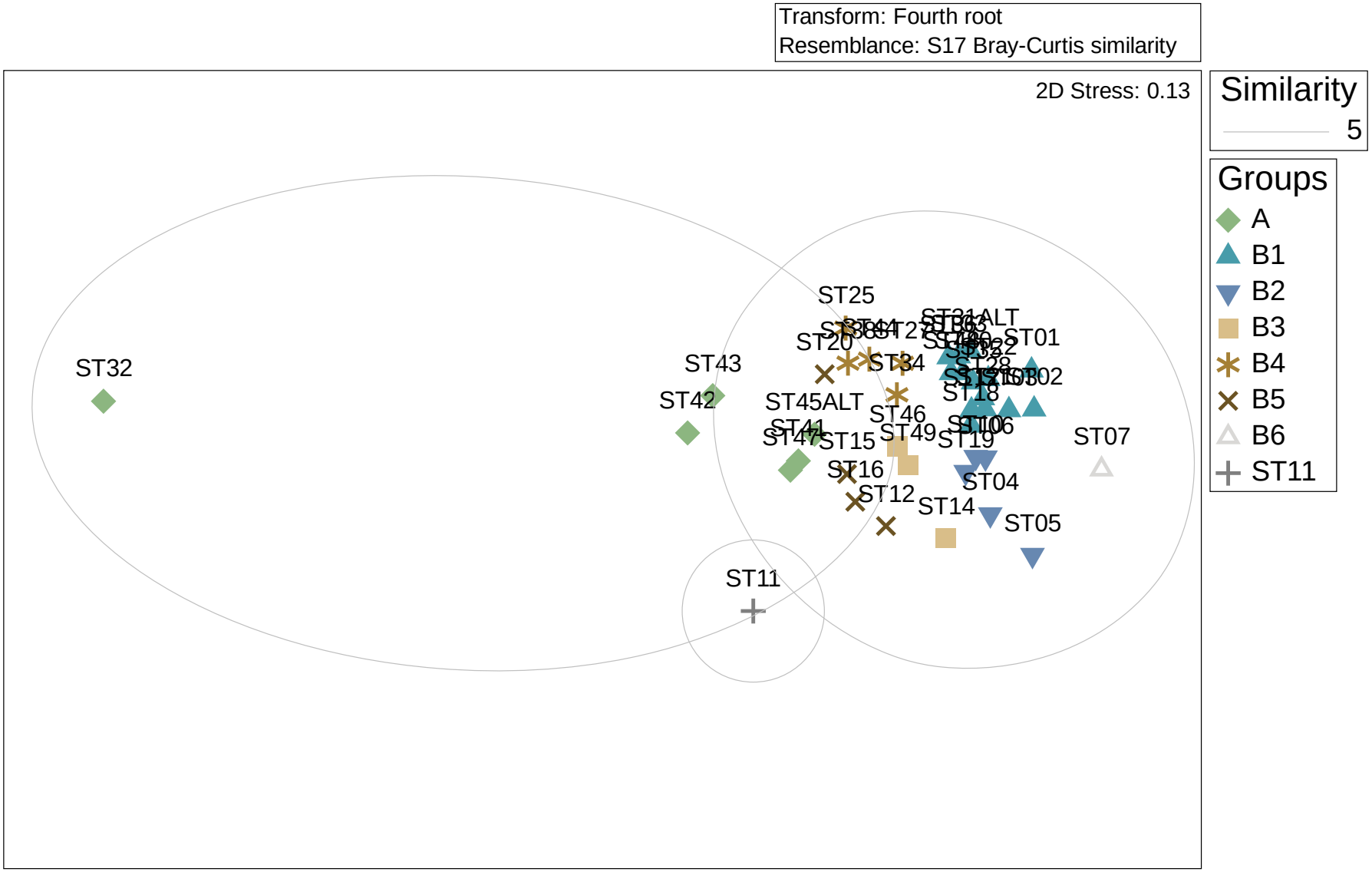


Figure 4.16: nMDS of hierarchical clustering analysis of enumerated fauna, North Falls Offshore Site Investigation

Group A comprised six stations from the south array and had an average similarity of 22.5 %. It was characterised by well sorted sand (Folk BGS modified), with a mean median sediment particle size of 432 µm (medium sand), in mean water depth of 32.1 m MSL. Group A had mean numbers of 4 taxa and 15 individuals, of which the mysid *G. spinifer* was the most abundant and frequently occurring. Other characterising taxa included the polychaetes *Ophelia borealis* and *N. cirrosa* and the amphipod *H. arenarius*.

Group B1 comprised 14 stations, including seven along the ECR, five in the south array, stations ST31ALT along the interconnector and station ST28 in the north array. Group B1 had an average similarity of 35.3 % and was characterised by very poorly sorted muddy sandy gravel (Folk BGS modified), with a mean median sediment particle size of 1939 µm (granule) in mean water depth of 29.9 m MSL. Group B1 had mean numbers of 48 taxa and 384 individuals, of which the bivalve *K. bidentata* and the polychaete *Lagis koreni* were amongst the most abundant and frequently occurring taxa. The amphipod *Ampelisca spinipes* and the polychaete *Lumbrineris cingulata* (agg.) were amongst the most frequently occurring taxa, although at lower abundance. Nemertea, the polychaetes *Scalibregma inflatum*, *Pholoe baltica* (*sensu* Petersen), species of *Notomastus*/*Pseudonotomastus* and *Harmothoe impar* (agg.), the brittlestar *O. albida* and the bivalve *A. alba* were amongst the top ten characterising taxa. Analysis of the species list indicated the presence of *S. spinulosa* in multivariate group B1, with abundances of 42 individuals at stations ST01 and 34 individuals at station ST48.

Group B2 comprised five stations along the ECR and had an average similarity of 38.6 %. It was characterised by very poorly sorted gravelly muddy sand (Folk BGS modified) with a mean median sediment particle size of 324 µm (medium sand), in mean water depth of 13.1 m MSL. Group B2 had mean numbers of 15 taxa and 192 individuals, of which *N. nitidosa*, *L. koreni* and *A. alba* were the most abundant and frequently occurring taxa. Other characterising taxa included the polychaetes *Nephthys hombergii*, *Spiophanes bombyx* and species of the genera *Notomastus/Pseudonotomastus* and *Owenia*, as well as Nemertea, the bivalve *K. bidentata* and the cumacean *Diastylis bradyi*.

Group B3 comprised three stations, including one along the ECR and two in the south array, and had an average similarity of 23.6 %. Group B3 was characterised by poorly sorted gravelly sand (Folk BGS modified), with a mean median sediment particle size of 452 µm (medium sand) in mean water depth of 36.9 m MSL. Group B3 had mean numbers of 14 taxa and 67 individuals, of which *L. koreni* was the most abundant and frequently occurring taxon. Other characterising taxa included the polychaetes *S. bombyx* and *Glycera oxycephala*, Nemertea, the amphipod *Abludomelita obtusata*, the brittlestar *O. albida* and the bivalve *Abra prismatica*.

Group B4 comprised five stations including two in the north array and three in the south array and had an average similarity of 29.2 %. Group B4 was characterised by moderately sorted gravelly sand (Folk BGS modified), with a mean median sediment particle size of 651 µm (coarse sand), in mean water depth of 35.8 m MSL. Group B3 had mean numbers of

16 taxa and 37 individuals of which Nemertea and the polychaetes *Syllis garciai*, *Aonides paucibranchiata*, *Glycera oxycephala* and *Protodorvillea kefersteini* were amongst the characterising taxa along with *Spio symphyta*, *Glycera lapidum* (agg.), *Spirobranchus lamarcki*, *L. cingulata* (agg.), *Syllis pontxioi*, *Chaetozone zetlandica*, *G. spinifer* and *Moerella donacina*.

Group B5 comprised four stations along the ECR and has an average similarity of 27.1 %. It was characterised by moderately well sorted gravelly muddy sand (Folk BGS modified), with a mean median sediment particle size of 557 µm (coarse sand) in mean water depth of 23.6 m MSL. Group B5 had mean numbers of 8 taxa and 32 individuals. Characterising taxa included the polychaetes *O. borealis*, *Polycirrus*, *L. koreni*, *Caulleriella alata* and *G. oxycephala* and Nemertea.

Group B6 comprised station ST07 along the ECR and separated at a similarity of 7 %. It was characterised by very poorly sorted muddy sandy gravel (Folk BGS modified) in water depth of 16.8 m MSL. It comprised six taxa and six individuals, including the polychaetes *Paucibranchia totospinata*, *L. cingulata* (agg.), *Scoloplos armiger*, and species of the genus *Dodecaceria*, anemones of the order Actiniaria and the sipunculid *G. elongata*.

Station ST11 separated at a similarity of 5 % and was characterised by moderately well sorted sand (Folk BGS modified), with median sediment particle size of 259 µm (medium sand) in water depth of 7.8 m MSL. It comprised two individuals of the polychaete *T. forbesii* and seven individuals of the amphipod *B. elegans*.

Taxa responsible for the dissimilarity between groups B1 to B6 included (but were not limited to) the bivalves *N. nitidosa*, *K. bidentata* and *A. alba*, and the polychaetes *L. koreni*, *N. hombergii*, *S. bombyx* and *O. borealis* (Figure 4.19).

The combination of physical variables (sediment fractions and depth) that best explained the observed pattern of macrofaunal distribution included the 4000 µm (fine pebble), the 1000 µm (very coarse sand), the 500 µm (coarse sand), and the 353.55 µm and 250 µm (medium sand) sediment particle sizes, as identified through the BIOENV analysis, which returned a value of rho of 0.532 at a significance level of 1 %. Figure 4.18 illustrates the relationships between sediment type and macrofauna, highlighting an increase in enumerated faunal diversity ($H'Log_2$) with increased sediment coarseness and heterogeneity.

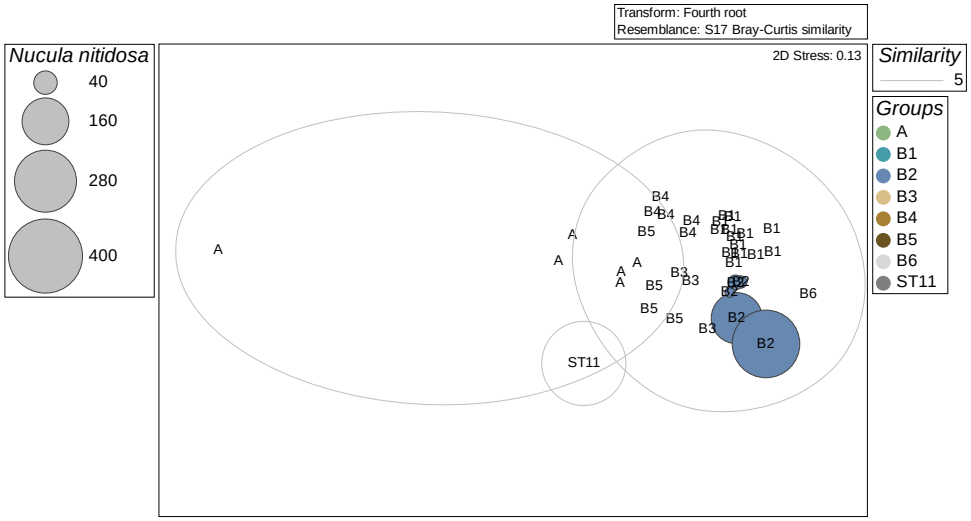
Table 4.11: Summary of attributes of multivariate groups of enumerated macrofauna, North Falls Offshore Site Investigation

Group	Location and Station	Characterising Features	Characterising Taxa	Abundance [N]	Frequency [%]	Contribution to Similarity [%]
A Average similarity: 22.5 %	South array (ST32, ST41, ST42, ST43, ST45ALT, ST47)	Taxa: 4 Individuals: 15 Depth [m MSL]: 32.1 Gravel [%]: 1.03 Sand [%]: 98.97 Fines [%]: 0.00 Median [µm]: 432 Sorting [µm]: 1.39	*Gastrosaccus spinifer*	10.3	83.3	71.5
			Nephtys cirrosa	0.8	50.0	12.1
			Haustorius arenarius	0.3	33.3	10.0
			Ophelia borealis	1.2	33.3	6.4
B1 Average similarity: 35.6 %	ECR (ST01, ST02, ST03, ST17, ST18, ST21, ST22) North array (ST28) IC (ST31ALT) South array (ST33, ST35, ST36, ST40, ST48)	Taxa: 48 Individuals: 384 Depth [m MSL]: 29.9 Gravel [%]: 34.57 Sand [%]: 39.96 Fines [%]: 25.47 Median [µm]: 1939 Sorting [µm]: 12.84	*Kurtiella bidentata*	37.1	92.9	6.5
			Lumbrineris cingulata (agg)	7.8	92.9	5.7
			Ampelisca spinipes	7.0	92.9	5.2
			Nemertea	4.1	92.9	5.0
			Scalibregma inflatum	9.4	78.6	3.9
			Lagis koreni	64.1	78.6	3.7
			Notomastus/Pseudonotomastus	4.0	78.6	3.5
			Leptochiton	2.9	78.6	3.2
			Abra alba	13.8	71.4	3.1
			Ophiura albida	7.6	71.4	3.0
B2 Average similarity: 38.5 %	ECR (ST04, ST05, ST06, ST10, ST19)	Taxa: 15 Individuals: 192 Depth [m MSL]: 13.1 Gravel [%]: 11.0 Sand [%]: 61.4 Fines [%]: 27.6 Median [µm]: 324 Sorting [µm]: 6.49	*Nucula nitidosa*	111	100	26.1
			Abra alba	10.4	100	17.2
			Lagis koreni	32.8	80.0	16.1
			Nephtys hombergii	4.8	80.0	9.9
			Spiophanes bombyx	3.0	80.0	7.8
			Kurtiella bidentata	5.4	60.0	3.6
			Owenia	1.4	60.0	3.5
			Notomastus/Pseudonotomastus	4.4	60.0	3.5
			Nemertea	0.8	60.0	3.0
			Diastylis bradyi	0.6	40.0	1.3

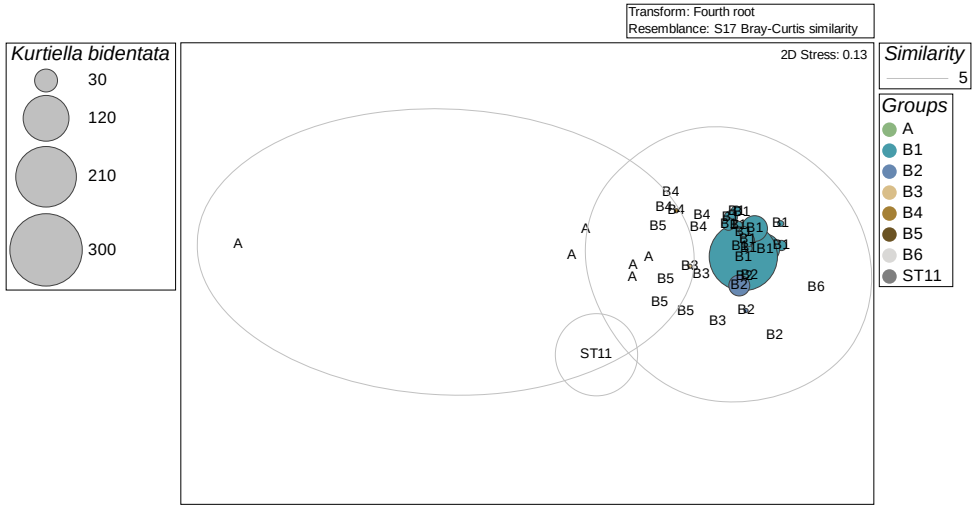
Group	Location and Station	Characterising Features	Characterising Taxa	Abundance [N]	Frequency [%]	Contribution to Similarity [%]
B3 ■ Average similarity: 23.1 %	ECR (ST14) South array (ST46, ST49)	Taxa: 14 Individuals: 68 Depth [m MSL]: 36.9 Gravel [%]: 16.93 Sand [%]: 81.60 Fines [%]: 1.47 Median [µm]: 452 Sorting [µm]: 3.04	*Lagis koreni*	22.3	100	30.9
			Spiophanes bombyx	1.7	100	27.4
			Glycera oxycephala	0.7	66.7	11.7
			Ophiura albida	7.3	66.7	9.2
			Nemertea	2.0	66.7	7.8
			Abludomelita obtusata	1.7	66.7	6.5
			Abra prismatica	1.0	66.7	6.51
B4 ✱ Average similarity: 29.2 %	North array (ST25, ST27) South array (ST34, ST38, ST44)	Taxa: 17 Individuals: 37 Depth [m MSL]: 35.8 Gravel [%]: 7.06 Sand [%]: 91.89 Fines [%]: 1.05 Median [µm]: 651 Sorting [µm]: 1.80	Nemertea	3.4	100	19.1
			Syllis garciai	1.4	100	17.9
			Aonides paucibranchiata	3.2	80.0	12.1
			Glycera oxycephala	1.6	80.0	10.0
			Protodorvillea kefersteini	1.6	60.0	6.1
			Spio symphyta	2.0	60.0	5.8
			Glycera lapidum (agg.)	0.8	60.0	5.4
			Spirobranchus lamarcki	0.4	40.0	4.9
			Lumbrineris cingulata (agg.)	1.2	40.0	2.0
			Gastrosaccus spinifer	0.4	40.0	2.0
B5 ✕ Average similarity: 27.1 %	ECR (ST12, ST15, ST16, ST20)	Taxa: 8 Individuals: 32 Depth [m MSL]: 23.6 Gravel [%]: 16.17 Sand [%]: 75.68 Fines [%]: 8.15 Median [µm]: 557 Sorting [µm]: 7.51	*Ophelia borealis*	4.8	100	44.7
			Polycirrus	3.3	75.0	23.9
			Lagis koreni	0.5	50.0	9.7
			Caulleriella alata	0.8	50.0	7.7
			Nemertea	0.8	50.0	7.7
			Glycera oxycephala	1.0	50.0	6.5

Group	Location and Station	Characterising Features	Characterising Taxa	Abundance [N]	Frequency [%]	Contribution to Similarity [%]
B6 △	ECR (ST07)	Taxa: 6 Individuals: 6 Depth [m MSL]: 16.8 Gravel [%]: 49.3 Sand [%]: 42.99 Fines [%]: 7.70 Median [µm]: 1654 Sorting [µm]: 9.21	*Paucibranchia totospinata*	1	-	-
			Lumbrineris cingulata (agg.)	1	-	-
			Scoloplos armiger	1	-	-
			Dodecaceria	1	-	-
			Actiniaria	1	-	-
			Golfingia elongata	1	-	-
ST11 +	ECR (ST11)	Taxa: 2 Individuals: 7 Depth [m MSL]: 7.8 Gravel [%]: 0.05 Sand [%]: 98.39 Fines [%]: 1.56 Median [µm]: 259 Sorting [µm]: 1.46	*Travisia forbesii*	2	-	-
			Bathyporeia elegans	5	-	-

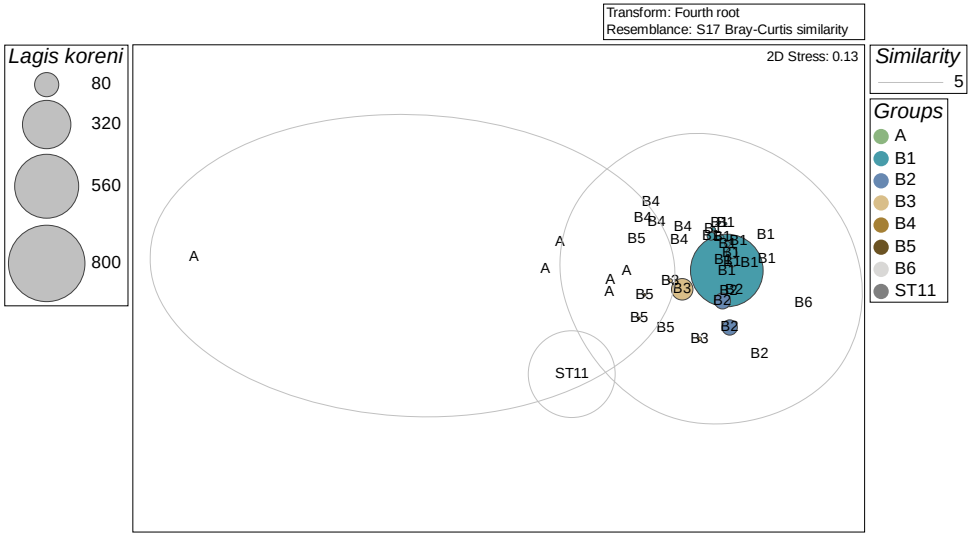
Notes
Values refer to mean of untransformed data within each multivariate group, except for single stations ST07 and ST11
Frequency refers to number of stations within each multivariate group
Taxa listed are the top ten identified by the SIMPER analysis (100 % percentage contribution)
Taxa listed in decreasing order of percentage contribution to similarity
ECR = Export cable route
IC = Interconnector
MSL = Mean Sea Level



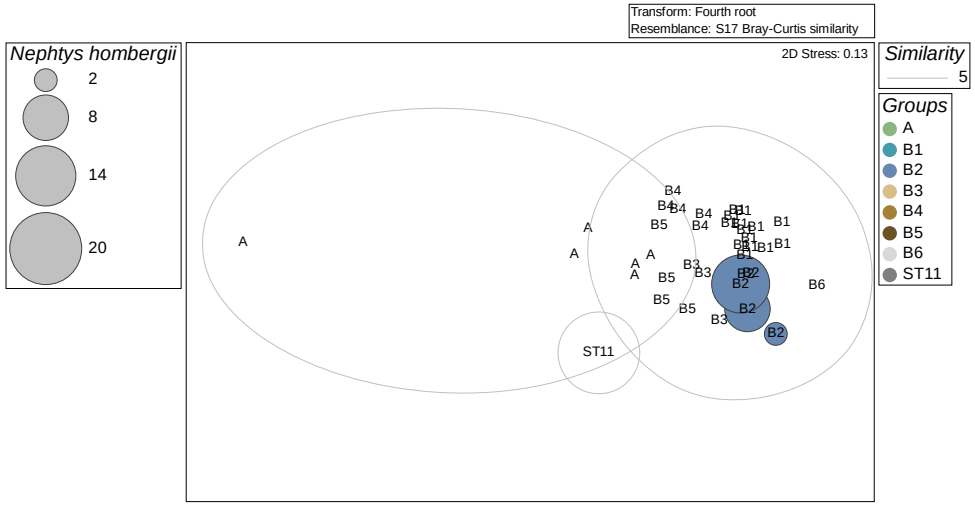
Notes
Circles proportional in diameter to the abundance of *Nucula nitidosa*



Notes
Circles proportional in diameter to the abundance of *Kurtiella bidentata*

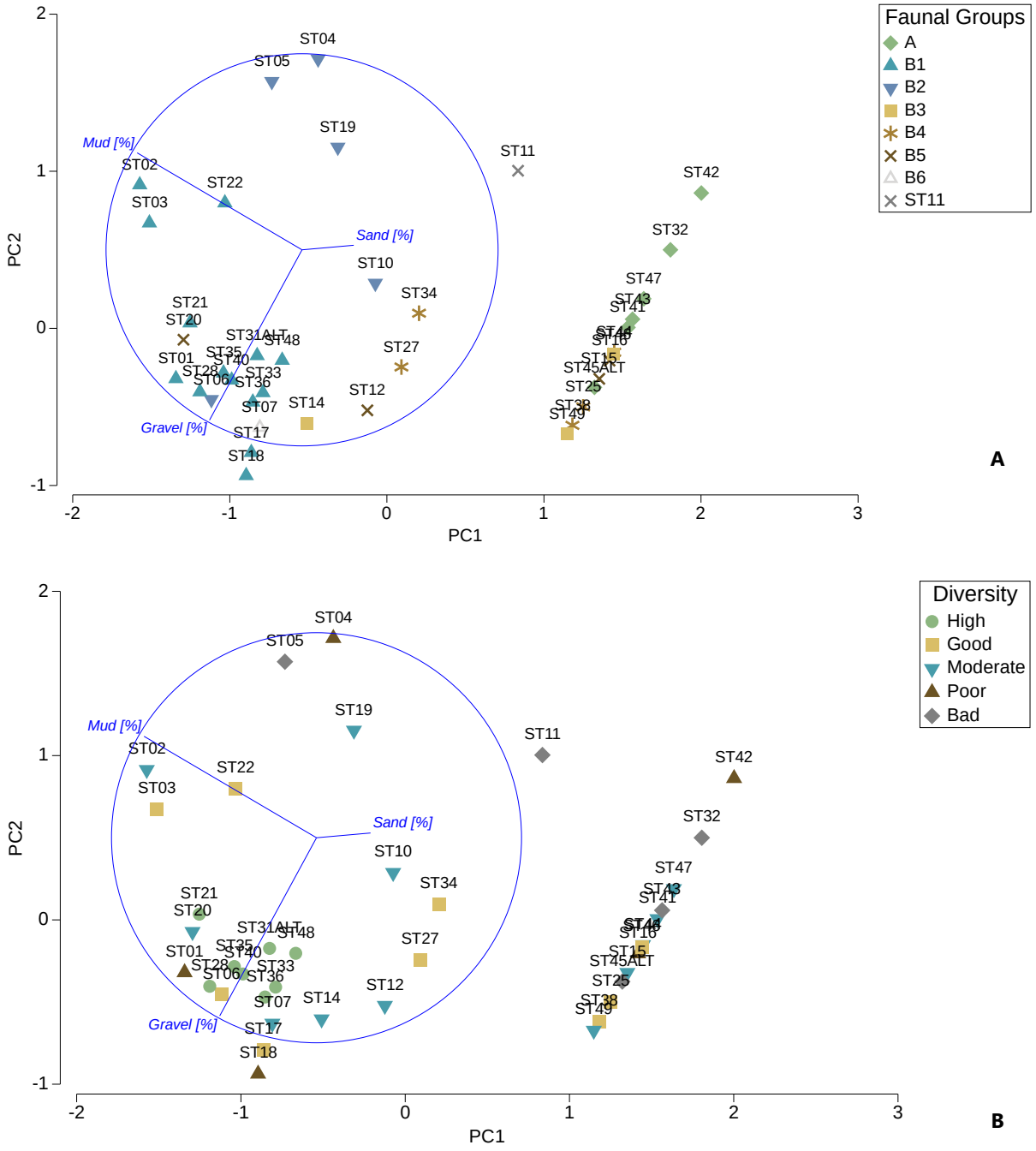


Notes
Circles proportional in diameter to the abundance of *Lagis koreni*



Notes
Circles proportional in diameter to the abundance of *Nephtys hombergii*

Figure 4.17: nMDS of hierarchical clustering analysis with superimposed multivariate groups and circles proportional in diameter to the abundance of taxa responsible for the separations of groups, North Falls Offshore Site Investigation



Notes
PC = Principal component

Figure 4.18: 2D PCA of sediment composition with superimposed macrofaunal (A) multivariate groups and (B) Shannon-Wiener [H'Log$_2$] index of diversity, North Falls Offshore Site Investigation

4.4.1.4 Biomass

Table 4.12 presents the percentage contribution of phyla to biomass across the North Falls survey area and Table 4.13 presents the biomass of major taxonomic groups at each station. Figure 4.19 presents the phyletic composition of the biomass at each station and Figure 4.20 presents the spatial variations of the total macrofaunal biomass across the survey area. Appendix F presents the raw data.

Table 4.12: Taxonomic groups of macrofaunal biomass, North Falls Offshore Site Investigation

Phylum	Biomass [AFDW g/0.1 m^2]	Biomass [%]
Annelida	11.615	27.6
Arthropoda	2.7595	6.6
Mollusca	12.141	28.8
Echinodermata	3.3912	8.1
Other phyla	12.192	29.0
Total	**42.099**	**100**

Notes
Annelida comprised oligochaeta and polychaeta
Other phyla included: Chaetognatha, Chordata, Cnidaria, Enteropneusta, Phoronida, Platyhelminthes and Sipuncula

Mollusca comprised 28.8 % of the infaunal biomass across the North Falls survey area, followed by Annelida (27.6 %), Echinodermata (8.1 %) and Arthropoda (6.6 %), whereas other phyla comprised 29.0 % of the infaunal biomass.

The total biomass ranged from 0.0045 AFDW g/0.1 m^2 (station ST43) to 9.0060 AFDW g/0.1 m^2 (station ST03), with a mean of 1.0795 AFDW g/0.1 m^2 and a median of 0.3470 AFDW g/0.1 m^2. The biomass at station ST03 was mainly associated with other phyla and mollusca; analysis of the species list indicated the presence of large invertebrate such as sea anemones (Actiniaria) and sipunculid (*Golfingia*) amongst other phyla, and a numerical dominance of bivalves such as *S. jeffreysi*, *A. alba* and *K. bidentata*.

When assessed on a station basis, results indicated that biomass was associated with numerically dominant taxa (see Section 4.4.1.1), as well as the presence of large taxa such as the echinoderms *Psammechinus miliaris* and *Echinocyamus pusillus* particularly at stations ST21 and ST27.

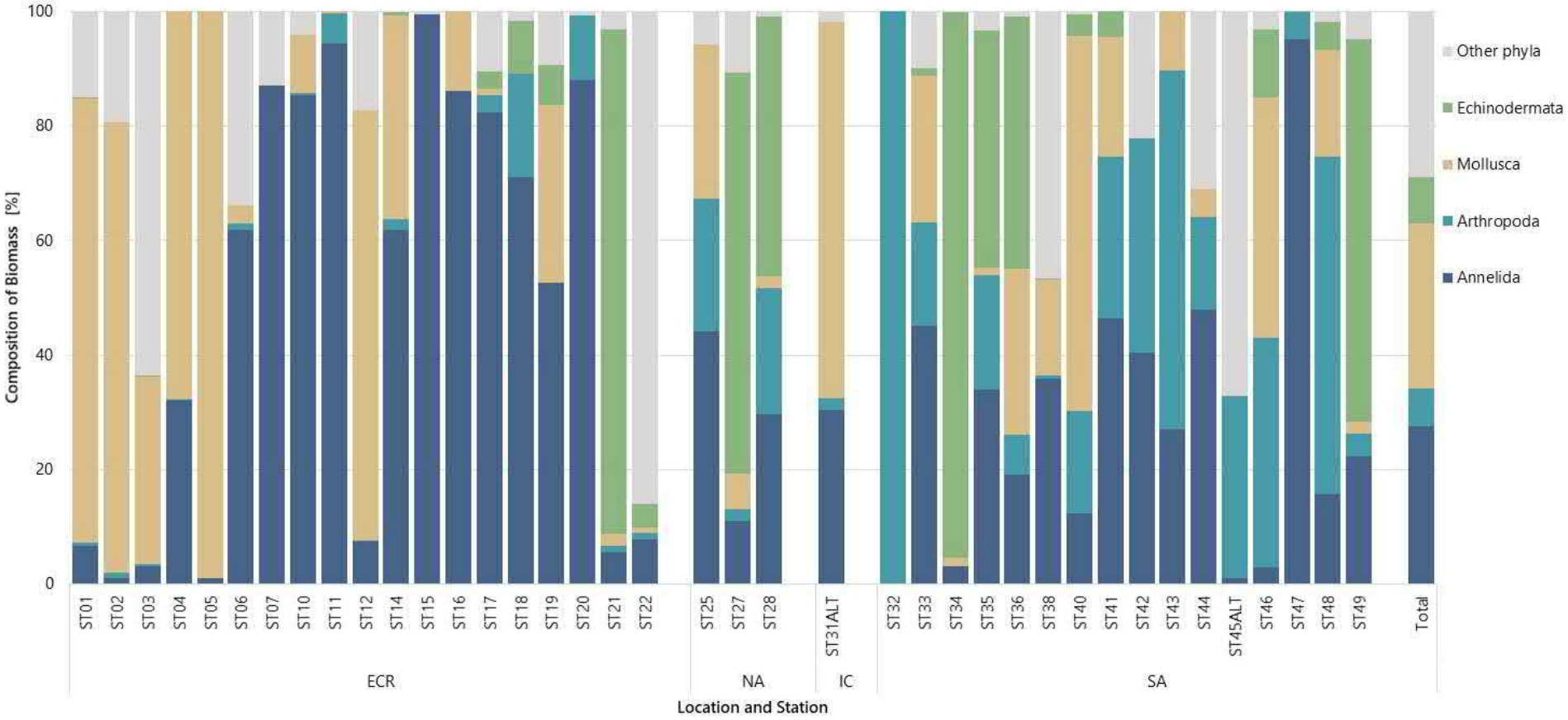
Figures 4.21 and 4.22 present the association of biomass with sediment type highlighting generally higher values of biomass in more heterogeneous sediments, with a preference of Mollusca for muddy sediment, whereas Arthropoda and Annelida occurred in coarser sediments.

Table 4.13: Phyletic composition of macrofaunal biomass, North Falls Offshore Site Investigation

Station	KP	Biomass					
		Annelida	Arthropoda	Mollusca	Echinodermata	Other Phyla	Total
Export Cable Route (ECR)							
ST01	2.5	0.1612	0.0114	1.8589	0.0038	0.3598	**2.3950**
ST02	3.6	0.0282	0.0244	1.9964	0.0001	0.4904	**2.5395**
ST03	6.0	0.2867	0.0287	2.9538	0.0205	5.7163	**9.0060**
ST04	10.8	0.1383	0.0002	0.2909	-	-	**0.4294**
ST05	11.9	0.0128	0.0005	1.2835	0.0001	-	**1.2969**
ST06	13.2	0.2418	0.0041	0.0126	0.0000	0.1321	**0.3905**
ST07	14.4	0.0155	-	-	-	0.0023	**0.0177**
ST10	15.2	1.3755	0.0042	0.1664	-	0.0642	**1.6104**
ST11	17.6	0.0317	0.0018	0.0001	-	-	**0.0335**
ST12	19.0	0.0098	0.0003	0.0982	-	0.0226	**0.1309**
ST14	20.4	0.0120	0.0004	0.0069	0.0001	0.0000	**0.0194**
ST15	20.8	0.0184	-	-	-	0.0001	**0.0185**
ST16	21.8	0.0151	-	0.0024	-	-	**0.0175**
ST17	24.7	3.8575	0.1407	0.0579	0.1374	0.4915	**4.6851**
ST18	29.3	2.4984	0.6313	0.0002	0.3225	0.0594	**3.5118**
ST19	32.5	0.3989	0.0005	0.2350	0.0525	0.0707	**0.7576**
ST20	36.2	0.0785	0.0101	0.0001	-	0.0006	**0.0892**
ST21	38.5	0.0766	0.0136	0.0288	1.1996	0.0428	**1.3613**
ST22	40.1	0.3987	0.0505	0.0509	0.2124	4.3263	**5.0389**
North Array (NA)							
ST25		0.0020	0.0011	0.0012	0.0000	0.0003	**0.0046**
ST27		0.0194	0.0037	0.0111	0.1242	0.0188	**0.1772**
ST28		0.2026	0.1500	0.0142	0.3102	0.0054	**0.6825**
Interconnector (IC)							
ST31ALT		0.1472	0.0105	0.3173	0.0003	0.0087	**0.4839**
South Array (SA)							
ST32		-	0.0121	-	-	-	**0.0121**
ST33		0.3727	0.1481	0.2114	0.0109	0.0821	**0.8252**
ST34		0.0047	0.0000	0.0023	0.1438	0.0001	**0.1510**
ST35		0.1180	0.0692	0.0047	0.1433	0.0117	**0.3470**
ST36		0.1642	0.0602	0.2497	0.3793	0.0074	**0.8607**
ST38		0.0124	0.0002	0.0058	0.0000	0.0162	**0.0346**
ST40		0.3670	0.5270	1.9364	0.1065	0.0171	**2.9539**
ST41		0.0277	0.0169	0.0125	0.0026	-	**0.0597**

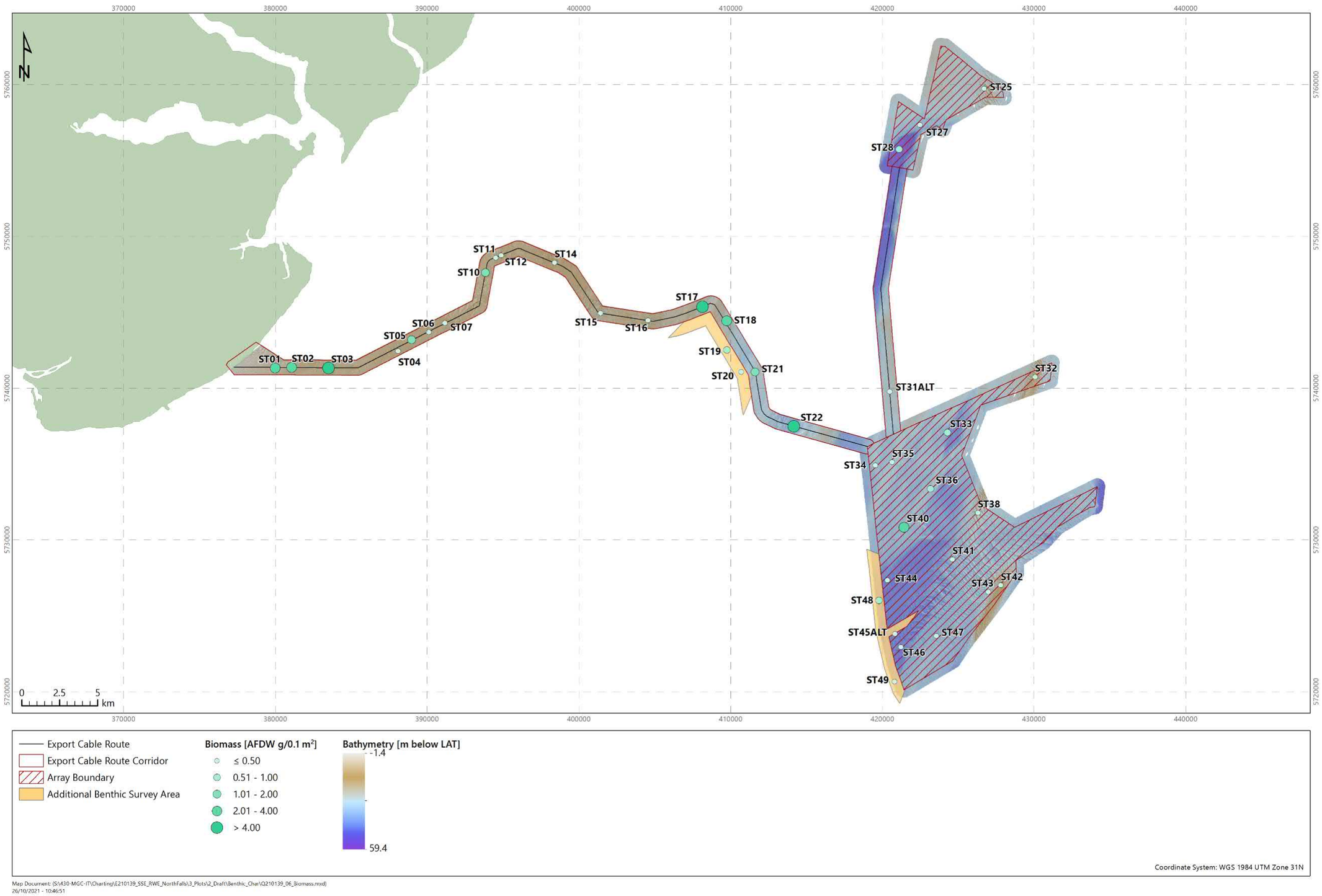
Station	KP	Biomass					
		Annelida	Arthropoda	Mollusca	Echinodermata	Other Phyla	Total
ST42		0.1061	0.0984	-	-	0.0583	**0.2629**
ST43		0.0012	0.0028	0.0005	-	-	**0.0045**
ST44		0.0624	0.0212	0.0063	-	0.0403	**0.1303**
ST45ALT		0.0018	0.0512	0.0000	-	0.1083	**0.1613**
ST46		0.0116	0.1567	0.1639	0.0465	0.0124	**0.3911**
ST47		0.1621	0.0079	-	0.0002	-	**0.1702**
ST48		0.1319	0.4917	0.1563	0.0399	0.0159	**0.8357**
ST49		0.0448	0.0081	0.0043	0.1344	0.0097	**0.2014**
Minimum		**0.0012**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0045**
Maximum		**3.8575**	**0.6313**	**2.9538**	**1.1996**	**5.7163**	**9.0060**
Median		**0.0775**	**0.0117**	**0.0215**	**0.0432**	**0.0188**	**0.3470**
Mean		**0.2978**	**0.0708**	**0.3113**	**0.0870**	**0.3126**	**1.0795**
Standard deviation		**0.7429**	**0.1532**	**0.7318**	**0.2448**	**1.2552**	**1.8256**

Notes
Biomass expressed as ash free dry weight in g/0.1 m^2 grab sample
KP = Kilometre point - on the survey centreline



Notes
Biomass expressed as ash free dry weight [AFDW] in g/0.1 m^2 grab sample
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

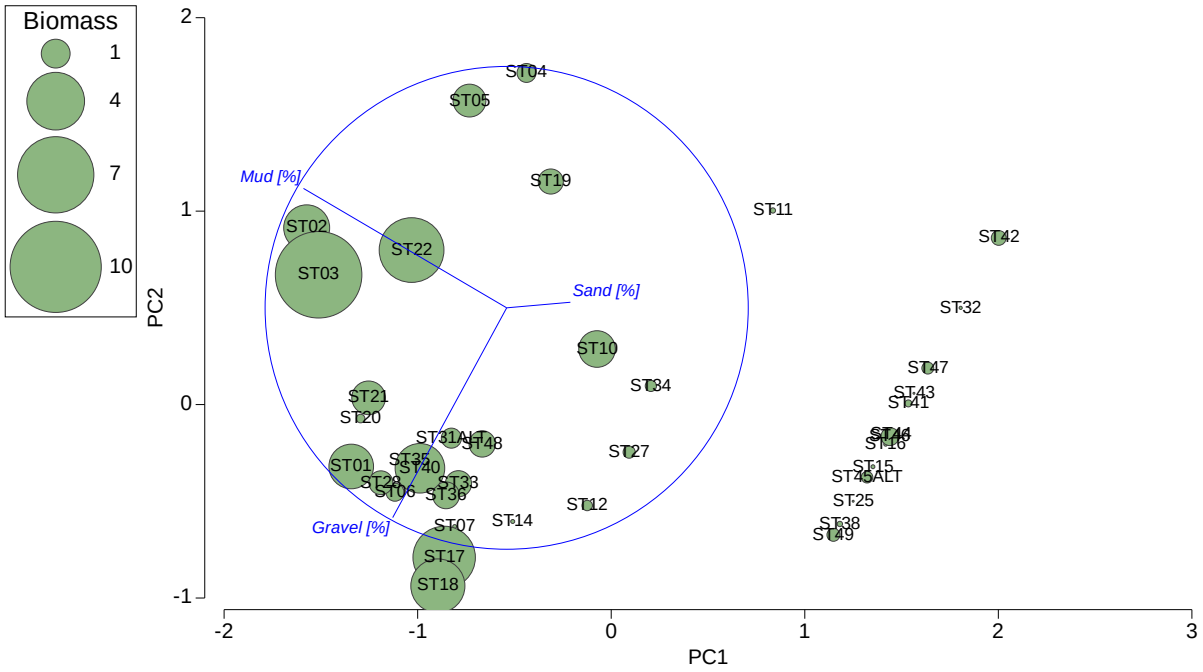
Figure 4.19: Phyletic composition of biomass, North Falls Offshore Site Investigation



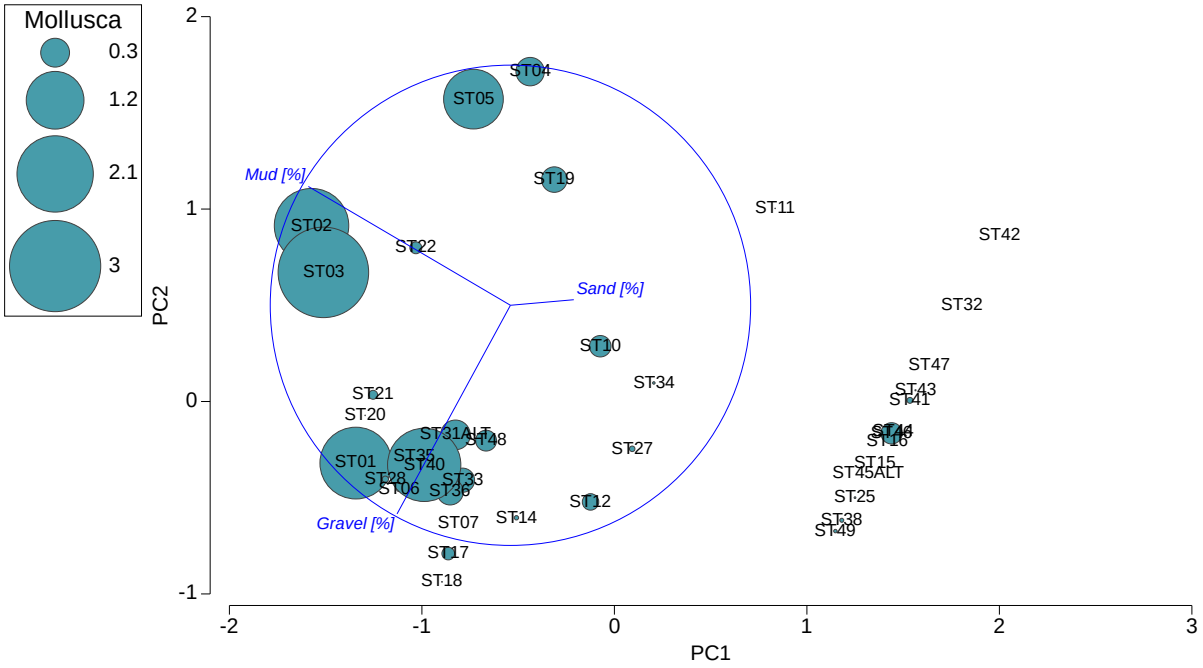
Notes

Biomass expressed as ash free dry weight in g/0.1 m^2 grab sample

Figure 4.20: Spatial variation of faunal biomass, North Falls Offshore Site Investigation

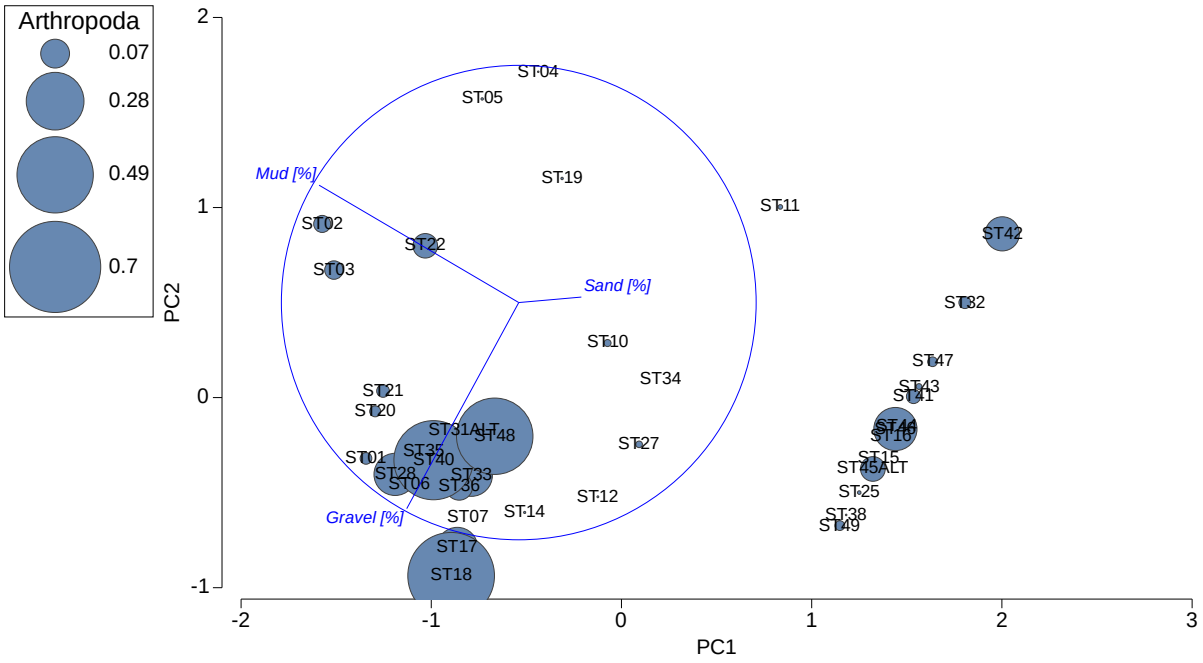


Notes
Circles proportional in diameter to the total invertebrates' biomass

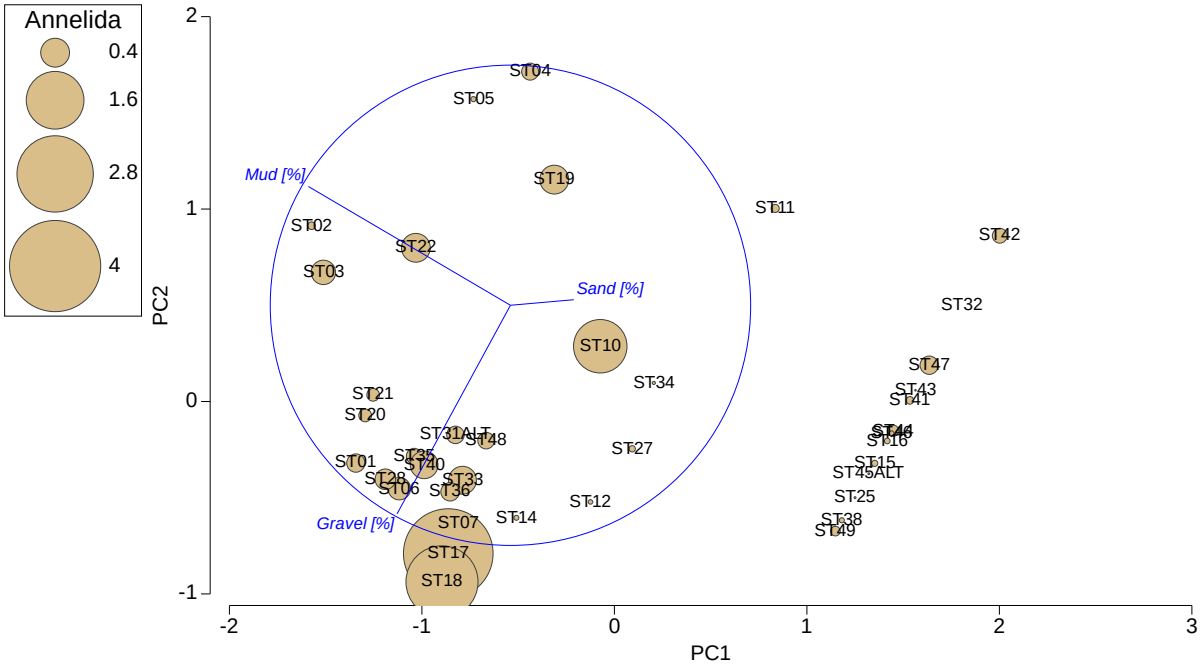


Notes
Circles proportional in diameter to the biomass of Mollusca

Figure 4.21: 2D PCA of sediment composition with superimposed circle proportional in diameter to the abundance of biomass expressed as ash free dry weight [AFDW] g/0.1 m^2, North Falls Offshore Site Investigation



Notes
Circles proportional in diameter to the biomass of Arthropoda



Notes
Circles proportional in diameter to the biomass of Annelida

Figure 4.22: 2D PCA of sediment composition with superimposed circle proportional in diameter to the abundance of biomass expressed as ash free dry weight [AFDW] g/0.1 m^2, North Falls Offshore Site Investigation

4.4.2 Colonial Epifauna

Colonial epifauna was recorded at 35 of the 39 stations sampled. Stations ST32, ST42, ST43 and ST47 were devoid of colonial epifauna. These stations were characterised by well sorted to moderately well sorted sand (detailed in Section 4.2).

4.4.2.1 Phyletic Composition

Table 4.14 presents the community structure of sessile colonial epifauna and Table 4.15 presents the top ten most frequently occurring colonial epifaunal taxa across the North Falls survey area. Figure 4.23 presents the spatial variations of the number of epifaunal taxa across the survey area. Figure 4.24 illustrates the relationships between sediment type and the occurrence of colonial and Figure 4.25 presents the colonial epifauna community structure at single stations. epifauna.

Table 4.14: Taxonomic groups of colonial epifauna, North Falls Offshore Site Investigation

Taxonomic Group	Number of Taxa	Composition of Taxa [%]
Bryozoa	41	68.9
Cnidaria	11	18.0
Porifera	3	4.9
Chordata	1	1.6
Other phyla	4	6.6
Total	**41**	**100**

Notes
Macrofaunal samples were processed through a 1 mm sieve
Other phyla include Ciliophora and Entoprocta

Bryozoa comprised most of the colonial epifaunal taxa (68.3 %), followed by Cnidaria (18.3 %) and Chordata (1.7 %), the latter comprising a single taxon represented by tunicates of the family Didemnidae. Other phyla comprised 6.7 % of the colonial epifauna and were represented by Ciliophora of the family Folliculinidae and by Entoprocta such as *Loxosomella phascolosomata* and species of the genus *Barentsia*.

Folliculinidae were the most frequently occurring taxa, followed by bryozoans of the genus *Schizomavella*, *Conopeum reticulum*, *Electra pilosa*, *Aspidelectra melolontha* and *Escharella immersa*. The hydroids *Hydrallmania falcata* and species of the genus *Sertularia* also featured amongst the top ten most frequently occurring colonial epifaunal taxa.

Station ST25 had the highest number of colonial epifauna, followed by stations ST36, ST01, ST31ALT, ST33 and ST34 (Figure 4.23). These stations were characterised by muddy sandy gravel and gravelly sand (detailed in Section 4.2) and comprised between 13 (stations ST33 and ST34) and 20 (station ST25) colonial epifaunal taxa. At the remaining stations, the number of colonial epifaunal taxa was between one (at six stations) and 10 (station ST02).

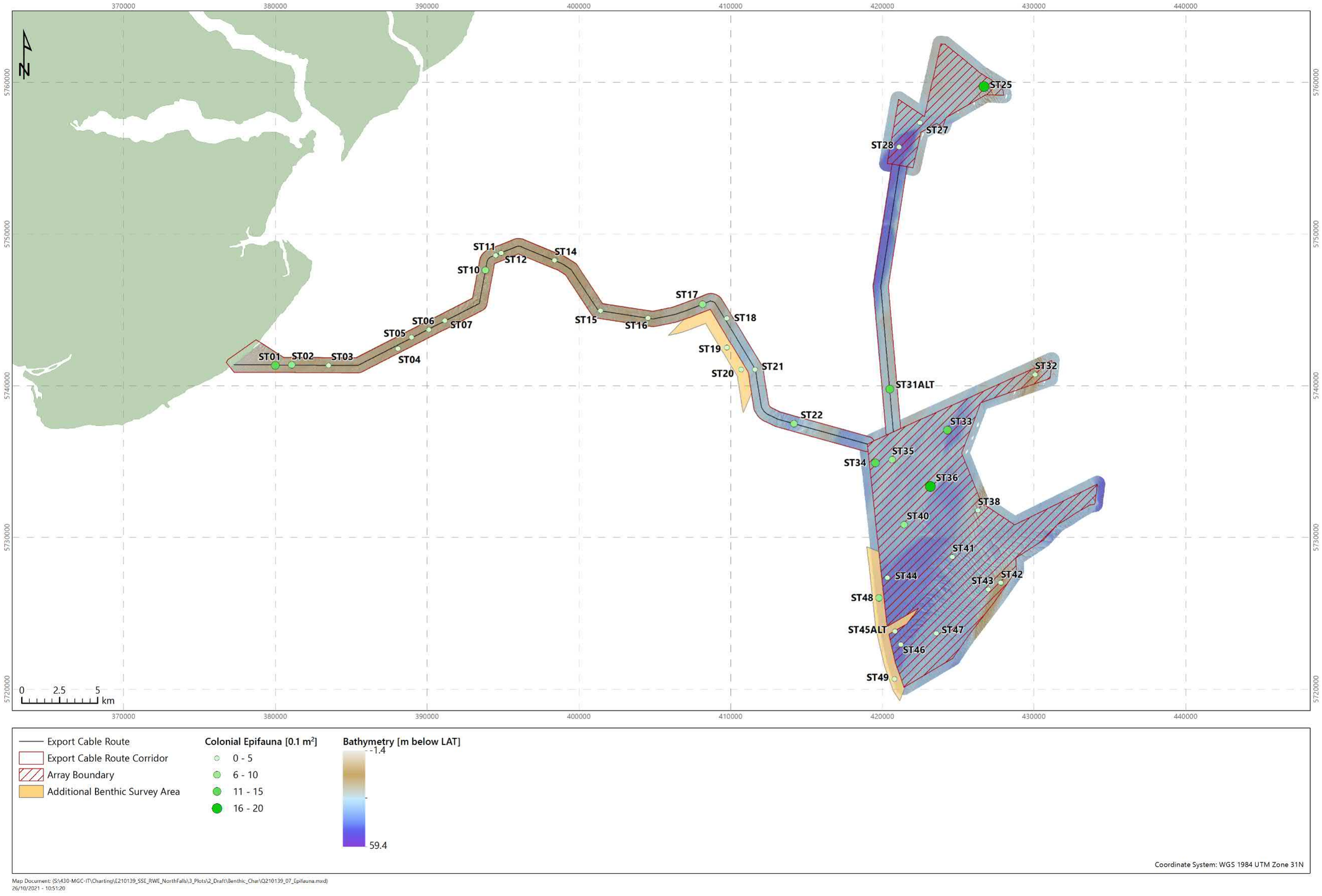
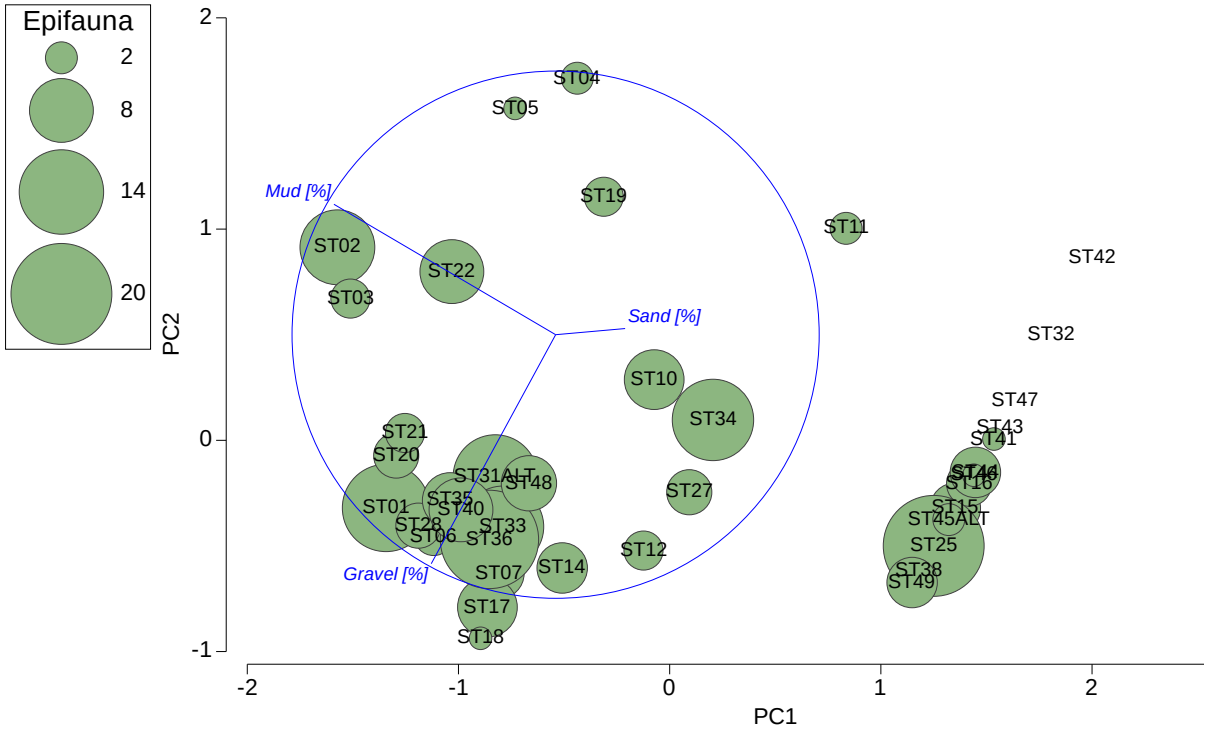


Figure 4.23: Spatial variations of the number of colonial epifauna (0.1m^2) , North Falls Offshore Site Investigation

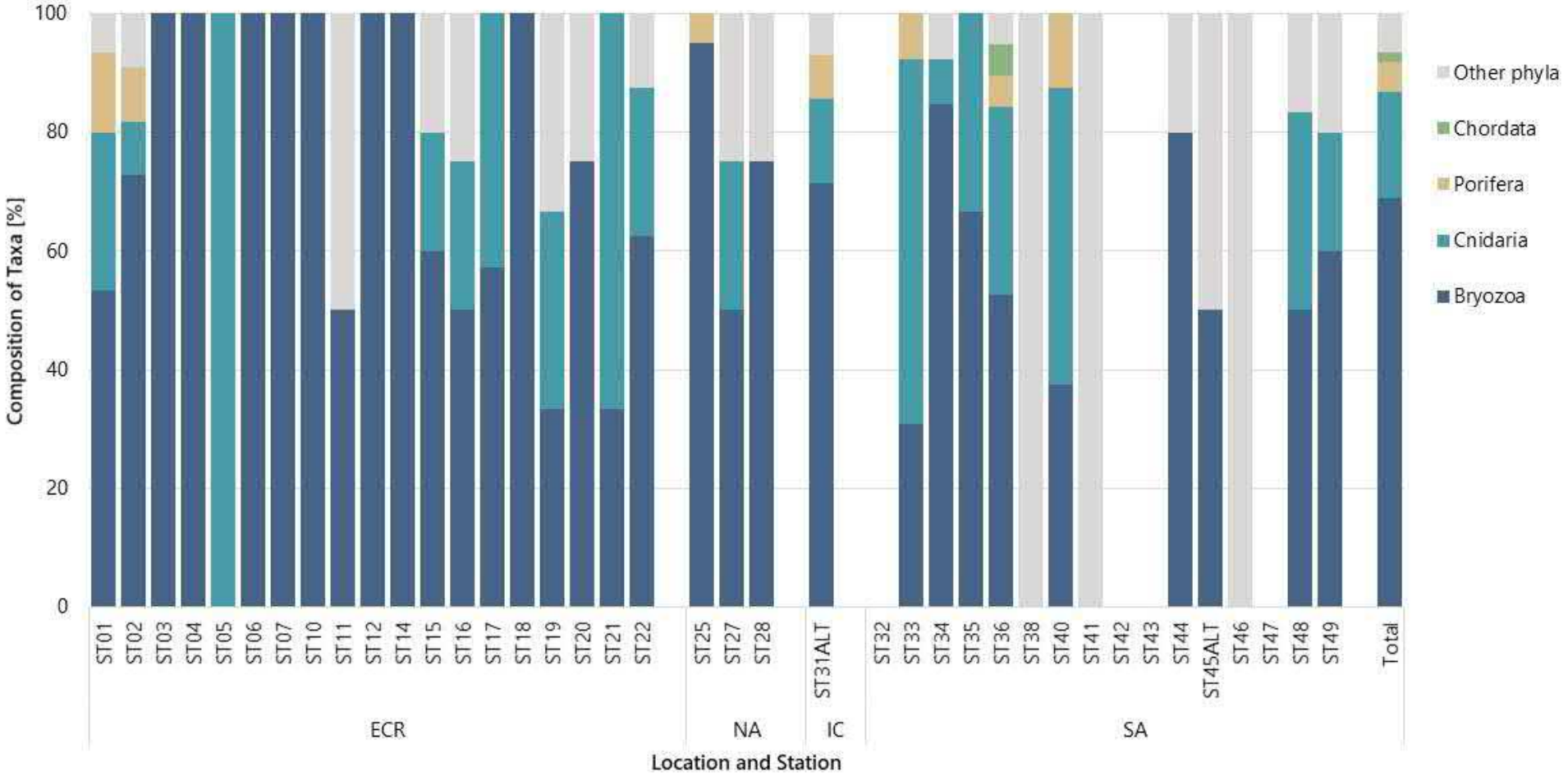
Table 4.15: Top ten most frequently occurring colonial epifaunal taxa, North Falls Offshore Site Investigation

Taxon	Frequency [%]
Folliculinidae	43.6
Schizomavella	35.9
Conopeum reticulum	30.8
Electra pilosa	28.2
Aspidelectra melolontha	28.2
Escharella immersa	23.1
Hydrallmania falcata	20.5
Sertularia	20.5
Disporella hispida	17.9
Scrupocellaria scruposa	17.9



Notes
PC = Principal component

Figure 4.24: 2D PCA of sediment composition with superimposed circles proportional in diameter to the number of colonial epifauna, North Falls Offshore Site Investigation



Notes
ECR = Export cable route IC = Interconnector NA = North Array SA = South Array

Figure 4.25: Phyletic composition of epifaunal taxa, North Falls Offshore Site Investigation

4.5 Habitats and Biotopes

4.5.1 Intertidal

Habitats and biotopes have been assigned to both the sediments and hard substrate recorded across the survey area.

4.5.2 Intertidal Biotope Classification

Table 4.17 presents the EUNIS hierarchical structure of the habitats and biotopes identified across the North Falls intertidal survey area

Table 4.16: Habitat classifications, North Falls intertidal survey area

EUNIS Habitat Classification (EEA, 2019)					Equivalent JNCC (2015) Classification
Environment Level 1	Habitat Complex Level 2	Habitat Level 3	Biotope Complex Level 4	Biotope Level 5	
A Marine	A1 Littoral rock and other hard substrata	A1.1 High energy littoral rock	A1.11 Mussel and/or Barnacle communities	-	LR.HLR.MusB Mussel and/or Barnacle communities
		A1.1 High energy littoral rock	A1.11 Mussel and/or Barnacle communities	A1.113 *Semibalanus balanoides* on exposed to moderately exposed or vertical shelter eulittoral rock	LR.HLR.MusB.Sem *Semibalanus balanoides* on exposed to moderately exposed or vertical shelter eulittoral rock
			A1.12 Robust fucoid and/or red seaweed communities	-	LH.HLR.FR Robust fucoid and/or red seaweed communities
		A1.2 Moderate energy littoral rock	A1.21 Barnacles and fucoids on moderately exposed shores	A1.212 *Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock	LR.MLR.BF.FspiB *Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock
			A1.21 Barnacles and fucoids on moderately exposed shores	A1.213 *Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock	LR.MLR.BF.FvesB *Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock

EUNIS Habitat Classification (EEA, 2019)					Equivalent JNCC (2015) Classification
Environment Level 1	Habitat Complex Level 2	Habitat Level 3	Biotope Complex Level 4	Biotope Level 5	
		A1.2 Moderate energy littoral rock	A1.21 Barnacles and fucoids on moderately exposed shores	A1.214 *Fucus serratus* on moderately exposed lower eulittoral rock	LR.MLR.BF.Fser *Fucus serratus* on moderately exposed lower eulittoral rock
		A1.4 Features of littoral rock	A1.45 Ephemeral green or red seaweeds (freshwater or sand-influenced) on non-mobile substrata	A1.451 *Enteromorpha* spp. on freshwater influenced and/or unstable upper eulittoral rock	LR.FLR.Eph.Ent *Enteromorpha* spp. on freshwater influenced and/or unstable upper eulittoral rock
		A1.4 Features of littoral rock	A1.45 Ephemeral green or red seaweeds (freshwater or sand-influenced) on non-mobile substrata	A1.452 *Porphyra purpurea* or *Enteromorpha* spp. on sand-scoured mid or lower eulittoral rock	LR.FLR.Eph.EntPor *Porphyra purpurea* or *Enteromorpha* spp. on sand-scoured mid or lower eulittoral rock
	A2 Littoral sediment	A2.1 Littoral coarse sediment	A2.11 Shingle (pebble) and gravel shores	A2.111 Barren littoral shingle	LS.LCS.Sh.BarSh Barren littoral shingle
		A2.2 Littoral sand and muddy sand	A2.24 Polychaete /bivalve dominated muddy sand shores	A2.245 *Lanice conchilega* in littoral sand	LS.LSa.MuSa.Lan *Lanice conchilega* in littoral sand
B Coastal habitats	B3 Rock cliffs, ledges and shore, including the supralittoral	B3.1 Supralittoral rock (lichen or splash zone)	B3.11 Lichens or small green algae on supralittoral and littoral fringe rock	Sub-biotope Level 6 B3.1132 *Verrucaria maura* on very exposed to very sheltered upper littoral fringe rock	LR.FLR.Lic.Ver.Ver *Verrucaria maura* on very exposed to very sheltered upper littoral fringe rock

Notes
EEA = European Environment Agency
EUNIS = European Nature Information System
JNCC = Joint Nature Conservation Committee

4.5.2.1 Littoral Rock and Other Hard Substrata (A.1)

The broad habitat 'Littoral rock and other hard substrata' (A.1) includes rock habitats (e.g. bedrock, boulders and cobbles) that occur in both the intertidal and the splash zone (EEA, 2019).

Within the intertidal survey area, areas of hard substrate were assigned the broad habitat 'Littoral rock and other hard substrata', due to the lack of epifauna or flora. The bare substrate was subject to scour from the adjacent sand and/or gravel sediments. Two areas of clay, located on the lower shore were also classified as the broad habitat 'Littoral rock and other hard substrata' (A.1). The clay was low-lying, subject to inundation by the adjacent sediment and devoid of any conspicuous fauna.

Figure 4.26 presents example photographs of this broad habitat.

Several other littoral rock biotopes were categorised further depending on their physical structure, degree of wave exposure and biological community. These biotopes are discussed in the following sections.

4.5.2.2 *Verrucaria maura* on Very Exposed to Very Sheltered Upper Littoral Fringe Rock (B3.1132)

The sub-biotope '*Verrucaria maura* on very exposed to very sheltered upper littoral fringe rock' (B3.1132) occurs on upper littoral fringe bedrock, boulders and stable cobbles on very exposed to very sheltered shores, which are colonised by the black lichen *V. maura*. The winkle *L. saxatilis* is often present. This biotope is species poor, but occasionally a range of species occur in low abundance. These species include the yellow lichen *C. marina* and the winkle *Melaraphe neritoides*, the barnacles *Chthamalus montagui* and *S. balanoides* or the ephemeral seaweeds *Porphyra umbilicalis* and *Ulva* spp. can be present in low abundance (EEA, 2019).

Within the intertidal survey area, this biotope was restricted to a narrow band in the supralittoral zone associated with rock armour. This biotope was characterised by black lichen (*V. maura*).

Figure 4.26 presents example photographs of this sub-biotope.

A

B

C

D

A: Photograph 210139_016 (A1)
Rock armour
No fauna or floral

B: Photograph 210139_080 (A1)
Base of the rock armour
No fauna or flora

C: Photograph 210139_224 (A1)
Exposed low-lying clay with boulder
No fauna or flora

D: Photograph 210139_018
Rock armour
Black lichen (*Verrucaria maura)*
No fauna or flora

Figure 4.26: Example photographs of the broad habitat 'Littoral rock and other hard substrata' (A.1) and the sub-biotope '*Verrucaria maura* on very exposed to very sheltered upper littoral fringe rock' (B3.1132)

4.5.2.3 Mussel and/or Barnacle Communities (A1.11)

The biotope complex 'Mussel and/or barnacle communities' (A1.11) is found on very exposed to moderately exposed upper to mid shores and is associated with bedrock and boulders. The biotope is dominated by mussels (*Mytilus edulis*), barnacles (Sessilia) and limpets (*Patella vulgata*; EEA, 2019).

This biotope complex has been assigned to three areas within the central part of the survey area, associated with cobbles and boulders in the mid to lower shore. However, the observed biotope differs from the recorded biotope in that mussels were not the dominant component of the faunal assemblage.

Figure 4.27 presents example photograph of this biotope.

4.5.2.4 Robust Fucoid and/or Red Seaweed Communities (A1.12)

The biotope complex 'Robust fucoid and/or red seaweed communities (A1.12) is located on exposed to moderately exposed lower shores. The seaweeds present are those which are able to tolerate wave action, such as *Palmaria palmata, Ceramium* spp., *Corallina officinalis* and *Osmundea pinnatifida*. The green seaweeds, *Ulva* sp. are also occasionally present. Fauna associated with this biotope complex include limpets (*P. vulgata*), mussels (*M. edulis*) and barnacles (*S. balanoides*; EEA, 2019).

This biotope complex was assigned to two small lower shore areas in the southern part of the survey area, and was associated with boulders and a man-made structure comprised sheet piling. The red seaweeds recorded included *C. officinalis, Polysiphonia* spp., possible *Phyllophora* sp. and *O. pinnatifida*. Green seaweeds (*Ulva* spp.) were also present. The fauna associated with this biotope complex included barnacles (Sessilia), Pacific oysters (*Magallana gigas*) and limpets (*P. vulgata*).

Figure 4.27 presents example photograph of this biotope.

4.5.2.5 *Semibalanus balanoides* on Exposed to Moderately Exposed or Vertical Sheltered Eulittoral Rock (A1.113)

The biotope '*Semibalanus balanoides* on exposed to moderately exposed or vertical sheltered eulittoral rock' (A1.113) occurs on exposed to moderately exposed upper to mid shore bedrock and boulders characterised by dense barnacles (*S. balanoides*) and limpets (*Patella vulgata*) (EEA, 2019).

Within the survey area, this biotope was assigned to several areas of stable boulders across the survey area, as well as wooden groynes. On the hard substrate, fauna was dominated by barnacles (Sessilia including *S. balanoides* and *Austrominius modestus*), Pacific oysters (*M. gigas*) and limpets (*P. vulgata*).

Figure 4.27 presents example photograph of this biotope.

4.5.2.6 *Fucus spiralis* on Full Salinity Exposed to Moderately Exposed Upper Eulittoral Rock (A1.212)

The biotope '*Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock' (A1.212) is characterised by bedrock with the wrack, *Fucus spiralis*, and lichens (*V. maura* and *Verrucaria mucosa*). Fauna associated with this biotope includes limpets (*P. vulgata*), winkles (*L. littorea*) and barnacles (*S. balanoides*). The seaweed *Ulva intestinalis* can be prevalent in the summer months (EEA, 2019).

This was the dominant fucoid biotope within the survey area and was associated with all types of hard substrate. Other taxa observed within this biotope included green seaweed (*Ulva* spp.), limpets (*P. vulgata*), winkles (*L. littorea*), Pacific oysters (*M. gigas*) and barnacles (Sessilia).

Figure 4.27 presents example photograph of this biotope.

A

B

C

D

A: Photograph 210139_110 (A1.11)

Wooden groyne

Barnacles (Sessilia), limpets (*Patella vulgata*) and Pacific oyster (*Magallana gigas*)

B: Photograph 210139_373 (A1.12)

Boulder

Mixed red seaweeds (Rhodophyta), green seaweed (*Ulva* sp.) and Pacific oyster (*Magallana gigas*)

C: Photograph 210139_12 (A1.212)

Wooden groyne

Wrack (*Fucus spiralis*) and green seaweed (*Ulva* spp.)

D: Photograph 210139_083 (A1.212)

Rock armour

Wrack (*Fucus spiralis*) and green seaweed (*Ulva* spp.)

Figure 4.27: Example photographs of the biotopes 'Mussel and/or barnacle communities' (A1.11), Robust fucoid and/or red seaweed communities (A1.12), '*Semibalanus balanoides* on exposed to moderately exposed or vertical sheltered eulittoral rock' (A1.113) and '*Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock' (A1.212)

4.5.2.7 *Fucus vesiculosus* and Barnacle Mosaics on Moderately Exposed Mid Eulittoral Rock (A1.213)

The biotope '*Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock' (A1.213) occurs below the *F. spiralis* biotope and is characterised by the wrack *F. vesiculosus*. Other taxa associated with this biotope include limpets (*P. vulgata*) and whelk (*Nucella lapillus*). Underneath the *F. vesiculosus* canopy, a community of red seaweeds develops (EEA, 2019).

This biotope was found below the biotope '*Fucus spiralis* on full salinity exposed to moderately exposed upper eulittoral rock' (A1.212) and was associated with sea defence boulders. In addition to *F. vesiculosus*, barnacles (Sessilia), limpets (*P. vulgata*), winkles (*Littorina* spp.) and green algae (*Ulva* sp.) were present. Unlike the *F. spiralis* biotope, this biotope was not present throughout the survey area, instead it was present as small patches or narrow bands.

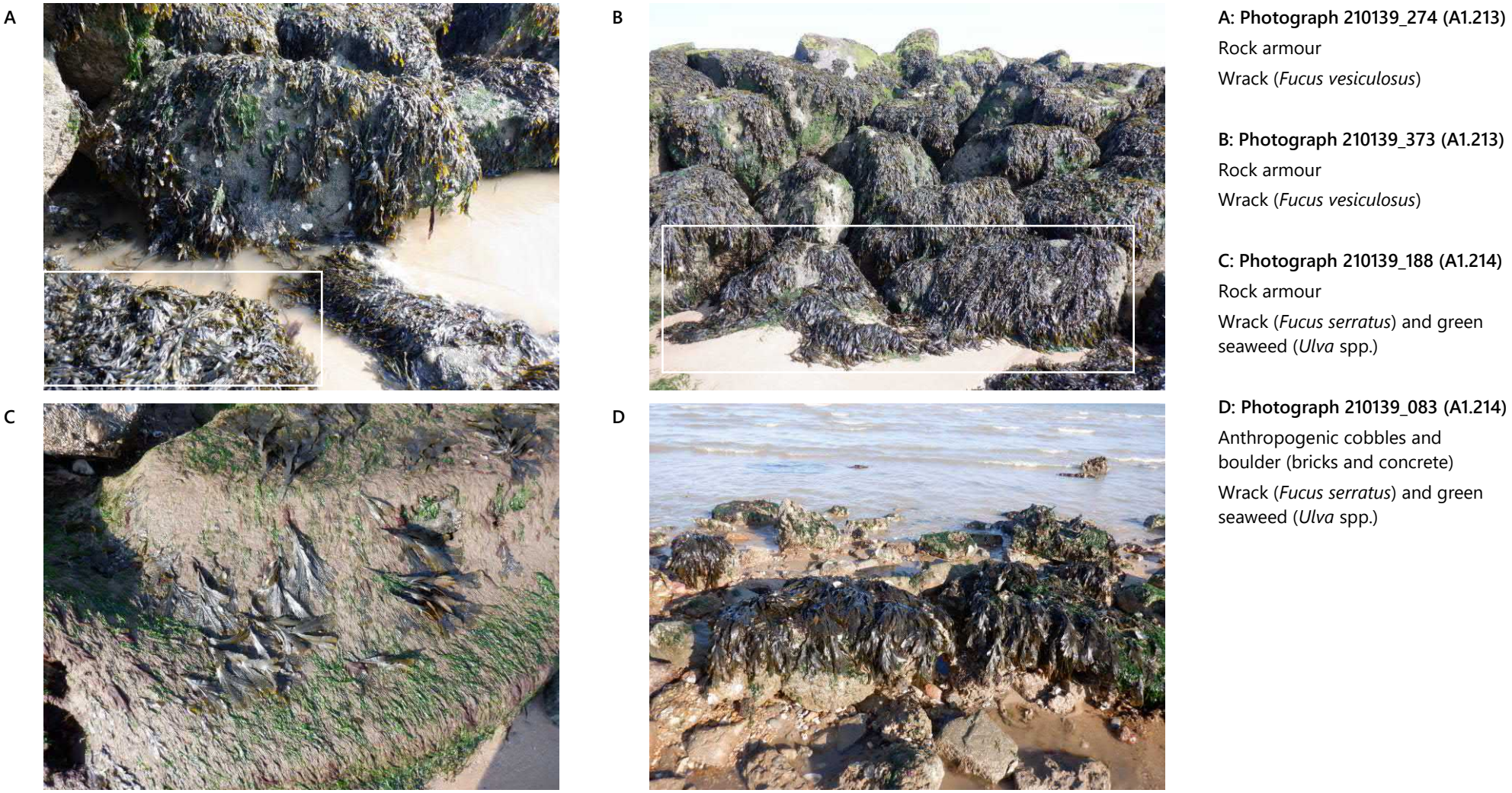
Figure 4.28 presents example photograph of this biotope.

4.5.2.8 *Fucus serratus* on Moderately Exposed Lower Eulittoral Rock (A1.214)

The biotope '*Fucus serratus* on moderately exposed lower eulittoral rock' (A1.214) is found on stable boulders and bedrock on the lower shore. A canopy of the wrack *Fucus serratus*, characterises this biotope, together with limpets (*P. vulgata*), barnacles (*S. balanoides*), whelks (*N. lapillus*) and anemones (*Actinia equina*). Green seaweeds (*Ulva* spp.) are usually present underneath the canopy of *F. serratus*. (EEA, 2019).

Within the survey area, this biotope was assigned to small areas of moderately exposed stable boulders on the lower shore. The biological assemblages within these areas were dominated by the wrack *F. serratus* with an under-canopy of green seaweeds (*Ulva* spp.). Infrequent red seaweeds (Rhodophyta). Limpets (*P. vulgata*), Pacific oysters (*M. gigas*) and winkles (*Littorina* spp.) were also recorded.

Figure 4.28 presents example photograph of this biotope.



A: Photograph 210139_274 (A1.213)
Rock armour
Wrack (*Fucus vesiculosus*)

B: Photograph 210139_373 (A1.213)
Rock armour
Wrack (*Fucus vesiculosus*)

C: Photograph 210139_188 (A1.214)
Rock armour
Wrack (*Fucus serratus*) and green seaweed (*Ulva* spp.)

D: Photograph 210139_083 (A1.214)
Anthropogenic cobbles and boulder (bricks and concrete)
Wrack (*Fucus serratus*) and green seaweed (*Ulva* spp.)

Figure 4.28: Example photographs of the biotopes '*Fucus vesiculosus* and barnacle mosaics on moderately exposed mid eulittoral rock' (A1.213) and *Fucus serratus* on moderately exposed lower eulittoral rock' (A1.214)

4.5.2.9 *Enteromorpha* spp. on Freshwater-influenced and/or Unstable Upper Eulittoral Rock (A1.451)

The biotope '*Enteromorpha* spp. on freshwater-influenced and/or unstable upper eulittoral rock' (A1.451) is found on the upper shore on unstable soft rock or on stable rock which is subject to freshwater input. This biotope is species poor and subject to seasonal variations (EEA, 2019). The green seaweed *Enteromorpha* spp. is now referred to as *Ulva* spp. (WoRMS Editorial Board, 2021).

This biotope was recorded as a narrow band on the seawalls, mostly beneath drainage pipes within the central part of the survey area. Amongst the cracks within the seawall, sediment was present, indicating that his biotope may also be subject to sediment abrasion. The observed biotope was species poor and dominated by green algae (*Ulva* spp.).

Figure 4.29 presents example photograph of this biotope.

4.5.2.10 *Porphyra purpurea* and *Entermorpha* spp. on Sand-scoured Mid or Lower Eulittoral Rock (A1.452)

The biotope '*Porphyra purpurea* and *Entermorpha* spp. on sand-scoured mid or lower eulittoral rock' (A1.452) occurs on moderately exposed bedrock and boulders in the mid to lower shore and is adjacent to areas of sand. Due to sand-abrasion, the abundance of wracks (*Fucus* spp.) is reduced. Other species associated with this biotope are barnacles (*Semibalanus balanoides* and *Eliminius modestus*), limpets (*Patella vulgata*) and winkles (*Littorina* spp.) (EEA, 2019). The barnacle *Eliminius modestus* has undergone a classification change and is now referred to as *Austrominius modestus*.

This biotope was recorded across the survey area within the mid shore, and was associated with both wooden groynes and rock armour. The dominant seaweeds recorded were *Ulva* spp. and *Porphyra* sp., with rarely occurring *Fucus spiralis*. Fauna associated with this biotope included barnacles (*S. balanoides* and *A. modestus*), limpets (*P. vulgata*) and winkles (*Littorina* spp.).

Figure 4.29 presents example photograph of this biotope.

A

B

C

D

A: Photograph 210139_199 (A1.451)
Seawall
Green seaweed (*Ulva* sp.)

B: Photograph 210139_215 (A1.451)
Seawall
Green seaweed (Ulva sp.)

C: Photograph 210139_095 (A1.452)
Rock armour
Green seaweed (*Ulva* spp.) and red seaweed (*Porphyra* sp.)

D: Photograph 210139_131 (A1.452)
Wooden groyne
Green seaweed (*Ulva* spp.) and red seaweed (*Porphyra* sp.)

Figure 4.29: Example photographs of the biotopes '*Enteromorpha* spp. on freshwater-influenced and /or unstable upper eulittoral rock' (A1.451) and '*Porphyra purpurea* and *Entermorpha* spp. on sand-scoured mid or lower eulittoral rock' (A1.452)

4.5.2.11 Littoral Sand and Muddy Sand (A2.2)

The habitat 'Littoral sand and muddy sand' (A2.2) is described on clean sand or muddy sand shores. The infaunal community is dependant on the extent of drying, sediment grade and stability (EEA, 2019).

The sediments between the upper shore and lower shore have been assigned this habitat, in the absence of detailed PSD and infaunal data. However, there were visible differences in the sediment composition down the shore. Within the high and mid shore, the sediment comprised gravelly sand or sandy gravel. At the lower shore, the sediment comprised rippled sand with lugworms (*Arenicola marina*) and low densities of tube-building polychaetes (*Lanice conchilega*).

Figure 4.30 presents example photograph of this habitat.

4.5.2.12 Barren Littoral Shingle (A2.111)

The biotope 'Barren littoral shingle' (A2.111) is described as shingle or gravel shores (mixed with coarse sand at some locations). These sediments support almost no fauna (EEA, 2019).

A narrow band (approximately 1 m) of gravel with coarse sand was located in the central part of the survey area in front of a sea defence in the mid to lower shore. No conspicuous fauna or floral was recorded associated with the mobile coarse sediments.

Figure 4.30 presents example photograph of this biotope.

4.5.2.13 *Lanice conchilega* in Littoral Sand (A2.245)

The biotope '*Lanice conchilega* in littoral sand' (A2.245) is found on the lower shore, or in waterlogged mid shores and can occur in patches of sand or muddy sand between boulders and rock on the lower shore. Dense populations of the tube-building polychaete, *Lanice conchilega* can occur, together with other polychaete which are tolerant of sand scour and sediment mobility (EEA, 2019).

This biotope was found associated with sand in between cobbles and boulders on the lower shore at two locations in the central part of the survey area. Tube-building polychaetes, *Lanice conchilega* were present in a high abundance, with no other conspicuous fauna noted associated with the soft sediment.

Figure 4.30 presents example photograph of this biotope.

Figure 4.31 presents the distribution of intertidal habitats and biotopes across the survey area.

A

B

C

D

A: Photograph 210139_047 (A2.2)

Sandy gravel/gravelly sand

No conspicuous fauna

B: Photograph 210139_329 (A2.2)

Rippled sand

No conspicuous fauna

C: Photograph 210139_066 (A2.111)

Sandy gravel at base of rock armour

No conspicuous fauna

D: Photograph 210139_169 (A2.245)

Sand in between cobbles and boulders

Tube-building polychaete (*Lanice conchilega*), red seaweed (Rhodophyta) and Pacific oysters (*Magallana gigas*)

Figure 4.30: Example photographs of the biotopes 'Littoral sand and muddy sand' (A2.2), 'Barren littoral shingle' (A2.111) and '*Lanice conchilega* in littoral sand' (A2.245)

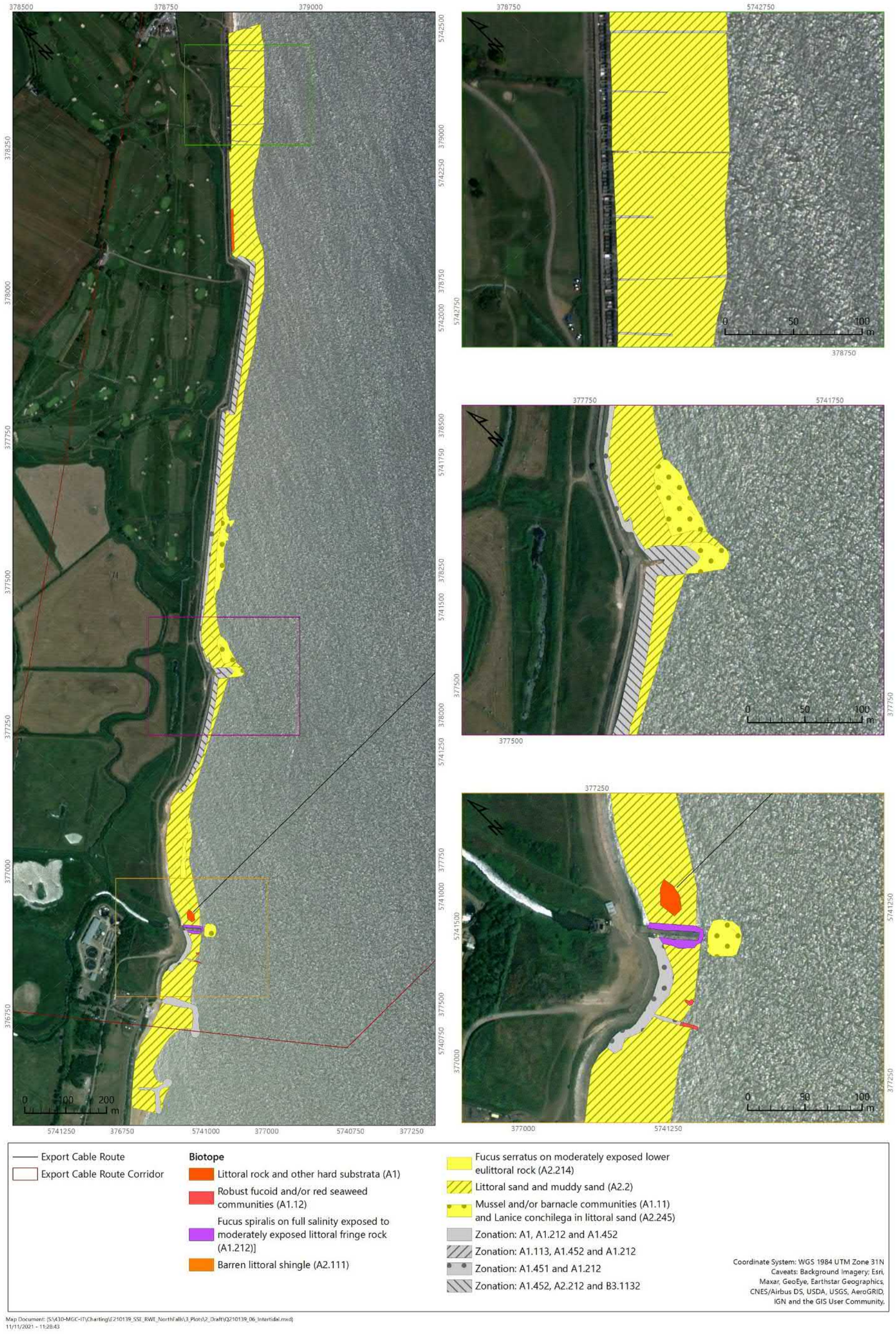


Figure 4.31: Distribution of intertidal habitats and biotopes

4.5.3 Subtidal

The physical and biological characteristics of the multivariate groups identified through the multivariate analysis (Section 4.4.1.3) were evaluated in conjunction with the results of the video and photographic analysis, detailed in the Environmental Features Report (Fugro 2021a), to provide a comprehensive habitat assessment. The seabed video provides an overview of the seabed over a wider area and can identify isolated features such as cobbles and/or boulders. By comparison, grab sampling provides detailed information of the sediment composition and associated fauna at a single point source and is essential for the biotope classification of sedimentary habitats. The average similarity of the multivariate groups ranged from 22.5 % to 38.5 %, therefore, the stations within each multivariate group were assessed also individually when deriving biotopes, which resulted in a combination of biotopes characterising each multivariate group.

Results of the seabed video indicated the presence of the following biotopes and biotope complexes:

- 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231), described as circalittoral soft rock bored by bivalves (EEA, 2019). This biotope was assigned to stations ST22 to ST25 and ST28 to ST31 (in the north array), the interconnector and the offshore end of the ECR) and stations ST33, ST37 and ST39 (in the south array). These stations were characterised by the presence of firm clay with round burrows of piddock of the superorder Imparidentia including species of the genus *Barnea* at stations ST25.
- 'Infralittoral Coarse Sediment' (A5.13), described as infralittoral coarse and/or gravelly sand, shingle and gravel, characterised by robust and fast swimming invertebrates (EEA, 2019). This biotope complex was assigned to stations ST12 and ST14 (along the ECR) characterised by sparse fauna including the echinoderm *Asterias rubens* and bryozoans of the family Flustridae.
- 'Circalittoral Coarse Sediment' (A5.14), described as circalittoral coarse sand, gravel and shingle, hosting robust infaunal polychaetes, crustacea and bivalves (EEA, 2019). Based on the sediment PSD data, this biotope complex was assigned to station ST25 in combination with 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231). Epibiota included *A. rubens*, *Alcyonium diaphanum* and bryozoans of the family Flustridae.
- 'Infralittoral Fine Sand' (A5.23), described as clean sand habitats in high energy environments characterised by robust and fast swimming invertebrates (EEA, 2019). This biotope complex was assigned to stations ST11, ST15 and ST16 (along the ECR) and ST32 and ST42 (in the south array). Epibiota included fish, likely of the families Gadilidae and Trachinidae.
- 'Circalittoral Fine Sand' (A5.25), described as clean fine sand extending offshore from the circalittoral zone, characterised by echinoderms, notably sea urchins, polychaetes and bivalves. This biotope was assigned to stations ST34, ST38, ST39, ST41, ST43, ST45ALT,

ST46, ST47 and ST49 (in the south array). Epibiota included brittlestars of the family Ophiuridae, including *O. albida* and hermit crabs of the family Paguridae.

- 'Infralittoral Sandy Mud' (A5.33), described as cohesive sandy mud in the infralittoral zone, with a variety of polychaetes, tube building amphipods and deposit feeding bivalves (EEA, 2019). This biotope complex was assigned to stations ST02, ST04 and ST05 along the nearshore section of the ECR. Poor underwater visibility at the time of the survey prevented identification of epibiota.
- 'Infralittoral Mixed Sediment' (A5.43), described as heterogeneous sediment in the infralittoral zone hosting a variety of invertebrates (EEA, 2019). This biotope complex was assigned to stations ST01, ST03, ST06, ST07 and ST10 (along the nearshore section of the ECR). Poor underwater visibility at the time of the survey prevented identification of epibiota.
- 'Circalittoral mixed sediment (A5.44)', described as heterogeneous sediment in the circalittoral zone hosting a variety of infauna and epifauna. (EEA, 2019). This biotope complex was the most frequently recorded being assigned to 20 station, namely ST17 to ST31, ST33, ST35 to ST37, ST40 and ST48. Epibiota was diverse and included brittlestars, sea urchins, starfish, anemones, crabs, bryozoans and hydrozoans and polychaetes' tubes.
- '*Sabellaria Spinulosa* on Stable Circalittoral Mixed Sediment' (A5.611), described as high abundances of the tube-building polychaete *S. spinulosa* on mixed sediments in the circalittoral zone (EEA, 2019). This biotope was assigned to station ST39 in the south array, characterised by gravelly muddy sand interspersed with rippled sand with shell fragments and varying proportions of pebbles, cobbles, consolidated clay and clay clasts. Epibiota comprised crusts of *S. spinulosa*, echinoderms including *O. ophiura*, *O. albida* and *A. rubens*, hydroids and bryozoans including *H. falcata* and *Alcyonidium diaphanum*, the soft coral *Alcyonidium digitatum*, hermit crabs (Paguridae), polychaete tubes (Sabellidae) and burrowing anemones. A single place (*Pleuronectes platessa*) was also recorded.

Owing to the presence of *S. spinulosa* crusts, no grab sampling was undertaken at station ST39, which was further assessed in relation to the Annex I habitat 'Reef' (biogenic). Similarly, owing to the presence of cobbles and occasional boulders, ten stations were assessed in relation to the Annex I habitat 'Reef' (geogenic).

The results of the assessments, detailed in the Environmental Features Report (Fugro, 2021a), are summarised in Table 4.17 for the *S. spinulosa* reef and Table 4.18 for the stony reef.

Most of *S. spinulosa* aggregations along the transects at stations ST39 and 50 m east (ST39_50E) and west (ST39_50W) of station ST39, were classified as 'Not a reef' owing to an elevation of < 2 cm and/or a cover < 10 %. Areas classified as 'Low reef' were recorded along all transects associated with station ST39, whereas one area classified as 'Medium reef' occurred along transect ST_39Eb. An area classified as 'High reef' occurred at the start of transect ST39_50Ea and along transect ST39_50Eb (Table 4.17).

Areas of low resemblance to a stony reef were recorded along the transect 50 m east of station ST24 (ST24a_50E) and along transect at station ST25 (Table 4.18).

Table 4.17: Summary of estimated *Sabellaria spinulosa* 'reefiness', North Falls Offshore Site Investigation

Transect	Total Length of Transect [m]	Proportion of Total Transect Length					
		No Reef [%]	Not a Reef [%]	Low Reef [%]	Medium Reef [%]	High Reef [%]	Not Usable [%]
ST39	145	0	50	19	0	0	31
ST39_50W	59	0	80	20	0	0	0
ST39_50E	72	20	59	4	0	0	18
ST39_50Ea	72	0	11	34	0	46	9
ST39_50Eb	70	0	32	44	7	4	13
Reefiness Assessment							
No reef		Not a reef		Low reef	Medium reef	High reef	

Table 4.18: Summary of 'Stony reef' assessment, North Falls Offshore Site Investigation

Station	Assessment Criteria		Representative Image
ST24a_50E	Length	18 m	
	Elevation	< 64 mm	
	Cobbles and boulders	10 % - 40 %	
	Epifaunal coverage	< 80 %	
	Resemblance to a stony reef	Low	
ST25	Length	3 m	
	Elevation	< 64 mm	
	Cobbles and boulders	10 % - 40 %	
	Epifaunal coverage	< 80 %	
	Resemblance to a stony reef	Low	
	Length	10 m	
	Elevation	< 64 mm	
	Cobbles and boulders	10 % - 40 %	
	Epifaunal coverage	< 80 %	
	Resemblance to a stony reef	Low	

4.5.4 Subtidal Biotope Classification

Table 4.19 presents the EUNIS hierarchical structure of the habitats and biotopes identified across the North Falls survey area, by integration of the grab samples with the video and photographic data.

Table 4.20 presents the biotopes identified for each of the multivariate groups (detailed in Section 4.4.1.3).

Table 4.19: Habitat classifications, North Falls Offshore Site Investigation

EUNIS Habitat Classification (EEA, 2019)					Equivalent JNCC (2015) Classification
Environment Level 1	Habitat Complex Level 2	Habitat Level 3	Biotope Complex Level 4	Biotope Level 5	
A Marine	A5 Sublittoral sediment	A5.1 Sublittoral coarse sediment	A5.13 Infralittoral coarse sediment	-	SS.SCS.ICS Infralittoral coarse sediment
			A5.14 Circalittoral coarse sediment	A5.143 *Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand	SS.SCS.CCS.Pkef *Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand
		A5.2 Sublittoral sand	A5.23 Infralittoral fine sand	A5.231 Infralittoral mobile clean sand with sparse fauna	SS.SSA.IFiSa.IMoSa Infralittoral mobile clean sand with sparse fauna
			A5.26 Circalittoral muddy sand	A5.261 *Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment	SS.SSA.CMuSa.AalbNuc *Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment
		A5.3 Sublittoral mud	A5.33 Infralittoral sandy mud	A5.333 *Mysella bidentata* and *Abra* spp. in infralittoral sandy mud	SS.SMu.ISaMu.MysAbr *Mysella bidentata** and *Abra* spp. in infralittoral sandy mud
		A5.4 Sublittoral mixed sediment	A5.45 Deep circalittoral mixed sediments	A5.451 Polychaete-rich deep *Venus* community in offshore mixed sediments	SS.SMx.OMx.PoVen Polychaete-rich deep *Venus* community in offshore mixed sediments

Notes
EEA = European Environment Agency EUNIS = European Nature Information System
JNCC = Joint Nature Conservation Committee
* = *Mysella bidentata* is currently regarded as *Kurtiella bidentata*, but the biotope name has retained the species' former taxonomic name

Table 4.20: Characteristics of EUNIS habitats identified from the grab samples, North Falls Offshore Site Investigation

EUNIS Habitat Classification (EEA, 2019)	Multivariate Faunal Group	Physical characteristics	Epibiota (from video and photographs)	Characterising Taxa (from grab samples)		Representative photograph from video analysis
				Infaunal	Epifaunal	
'Sublittoral sands' (A5.2) and 'Infralittoral mobile clean sand with sparse fauna' (A5.231)	A1 South array (ST32, ST41, ST42, ST43, ST45, ST47)	Well sorted (medium) sand Depth range: 12.3 m to 47.1 m MSL	?Gadidae	*Gastrosaccus spinifer*	Folliculinidae	
			?Trachinidae	*Nephtys cirrosa*	Penetrantiidae	
			Paguridae	*Haustorius arenarius*	-	
			Ophiuroidea	*Ophelia borealis*	-	
*'Mysella bidentata** and *Abra* spp. in infralittoral sandy mud' (A5.333) and 'Polychaete-rich deep *Venus* community in offshore mixed sediments' (A5.451)	B1 ECR (ST01, ST02, ST03, ST17, ST18, ST21, ST22) North array (ST28) IC (ST31ALT) South array (ST33, ST35, ST36, ST40, ST48)	Very poorly sorted muddy sandy gravel Depth range: 8.2 m to 47.8 m MSL	Ophiuridae	*Kurtiella bidentata*	*Schizomavella*	
			Asterias rubens	*Lumbrineris cingulata* (agg.)	*Hydrallmania falcata*	
			Psammechinus miliaris	*Ampelisca spinipes*	*Electra pilosa*	
			Brachyura	Nemertea	*Escharella immersa*	
			Paguridae	*Scalibregma inflatum*	Folliculinidae	
'Abra alba and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261)	B2 ECR (ST04, ST05, ST06, ST10, ST19)	Very poorly sorted gravelly muddy (medium) sand Depth range: 7.4 m to 25.6 m MSL	No fauna observed due to poor visibility	*Nucula nitidosa*	*Sertularia*	No photo – low visibility
				Abra alba	*Crisia*	
				Lagis koreni	*Electra monostachys*	
				Nephtys hombergii	*Aspidelectra melolontha*	
				Spiophanes bombyx	*Scrupocellaria scruposa*	
'Infralittoral coarse sediment' (A5.13) and 'Sublittoral sands' (A5.2)	B3 ECR (ST14) South array (ST46, ST49)	Poorly sorted gravelly (coarse) sand Depth range: 19.0 m to 46.5 m MSL	*Asterias rubens*	*Lagis koreni*	Folliculinidae	
			Flustridae	*Spiophanes bombyx*	*Conopeum reticulum*	
			Ophiuridae	*Glycera oxycephala*	*Aspidelectra melolontha*	
			Paguridae	*Ophiura albida*	*Sertularia*	
			Alcyonidium diaphanum	Nemertea	*Alcyonidium parasiticum*	

EUNIS Habitat Classification (EEA, 2019)	Multivariate Faunal Group	Physical characteristics	Epibiota (from video and photographs)	Characterising Taxa (from grab samples)		Representative photograph from video analysis
				Infaunal	Epifaunal	
'Circalittoral coarse sediment' (A5.14) and *'Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143)	B4 * North array (ST25, ST27) South array (ST34, ST38, ST44)	Moderately sorted gravelly (coarse) sand Depth range: 29.4 m to 47.7 m MSL	*Flustra foliacea*	Nemertea	Folliculinidae	 ST27
			Alcyonidium diaphanum	*Syllis garciai*	*Disporella hispida*	
			Asterias rubens	*Aonides paucibranchiata*	*Aspidelectra melolontha*	
			Paguridae	*Glycera oxycephala*	*Escharella immersa*	
			Calliostoma	*Protodorvillea kefersteini*	*Tubulipora*	
'Infralittoral coarse sediment' (A5.13) and 'Circalittoral coarse sediment' (A5.14)	B5 ✕ ECR (ST12, ST15, ST16, ST20)	Moderately well sorted gravelly muddy (coarse) sand Depth range: 11.8 m to 35.2 m MSL	Hydrozoa/Bryozoa turfs	*Ophelia borealis*	*Conopeum reticulum*	 ST15
				Polycirrus	Folliculinidae	
				Lagis koreni	*Aspidelectra melolontha*	
				Caulleriella alata	*Electra pilosa*	
				Nemertea	*Hydrallmania falcata*	
'Infralittoral coarse sediment' (A5.13)	B6 ✕ ECR (ST07)	Very poorly sorted muddy sandy gravel Depth: 16.8 m MSL	No fauna observed due to poor visibility	*Paucibranchia totospinata*	*Crisia*	No photo – low visibility
				Lumbrineris cingulata (agg.)	*Electra monostachys*	
				Scoloplos armiger	*Electra pilosa*	
				Dodecaceria	*Amphiblestrum auritum*	
				Actiniaria	*Scrupocellaria scruposa*	
'Infralittoral mobile clean sand with sparse fauna' (A5.231)	ECR (ST11) +	Moderately well sorted (medium) sand Depth: 7.8 m MSL	No fauna observed due to poor visibility	*Travisia forbesii*	-	No photo – low visibility
				Bathyporeia elegans	-	

Notes
Multivariate groups identified by hierarchical clustering analysis of enumerated fauna
Sediment classification based on Folk (British Geological Survey (BGS) modified)
Description based on Wentworth (1922) scale
Characterising taxa from grab samples are the top five identified through the similarity percentage analysis (SIMPER)
Epifauna from the grab samples lists the most frequently occurring taxa
ECR = Export cable route
MSL = Mean Sea Level
EUNIS = European Nature Information System
IC = Interconnector
* = *Mysella bidentata* is currently regarded as *Kurtiella bidentata*, but the biotope name has retained the species' former taxonomic name

4.5.4.1 'Sublittoral sands' (A5.2)

The habitat 'Sublittoral sands' (A5.2) is described as clean medium to fine sands or non-cohesive slightly muddy sands occurring on open coasts, offshore or in estuaries and marine inlets subject to wave action or tidal currents which limits the deposition of finer sediments. The benthos of this habitats include a range of polychaetes, bivalve molluscs and amphipods (EEA, 2019).

This habitat was assigned to stations ST41, ST43, ST45ALT and ST47 in multivariate group A. These stations were characterised by moderately well sorted to well sorted (medium) sand, in water depth ranging from 35.8 m MSL to 47.1 m MSL. These stations had no mud and a gravel content of up to 4.10 %. Faunal richness and abundance were low and represented by crustaceans such as *G. spinifer* and polychaetes such as *N. cirrosa* and *O. borealis*.

The habitat 'Sublittoral sands' (A5.2) was assigned also to stations ST46 and ST49 in multivariate group B3. These stations were characterised by moderately well sorted (medium) sand and poorly sorted gravelly sand, in water depth of 46.5 m and 45.3 m MSL. Characterising taxa included the amphipod *A. obtusata*, the polychaetes *L. koreni*, *S. bombyx* and species of the genus *Nephtys*, the bivalve *A. prismatica* and the brittlestar *O. albida*.

Colonial epifauna was represented mainly by Ciliophora of the family Folliculinidae and bryozoa such as *Alcyonidium parasiticum*, *C. reticulum*, *A. melolontha* and species of the family Penetrantiidae. Invertebrate eggs were also recorded.

The seabed video and photographic analysis of stations ST41, ST43, ST45ALT, ST46, ST47 and ST49 (Appendix C.3) indicated a seabed comprising rippled sand with shell fragments. Consolidated mud with potential peat clasts were also observed, along with pebbles and cobbles. Epibiota was represented by hermit crabs of the family Paguridae, brittlestars including *O. albida*, faunal turfs of unidentified Bryozoa and/or Hydrozoa, and fish, most probably of the family Trachinidae. Drift material of the non-native brown alga *Sargassum muticum* was recorded at station ST47.

4.5.4.2 'Infralittoral mobile clean sand with sparse fauna' (A5.231)

The biotope 'Infralittoral mobile clean sand with sparse fauna' (A5.231) is described as medium to fine sand in shallow water, often formed into dunes, on exposed or tide-swept coasts. Owing to the mobility of the substratum, the infauna is restricted to few invertebrates such as *G. spinifer* and *N. cirrosa*. Sandeels of the genus *Ammodytes* may be present. Epibiota include crabs such as *Pagurus bernhardus* and echinoderms such as *A. rubens* (EEA, 2019).

This biotope was assigned to stations ST32 and ST42 in multivariate group A. These stations were characterised by moderately well sorted and well sorted (medium) sand in water depth of 12.3 m MSL and 20.6 m MSL. These stations had no mud and a gravel content < 0.03 %. Faunal richness and abundance were very low and represented by *G. spinifer*, *H. arenarius*

and *O. borealis*. The sandeel *Ammodytes tobianus* was recorded at station ST42. No epifauna was recorded in the grab samples, other than invertebrates' eggs.

The biotope 'Infralittoral mobile clean sand with sparse fauna' (A5.231) was assigned also to station ST11 characterised by moderately well sorted (medium) sand in water depth of 7.8 m MSL and very little fauna represented by the polychaete *T. forbesii* and the amphipod *B. elegans*.

Colonial epifauna, where present, comprised Ciliophora of the family Folliculinidae.

The seabed video and photographic analysis of stations ST11, ST32 and ST42 (Appendix C.3) indicated a seabed comprising rippled sand with shell fragments, with little epibiota represented by fish most probably of the families Gadidae and Trachinidae at station ST42.

4.5.4.3 *'Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333)

The biotope '*Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333), is described as infralittoral cohesive sandy mud typified by the bivalve *K. bidentata* and bivalves of the genus *Abra*. Other characteristic taxa include tube building amphipods of the genus *Ampelisca*, and polychaetes such as *Mediomastus fragilis* (EEA, 2019).

This biotope was assigned to stations ST01, ST02 and ST03 in multivariate group B1. These stations were characterised by very poorly to extremely poorly sorted gravelly mud and muddy, sandy gravel, in water depth of 8.2 m to 12.5 m MSL. Characterising taxa included the bivalves *A. alba*, *K. bidentata*, *N. nucleus*, *S. jeffreysi* and *M. discors*, the amphipods *A. spinipes* and *Ampelisca diadema*, and polychaetes including *M. fragilis*. The polychaete *S. spinulosa* was recorded at station ST01 with abundance of 42 individuals, whereas the echiuran *Maxmuelleria lankesteri* was recorded at station ST03 with abundance of 10 individuals.

Colonial epifauna from the grab samples included hydrozoans of the genus *Halecium,* bryozoans such as *A. diaphanum*, *C. reticulum*, *Scrupocellaria scruposa* and species of the genus *Crisia*. Invertebrates' eggs were recorded at station ST01.

Poor underwater visibility at the time of the survey prevented recording of epibiota and qualitative evaluation of seabed sediment (Appendix C.3).

4.5.4.4 'Polychaete-rich deep *Venus* community in offshore mixed sediments' (A5.451)

The biotope 'Polychaete-rich deep *Venus* community in offshore mixed sediments' (A5.451), is described as a community rich in polychaetes and venerid bivalves. Typical polychaetes include, but are not limited to, *G. lapidum*, *A. paucibranchiata*, *M. fragilis*, *Lumbrineris* and syllid species and bivalves such as *Timoclea ovata* and *Spisula elliptica* (EEA, 2019).

This biotope was assigned to 11 station (ST17, ST18, ST21, ST22, ST28, ST31ALT, ST33, ST35, ST36, ST40, ST48) in multivariate group B1, which were characterised by very poorly to extremely poorly sorted mixed sediment, with a gravel content of 5.51 % to 71.33 % and a mud content of 5.23 % to 44.80 %, in water depth of 25.4 m to 47.8 m MSL. Characterising

taxa included polychaetes such as *L. cingulata* (agg.), *S. inflatum*, *L. koreni*, *M. fragilis* and *Notomastus/Pseudonotomastus*, and bivalves such as *A. alba* and *K. bidentata*. Molluscs of the genus *Leptochiton* were also recorded along with the brittlestar *O. albida*.

Colonial epifauna from the grab samples included *H. falcata*, *E. pilosa*, *E. immersa*, *A. digitatum* and species of the genera *Schizomavella* and *Sertularia*, along with fish of the families Gadidae and potentially Scyliorhinidae and the genus *Callionymus*.

The seabed video and photographic analysis (Appendix C.3) indicated a seabed comprising gravelly muddy sand and/or muddy sandy gravel with shell fragments, pebbles and, less frequently, cobbles and consolidated mud. Epibiota comprised echinoderms including *A. rubens*, *P. miliaris* and species of *Ophiura*, crabs of the infraorder Brachyura and hermit crabs of the family Paguridae, the soft coral *A. digitatum*, polychaete tubes of the genus *Spirobranchus*, molluscs such as *Aequipecten opercularis* and species of the family Buccinidae and the genus *Calliostoma*; anemones of the family Sagartiidae and the order Actiniaria; ascidians and fish.

4.5.4.5 *Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment (A5.261)

The biotope '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261), is described as non-cohesive muddy sands or slightly shelly/gravelly muddy sand characterised by the bivalves *A. alba* and *N. nitidosa*. Other important taxa include species of *Nephtys* and *Chaetozone* and *S. bombyx*. The echinoderms *O. albida* and *A. rubens* may also be present (EEA, 2019).

This biotope was assigned to all stations in multivariate group B2, characterised by very poorly sorted gravelly, muddy (medium) sand, in water depths of 7.4 m to 25.6 m MSL. Characterising taxa included the bivalves *N. nitidosa*, *A. alba*, *K. bidentata* and polychaetes such as *L. koreni*, *N. hombergii*, *S. bombyx* and species of the genera *Owenia* and *Notomastus/Pseudonotomastus*.

Colonial epifauna from the grab samples comprised *E. monostachys*, *A. melolontha*, *S. scruposa* and species of the genera *Sertularia* and *Crisia*.

Poor underwater visibility at the time of the survey prevented recording of epibiota and qualitative evaluation of seabed sediment (Appendix C.3).

4.5.4.6 'Infralittoral coarse sediment' (A5.13)

The biotope complex 'Infralittoral coarse sediment' (A5.13) is described as typical of moderately exposed habitats with coarse and/or gravelly sand, shingle and gravel in the infralittoral zone, subject to disturbance by tidal streams and wave action. As consequence of the physical disturbance, the fauna of this habitat is restricted to robust infaunal polychaetes, crustaceans and venerid bivalves (EEA, 2019).

This biotope complex was assigned to station ST14 in multivariate group B3, stations ST12, ST15 and ST16 in multivariate group B5 and station ST07 in multivariate group B6. These stations were characterised by moderately well sorted to very poorly sorted (coarse) sand or gravelly sand, and muddy sandy gravel. Faunal richness and abundance were low at all these stations and comprised taxa such as *Glycera alba* and *S. bombyx* (station ST14), *O. borealis* and *Polycirrus* (stations ST12, ST15 and ST16), and *Paucibranchia totospinata* and *L. cingulata* (agg.) (station ST07).

Colonial epifauna, where present, comprised bryozoans such as *C. reticulum* and species of the genus *Electra*.

The seabed video and photographic analysis of stations ST12, ST14, ST15 and ST16 (Appendix C.3) indicated a seabed comprising sand with shell fragments and gravelly sand or sandy gravel, with pebbles and less frequently cobbles. Epibiota, where visible, comprised *A. rubens* and bryozoans of the family Flustridae.

4.5.4.7 'Circalittoral coarse sediment' (A5.14)

The biotope complex 'Circalittoral coarse sediment' (A5.14) is described as coarse sands, gravel and shingle in the circalittoral zone along exposed coasts and offshore. This habitat, as that of infralittoral coarse sediments, is characterised by robust infaunal polychaetes, mobile crustacea and bivalves (EEA, 2019).

This biotope complex was assigned to stations ST27 and ST44 in multivariate group B4. These stations were characterised by moderately well sorted and poorly sorted (coarse) sand and gravelly sand in water depth of 37.7 m and 47.7 m MSL. Faunal richness and abundance were low, with typical infauna including polychaetes such as *A. paucibranchiata*, *C. alata* and species of the genera *Syllis*, *Glycera* and *Nototropis*, and bivalves such as *K. bidentata*, *Moerella donacina* and *Nucula hanleyi*.

This biotope complex was assigned also to station ST20 in multivariate group B5, characterised by extremely poorly sorted muddy sandy gravel, in water depth of 35.2 m MSL. Faunal richness and abundance were low and represented by nine taxa of which *O. borealis* was the most abundant invertebrate with 13 individuals, whereas the remaining eight taxa had abundances of between one and two individuals.

Colonial epifauna was represented mainly by Folliculinidae, hydrozoans of the genus Sertularia and bryozoans such as *C. reticulum* and *A. melolontha*.

The seabed video and photographic analysis of stations ST20 and ST27 (Appendix C.3) indicated a seabed comprising sandy gravel and/or gravelly sand with shell fragments and pebbles. At station ST44, the seabed was described as gravelly muddy sand with shell fragments and pebbles, with consolidated mud outcrop and potential peat clasts.

Epibiota at station ST20 comprised faunal turfs of unidentified Hydrozoa/Bryozoa, whereas at stations ST27 and ST44 epibiota was more diverse and included *O. albida*, *A. rubens*,

P. bernhardus, gastropods species of the genus *Euspira*, *P. miliaris*, *A. opercularis*, polychaete tubes of the family Serpulidae, and fish, including *Solea solea*, potential *Raja clavata* and sandeels of the family Ammodytidae.

4.5.4.8 *'Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143)

The biotope '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143), is described as coarse sand or gravelly sand with shell fragments and a slight mud content, along open coasts and in shallower offshore areas. The faunal community is impoverished and characterised by *P. kefersteini* and invertebrates such as Nemertea and *G. lapidum* and sometimes *S. spinulosa*, all occurring at low abundances (EEA, 2019).

This biotope was assigned to stations ST25, ST34 and ST38 in multivariate group B4. These stations were characterised by moderately well sorted (coarse) sand in water depth of 29.4 m to 33.7 m MSL. Faunal richness and abundance were low, Nemertea having the highest abundance with nine individuals (station ST38). Typical species included *P. kefersteini*, species of the genus *Glycera* and *Nemertea*. The sandeel *Ammodytes tobianus* was recorded at station ST38.

Colonial epifauna at station ST38 comprised Folliculinidae, whereas at stations ST25 and ST34 comprised several taxa including *A. melolontha*, *C. reticulum*, *Disporella hispida*, *Escharella immersa* and *Flustra foliacea*, the latter recorded at station ST25.

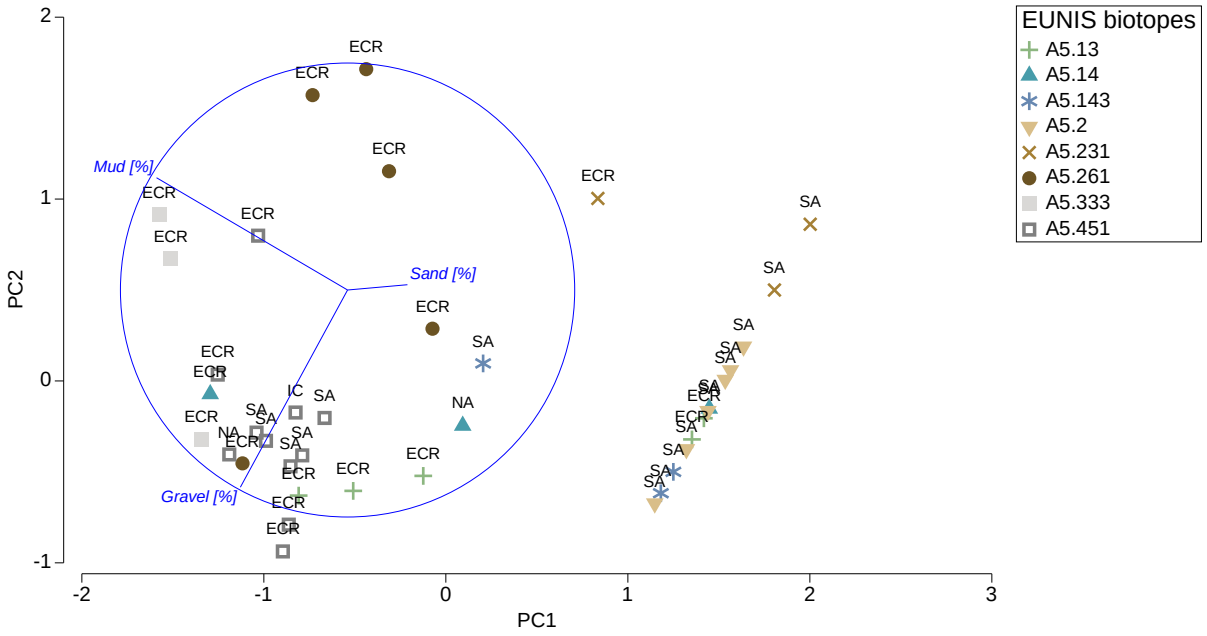
The seabed video and photographic analysis (Appendix C.3) indicated a seabed comprising sand, gravelly sand and gravelly muddy sand, with pebbles and cobbles. Consolidated clay and boulders were recorded at station ST25. The epibiota in the sandy areas was represented by hermit crabs, whereas hard substrates comprised barnacles, *F. foliacea*, *A. diaphanum*, *A. rubens* and gastropods of the genus *Calliostoma*. Evidence of piddocks (Imparidentia) were observed on the consolidated clay.

4.6 Biotope Classification and Sediment Data

Figure 4.32 illustrates the association between the biotopes recorded and the sediment type and Figure 4.33 illustrates the spatial distribution of biotopes across the North Falls survey area. Figure 4.34 presents the spatial distribution of interpolated biotopes utilising the geophysical, seabed video and grab sample data.

Sandy habitats typified the offshore stations in the south array, classified as 'Sublittoral Sand' (A5.2) and 'Infralittoral mobile clean sand with sparse fauna' (A5.231), the difference between the two habitats based mainly on depth. Increase in sediment coarseness resulted in the biotope complexes 'Infralittoral coarse sediment' (A5.13) and 'Circalittoral coarse sediment' (A5.14), depending on depth, including the biotope '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143). As the proportion of gravel and mud increased, the biotope 'Polychaete-rich deep *Venus* community in offshore

mixed sediments' (A5.451) became predominant, giving way to the biotopes '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261) and *Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333), which typified stations with a high proportion of mud, mostly along the nearshore section of the ECR.



Notes:
ECR = Export cable route
EUNIS = European Nature Information System
IC = Interconnector
NA = North array
PC = Principal component
SA = South array
A5.13 = 'Infralittoral coarse sediment'
A5.14 = 'Circalittoral coarse sediment'
A5.143 = '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand'
A5.2 = 'Sublittoral sands'
A5.231 = 'Infralittoral mobile clean sand with sparse fauna'
A5.261 = '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment'
A5.333 = '*Mysella bidentata* and *Abra* spp. in infralittoral sandy mud'
A5.451 = 'Polychaete-rich deep Venus community in offshore mixed sediments'

Figure 4.32: 2D PCA of sediment composition with superimposed locations and EUNIS biotopes, North Falls Offshore Site Investigation

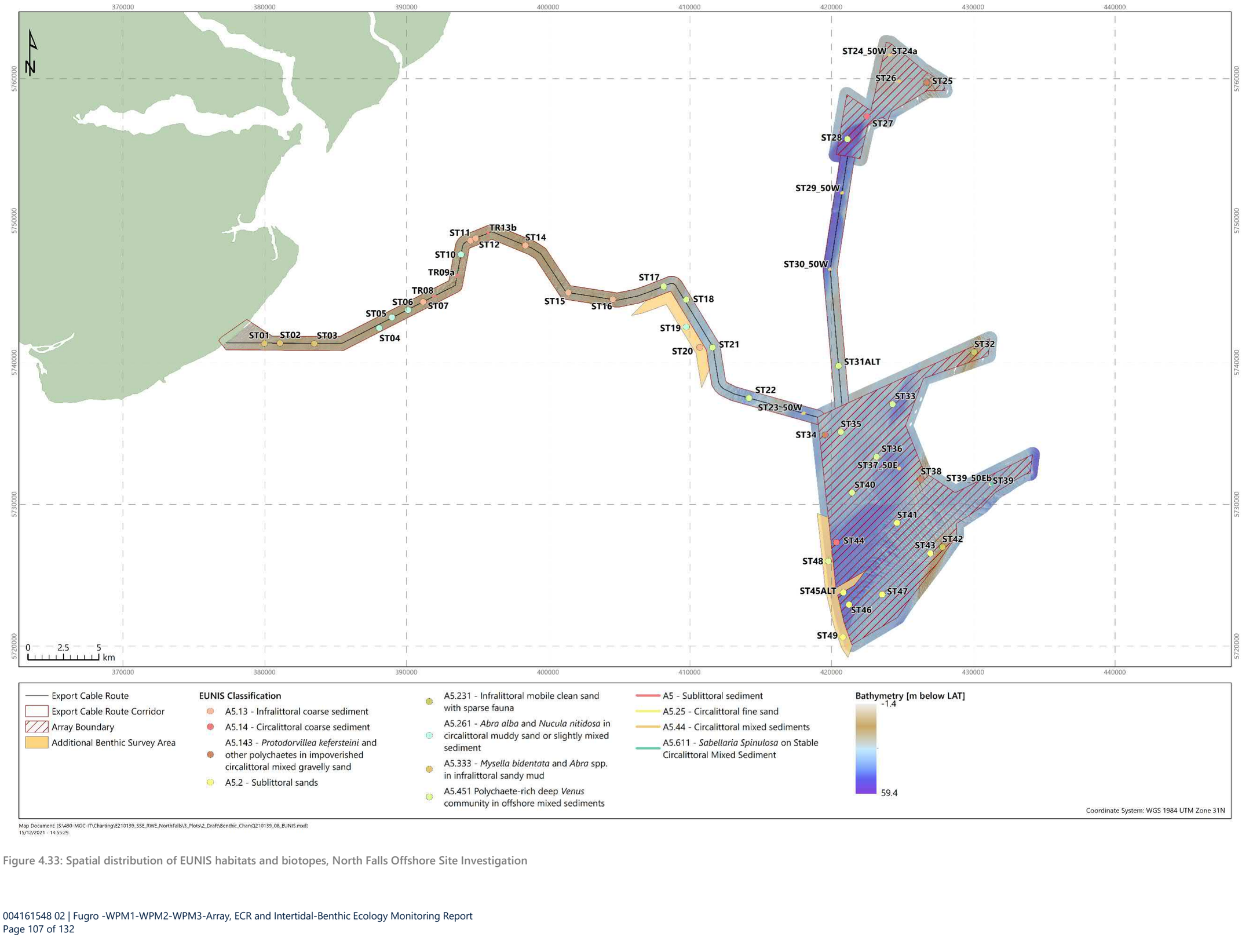


Figure 4.33: Spatial distribution of EUNIS habitats and biotopes, North Falls Offshore Site Investigation

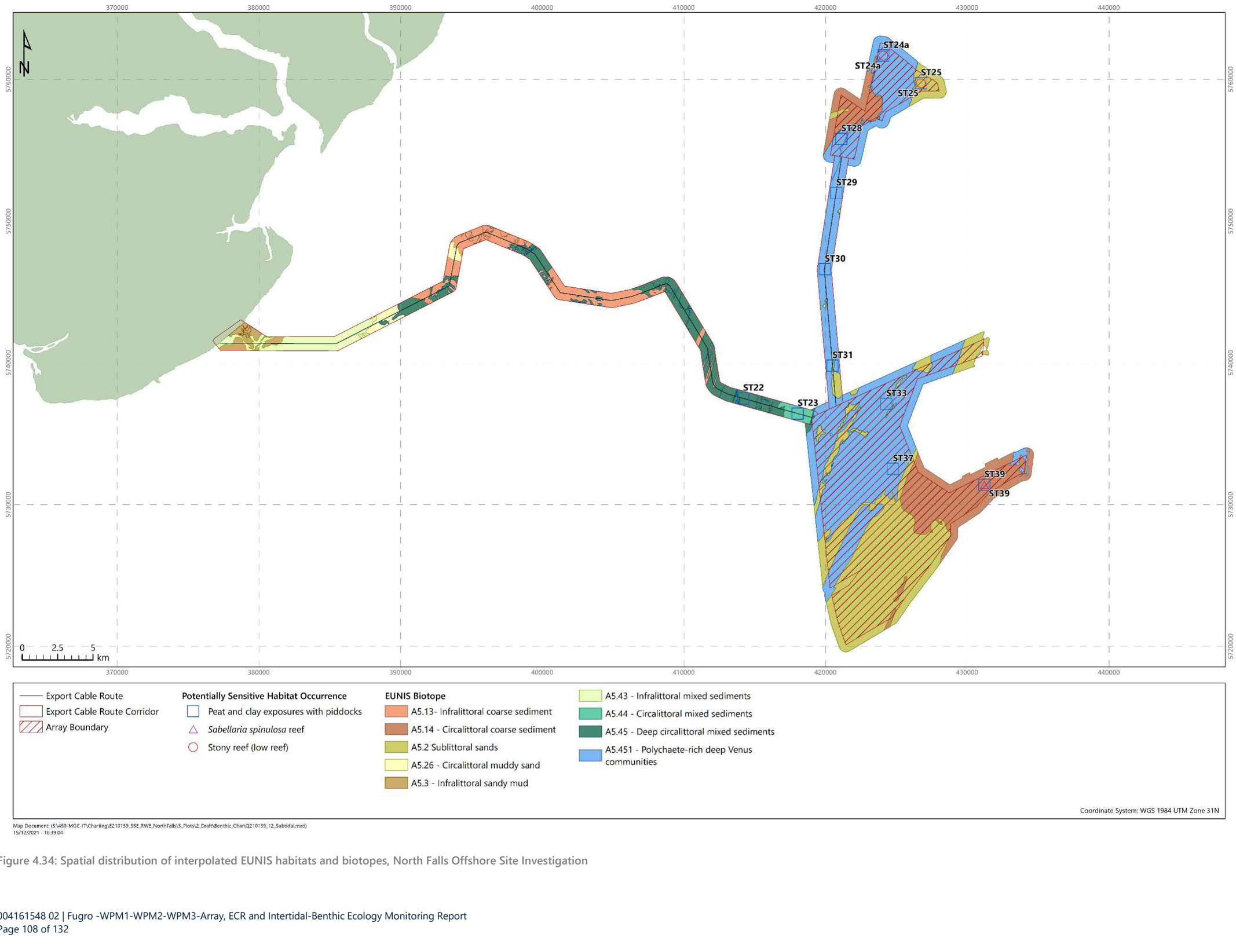


Figure 4.34: Spatial distribution of interpolated EUNIS habitats and biotopes, North Falls Offshore Site Investigation

5. Discussion

Physico-chemical and biological analysis of the seabed grab samples provided information for sediment characterisation, potential contamination and biological communities across the North Falls survey area. Data gathered are important components of environmental studies to support engineering design and/or environmental impact assessment.

5.1 Sediment Characterisation

Results of the sediment PSD indicated the presence of heterogeneous sediments, with mean gravel, sand and fines content of 19.13 %, 66.90 % and 13.97%, respectively. Gravel was recorded at 38 of the 39 stations sampled, whereas fines were absent from 13 stations. The coarseness of the sediment ranged from 'medium silt' to 'fine pebbles', with a median in the 'coarse sand' region, based on the Wentworth (1922) scale.

Eight sediment classes were identified using the Folk (BGS modified) classification, including 'sand' and 'muddy, sandy gravel', each typifying 11 stations, 'gravelly sand' which typified seven stations and 'gravelly muddy sand' which typified four stations. The remaining stations were classified as 'muddy sand' and 'gravelly muddy sand' each typifying two stations and 'sandy gravel' and 'sandy mud', each typifying one station. The sorting coefficient reflected the heterogeneity of the sediment and ranged from well sorted to extremely poorly sorted, with most stations having very poorly sorted sediments.

The sediment types recorded within the survey area are typical of the southern North Sea which is reported to comprise of a mix of sand and gravel (Jones et al., 2005), often forming a thin veneer overlaying clay bedrock particularly in the Outer Thames Estuary (Marine Aggregate Levy Sustainability Fund [MALSF], 2009). In this study, areas of consolidated clay were recorded through the seabed video and photography at several stations (Fugro, 2021a and Section 4.5). Variations in the proportions of mud in the Outer Thames Estuary are reported to be associated with the input from the local fluvial sources and differences in depositional and erosion regimes, whereas well sorted mobile sand is associated with the tidally aligned sandbanks, notably the Inner Gabbard, Greater Gabbard, Galloper and North Falls (MALSF, 2009).

Continuous inputs of fines from the estuaries and sediment disturbance associated with hydrodynamics, results in patchy distribution of sediment assemblages (Irving, 1998). Mixed sediments with varying proportions of gravel, sand and fines, occurred along the ECR, the proportion of fines being higher at stations along the nearshore section. Shell fragments, recorded through in situ observation of the grab samples and the seabed video and photography, are a feature of seabed sediment of this region (MALSF, 2009). This is of relevance as the PSD analysis does not discern between gravel and shells. Further offshore the sediment was sandy, mainly in the south array, with patches of gravel and mud. The different sources of sediment input may result in multimodal distribution of the sediment

particle size (Hein, 2007), in line with the results of this study which recorded bimodal and/or polymodal distribution at 21 stations.

5.2 Sediment Chemistry

5.2.1 Aromatic Hydrocarbons

PAHs are widely spread in the environment (Butler et al., 1984) with natural sources occurring primarily through synthesis by plants (Neff, 1979; Sims & Overcash, 1983), related to natural seeps of petroleum (NRC, 1983; Kennicutt et al., 1988) and to formation during natural forest and prairie fires (Youngblood & Blumer, 1975; Wakeham et al., 1979). By far the greatest proportion of PAHs released into the environment are formed during fossil fuel combustion and man-made forest and agricultural fires (Edwards, 1983; Sims & Overcash, 1983; Haritash & Kaushik, 2009). Polycyclic aromatic hydrocarbons primarily enter marine sediments from atmospheric and riverine inputs and tend to adsorb to suspended inorganic and organic particulate matter, ultimately settling on the seabed where they accumulate to relatively high concentrations (Latimer & Zheng, 2003; Culotta et al., 2006).

Monitoring of aromatic hydrocarbon type and content is important due to the particularly toxic nature (mutagenic/carcinogenic) of several PAHs, particularly the heavier weight PAHs. The Unites States Environmental Protection Agency (US EPA) has identified 16 priority PAHs to be monitored (Keith, 2015) and the CEMP specifies 9 PAHs of specific concern (OSPAR, 2014), which primarily reflect inputs from man-made combustion sources.

Concentrations below the LOD for all PAHs analysed in this study, were recorded at six stations in the south array. At the remaining stations, the PAH concentrations were below the marine SQGs and are therefore not considered to be detrimental to the marine environment. A spatial pattern of distribution was identified, with stations along the nearshore section of the ECR having higher concentration of PAHs, compared to the offshore stations. Such pattern is likely driven by sedimentary differences with the nearshore stations having in general higher percentages of fines, which allow greater binding of contaminants owing to the greater surface to volume ratio (Davies, 2004). This was confirmed by the correlation between PAHs and percentage of fines.

Regional contextualisation of the results indicated that the total concentration of the 22 PAHs analysed was higher than the range of 0.3 µg/kg to 19 µg/kg reported for station CSEMP 475 in the Outer Gabbard area (Cefas, 2012). These differences are likely to be associated with location and sedimentary differences, as the sediment at the offshore station CSEMP 475 is reported to be slightly gravelly sand with mud content < 1 % (Cefas, 2012), compared to a mud content of up to 66.15 % at the nearshore stations.

5.2.2 Sediment Metals

Metals and metalloids occur naturally in the marine environment and are widely distributed in both dissolved and sedimentary forms. Some are essential to marine life while others have no biological function and therefore are toxic to numerous organisms at certain levels

(Paez-Osuna & Ruiz-Fernandez, 1995; Boening, 1999). Metals can enter the environment via natural methods such as riverine transport, coastal discharges, geological weathering and atmospheric fallout (Brady et al., 2015). Other routes into marine sediments are from anthropogenic activities such as direct discharges from industrial activities.

Trace metal contaminants in the marine environment tend to form associations with the non-residual phases of mineral matter, such as iron and manganese oxides and hydroxides, metal sulphides, clays, organics and carbonates (Warren & Zimmerman, 1993; Dang et al., 2015; Wang et al., 2015). Non-residual trace metals are associated with more reactive and available sediment components through processes such as adsorption onto mineral surfaces and organic complexation. Metals associated with these more reactive phases are prone to various environmental interactions and transformations (physical, chemical and biological) potentially increasing their mobility and biological availability (Tessier et al., 1979; Warren & Zimmerman, 1993; Du Laing et al., 2009). Residual trace metals are defined as those that are part of the crystal structure of the component minerals and are generally unavailable to organisms (de Orte et al., 2018). Therefore, in monitoring trace metal contamination of the marine environment, it is important to distinguish the more mobile non-residual trace metals from the residual metals held tightly in the sediment lattice (Chester & Voutsinou, 1981), which are of comparatively lesser environmental significance because of their low reactivity and availability.

Metal concentration in sediment samples from the North Falls survey area were below the marine SQGs for most metals analysed. The exceptions were arsenic and nickel, which were above the Cefas AL1 at nine and three stations, respectively, with station ST38 having arsenic concentration above also the ERM value. The concentration of arsenic was above the Canadian TEL at all stations except station ST49. It is worth noting that the value of the Canadian TEL for arsenic (7.24 mg/kg) is lower than that of NOAA ERL (8.2 mg/kg), which has been considered too low (de Mora et al., 2004) particularly as uncontaminated coastal sediments are generally reported to have arsenic concentrations between 5 µg/g and 15 µg/g (Neff, 1997). Importantly, the NOAA ERL has not been adopted for the assessment of contamination status in the OSPAR maritime area as it is below the BAC (OSPAR, 2009). Natural sources of arsenic and nickel in the marine environment include mineral erosion, volcanic eruptions and forest fires (Neff, 1997; Cempel & Nikel, 2006), whereas anthropogenic sources include mining and smelting, burning of fossil fuel and surface runoff (Neff, 1997; Nriagu, 1990). High arsenic concentrations in the Outer Thames Estuary may be associated with a history of arsenical waste disposal in the Thames estuary (Whalley et al., 1999). The arsenic concentrations in this study (4.7 mg/kg to 73.6 mg/kg) were within the range of < 0.15 mg/kg to 135 mg/kg reported for the southern North Sea (Whalley et al., 1999). Nickel concentrations for the Inner Thames Estuary have been reported to match those in sewage works' waste discharge, with values of 11 mg/kg to 113 mg/kg (Vane et al., 2020), which encompass the range recorded of this study (3.1 mg/kg to 27.8 mg/kg).

5.3 Macrofaunal Communities

Macrofaunal communities recorded across the North Falls survey area were represented mainly by Annelida and Mollusca, the former dominating in terms of richness, the latter dominating in terms of abundance. Arthropoda were represented mainly crustacean amphipods, whereas Echinodermata were represented mainly by brittlestars. Solitary epifauna was represented by anemones, phoronid and ascidians.

There was considerable variability in the number of taxa and individuals across the survey area. Stations ST32 and ST43, in the south array, had a single individual each, whereas station ST40, also in the south array, had 64 taxa and 178 individuals, resulting in this station having the highest diversity based on the Shannon-Wiener index ($H'Log_2$) assessed in line with the criteria in Dauvin et al. (2012). Conversely, station ST05, along the nearshore section of the ECR had the lowest diversity, with seven taxa and 347 individuals, represented mostly by the bivalve *N. nitidosa*. The highest macrofaunal abundance was recorded at stations ST01 and ST18, along the ECR, each with over 1000 individuals. However, these stations had 'poor diversity', in line with Dauvin et al., (2012), owing to a numerical dominance of *M. discors* at station ST01 and *L. koreni* at station ST18.

In terms of macrofaunal composition, Annelida had numerical dominances of the polychaetes *L. koreni*, *S. inflatum*, *L. cingulata* (agg.), *S. spinulosa* and species of the genus *Notomastus/Pseudonotomastus*, which were the top five most abundant polychaetes. These species were also amongst the top five most frequently occurring taxa, along with the *S. bombyx*, whereas *S. spinulosa* and a restricted occurrence by comparison.

In the North Sea *S. spinulosa* occurs mostly as solitary or in small groups encrusting pebbles, shells and bedrock (Biodiversity Reporting and Information Group [BRIG], 2011). Stations ST01, with 42 individuals, and ST48, with 34 individuals, had the highest *S. spinulosa* abundance, and were characterised by mixed sediments, with cobbles, shells and boulders recorded through the seabed video and photography at ST48.

Molluscs were represented mainly by *K. bidentata* and *A. alba*, which were amongst the top five most abundant and frequently occurring molluscs. Of the other bivalves, *N. nucleus*, *S. jeffreysi* and *M. discors* featured within the top fine most abundant molluscs, albeit their distribution was restricted mainly to the nearshore sections of the ECR. These molluscs are generally opportunistic species. For example, bivalves of the genus *Abra* are reported to be capable of exploiting newly disturbed substratum through larval recruitment, secondary settlement of post metamorphosis juveniles and/or redistribution of adults (De-Bastos, 2016). Similarly, *K. bidentata* is reported to occur in association with burrows of brittlestars of the order Ophiuroidea (Gofas & Salas, 2008) which were also recorded in this study. High density populations of *Nucula* have been reported to occur in muddy sandy habitats exposed to a degree of wave action (Sabatini & Ballerstedt, 2008), as well as on sandbanks (Roche et al., 2007; Walker & Rees, 1980).

The Echinodermata composition was dominated by brittlestars, notably *O. albida*. *O. fragilis* and *A. squamata*, which are typical of habitats with mixed coarse sediments exposed to strong tidal currents (Jackson, 2008). Similarly, sea urchins, such as *E. pusillus* and *P. miliaris*, which were also recorded in this study, inhabit the interstices of gravelly substrata in area exposed to strong tidal currents (Rees et al., 2007).

Overall, the macrobenthic communities recorded in this study are indicative of habitats subject to a degree of surface sediment disturbance, as indicated by the widespread occurrence of the polychaete *S. bombyx* (Ager, 2005) and crustaceans such as *A. spinipes* (Tillin, 2016) and *G. spinifer* (Tillin et al., 2019) which were amongst the top five most abundant and frequently occurring arthropods. The presence of coarse sediment such as shells, pebbles and cobbles, recorded through the seabed video and photography, offered suitable substrate for the attachment of solitary (e.g. barnacles and ascidians) and colonial epifaunal taxa (e.g. bryozoans).

Seven macrofaunal assemblages were identified through the multivariate analysis, each assemblage having a similarity < 40 %, reflecting the heterogeneity of the seabed sediment in a high energy environment. This was further confirmed by the moderate correlation between the observed pattern of macrofaunal distribution and the sediment particle sizes, which was interpreted as a reflection of the constant sediment reworking. In general, high density of deposit feeders was recorded at stations with high percentage of fines, as the resuspension of fine sediments may stress the organisms through clogging of filtering structures (Coates et al., 2016).

The infaunal biomass was represented mainly by Mollusca and Annelida owing to the numerical dominance of these phyla's invertebrates. The biomass of echinoderms was associated with the size of organisms, such as *E. cordatum*, which can grow up to 9 cm (Hill, 2008) and *P. miliaris* which can reach 5.7 cm (Jackson, 2008).

Colonial epifauna from the grab samples, along with mobile epibiota recorded through the seabed video and photography comprised assemblages comparable to those reported to be typical of the shallower sediment areas of the southern North Sea (Callaway et al., 2002; Jennings et al., 1999). Characteristic epibenthic species included crustaceans, such as hermit crabs of the family Paguridae including *P. bernhardus*, and the genus *Liocarcinus*; molluscs, such as *A. opercularis* and species of the family Buccinidae and the genus *Calliostoma*; echinoderms, such as *A. rubens*, *P. miliaris* and brittlestars of the family Ophiuridae, including *O. albida* and *O. ophiura*. Sessile colonial epifauna comprised bryozoans, including *A. digitatum* and less often species of the family Flustridae including *F. foliacea*; anemones of the order Actiniaria such as *Metridium senile*, species of the genus *Urticina*, the family Sagartiidae and the genus *Sagartia*. Fish included species of Ammodytidae, including *A. tobianus*, potential *Pholis gunnellus* and species of the families Gadidae, Trachinidae and Rajidae.

The number of colonial epifauna was generally higher at stations featuring coarse and/or mixed sediment, owing to the sediment coarseness and heterogeneity which provide microhabitats and hard substrate for the settlement of epifaunal species. This in turn increase the structural complexity of the habitat and may provide additional microhabitats for smaller fauna, thus increasing the overall richness and diversity (BRIG, 2011), as recorded in this study.

5.4 Habitats and Biotopes

5.4.1 Intertidal

One habitat complex, one habitat, two biotope complexes, eight biotopes and one sub-biotope were identified across the intertidal survey area.

The foreshore was characterised by two broad habitat types, sand with a varying proportion of gravel and hard substrate (sea defence structures). The sea defence structures comprised wooden groynes to the north-east of the survey area (near Frinton-on-Sea), concrete recurved, stepped revetment sea walls and rock armour (within the majority of the survey area) and fishtail rock groynes to the south-west of the survey area (near Holland-on-Sea).

Much of the hard substrate fauna recorded was ubiquitous across the survey area and between habitats, with the seaweed assemblage influencing the habitat classifications. The majority of the sedimentary areas have been classified at habitat complex level in the absence of detailed PSD and infauna data.

More exposed shores tend to feature a dominance of invertebrates (e.g. barnacles and limpets) over seaweeds. The habitats identified on hard substrata within the ECR generally exhibiting a typical exposed to moderately exposed shore zonation overlaid upon a 3D geology. Consequently, on areas on elevated mid shore rock, habitats typical of upper shore hard substrata were observed. Areas of rock in the mid to low shore of the survey area generally featured sparse biological assemblages that were typical of moderately exposed littoral rock subject to sand scour, allowing ephemeral red (*Porphyra* sp.) and green seaweeds (*Ulva* spp.) to dominate in places.

The flora and fauna recorded across the survey area was typical of the region (World Register of Marine Species Editorial Board, 2021; The Marine Biological Association of the UK, 2021; Bunker et al, 2012).

5.4.2 Subtidal

One habitat, two biotope complexes and five biotopes were identified from the grab samples across the North Falls survey area. Two additional biotopes were identified through the seabed video and photography.

The habitat 'Sublittoral sands' (A5.2) typified six stations in the south array. These stations featured mobile sand with low species richness and abundance, represented by fast swimming crustaceans and robust polychaetes.

The biotope complex 'Infralittoral coarse sediment' (A5.13) typified five stations along the offshore section of the ECR. These stations featured coarse sediments with low species richness and abundance, represented by robust polychaetes. Infralittoral coarse sediments are typical of areas subject to strong tidal currents resulting in sediment mobility and transport during each tidal cycle. As such, only invertebrate capable to withstand or escape from sand abrasion can inhabits these habitats (Roche et al., 2007).

The biotope complex 'Circalittoral coarse sediment' (A5.14), typified one station along the offshore section of the ECR, one station in the north array and one station the south array. These stations featured coarse and/or mixed sediments with relatively low species richness and diversity represented by polychaetes and bivalves.

The biotope 'Infralittoral mobile clean sand with sparse fauna' (A5.231) typified two stations in the south array and one along the ECR. These stations featured mobile sands with low species richness and diversity represented by fast swimming crustaceans.

The biotope '*Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333), typified three stations along the nearshore section of the ECR. These stations featured gravelly mud and muddy gravel, hosting high abundances of the bivalves *A. alba*, *K. bidentata*, *N. nucleus* and *S. jeffreysi*.

The biotope 'Polychaete-rich deep *Venus* community in offshore mixed sediments' (A5.451), typified 11 stations across the North Falls survey area, including four stations along the offshore section of the ECR, one along the interconnector, one in the north array and five in the south array. This biotope is part of the 'Deep *Venus* Community' and the 'Boreal Offshore Gravel Association' (EEA, 2019).

The biotope '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261) typified five stations along the nearshore section of the ECR. These stations featured muddy sand hosting high abundances of the bivalves *N. nitidosa*, *A. alba* and *K. bidentata*. This biotope is part of the '*Abra* community' (EEA, 2019) and the 'infralittoral étage' described by Glémarec (1973).

The biotope '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143), typified one station in the north array and two stations in the south array. These stations featured gravelly sand and an impoverished faunal community, characterised by the polychaete P. *kefersteini*. This biotope is considered a disturbed or transitional variant of coarse sediment biotopes, due to physical disturbance (JNCC, 2015). Consequently, this biotope may be variable spatially and temporally in terms of community structure and sediment type which is often borderline between the 'Sublittoral coarse sediment' (A5.1) and 'Sublittoral mixed sediment' (A5.4) (EEA, 2019).

The biotope '*Sabellaria spinulosa* on stable circalittoral mixed sediment' (A5.611), was assigned to station ST39, in the south array, which was surveyed by means of seabed video and photography only, owing to the presence of *S. spinulosa* crusts.

5.4.3 Potentially Sensitive Habitats and Species

Most of the biotopes recorded across the intertidal survey area are part of the BSH 'High energy littoral rock', 'Moderate energy littoral rock' and 'Intertidal sand and muddy sand' in MCZs (JNCC, 2018).

Most of the biotopes recorded across the North Falls subtidal survey area are part of the BSH 'Subtidal sands and gravel', which is a UK BAP priority habitat (BRIG, 2011) and a habitat of conservation importance (HOCI) in MCZs (JNCC, 2016). Biotopes featuring muddy and mixed sediments are part of the BSHs 'Subtidal mud' and 'Subtidal mixed sediments' in MCZs (JNCC, 2018).

The biotope 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231), was assigned to areas of consolidated mud, based on analysis of seabed and photographic data only (detailed in Fugro 2021a). This biotope, reported to occur along the east coast of England, is a UK BAP priority habitat for being fragile and irreplaceable (BRIG, 2011) and may occur in the habitat 'Peat and clay exposure' which is a HOCI in MCZ (JNCC, 2018).

The biotope '*Sabellaria spinulosa* on stable circalittoral mixed sediment' (A5.611), is part of the Annex I habitat 'Reefs' when it occurs as biogenic reef (JNCC, 2018). As a biogenic reef, this habitat is also on the OSPAR list of threatened and/or declining species and habitats (OSPAR, 2021).

Aggregations of *S. spinulosa* were recorded at station ST39, which was therefore assessed only through seabed video and photography, also extended 50 m east and west of station ST39. The potential for such aggregations to form Annex I habitat 'Reef' was assessed in line with the criteria detailed in Gubbay (2007), Hendrick and Foster-Smith (2006) and Limpenny et al., (2010), and the overall assessment was of 'not a reef' or 'low reefiness' for most of the transects. Areas of 'not a reef' corresponded to a SSS signature indicative of sand waves and megaripples, whereas areas of 'low reef' corresponded to moderate reflectivity seabed. Areas evaluated as 'medium reefiness' and 'high reefiness' were recorded along portions of the transect 50 m east of station ST39 and were associated with elevated seabed structures clearly discernible from the SSS data (Fugro, 2021a).

In the North Sea, aggregations of *S. spinulosa* can form crusts covering extensive areas of seabed (BRIG, 2011). These crusts may be only seasonal features, being broken up during winter storms and quickly reforming through new settlement the following spring, which is in line with the natural temporal variation of these assemblages (Pearce et al., 2014). As such, these crusts are not considered to constitute true *S. spinulosa* reef habitats because of their ephemeral nature (Brig, 2011). Under specific environmental conditions, *S. spinulosa* can form reefs consisting of hundreds or thousands of worm tubes that stand proud of the seafloor and extend over large areas of gravel and sandy seafloors usually at the edge of sand banks, drop offs and channels. These structures are very variable in height, size and patchiness. They can be temporarily variable in their stability and favour areas of high turbidity and sediment

load with moderate tidal currents and suspended particulate food matter (Limpenny et al. 2010). Importantly, even established Annex I '*S. spinulosa* reefs' are potentially highly ephemeral, as demonstrated by changes in location and boundaries, associated with natural variability (Jenkins et al., 2015).

Aggregation of cobbles, along transects at station ST25 and 50 m east of station ST24, were assessed for the potential of these aggregations to constitute Annex I habitat 'Reef', in line with the criteria detailed in Irving (2009) and Golding et al., (2020) for geogenic reefs. The overall assessment for these areas was of 'Low resemblance' to a stony reef. These areas are a component part of the mixed sediment seabed type that characterises this region of the North Sea and unlikely to be considered to represent Annex I habitats, in line with Irving (2009) guidelines whereby if a 'low' is scored in composition, elevation, extent or biota, then a strong justification would be required for this area to qualify as Annex I habitat 'Reefs' under the current marine nature conservation legislation.

The Annex I habitat 'Reefs' are ecologically important for increasing the seabed complexity and providing habitats to organisms that would not otherwise occur, thus enhancing biodiversity (BRIG, 2011, JNCC, n.d.).

Several of the habitats and associated fauna recorded through the grab sampling and/or the seabed video and photography, are considered characteristic of the Annex I habitat 'Sandbanks which are slightly covered by sea water all the time'. Typical taxa include polychaete worms, crustaceans, anthozoans, burrowing bivalves, and echinoderms, as well as fish, notably *S. solea*, *P. platessa*, species of the genus *Callionymus* and the family Ammodytidae (EC Interpretation Manual, 2013), the latter including the commercially important *A. tobianus*, recorded through grab sampling. However, many of the fish and benthic species observed on the sandbanks are widely distributed in other sandy habitats on the continental shelf, therefore the fauna of sandbank communities may simply be based on a specialized niche of the sand-associated fauna of the region, rather than being obligate sandbank species, and as such, occur on other sandy habitats in other regions. It is the local abundance of selected species, which is potentially indicative of such habitats (Ellis et al., 2011).

Some of the fish recorded through the seabed video and photography, notably *P. platessa* and *S. solea* are UK BAP priority species (JNCC, 2019). Of the family Ammodytidae, also recorded through the seabed video and photography, *Ammodytes marinus* is a UK BAP priority species (JNCC, 2019). Of the Gadidae family, *Gadus morhua* is a UK BAP priority species (JNCC, 2019), and on the OSPAR list of threatened and/or declining habitats and species for regions II and III (OSPAR, 2021), the Outer Thames Estuary being part of OSPAR region II. This species is also on the IUCN red list of threatened species as vulnerable (IUCN, 2021).

A single specimen of the nationally scarce crab *Thia scutellata* was recorded in the grab sample from station ST46. Small numbers have been reported from Outer Thames Estuary

(NBN, 2021). The most abundant known populations for this species are off the North Wales coast, where its preferred habitat has been reported as loose, well sorted medium sands into which it can burrow easily (Rees, 2001).

5.5 Cryptogenic and Non-native Species (NNS)

Non-native species (NNS) are those that have reached the UK by accidental human transport, deliberate human introduction, or which have arrived by natural dispersion from a non-native population in Europe (Government Digital Service [GDS], 2020). Once introduced, some NNS can become established (grow and reproduce successfully) and their subsequent dispersal from the point of introduction can result in environmental and economic impact (Cottier-Cook et al., 2017). The NNS that have a negative impact on biodiversity, through the spread of disease, competition for resources, or by direct consumption, parasitism, or hybridisation, are termed 'invasive' (GDS, 2020).

Cryptogenic species are those of unknown origin, as such they are not demonstrably native nor introduced (Eno et al., 1997).

Non-native species recorded across the North Falls survey area included the brown alga *S. muticum* and the bivalves *Ruditapes philippinarum*, *Petricolaria pholadiformis* and *Magallana gigas*.

Drift material of *S. muticum* was recorded at station ST47, in the south array, through the seabed video and photography. This alga, native of Japanese and Chinese waters was first recorded attached on the Isle of Wight, where it had arrived from France, introduced unintentionally through commercial Japanese oysters (*Crassostrea gigas*) (Eno, 1997). The spread from northern France is likely to have occurred through ballast water, ships' hulls and by rafting or floating of entire plants or detached fragments (Eno, 1997). This NNS species is considered invasive owing to its rapid spread and the physical displacement of native species such as *Saccharina latissima*, *Halidrys siliquosa* and *Zostera marina* through over-growing and shading (Eno, 1997).

A single juvenile of *R. philippinarum* was recorded in the grab sample from station ST01. This bivalve, native of the Indo-Pacific, is now established along the Pacific coast of North America, the Atlantic coast of Europe and in the Mediterranean Sea as the result of human activity (CABI, 2021).

A single individual of *P. pholadiformis* was recorded in the grab sample from station ST02. This bivalve, native of the western Atlantic, was introduced accidentally into the UK, in shipments of the American oyster *Crassostrea virginica*. Currently, it occurs along the south and west English coasts from Dorset to the Humber being most common off the Essex coast (River Crouch) and the Thames Estuary (River Medway) (CABI, 2021).

Individuals of *M. gigas* were recorded throughout the intertidal survey area at the low water mark associated with hard substrate. This bivalve, native of north-eastern Asia, was introduced into the UK in the 1920's for aquaculture purposes. The Pacific oyster is found

throughout the southern part of the UK, with the largest populations recorded in the Essex estuaries and north Thanet coast (Herbert et al, 2012).

The cryptogenic species recorded in the grab samples included the polychaetes *Polydora cornuta* and *Aphelochaeta* (formerly *Tharyx*) *marioni* and the crustacean amphipod *Crassicorophium crassicorne*. Ascidians of the family Didemnidae and the genus *Molgula* were also recorded and may therefore include cryptogenic species such as *Diplosoma listerianum* and *Molgula manhattensis*.

The polychaete *P. cornuta* is widely distributed from the Atlantic to the Pacific and has been reported for the first time in the Mediterranean in 2008 where it is reported to occur in organically enriched and polluted environments (Simboura et al., 2008).

The polychaete *A. marioni* has been recorded in estuarine sediments throughout northern Europe, as one of the most common and characteristic species of the habitat (Kakkonen et al., 2019), with a record of in the MNCR surveys (Murray et al., 1999). Nevertheless, *A. marioni* is considered a cryptogenic species due to its prevalence near ports and absence from remote areas (Kakkonen et al., 2019).

The distribution of the crustacean amphipod *C. crassicorne* is reported to be Holarctic and subarctic (Bousfield & Hoover, 1997), with record of this species in the MNCR surveys (Murray et al., 1999). Nevertheless, *C. crassicorne* is considered a cryptogenic species as it is not clear if its current distribution was associated with human mediated transport (Kakkonen et al., 2019).

6. Conclusions

The benthic environment of the North Falls OWF development was characterised through a subtidal survey which comprised acquisition of seabed video and photographic data and grab samples, which were analysed to identify habitats and to evaluate the physico-chemical and biological conditions of the seabed. The intertidal habitats across the export cable corridor and adjacent areas were characterised by a modified Phase I walkover habitat mapping survey. The results were used to derive biotopes, in line with the EUNIS habitat classification, which were evaluated for conservation importance and contextualised within the geographical setting of the survey area.

The foreshore was characterised by two broad habitat types, sand with a varying proportion of gravel and hard substrate (sea defence structures). Much of the hard substrate fauna recorded was ubiquitous across the survey area and between habitats, with the seaweed assemblage influencing the habitat classifications. Within the ECR survey area, the majority of habitats were considered typical of exposed to moderately exposed rocky shores and featured standard zonation down the shore.

The sediment was heterogeneous with varying percentages of gravel, sand and fines. Gravel was recorded at most stations whereas fines characterised mostly stations along the nearshore section of the ECR. Predominantly sandy sediment characterised offshore stations, particularly in the south array. The heterogeneity of the sediment resulted in eight sediment classes being identified under the Folk (BGS modified) classification, all of which were represented along the ECR, whereas the offshore stations were characterised by sand, the coarseness of which ranged from very coarse to medium, based on the Wentworth (1922) scale. The diversity of the sediment assemblages was also reflected in the sorting coefficient which ranged from well sorted to extremely poorly sorted, with most stations having very poorly sorted sediments. The sediments disturbance, likely due to regional hydrodynamics, was reflected in the bimodal and multimodal distribution of sediment particle size recorded at most stations.

The concentration of the 22 PAHs analysed was below their respective marine SQGs.

Of the metals analysed arsenic was above the Cefas AL1 at nine stations, one of which was also above the Canadian PEL and one above the NOAA ERM. Concentrations of nickel were above the Cefas AL1 at three stations. Regional contextualisation of the results indicated that concentrations of PAHs, arsenic and nickel are within the range of concentrations reported for the Outer Thames Estuary. The remaining metals analysed had concentrations below their respective SQGs.

Macrofauna from the grab samples comprised infaunal and epifaunal taxa, the latter being represented by solitary and colonial organisms. Annelida and Mollusca represented most of the community structure and composition of the enumerated fauna, which comprised

infauna and solitary epifauna. Macrofaunal richness and abundance were variabile across the survey area. In general, stations with predominantly sandy sediments, typical of offshore stations, had low numbers of taxa and individuals, likely associated with the mobility of the sediment, which featured mostly well sorted to moderately well sorted sand, with sand ripples visible from the seabed video and photography.

The faunal community structure and composition reflected the sediment diversity and associated hydrodynamics, with robust polychaetes and fast swimming crustaceans characterising the predominantly sandy sediments, whereas the nearshore predominantly muddy sediments were characterised by bivalves. The mixed sediments were characterised by higher richness and abundance of invertebrates, including higher number of colonial epifaunal taxa, represented mainly by bryozoans, ascidians and tunicates.

One habitat, two biotope complexes and five biotopes were identified from the grab samples, namely 'Sublittoral sands' (A5.2), 'Infralittoral coarse sediment' (A5.13), 'Circalittoral coarse sediment' (A5.14), 'Infralittoral mobile clean sand with sparse fauna' (A5.231), '*Mysella bidentata* and *Abra* spp. in infralittoral sandy mud' (A5.333), 'Polychaete-rich deep Venus community in offshore mixed sediments' (A5.451), '*Abra alba* and *Nucula nitidosa* in circalittoral muddy sand or slightly mixed sediment' (A5.261) and '*Protodorvillea kefersteini* and other polychaetes in impoverished circalittoral mixed gravelly sand' (A5.143).

In addition, the biotopes '*Sabellaria spinulosa* on stable circalittoral mixed sediment' (A5.611) and 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231), were recorded only through the seabed video and photography.

Aggregations of *S. spinulosa* station ST39 in the south array and aggregations of cobbles at stations ST24 and ST25 in the north array were evaluated for the potential of Annex I habitat 'Reef'. Results of the assessment for *S. spinulosa* aggregations were of 'not a reef' or 'low reefiness' for most of the transects. Areas evaluated as 'medium reefiness' and 'high reefiness' were recorded along portions of the transect 50 m east of station ST39. The overall assessment for the aggregations of cobbles was of 'low resemblance' to a stony reef and as such, unlikely to represent Annex I habitat under the current marine nature conservation legislation.

Some of the habitats and biotopes recorded are, or are representative of, UK BAP priority habitats and include 'Subtidal sands and gravel' and 'Piddocks with Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay' (A4.231).

Of the species recorded, the fish *P. platessa* and *S. solea* are UK BAP priority species. As fish of the families Ammodytidae and Gadidae were recorded, there is the potential for *A. marinus* and *G. morhua* to occur in the survey area. These are UK BAP priority species; *G. morhua* is also on the OSPAR list of threatened and/or declining habitats and species and the IUCN red list of threatened species as vulnerable.

A single specimen of the nationally scarce crab *Thia scutellata* was recorded in the grab sample from a station in the south array.

Non-native species were represented by *S. muticum, R. philippinarum, P. pholadiformis* and *Magallana gigas*, whereas cryptogenic species included *P. cornuta*, *A. marioni* and *C. crassicorne*. In addition, as ascidians of the family Didemnidae and the genus Molgula were recorded, there is also the potential for the cryptogenic *D. listerianum* and *M. manhattensis* to occur.

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Appendices

Appendix A

Guidelines on Use of Report

This report (the "Report") was prepared as part of the services (the "Services") provided by Fugro GB Marine Limited ("Fugro") for its client (the "Client") under terms of the relevant contract between the two parties (the "Contract"). The Services were performed by Fugro based on requirements of the Client set out in the Contract or otherwise made known by the Client to Fugro at the time.

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Appendix B

Methodologies

B.1 Survey Methods

B.1.1 Sediment Grab Sampling

Faunal and particle size distribution (PSD) samples were acquired using a 0.1 m^2 mini Hamon grab. Chemistry samples were acquired using a 0.1 m^2 Day grab (0.1 m^2 dual van Veen grab as back-up).

Operational procedures for grab sampling were as follows:

- The grab was prepared for operations prior to arrival on station. A USBL beacon was attached to the grab frame. The Bridge communicated to the deck via a VHF radio when the vessel was steady and on location, and the grab was deployed from the stern A-frame;
- When the engineer operating the winch observed that the grab had reached the seabed (evidenced through a distinct slackening of the wire rope and snatch block), the environmental surveyor was informed (via VHF radio) and a fix was taken;
- On recovery to the deck, the sample was inspected and judged acceptable or otherwise (see below for rejection criteria);
- One accepted grab sample was retained for faunal analysis and PSD and another grab sample was subsampled for PC analysis;
- Deck logs were completed for each sample acquired (including no samples) with date, time, sample number, fix number, sediment type, depth and colour of strata in the sediment (if any), odour (i.e. H_2S), bioturbation or debris.

Samples were considered unacceptable in the following instances:

- Evidence of sediment washout caused through improperly closed grab jaws or inspection hatch;
- Sediment sample taken on an angle; where the grab jaws have not been parallel to the seabed when the grab fired;
- Disruption of the sample through striking the side of the vessel;
- Sample too small for requirements. Sample represented less than approximately 5 cm bite depth of the dual van Veen grab or Day grab, minimum sample size for 0.1 m^2 Hamon grab;
- Deemed unacceptable by the client representative for any other reason.

B.1.2 Physico-chemical Sample Processing

- Particle size distribution (PSD) samples were collected using a plastic scoop and subsampled from the faunal sample obtained by the mini Hamon grab.
- Hydrocarbon (HC) samples were collected using a metal scoop to a nominal depth of 2 cm. The samples were preserved in glass jars at approximately −20 ºC;
- Heavy metal (HM) samples were collected using a plastic scoop to a nominal depth of 2 cm. The samples were preserved in polythene bags at approximately −20 ºC;

B.1.3 Macrofauna Sample Processing

Macrofauna samples were processed as follows:

- Macrofauna samples were processed in their entirety, by opening the spades to drop the grab into a container. All supernatant water was processed along with the sediment;
- The sample was transferred to a chute and stand and washed through a 1.0 mm mesh sieve;
- Once sieved samples were transferred to containers labelled with the job number, station code and fauna code (e.g., FA) and fixed in 10 % buffered formal saline. The sample containers were then sealed, hazard labelled and stored securely on deck.

Appendix C

Logs

C.1 Survey Log

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	06:01:40	ST04	Video	SOL/EOL	NF	-	-	-	-	-	-	Seaspyder - no vis.
17/07/2021	06:59:02	ST04a	Still	210139_ST04a_01	1	17.8	388 074.0	5 742 433.0	388 107.8	5 742 463.0	45.2	Freshwater lens - no vis
17/07/2021	06:59:14	ST04a	Still	210139_ST04a_02	2	17.8	388 074.0	5 742 433.0	388 113.9	5 742 466.5	52.1	-
17/07/2021	06:59:38	ST04a	Still	210139_ST04a_03	3	16.7	388 074.0	5 742 433.0	388 130.8	5 742 474.2	70.2	-
17/07/2021	07:00:32	ST04a	Still	210139_ST04a_04	4	12.7	388 074.0	5 742 433.0	388 166.4	5 742 492.1	109.7	-
17/07/2021	07:00:55	ST04a	Still	210139_ST04a_05	5	13.0	388 074.0	5 742 433.0	388 182.5	5 742 500.2	127.6	-
17/07/2021	07:02:05	ST04a	Still	210139_ST04a_06	6	15.6	388 074.0	5 742 433.0	388 233.4	5 742 528.4	185.8	-
17/07/2021	07:02:16	ST04a	Still	210139_ST04a_07	NF	-	-	-	-	-	-	-
17/07/2021	07:02:29	ST04a	Still	210139_ST04a_08	7	15.9	388 074.0	5 742 433.0	388 253.8	5 742 536.5	207.5	-
17/07/2021	07:29:18	ST04b	Still	210139_ST04b_01	8	10.4	388 074.0	5 742 433.0	388 055.6	5 742 358.1	77.2	Freshwater lens - no vis
17/07/2021	07:29:59	ST04b	Still	210139_ST04b_02	9	14.3	388 074.0	5 742 433.0	388 067.1	5 742 395.4	38.2	-
17/07/2021	07:30:28	ST04b	Still	210139_ST04b_03	10	9.0	388 074.0	5 742 433.0	388 072.2	5 742 424.3	8.9	-
17/07/2021	07:30:47	ST04b	Still	210139_ST04b_04	11	15.2	388 074.0	5 742 433.0	388 073.6	5 742 437.6	4.6	-
17/07/2021	07:31:15	ST04b	Still	210139_ST04b_05	12	14.7	388 074.0	5 742 433.0	388 082.0	5 742 453.2	21.7	-
17/07/2021	07:31:39	ST04b	Still	210139_ST04b_06	13	11.5	388 074.0	5 742 433.0	388 093.8	5 742 467.0	39.3	-
17/07/2021	07:32:12	ST04b	Still	210139_ST04b_07	14	14.1	388 074.0	5 742 433.0	388 111.7	5 742 482.9	62.6	-
17/07/2021	08:39:38	ST14	Still	210139_ST14_01	15	16.5	398 378.0	5 748 267.0	398 374.3	5 748 196.6	70.5	Freshwater lens - no vis

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	08:40:09	ST14	Still	210139_ST14_02	16	16.9	398 378.0	5 748 267.0	398 385.0	5 748 225.5	42.1	-
17/07/2021	08:40:32	ST14	Still	210139_ST14_03	17	17.5	398 378.0	5 748 267.0	398 383.9	5 748 248.0	19.9	-
17/07/2021	08:40:56	ST14	Still	210139_ST14_04	18	22.0	398 378.0	5 748 267.0	398 377.2	5 748 266.1	1.2	-
17/07/2021	08:41:09	ST14	Still	210139_ST14_05	19	20.2	398 378.0	5 748 267.0	398 378.5	5 748 270.7	3.7	-
17/07/2021	08:41:22	ST14	Still	210139_ST14_06	20	20.8	398 378.0	5 748 267.0	398 379.1	5 748 276.3	9.3	-
17/07/2021	08:42:40	ST14	Still	210139_ST14_07	21	14.7	398 378.0	5 748 267.0	398 379.6	5 748 309.4	42.5	-
17/07/2021	08:42:53	ST14	Still	210139_ST14_08	22	14.3	398 378.0	5 748 267.0	398 382.2	5 748 314.9	48.0	-
17/07/2021	13:10:59	ST24	Video	SOL	23	27.8	424 106.0	5 761 690.0	424 034.6	5 761 592.1	121.2	Off target - aborted
17/07/2021	13:12:19	ST24	Video	EOL	24	28.9	424 106.0	5 761 690.0	424 050.5	5 761 599.5	106.1	Off target - aborted
17/07/2021	16:44:12	ST14a	Still	210139_ST14a_01	25	18.4	398 378.0	5 748 267.0	398 388.2	5 748 246.6	22.8	Seaspyder - reduced vis
17/07/2021	16:44:38	ST14a	Still	210139_ST14a_02	26	19.3	398 378.0	5 748 267.0	398 380.9	5 748 255.7	11.6	-
17/07/2021	16:45:38	ST14a	Still	210139_ST14a_03	29	19.4	398 378.0	5 748 267.0	398 370.6	5 748 285.0	19.5	-
17/07/2021	16:45:50	ST14a	Still	210139_ST14a_04	30	19.2	398 378.0	5 748 267.0	398 368.3	5 748 289.6	24.6	-
17/07/2021	16:45:58	ST14a	Still	210139_ST14a_05	31	18.9	398 378.0	5 748 267.0	398 368.2	5 748 291.2	26.1	-
17/07/2021	16:46:05	ST14a	Still	210139_ST14a_06	32	18.6	398 378.0	5 748 267.0	398 366.5	5 748 293.1	28.5	-
17/07/2021	16:46:15	ST14a	Still	210139_ST14a_07	33	18.7	398 378.0	5 748 267.0	398 366.1	5 748 293.9	29.4	-
17/07/2021	16:46:25	ST14a	Still	210139_ST14a_08	34	18.9	398 378.0	5 748 267.0	398 363.4	5 748 302.2	38.1	-
17/07/2021	16:46:30	ST14a	Still	210139_ST14a_09	35	19.2	398 378.0	5 748 267.0	398 362.4	5 748 304.2	40.3	-
17/07/2021	16:46:37	ST14a	Still	210139_ST14a_10	36	19.2	398 378.0	5 748 267.0	398 360.6	5 748 307.0	43.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	16:46:44	ST14a	Still	210139_ST14a_11	37	18.7	398 378.0	5 748 267.0	398 361.2	5 748 307.1	43.5	-
17/07/2021	16:46:55	ST14a	Still	210139_ST14a_12	38	19.5	398 378.0	5 748 267.0	398 354.6	5 748 311.6	50.4	-
17/07/2021	17:40:17	ST15	Still	210139_ST15_01	39	24.4	401 415.0	5 744 932.0	401 433.0	5 744 971.4	43.4	Seaspyder - no vis
17/07/2021	17:41:05	ST15	Still	210139_ST15_02	40	25.0	401 415.0	5 744 932.0	401 423.7	5 744 955.7	25.3	-
17/07/2021	17:41:21	ST15	Still	210139_ST15_03	41	25.3	401 415.0	5 744 932.0	401 421.9	5 744 947.4	16.9	-
17/07/2021	17:41:32	ST15	Still	210139_ST15_04	42	25.3	401 415.0	5 744 932.0	401 423.4	5 744 944.8	15.3	-
17/07/2021	17:41:54	ST15	Still	210139_ST15_05	43	26.1	401 415.0	5 744 932.0	401 421.9	5 744 937.6	8.9	-
17/07/2021	17:42:12	ST15	Still	210139_ST15_06	44	26.5	401 415.0	5 744 932.0	401 418.6	5 744 933.5	3.8	-
17/07/2021	17:42:21	ST15	Still	210139_ST15_07	45	24.8	401 415.0	5 744 932.0	401 418.9	5 744 930.5	4.2	-
17/07/2021	17:42:33	ST15	Still	210139_ST15_08	46	26.2	401 415.0	5 744 932.0	401 418.1	5 744 928.3	4.9	-
17/07/2021	17:42:46	ST15	Still	210139_ST15_09	47	25.3	401 415.0	5 744 932.0	401 418.1	5 744 927.3	5.6	-
17/07/2021	17:43:10	ST15	Still	210139_ST15_10	48	28.8	401 415.0	5 744 932.0	401 415.8	5 744 920.3	11.7	-
17/07/2021	17:43:41	ST15	Still	210139_ST15_11	49	25.7	401 415.0	5 744 932.0	401 417.5	5 744 919.0	13.3	-
17/07/2021	17:44:03	ST15	Still	210139_ST15_12	50	23.4	401 415.0	5 744 932.0	401 415.0	5 744 915.5	16.5	-
17/07/2021	17:44:30	ST15	Still	210139_ST15_13	51	25.4	401 415.0	5 744 932.0	401 415.0	5 744 913.6	18.4	-
17/07/2021	17:45:02	ST15	Still	210139_ST15_14	52	25.4	401 415.0	5 744 932.0	401 416.1	5 744 913.0	19.0	-
17/07/2021	17:45:36	ST15	Still	210139_ST15_15	53	24.9	401 415.0	5 744 932.0	401 413.7	5 744 913.2	18.8	-
17/07/2021	17:47:31	ST15	Still	210139_ST15_16	54	23.2	401 415.0	5 744 932.0	401 421.3	5 744 913.1	20.0	-
17/07/2021	17:47:54	ST15	Still	210139_ST15_17	55	23.3	401 415.0	5 744 932.0	401 430.6	5 744 912.4	25.1	-
17/07/2021	18:22:21	ST16	Still	210139_ST16_01	56	21.9	404 555.0	5 744 452.0	404 590.7	5 744 497.4	57.7	Seaspyder - no vis

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	18:22:43	ST16	Still	210139_ST16_02	57	22.1	404 555.0	5 744 452.0	404 583.8	5 744 492.8	50.0	-
17/07/2021	18:23:24	ST16	Still	210139_ST16_03	58	22.6	404 555.0	5 744 452.0	404 574.1	5 744 478.8	32.9	-
17/07/2021	18:23:49	ST16	Still	210139_ST16_04	59	23.1	404 555.0	5 744 452.0	404 570.1	5 744 467.3	21.5	-
17/07/2021	18:23:57	ST16	Still	210139_ST16_05	60	21.4	404 555.0	5 744 452.0	404 567.7	5 744 465.1	18.2	-
17/07/2021	18:24:02	ST16	Still	210139_ST16_06	61	23.2	404 555.0	5 744 452.0	404 567.9	5 744 463.2	17.1	-
17/07/2021	18:24:20	ST16	Still	210139_ST16_07	62	22.6	404 555.0	5 744 452.0	404 564.1	5 744 456.0	9.9	-
17/07/2021	18:24:58	ST16	Still	210139_ST16_08	63	23.1	404 555.0	5 744 452.0	404 555.3	5 744 444.2	7.8	-
17/07/2021	18:25:16	ST16	Still	210139_ST16_09	64	19.0	404 555.0	5 744 452.0	404 555.0	5 744 440.9	11.1	-
17/07/2021	18:25:22	ST16	Still	210139_ST16_10	65	22.1	404 555.0	5 744 452.0	404 552.3	5 744 438.1	14.1	-
17/07/2021	18:25:39	ST16	Still	210139_ST16_11	66	22.4	404 555.0	5 744 452.0	404 549.0	5 744 432.7	20.2	-
17/07/2021	18:26:00	ST16	Still	210139_ST16_12	67	23.2	404 555.0	5 744 452.0	404 548.1	5 744 431.4	21.7	-
17/07/2021	18:26:08	ST16	Still	210139_ST16_13	68	21.4	404 555.0	5 744 452.0	404 548.1	5 744 432.0	21.2	-
17/07/2021	18:26:15	ST16	Still	210139_ST16_14	69	24.5	404 555.0	5 744 452.0	404 546.8	5 744 431.0	22.6	-
17/07/2021	18:26:36	ST16	Still	210139_ST16_15	70	23.2	404 555.0	5 744 452.0	404 543.8	5 744 430.7	24.0	-
17/07/2021	18:26:50	ST16	Still	210139_ST16_16	71	26.0	404 555.0	5 744 452.0	404 538.9	5 744 427.9	29.0	-
17/07/2021	19:20:21	ST17	Still	210139_ST17_01	72	25.6	408 149.0	5 745 360.0	408 174.1	5 745 390.9	39.8	Seaspyder - no vis
17/07/2021	19:20:55	ST17	Still	210139_ST17_02	73	26.8	408 149.0	5 745 360.0	408 166.0	5 745 382.1	27.9	-
17/07/2021	19:21:19	ST17	Still	210139_ST17_03	74	26.6	408 149.0	5 745 360.0	408 157.4	5 745 375.7	17.8	-
17/07/2021	19:21:40	ST17	Still	210139_ST17_04	75	26.6	408 149.0	5 745 360.0	408 150.5	5 745 372.3	12.3	-
17/07/2021	19:21:56	ST17	Still	210139_ST17_05	76	25.5	408 149.0	5 745 360.0	408 148.4	5 745 370.7	10.7	-
17/07/2021	19:22:28	ST17	Still	210139_ST17_06	77	27.9	408 149.0	5 745 360.0	408 136.7	5 745 365.8	13.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	19:22:48	ST17	Still	210139_ST17_07	78	26.4	408 149.0	5 745 360.0	408 129.5	5 745 371.2	22.5	-
17/07/2021	19:23:08	ST17	Still	210139_ST17_08	79	26.6	408 149.0	5 745 360.0	408 123.7	5 745 373.3	28.6	-
17/07/2021	19:23:20	ST17	Still	210139_ST17_09	80	27.3	408 149.0	5 745 360.0	408 119.8	5 745 376.3	33.4	-
17/07/2021	21:57:35	ST28	Still	210139_ST28_01	81	55.2	421 119.0	5 755 766.0	421 140.1	5 755 813.2	51.7	-
17/07/2021	21:57:52	ST28	Still	210139_ST28_02	82	58.1	421 119.0	5 755 766.0	421 135.4	5 755 807.1	44.3	-
17/07/2021	21:58:04	ST28	Still	210139_ST28_03	83	58.7	421 119.0	5 755 766.0	421 133.1	5 755 802.5	39.1	-
17/07/2021	21:58:22	ST28	Still	210139_ST28_04	84	58.2	421 119.0	5 755 766.0	421 130.7	5 755 798.9	35.0	-
17/07/2021	21:58:36	ST28	Still	210139_ST28_05	85	58.5	421 119.0	5 755 766.0	421 125.8	5 755 795.5	30.3	-
17/07/2021	21:58:45	ST28	Still	210139_ST28_06	86	58.0	421 119.0	5 755 766.0	421 126.6	5 755 796.2	31.1	-
17/07/2021	21:58:51	ST28	Still	210139_ST28_07	87	57.6	421 119.0	5 755 766.0	421 123.9	5 755 795.4	29.8	-
17/07/2021	21:58:55	ST28	Still	210139_ST28_08	88	58.9	421 119.0	5 755 766.0	421 120.3	5 755 790.8	24.9	-
17/07/2021	21:59:03	ST28	Still	210139_ST28_09	89	57.3	421 119.0	5 755 766.0	421 119.2	5 755 792.6	26.6	-
17/07/2021	21:59:17	ST28	Still	210139_ST28_10	90	57.8	421 119.0	5 755 766.0	421 116.4	5 755 787.8	22.0	-
17/07/2021	21:59:23	ST28	Still	210139_ST28_11	91	58.3	421 119.0	5 755 766.0	421 114.6	5 755 786.2	20.7	-
17/07/2021	21:59:32	ST28	Still	210139_ST28_12	92	58.1	421 119.0	5 755 766.0	421 116.9	5 755 783.4	17.5	-
17/07/2021	21:59:38	ST28	Still	210139_ST28_13	93	57.3	421 119.0	5 755 766.0	421 116.5	5 755 784.4	18.5	-
17/07/2021	21:59:45	ST28	Still	210139_ST28_14	94	57.2	421 119.0	5 755 766.0	421 117.0	5 755 782.2	16.3	-
17/07/2021	21:59:51	ST28	Still	210139_ST28_15	95	58.1	421 119.0	5 755 766.0	421 113.9	5 755 779.7	14.6	-
17/07/2021	21:59:58	ST28	Still	210139_ST28_16	96	57.8	421 119.0	5 755 766.0	421 113.6	5 755 779.5	14.6	-
17/07/2021	22:00:03	ST28	Still	210139_ST28_17	97	57.4	421 119.0	5 755 766.0	421 113.9	5 755 779.4	14.3	-
17/07/2021	22:00:09	ST28	Still	210139_ST28_18	98	58.9	421 119.0	5 755 766.0	421 111.0	5 755 776.8	13.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	22:00:14	ST28	Still	210139_ST28_19	99	59.0	421 119.0	5 755 766.0	421 109.4	5 755 775.3	13.3	-
17/07/2021	22:00:26	ST28	Still	210139_ST28_20	100	58.7	421 119.0	5 755 766.0	421 105.3	5 755 774.7	16.3	-
17/07/2021	22:00:33	ST28	Still	210139_ST28_21	101	58.8	421 119.0	5 755 766.0	421 102.6	5 755 773.0	17.8	-
17/07/2021	22:00:46	ST28	Still	210139_ST28_22	102	58.4	421 119.0	5 755 766.0	421 096.3	5 755 774.1	24.1	-
17/07/2021	22:00:58	ST28	Still	210139_ST28_23	103	58.1	421 119.0	5 755 766.0	421 096.9	5 755 772.9	23.2	-
17/07/2021	22:01:14	ST28	Still	210139_ST28_24	104	57.5	421 119.0	5 755 766.0	421 095.0	5 755 776.4	26.1	-
17/07/2021	22:01:19	ST28	Still	210139_ST28_25	105	59.1	421 119.0	5 755 766.0	421 092.8	5 755 773.1	27.1	-
17/07/2021	22:01:58	ST28	Still	210139_ST28_26	106	57.9	421 119.0	5 755 766.0	421 073.1	5 755 780.2	48.1	-
17/07/2021	22:09:58	ST28a	Still	210139_ST28a_01	107	59.1	421 119.0	5 755 766.0	421 128.4	5 755 799.3	34.6	-
17/07/2021	22:10:04	ST28a	Still	210139_ST28a_02	108	59.5	421 119.0	5 755 766.0	421 127.0	5 755 796.8	31.8	-
17/07/2021	22:10:34	ST28a	Still	210139_ST28a_03	109	57.9	421 119.0	5 755 766.0	421 110.4	5 755 792.0	27.4	-
17/07/2021	22:42:17	ST27	Still	210139_ST27_01	110	34.2	422 500.0	5 757 360.0	422 515.2	5 757 393.6	36.9	-
17/07/2021	22:42:31	ST27	Still	210139_ST27_02	111	35.5	422 500.0	5 757 360.0	422 511.4	5 757 386.0	28.3	-
17/07/2021	22:42:41	ST27	Still	210139_ST27_03	112	35.9	422 500.0	5 757 360.0	422 508.5	5 757 381.4	23.0	-
17/07/2021	22:42:45	ST27	Still	210139_ST27_04	113	35.8	422 500.0	5 757 360.0	422 505.0	5 757 379.3	19.9	-
17/07/2021	22:42:53	ST27	Still	210139_ST27_05	114	35.7	422 500.0	5 757 360.0	422 503.5	5 757 376.0	16.4	-
17/07/2021	22:43:00	ST27	Still	210139_ST27_06	115	36.0	422 500.0	5 757 360.0	422 502.0	5 757 372.9	13.1	-
17/07/2021	22:43:09	ST27	Still	210139_ST27_07	116	36.4	422 500.0	5 757 360.0	422 499.3	5 757 367.1	7.2	-
17/07/2021	22:43:16	ST27	Still	210139_ST27_08	117	36.6	422 500.0	5 757 360.0	422 497.3	5 757 362.7	3.8	-
17/07/2021	22:43:21	ST27	Still	210139_ST27_09	118	36.3	422 500.0	5 757 360.0	422 497.1	5 757 361.4	3.2	-
17/07/2021	22:43:26	ST27	Still	210139_ST27_10	119	35.6	422 500.0	5 757 360.0	422 498.2	5 757 360.2	1.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	22:43:31	ST27	Still	210139_ST27_11	120	35.4	422 500.0	5 757 360.0	422 496.2	5 757 357.8	4.4	-
17/07/2021	22:43:43	ST27	Still	210139_ST27_12	121	35.8	422 500.0	5 757 360.0	422 492.0	5 757 352.1	11.2	-
17/07/2021	22:43:53	ST27	Still	210139_ST27_13	122	36.1	422 500.0	5 757 360.0	422 489.2	5 757 347.1	16.9	-
17/07/2021	22:43:59	ST27	Still	210139_ST27_14	123	36.2	422 500.0	5 757 360.0	422 486.8	5 757 345.4	19.7	-
17/07/2021	22:44:10	ST27	Still	210139_ST27_15	124	36.5	422 500.0	5 757 360.0	422 485.3	5 757 341.3	23.8	-
17/07/2021	22:44:16	ST27	Still	210139_ST27_16	125	36.4	422 500.0	5 757 360.0	422 483.4	5 757 339.9	26.1	-
17/07/2021	22:44:29	ST27	Still	210139_ST27_17	126	35.9	422 500.0	5 757 360.0	422 480.1	5 757 338.2	29.5	-
17/07/2021	22:44:34	ST27	Still	210139_ST27_18	127	36.6	422 500.0	5 757 360.0	422 480.0	5 757 335.1	31.9	-
17/07/2021	23:24:28	ST26	Still	210139_ST26_01	128	28.7	424 759.0	5 759 833.0	424 759.0	5 759 870.9	37.9	-
17/07/2021	23:24:39	ST26	Still	210139_ST26_02	129	28.5	424 759.0	5 759 833.0	424 758.9	5 759 872.1	39.1	-
17/07/2021	23:24:50	ST26	Still	210139_ST26_03	130	28.6	424 759.0	5 759 833.0	424 758.6	5 759 868.5	35.5	-
17/07/2021	23:25:12	ST26	Still	210139_ST26_04	131	29.5	424 759.0	5 759 833.0	424 758.3	5 759 859.6	26.6	-
17/07/2021	23:25:25	ST26	Still	210139_ST26_05	132	29.1	424 759.0	5 759 833.0	424 755.4	5 759 854.8	22.1	-
17/07/2021	23:25:33	ST26	Still	210139_ST26_06	133	29.8	424 759.0	5 759 833.0	424 754.3	5 759 848.8	16.4	-
17/07/2021	23:25:45	ST26	Still	210139_ST26_07	134	29.8	424 759.0	5 759 833.0	424 752.3	5 759 838.0	8.4	-
17/07/2021	23:25:51	ST26	Still	210139_ST26_08	135	29.5	424 759.0	5 759 833.0	424 752.8	5 759 835.7	6.8	-
17/07/2021	23:25:55	ST26	Still	210139_ST26_09	136	29.5	424 759.0	5 759 833.0	424 753.8	5 759 830.9	5.7	-
17/07/2021	23:26:00	ST26	Still	210139_ST26_10	137	29.7	424 759.0	5 759 833.0	424 754.5	5 759 828.3	6.5	-
17/07/2021	23:26:05	ST26	Still	210139_ST26_11	138	30.0	424 759.0	5 759 833.0	424 755.5	5 759 824.4	9.3	-
17/07/2021	23:26:11	ST26	Still	210139_ST26_12	139	29.6	424 759.0	5 759 833.0	424 755.5	5 759 820.6	12.9	-
17/07/2021	23:26:17	ST26	Still	210139_ST26_13	140	29.8	424 759.0	5 759 833.0	424 755.3	5 759 816.2	17.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
17/07/2021	23:26:25	ST26	Still	210139_ST26_14	141	30.0	424 759.0	5 759 833.0	424 756.4	5 759 811.7	21.5	-
17/07/2021	23:26:29	ST26	Still	210139_ST26_15	142	30.3	424 759.0	5 759 833.0	424 757.8	5 759 808.4	24.6	-
17/07/2021	23:26:33	ST26	Still	210139_ST26_16	143	29.8	424 759.0	5 759 833.0	424 757.0	5 759 807.6	25.5	-
17/07/2021	23:26:42	ST26	Still	210139_ST26_17	144	30.4	424 759.0	5 759 833.0	424 758.4	5 759 801.2	31.8	-
17/07/2021	23:26:49	ST26	Still	210139_ST26_18	145	30.6	424 759.0	5 759 833.0	424 757.9	5 759 796.2	36.8	-
18/07/2021	00:31:51	ST26_50E	Still	210139_ST26_50E_01	146	30.5	424 809.0	5 759 833.0	424 798.9	5 759 798.5	35.9	-
18/07/2021	00:32:01	ST26_50E	Still	210139_ST26_50E_02	147	30.4	424 809.0	5 759 833.0	424 797.2	5 759 801.9	33.2	-
18/07/2021	00:32:09	ST26_50E	Still	210139_ST26_50E_03	148	30.2	424 809.0	5 759 833.0	424 797.3	5 759 805.5	29.9	-
18/07/2021	01:58:24	ST24	Still	210139_ST24_01	151	28.9	424 106.0	5 761 690.0	424 088.7	5 761 652.0	41.7	-
18/07/2021	01:58:36	ST24	Still	210139_ST24_02	152	28.1	424 106.0	5 761 690.0	424 090.8	5 761 655.2	38.0	-
18/07/2021	01:58:45	ST24	Still	210139_ST24_03	153	28.5	424 106.0	5 761 690.0	424 092.2	5 761 657.7	35.1	-
18/07/2021	01:58:57	ST24	Still	210139_ST24_04	154	28.5	424 106.0	5 761 690.0	424 093.3	5 761 661.1	31.6	-
18/07/2021	01:59:10	ST24	Still	210139_ST24_05	155	28.9	424 106.0	5 761 690.0	424 098.4	5 761 663.4	27.6	-
18/07/2021	01:59:33	ST24	Still	210139_ST24_06	156	28.9	424 106.0	5 761 690.0	424 102.9	5 761 667.0	23.2	-
18/07/2021	01:59:46	ST24	Still	210139_ST24_07	157	29.1	424 106.0	5 761 690.0	424 106.4	5 761 669.8	20.3	-
18/07/2021	01:59:52	ST24	Still	210139_ST24_08	158	29.0	424 106.0	5 761 690.0	424 106.4	5 761 671.7	18.3	-
18/07/2021	01:59:58	ST24	Still	210139_ST24_09	159	28.9	424 106.0	5 761 690.0	424 108.0	5 761 673.3	16.8	-
18/07/2021	02:00:06	ST24	Still	210139_ST24_10	160	29.0	424 106.0	5 761 690.0	424 110.0	5 761 675.0	15.6	-
18/07/2021	02:00:16	ST24	Still	210139_ST24_11	161	28.8	424 106.0	5 761 690.0	424 111.9	5 761 676.8	14.5	-
18/07/2021	02:00:21	ST24	Still	210139_ST24_12	162	28.6	424 106.0	5 761 690.0	424 113.2	5 761 677.5	14.4	-
18/07/2021	02:00:30	ST24	Still	210139_ST24_13	163	28.7	424 106.0	5 761 690.0	424 114.4	5 761 680.1	13.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	02:00:37	ST24	Still	210139_ST24_14	164	28.4	424 106.0	5 761 690.0	424 115.5	5 761 679.7	14.0	-
18/07/2021	02:00:50	ST24	Still	210139_ST24_15	165	29.2	424 106.0	5 761 690.0	424 118.4	5 761 679.0	16.6	-
18/07/2021	03:48:28	ST24a	Still	210139_ST24a_01	167	29.6	424 106.0	5 761 690.0	424 087.3	5 761 649.4	44.7	-
18/07/2021	03:49:15	ST24a	Still	210139_ST24a_02	168	29.9	424 106.0	5 761 690.0	424 093.0	5 761 650.2	41.9	-
18/07/2021	03:49:30	ST24a	Still	210139_ST24a_03	169	30.1	424 106.0	5 761 690.0	424 094.6	5 761 656.9	35.0	-
18/07/2021	03:49:43	ST24a	Still	210139_ST24a_04	170	30.0	424 106.0	5 761 690.0	424 095.2	5 761 661.6	30.4	-
18/07/2021	03:49:56	ST24a	Still	210139_ST24a_05	171	30.0	424 106.0	5 761 690.0	424 092.9	5 761 667.0	26.5	-
18/07/2021	03:50:02	ST24a	Still	210139_ST24a_06	172	29.9	424 106.0	5 761 690.0	424 092.7	5 761 669.9	24.1	-
18/07/2021	03:50:18	ST24a	Still	210139_ST24a_07	173	30.3	424 106.0	5 761 690.0	424 093.0	5 761 676.1	19.0	-
18/07/2021	03:50:40	ST24a	Still	210139_ST24a_08	174	30.9	424 106.0	5 761 690.0	424 094.2	5 761 684.3	13.1	-
18/07/2021	03:50:49	ST24a	Still	210139_ST24a_09	175	31.5	424 106.0	5 761 690.0	424 093.1	5 761 687.0	13.2	-
18/07/2021	03:50:57	ST24a	Still	210139_ST24a_10	176	30.0	424 106.0	5 761 690.0	424 091.6	5 761 690.0	14.4	-
18/07/2021	03:51:50	ST24a	Still	210139_ST24a_11	177	29.5	424 106.0	5 761 690.0	424 078.1	5 761 707.9	33.2	-
18/07/2021	03:51:58	ST24a	Still	210139_ST24a_12	178	29.3	424 106.0	5 761 690.0	424 074.6	5 761 709.4	36.9	-
18/07/2021	03:52:11	ST24a	Still	210139_ST24a_13	180	28.7	424 106.0	5 761 690.0	424 069.4	5 761 709.0	41.2	-
18/07/2021	04:05:16	ST24_50W	Still	210139_ST24_50W_01	181	29.2	424 056.0	5 761 690.0	424 036.9	5 761 658.7	36.7	-
18/07/2021	04:05:22	ST24_50W	Still	210139_ST24_50W_02	182	29.2	424 056.0	5 761 690.0	424 037.1	5 761 658.4	36.9	-
18/07/2021	04:05:58	ST24_50W	Still	210139_ST24_50W_03	183	29.5	424 056.0	5 761 690.0	424 040.3	5 761 665.9	28.7	-
18/07/2021	04:06:05	ST24_50W	Still	210139_ST24_50W_04	184	28.2	424 056.0	5 761 690.0	424 041.7	5 761 668.9	25.5	-
18/07/2021	04:06:14	ST24_50W	Still	210139_ST24_50W_05	185	29.6	424 056.0	5 761 690.0	424 042.0	5 761 672.0	22.8	-
18/07/2021	04:06:20	ST24_50W	Still	210139_ST24_50W_06	186	29.6	424 056.0	5 761 690.0	424 043.6	5 761 673.9	20.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	04:06:25	ST24_50W	Still	210139_ST24_50W_07	187	29.8	424 056.0	5 761 690.0	424 044.4	5 761 676.2	18.1	-
18/07/2021	04:06:33	ST24_50W	Still	210139_ST24_50W_08	188	30.2	424 056.0	5 761 690.0	424 045.3	5 761 678.9	15.5	-
18/07/2021	04:06:43	ST24_50W	Still	210139_ST24_50W_09	189	29.7	424 056.0	5 761 690.0	424 045.7	5 761 683.1	12.4	-
18/07/2021	04:06:50	ST24_50W	Still	210139_ST24_50W_10	190	30.5	424 056.0	5 761 690.0	424 049.3	5 761 686.5	7.6	-
18/07/2021	04:07:01	ST24_50W	Still	210139_ST24_50W_11	191	29.1	424 056.0	5 761 690.0	424 053.0	5 761 688.6	3.3	-
18/07/2021	04:07:07	ST24_50W	Still	210139_ST24_50W_12	192	30.2	424 056.0	5 761 690.0	424 054.0	5 761 690.6	2.1	-
18/07/2021	04:07:19	ST24_50W	Still	210139_ST24_50W_13	193	29.5	424 056.0	5 761 690.0	424 055.9	5 761 696.1	6.1	-
18/07/2021	04:07:36	ST24_50W	Still	210139_ST24_50W_14	194	29.2	424 056.0	5 761 690.0	424 055.3	5 761 707.0	17.0	-
18/07/2021	04:07:45	ST24_50W	Still	210139_ST24_50W_15	195	30.1	424 056.0	5 761 690.0	424 056.4	5 761 710.8	20.8	-
18/07/2021	04:07:59	ST24_50W	Still	210139_ST24_50W_16	196	29.7	424 056.0	5 761 690.0	424 054.8	5 761 715.5	25.6	-
18/07/2021	04:08:08	ST24_50W	Still	210139_ST24_50W_17	197	30.2	424 056.0	5 761 690.0	424 055.5	5 761 718.0	28.0	-
18/07/2021	04:08:18	ST24_50W	Still	210139_ST24_50W_18	198	29.6	424 056.0	5 761 690.0	424 053.4	5 761 720.3	30.4	-
18/07/2021	04:08:25	ST24_50W	Still	210139_ST24_50W_19	199	29.6	424 056.0	5 761 690.0	424 053.1	5 761 723.9	34.0	-
18/07/2021	04:08:33	ST24_50W	Still	210139_ST24_50W_20	200	29.2	424 056.0	5 761 690.0	424 051.9	5 761 726.4	36.6	-
18/07/2021	04:19:16	ST24_50E	Still	210139_ST24_50E_01	201	28.8	424 156.0	5 761 690.0	424 140.0	5 761 662.0	32.3	-
18/07/2021	04:19:24	ST24_50E	Still	210139_ST24_50E_02	202	29.8	424 156.0	5 761 690.0	424 142.5	5 761 665.6	27.9	-
18/07/2021	04:19:33	ST24_50E	Still	210139_ST24_50E_03	203	29.8	424 156.0	5 761 690.0	424 144.8	5 761 669.5	23.4	-
18/07/2021	04:19:43	ST24_50E	Still	210139_ST24_50E_04	204	29.6	424 156.0	5 761 690.0	424 147.0	5 761 674.0	18.4	-
18/07/2021	04:19:48	ST24_50E	Still	210139_ST24_50E_05	205	29.8	424 156.0	5 761 690.0	424 149.4	5 761 675.5	16.0	-
18/07/2021	04:19:57	ST24_50E	Still	210139_ST24_50E_06	206	29.7	424 156.0	5 761 690.0	424 153.0	5 761 677.9	12.4	-
18/07/2021	04:20:10	ST24_50E	Still	210139_ST24_50E_07	207	29.6	424 156.0	5 761 690.0	424 158.5	5 761 682.6	7.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	04:20:21	ST24_50E	Still	210139_ST24_50E_08	208	29.1	424 156.0	5 761 690.0	424 162.2	5 761 687.7	6.6	-
18/07/2021	04:20:27	ST24_50E	Still	210139_ST24_50E_09	209	30.5	424 156.0	5 761 690.0	424 164.4	5 761 691.0	8.5	-
18/07/2021	04:20:39	ST24_50E	Still	210139_ST24_50E_10	210	29.6	424 156.0	5 761 690.0	424 167.2	5 761 693.1	11.6	-
18/07/2021	04:20:42	ST24_50E	Still	210139_ST24_50E_11	211	29.6	424 156.0	5 761 690.0	424 167.5	5 761 694.0	12.2	-
18/07/2021	04:20:45	ST24_50E	Still	210139_ST24_50E_12	212	29.6	424 156.0	5 761 690.0	424 168.7	5 761 696.0	14.0	-
18/07/2021	04:20:53	ST24_50E	Still	210139_ST24_50E_13	213	30.2	424 156.0	5 761 690.0	424 171.6	5 761 698.1	17.6	-
18/07/2021	04:21:02	ST24_50E	Still	210139_ST24_50E_14	214	29.5	424 156.0	5 761 690.0	424 173.3	5 761 699.3	19.6	-
18/07/2021	04:21:10	ST24_50E	Still	210139_ST24_50E_15	215	28.9	424 156.0	5 761 690.0	424 174.7	5 761 701.6	22.0	-
18/07/2021	04:21:18	ST24_50E	Still	210139_ST24_50E_16	216	29.6	424 156.0	5 761 690.0	424 178.3	5 761 704.5	26.6	-
18/07/2021	04:21:27	ST24_50E	Still	210139_ST24_50E_17	217	29.7	424 156.0	5 761 690.0	424 180.3	5 761 706.0	29.1	-
18/07/2021	04:21:33	ST24_50E	Still	210139_ST24_50E_18	218	29.3	424 156.0	5 761 690.0	424 181.6	5 761 707.0	30.7	-
18/07/2021	04:21:42	ST24_50E	Still	210139_ST24_50E_19	219	29.9	424 156.0	5 761 690.0	424 183.0	5 761 709.5	33.3	-
18/07/2021	04:21:47	ST24_50E	Still	210139_ST24_50E_20	220	29.2	424 156.0	5 761 690.0	424 184.2	5 761 709.9	34.5	-
18/07/2021	04:47:26	ST26_50W	Still	210139_ST26_50W_01	221	31.1	424 709.0	5 759 833.0	424 671.1	5 759 817.1	41.1	-
18/07/2021	04:47:47	ST26_50W	Still	210139_ST26_50W_02	222	32.5	424 709.0	5 759 833.0	424 678.7	5 759 819.2	33.3	-
18/07/2021	04:48:06	ST26_50W	Still	210139_ST26_50W_03	223	31.7	424 709.0	5 759 833.0	424 688.7	5 759 819.9	24.2	-
18/07/2021	04:48:26	ST26_50W	Still	210139_ST26_50W_04	224	32.6	424 709.0	5 759 833.0	424 701.7	5 759 821.2	13.9	-
18/07/2021	04:48:43	ST26_50W	Still	210139_ST26_50W_05	225	32.4	424 709.0	5 759 833.0	424 710.3	5 759 822.8	10.3	-
18/07/2021	04:48:51	ST26_50W	Still	210139_ST26_50W_06	226	32.5	424 709.0	5 759 833.0	424 714.0	5 759 822.7	11.5	-
18/07/2021	04:48:56	ST26_50W	Still	210139_ST26_50W_07	227	32.2	424 709.0	5 759 833.0	424 716.2	5 759 822.7	12.5	-
18/07/2021	04:49:07	ST26_50W	Still	210139_ST26_50W_08	228	32.1	424 709.0	5 759 833.0	424 720.4	5 759 822.7	15.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	04:49:15	ST26_50W	Still	210139_ST26_50W_09	229	32.4	424 709.0	5 759 833.0	424 723.9	5 759 823.9	17.5	-
18/07/2021	04:49:33	ST26_50W	Still	210139_ST26_50W_10	230	32.5	424 709.0	5 759 833.0	424 733.3	5 759 823.7	26.0	-
18/07/2021	04:49:45	ST26_50W	Still	210139_ST26_50W_11	231	31.9	424 809.0	5 759 833.0	424 739.8	5 759 822.0	70.1	-
18/07/2021	04:50:56	ST26_50Ea	Still	210139_ST26_50Ea_01	232	32.6	424 809.0	5 759 833.0	424 785.4	5 759 814.8	29.8	Continued from ST26_50W
18/07/2021	04:51:13	ST26_50Ea	Still	210139_ST26_50Ea_02	233	32.8	424 809.0	5 759 833.0	424 794.3	5 759 816.0	22.4	-
18/07/2021	04:51:24	ST26_50Ea	Still	210139_ST26_50Ea_03	234	32.3	424 809.0	5 759 833.0	424 799.9	5 759 816.9	18.5	-
18/07/2021	04:51:29	ST26_50Ea	Still	210139_ST26_50Ea_04	235	32.8	424 809.0	5 759 833.0	424 802.7	5 759 819.6	14.8	-
18/07/2021	04:51:39	ST26_50Ea	Still	210139_ST26_50Ea_05	236	32.2	424 809.0	5 759 833.0	424 805.8	5 759 821.3	12.1	-
18/07/2021	04:51:49	ST26_50Ea	Still	210139_ST26_50Ea_06	237	32.4	424 809.0	5 759 833.0	424 809.5	5 759 825.9	7.1	-
18/07/2021	04:51:55	ST26_50Ea	Still	210139_ST26_50Ea_07	238	33.2	424 809.0	5 759 833.0	424 810.5	5 759 831.6	2.0	-
18/07/2021	04:52:04	ST26_50Ea	Still	210139_ST26_50Ea_08	239	32.3	424 809.0	5 759 833.0	424 812.0	5 759 832.9	3.0	-
18/07/2021	04:52:16	ST26_50Ea	Still	210139_ST26_50Ea_09	240	32.8	424 809.0	5 759 833.0	424 815.3	5 759 835.5	6.7	-
18/07/2021	04:52:21	ST26_50Ea	Still	210139_ST26_50Ea_10	241	32.6	424 809.0	5 759 833.0	424 815.7	5 759 837.1	7.9	-
18/07/2021	04:52:32	ST26_50Ea	Still	210139_ST26_50Ea_11	242	32.7	424 809.0	5 759 833.0	424 816.8	5 759 841.2	11.3	-
18/07/2021	04:52:45	ST26_50Ea	Still	210139_ST26_50Ea_12	243	33.0	424 809.0	5 759 833.0	424 821.4	5 759 845.7	17.8	-
18/07/2021	04:52:51	ST26_50Ea	Still	210139_ST26_50Ea_13	244	32.8	424 809.0	5 759 833.0	424 822.7	5 759 847.2	19.7	-
18/07/2021	04:52:58	ST26_50Ea	Still	210139_ST26_50Ea_14	245	33.1	424 809.0	5 759 833.0	424 825.4	5 759 849.6	23.4	-
18/07/2021	04:53:10	ST26_50Ea	Still	210139_ST26_50Ea_15	246	32.4	424 809.0	5 759 833.0	424 829.8	5 759 851.4	27.8	-
18/07/2021	04:53:22	ST26_50Ea	Still	210139_ST26_50Ea_16	247	32.8	424 809.0	5 759 833.0	424 832.9	5 759 853.9	31.7	-
18/07/2021	04:53:31	ST26_50Ea	Still	210139_ST26_50Ea_17	248	32.1	424 809.0	5 759 833.0	424 836.2	5 759 855.9	35.6	-
18/07/2021	05:39:33	ST25	Still	210139_ST25_01	249	28.4	426 729.0	5 759 733.0	426 761.5	5 759 761.5	43.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	05:39:42	ST25	Still	210139_ST25_02	250	29.4	426 729.0	5 759 733.0	426 760.2	5 759 760.2	41.4	-
18/07/2021	05:40:09	ST25	Still	210139_ST25_03	251	29.8	426 729.0	5 759 733.0	426 747.6	5 759 758.8	31.8	-
18/07/2021	05:40:40	ST25	Still	210139_ST25_04	253	30.6	426 729.0	5 759 733.0	426 739.0	5 759 750.1	19.9	-
18/07/2021	05:40:58	ST25	Still	210139_ST25_05	254	30.6	426 729.0	5 759 733.0	426 738.0	5 759 745.9	15.8	-
18/07/2021	05:41:05	ST25	Still	210139_ST25_06	255	30.5	426 729.0	5 759 733.0	426 737.7	5 759 743.4	13.6	-
18/07/2021	05:41:10	ST25	Still	210139_ST25_07	256	30.3	426 729.0	5 759 733.0	426 737.0	5 759 743.2	12.9	-
18/07/2021	05:41:16	ST25	Still	210139_ST25_08	257	30.8	426 729.0	5 759 733.0	426 737.7	5 759 742.3	12.7	-
18/07/2021	05:41:19	ST25	Still	210139_ST25_09	258	30.7	426 729.0	5 759 733.0	426 736.1	5 759 742.5	11.9	-
18/07/2021	05:41:27	ST25	Still	210139_ST25_10	259	29.9	426 729.0	5 759 733.0	426 735.8	5 759 743.0	12.1	-
18/07/2021	05:41:34	ST25	Still	210139_ST25_11	260	29.6	426 729.0	5 759 733.0	426 735.3	5 759 743.2	12.0	-
18/07/2021	05:41:40	ST25	Still	210139_ST25_12	261	29.5	426 729.0	5 759 733.0	426 735.1	5 759 742.5	11.3	-
18/07/2021	05:41:50	ST25	Still	210139_ST25_13	262	30.0	426 729.0	5 759 733.0	426 733.4	5 759 737.7	6.4	-
18/07/2021	05:42:03	ST25	Still	210139_ST25_14	263	30.6	426 729.0	5 759 733.0	426 732.1	5 759 734.8	3.6	-
18/07/2021	05:42:16	ST25	Still	210139_ST25_15	264	30.5	426 729.0	5 759 733.0	426 731.2	5 759 731.8	2.5	-
18/07/2021	05:42:29	ST25	Still	210139_ST25_16	265	30.3	426 729.0	5 759 733.0	426 730.4	5 759 730.1	3.2	-
18/07/2021	05:42:39	ST25	Still	210139_ST25_17	266	29.6	426 729.0	5 759 733.0	426 728.2	5 759 726.6	6.5	-
18/07/2021	05:42:45	ST25	Still	210139_ST25_18	267	30.2	426 729.0	5 759 733.0	426 727.2	5 759 724.2	8.9	-
18/07/2021	05:42:56	ST25	Still	210139_ST25_19	268	30.0	426 729.0	5 759 733.0	426 726.4	5 759 719.7	13.6	-
18/07/2021	05:43:01	ST25	Still	210139_ST25_20	269	30.5	426 729.0	5 759 733.0	426 727.0	5 759 717.1	16.1	-
18/07/2021	05:43:12	ST25	Still	210139_ST25_21	270	30.6	426 729.0	5 759 733.0	426 725.4	5 759 712.0	21.3	-
18/07/2021	05:43:23	ST25	Still	210139_ST25_22	271	30.4	426 729.0	5 759 733.0	426 722.1	5 759 709.9	24.1	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	05:43:32	ST25	Still	210139_ST25_23	272	30.2	426 729.0	5 759 733.0	426 720.4	5 759 707.6	26.8	-
18/07/2021	05:43:42	ST25	Still	210139_ST25_24	273	30.6	426 729.0	5 759 733.0	426 719.2	5 759 703.8	30.8	-
18/07/2021	05:43:48	ST25	Still	210139_ST25_25	274	30.2	426 729.0	5 759 733.0	426 718.6	5 759 701.7	33.0	-
18/07/2021	07:31:56	ST29	Still	210139_ST29_01	275	50.8	420 743.0	5 751 976.0	420 770.3	5 752 008.7	42.5	-
18/07/2021	07:32:15	ST29	Still	210139_ST29_02	276	50.8	420 743.0	5 751 976.0	420 768.4	5 752 009.0	41.6	-
18/07/2021	07:33:07	ST29	Still	210139_ST29_03	277	52.6	420 743.0	5 751 976.0	420 762.9	5 752 010.3	39.7	-
18/07/2021	07:33:32	ST29	Still	210139_ST29_04	278	53.2	420 743.0	5 751 976.0	420 759.5	5 752 006.1	34.3	-
18/07/2021	07:33:40	ST29	Still	210139_ST29_05	279	54.0	420 743.0	5 751 976.0	420 755.9	5 752 006.2	32.9	-
18/07/2021	07:33:56	ST29	Still	210139_ST29_06	280	52.5	420 743.0	5 751 976.0	420 757.5	5 752 006.9	34.1	-
18/07/2021	07:34:01	ST29	Still	210139_ST29_07	281	52.1	420 743.0	5 751 976.0	420 755.2	5 752 005.8	32.2	-
18/07/2021	07:34:07	ST29	Still	210139_ST29_08	282	52.2	420 743.0	5 751 976.0	420 755.0	5 752 004.8	31.2	-
18/07/2021	07:34:16	ST29	Still	210139_ST29_09	283	52.3	420 743.0	5 751 976.0	420 755.6	5 752 000.7	27.7	-
18/07/2021	07:34:27	ST29	Still	210139_ST29_10	284	51.9	420 743.0	5 751 976.0	420 754.5	5 751 996.5	23.5	-
18/07/2021	07:34:41	ST29	Still	210139_ST29_11	285	51.2	420 743.0	5 751 976.0	420 751.7	5 751 994.0	20.0	-
18/07/2021	07:34:45	ST29	Still	210139_ST29_12	286	52.2	420 743.0	5 751 976.0	420 750.6	5 751 992.6	18.3	-
18/07/2021	07:34:51	ST29	Still	210139_ST29_13	287	54.1	420 743.0	5 751 976.0	420 750.7	5 751 987.0	13.4	-
18/07/2021	07:35:04	ST29	Still	210139_ST29_14	288	53.2	420 743.0	5 751 976.0	420 749.1	5 751 984.2	10.2	-
18/07/2021	07:35:18	ST29	Still	210139_ST29_15	289	53.6	420 743.0	5 751 976.0	420 749.0	5 751 976.7	6.0	-
18/07/2021	07:35:27	ST29	Still	210139_ST29_16	290	53.3	420 743.0	5 751 976.0	420 746.8	5 751 974.3	4.2	-
18/07/2021	07:35:38	ST29	Still	210139_ST29_17	291	54.3	420 743.0	5 751 976.0	420 743.9	5 751 969.1	7.0	-
18/07/2021	07:35:42	ST29	Still	210139_ST29_18	292	53.4	420 743.0	5 751 976.0	420 742.8	5 751 970.6	5.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	07:35:53	ST29	Still	210139_ST29_19	293	54.4	420 743.0	5 751 976.0	420 739.5	5 751 964.6	11.9	-
18/07/2021	07:35:59	ST29	Still	210139_ST29_20	294	55.0	420 743.0	5 751 976.0	420 738.4	5 751 963.2	13.6	-
18/07/2021	07:36:07	ST29	Still	210139_ST29_21	295	53.9	420 743.0	5 751 976.0	420 739.8	5 751 964.3	12.1	-
18/07/2021	07:36:18	ST29	Still	210139_ST29_22	296	54.1	420 743.0	5 751 976.0	420 737.8	5 751 962.3	14.6	-
18/07/2021	07:36:35	ST29	Still	210139_ST29_23	297	53.6	420 743.0	5 751 976.0	420 738.6	5 751 956.7	19.9	-
18/07/2021	07:36:46	ST29	Still	210139_ST29_24	298	54.0	420 743.0	5 751 976.0	420 739.0	5 751 953.4	23.0	-
18/07/2021	07:36:58	ST29	Still	210139_ST29_25	299	53.2	420 743.0	5 751 976.0	420 740.1	5 751 950.7	25.5	-
18/07/2021	07:37:09	ST29	Still	210139_ST29_26	300	54.2	420 743.0	5 751 976.0	420 742.5	5 751 944.7	31.3	-
18/07/2021	08:37:21	ST30	Still	210139_ST30_01	301	45.8	419 914.0	5 746 592.0	419 943.3	5 746 644.0	59.7	-
18/07/2021	08:37:41	ST30	Still	210139_ST30_02	302	46.5	419 914.0	5 746 592.0	419 939.7	5 746 639.3	53.9	-
18/07/2021	08:38:01	ST30	Still	210139_ST30_03	303	46.5	419 914.0	5 746 592.0	419 935.8	5 746 635.7	48.8	-
18/07/2021	08:38:29	ST30	Still	210139_ST30_04	304	47.6	419 914.0	5 746 592.0	419 931.1	5 746 629.0	40.8	-
18/07/2021	08:38:56	ST30	Still	210139_ST30_05	305	47.3	419 914.0	5 746 592.0	419 928.1	5 746 619.9	31.2	-
18/07/2021	08:39:07	ST30	Still	210139_ST30_06	306	46.9	419 914.0	5 746 592.0	419 927.8	5 746 614.7	26.6	-
18/07/2021	08:39:17	ST30	Still	210139_ST30_07	307	47.2	419 914.0	5 746 592.0	419 927.7	5 746 609.8	22.5	-
18/07/2021	08:39:24	ST30	Still	210139_ST30_08	308	47.0	419 914.0	5 746 592.0	419 927.5	5 746 608.4	21.2	-
18/07/2021	08:39:50	ST30	Still	210139_ST30_09	309	47.5	419 914.0	5 746 592.0	419 927.7	5 746 608.1	21.1	-
18/07/2021	08:40:05	ST30	Still	210139_ST30_10	310	47.7	419 914.0	5 746 592.0	419 930.6	5 746 605.7	21.5	-
18/07/2021	08:40:14	ST30	Still	210139_ST30_11	311	46.8	419 914.0	5 746 592.0	419 928.8	5 746 604.3	19.2	-
18/07/2021	08:40:20	ST30	Still	210139_ST30_12	312	46.9	419 914.0	5 746 592.0	419 927.5	5 746 604.3	18.2	-
18/07/2021	08:40:49	ST30	Still	210139_ST30_13	313	49.2	419 914.0	5 746 592.0	419 923.9	5 746 588.4	10.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	08:40:56	ST30	Still	210139_ST30_14	314	47.8	419 914.0	5 746 592.0	419 922.0	5 746 588.3	8.8	-
18/07/2021	08:41:06	ST30	Still	210139_ST30_15	315	48.2	419 914.0	5 746 592.0	419 922.6	5 746 583.8	11.8	-
18/07/2021	08:41:21	ST30	Still	210139_ST30_16	316	48.0	419 914.0	5 746 592.0	419 923.6	5 746 579.1	16.1	-
18/07/2021	08:41:31	ST30	Still	210139_ST30_17	317	48.2	419 914.0	5 746 592.0	419 926.6	5 746 574.7	21.4	-
18/07/2021	08:41:38	ST30	Still	210139_ST30_18	318	47.6	419 914.0	5 746 592.0	419 924.9	5 746 574.0	21.1	-
18/07/2021	08:41:47	ST30	Still	210139_ST30_19	319	47.8	419 914.0	5 746 592.0	419 928.6	5 746 570.4	26.1	-
18/07/2021	08:42:02	ST30	Still	210139_ST30_20	320	47.5	419 914.0	5 746 592.0	419 934.1	5 746 565.9	33.0	-
18/07/2021	10:21:18	ST35	Still	210139_ST35_01	321	31.6	420 655.0	5 735 133.0	420 695.2	5 735 135.5	40.3	-
18/07/2021	10:21:45	ST35	Still	210139_ST35_02	NF	-	-	-	-	-	-	-
18/07/2021	10:21:57	ST35	Still	210139_ST35_03	322	32.0	420 655.0	5 735 133.0	420 685.2	5 735 134.4	30.2	-
18/07/2021	10:22:02	ST35	Still	210139_ST35_04	323	32.1	420 655.0	5 735 133.0	420 682.4	5 735 135.8	27.6	-
18/07/2021	10:22:11	ST35	Still	210139_ST35_05	324	32.7	420 655.0	5 735 133.0	420 676.3	5 735 136.5	21.6	-
18/07/2021	10:22:19	ST35	Still	210139_ST35_06	325	33.1	420 655.0	5 735 133.0	420 671.0	5 735 136.1	16.2	-
18/07/2021	10:22:24	ST35	Still	210139_ST35_07	326	32.5	420 655.0	5 735 133.0	420 670.0	5 735 136.8	15.5	-
18/07/2021	10:22:33	ST35	Still	210139_ST35_08	327	33.0	420 655.0	5 735 133.0	420 665.5	5 735 137.7	11.5	-
18/07/2021	10:22:44	ST35	Still	210139_ST35_09	328	32.3	420 655.0	5 735 133.0	420 664.7	5 735 139.0	11.4	-
18/07/2021	10:22:54	ST35	Still	210139_ST35_10	329	32.2	420 655.0	5 735 133.0	420 658.5	5 735 139.9	7.7	-
18/07/2021	10:23:08	ST35	Still	210139_ST35_11	330	32.7	420 655.0	5 735 133.0	420 649.0	5 735 139.9	9.1	-
18/07/2021	10:23:14	ST35	Still	210139_ST35_12	331	33.1	420 655.0	5 735 133.0	420 645.9	5 735 139.6	11.3	-
18/07/2021	10:23:26	ST35	Still	210139_ST35_13	332	32.8	420 655.0	5 735 133.0	420 640.6	5 735 139.7	15.9	-
18/07/2021	10:23:34	ST35	Still	210139_ST35_14	333	33.3	420 655.0	5 735 133.0	420 635.5	5 735 140.0	20.7	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	10:23:48	ST35	Still	210139_ST35_15	334	33.1	420 655.0	5 735 133.0	420 627.1	5 735 141.7	29.2	-
18/07/2021	10:23:57	ST35	Still	210139_ST35_16	335	32.8	420 655.0	5 735 133.0	420 624.9	5 735 141.8	31.4	-
18/07/2021	10:41:47	ST34	Still	210139_ST34_01	336	33.2	419 554.0	5 734 896.0	419 573.7	5 734 860.8	40.3	-
18/07/2021	10:42:03	ST34	Still	210139_ST34_02	337	34.2	419 554.0	5 734 896.0	419 566.0	5 734 866.5	31.8	-
18/07/2021	10:42:11	ST34	Still	210139_ST34_03	338	34.2	419 554.0	5 734 896.0	419 564.9	5 734 869.5	28.7	-
18/07/2021	10:42:19	ST34	Still	210139_ST34_04	339	34.4	419 554.0	5 734 896.0	419 563.4	5 734 873.1	24.7	-
18/07/2021	10:42:34	ST34	Still	210139_ST34_05	340	34.0	419 554.0	5 734 896.0	419 564.0	5 734 885.2	14.8	-
18/07/2021	10:42:45	ST34	Still	210139_ST34_06	341	34.0	419 554.0	5 734 896.0	419 561.7	5 734 893.0	8.2	-
18/07/2021	10:42:57	ST34	Still	210139_ST34_07	342	36.0	419 554.0	5 734 896.0	419 557.7	5 734 899.8	5.3	-
18/07/2021	10:43:13	ST34	Still	210139_ST34_08	343	35.1	419 554.0	5 734 896.0	419 563.2	5 734 902.5	11.3	-
18/07/2021	10:43:19	ST34	Still	210139_ST34_09	344	33.8	419 554.0	5 734 896.0	419 561.8	5 734 904.2	11.3	-
18/07/2021	10:43:27	ST34	Still	210139_ST34_10	345	33.8	419 554.0	5 734 896.0	419 561.3	5 734 906.9	13.1	-
18/07/2021	10:43:34	ST34	Still	210139_ST34_11	346	33.8	419 554.0	5 734 896.0	419 561.8	5 734 908.4	14.6	-
18/07/2021	10:43:45	ST34	Still	210139_ST34_12	347	34.2	419 554.0	5 734 896.0	419 563.5	5 734 914.8	21.1	-
18/07/2021	10:44:01	ST34	Still	210139_ST34_13	348	34.1	419 554.0	5 734 896.0	419 567.2	5 734 923.0	30.1	-
18/07/2021	11:34:30	ST36	Still	210139_ST36_01	349	30.4	423 165.0	5 733 376.0	423 175.3	5 733 345.9	31.9	-
18/07/2021	11:34:49	ST36	Still	210139_ST36_02	350	30.6	423 165.0	5 733 376.0	423 172.3	5 733 351.0	26.1	-
18/07/2021	11:34:59	ST36	Still	210139_ST36_03	351	30.6	423 165.0	5 733 376.0	423 168.2	5 733 353.4	22.8	-
18/07/2021	11:35:04	ST36	Still	210139_ST36_04	352	30.8	423 165.0	5 733 376.0	423 168.4	5 733 354.1	22.2	-
18/07/2021	11:35:11	ST36	Still	210139_ST36_05	353	30.5	423 165.0	5 733 376.0	423 167.0	5 733 355.8	20.3	-
18/07/2021	11:35:24	ST36	Still	210139_ST36_06	354	31.2	423 165.0	5 733 376.0	423 162.3	5 733 363.9	12.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	11:35:31	ST36	Still	210139_ST36_07	355	30.7	423 165.0	5 733 376.0	423 162.0	5 733 366.5	10.0	-
18/07/2021	11:35:36	ST36	Still	210139_ST36_08	356	30.6	423 165.0	5 733 376.0	423 160.5	5 733 368.8	8.5	-
18/07/2021	11:35:42	ST36	Still	210139_ST36_09	357	31.0	423 165.0	5 733 376.0	423 161.1	5 733 371.5	6.0	-
18/07/2021	11:35:51	ST36	Still	210139_ST36_10	358	30.9	423 165.0	5 733 376.0	423 159.2	5 733 377.7	6.1	-
18/07/2021	11:35:57	ST36	Still	210139_ST36_11	359	31.0	423 165.0	5 733 376.0	423 159.2	5 733 379.3	6.7	-
18/07/2021	11:36:08	ST36	Still	210139_ST36_12	360	30.8	423 165.0	5 733 376.0	423 159.6	5 733 382.5	8.4	-
18/07/2021	11:36:15	ST36	Still	210139_ST36_13	361	31.0	423 165.0	5 733 376.0	423 159.2	5 733 385.9	11.5	-
18/07/2021	11:36:20	ST36	Still	210139_ST36_14	NF	-	-	-	-	-	-	-
18/07/2021	11:36:26	ST36	Still	210139_ST36_15	362	31.0	423 165.0	5 733 376.0	423 158.9	5 733 389.0	14.4	-
18/07/2021	11:36:33	ST36	Still	210139_ST36_16	363	31.0	423 165.0	5 733 376.0	423 158.3	5 733 390.5	16.0	-
18/07/2021	11:36:40	ST36	Still	210139_ST36_17	364	30.9	423 165.0	5 733 376.0	423 157.9	5 733 392.1	17.6	-
18/07/2021	11:36:47	ST36	Still	210139_ST36_18	365	31.2	423 165.0	5 733 376.0	423 157.7	5 733 394.6	19.9	-
18/07/2021	11:37:07	ST36	Still	210139_ST36_19	366	31.3	423 165.0	5 733 376.0	423 157.0	5 733 404.2	29.3	-
18/07/2021	11:37:18	ST36	Still	210139_ST36_20	367	31.4	423 165.0	5 733 376.0	423 156.3	5 733 408.0	33.1	-
18/07/2021	11:37:25	ST36	Still	210139_ST36_21	368	31.4	423 165.0	5 733 376.0	423 155.6	5 733 412.0	37.2	-
18/07/2021	12:04:35	ST37	Still	210139_ST37_01	369	44.2	424 759.0	5 732 535.0	424 753.6	5 732 483.5	51.8	-
18/07/2021	12:05:32	ST37	Still	210139_ST37_02	370	45.2	424 759.0	5 732 535.0	424 755.4	5 732 497.6	37.6	-
18/07/2021	12:06:03	ST37	Still	210139_ST37_03	371	45.6	424 759.0	5 732 535.0	424 755.9	5 732 514.1	21.1	-
18/07/2021	12:06:09	ST37	Still	210139_ST37_04	372	45.5	424 759.0	5 732 535.0	424 755.5	5 732 516.9	18.4	-
18/07/2021	12:06:15	ST37	Still	210139_ST37_05	373	45.6	424 759.0	5 732 535.0	424 755.7	5 732 519.6	15.8	-
18/07/2021	12:06:24	ST37	Still	210139_ST37_06	374	45.9	424 759.0	5 732 535.0	424 756.5	5 732 524.6	10.7	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	12:06:39	ST37	Still	210139_ST37_07	375	45.8	424 759.0	5 732 535.0	424 755.3	5 732 530.2	6.1	-
18/07/2021	12:06:48	ST37	Still	210139_ST37_08	376	46.0	424 759.0	5 732 535.0	424 754.9	5 732 532.7	4.7	-
18/07/2021	12:06:57	ST37	Still	210139_ST37_09	377	46.1	424 759.0	5 732 535.0	424 754.1	5 732 534.3	5.0	-
18/07/2021	12:07:14	ST37	Still	210139_ST37_10	378	46.0	424 759.0	5 732 535.0	424 753.5	5 732 540.4	7.7	-
18/07/2021	12:07:43	ST37	Still	210139_ST37_11	379	46.0	424 759.0	5 732 535.0	424 752.9	5 732 554.2	20.2	-
18/07/2021	12:07:52	ST37	Still	210139_ST37_12	380	45.8	424 759.0	5 732 535.0	424 752.9	5 732 558.5	24.2	-
18/07/2021	12:07:56	ST37	Still	210139_ST37_13	381	46.2	424 759.0	5 732 535.0	424 753.0	5 732 561.3	27.0	-
18/07/2021	12:08:11	ST37	Still	210139_ST37_14	382	45.5	424 759.0	5 732 535.0	424 752.2	5 732 567.1	32.8	-
18/07/2021	12:08:20	ST37	Still	210139_ST37_15	383	46.3	424 759.0	5 732 535.0	424 751.1	5 732 572.1	37.9	-
18/07/2021	12:08:27	ST37	Still	210139_ST37_16	384	45.9	424 759.0	5 732 535.0	424 749.3	5 732 574.4	40.6	-
18/07/2021	12:32:00	ST38	Still	210139_ST38_01	385	28.1	426 303.0	5 731 780.0	426 278.8	5 731 750.6	38.1	-
18/07/2021	12:32:33	ST38	Still	210139_ST38_02	386	29.6	426 303.0	5 731 780.0	426 278.5	5 731 762.2	30.3	-
18/07/2021	12:32:39	ST38	Still	210139_ST38_03	387	29.3	426 303.0	5 731 780.0	426 279.7	5 731 763.5	28.5	-
18/07/2021	12:32:59	ST38	Still	210139_ST38_04	388	30.4	426 303.0	5 731 780.0	426 283.6	5 731 771.1	21.3	-
18/07/2021	12:33:33	ST38	Still	210139_ST38_05	389	30.8	426 303.0	5 731 780.0	426 297.4	5 731 778.2	5.9	-
18/07/2021	12:33:48	ST38	Still	210139_ST38_06	390	31.1	426 303.0	5 731 780.0	426 303.9	5 731 782.3	2.4	-
18/07/2021	12:34:03	ST38	Still	210139_ST38_07	391	31.3	426 303.0	5 731 780.0	426 312.3	5 731 783.6	10.0	-
18/07/2021	12:34:08	ST38	Still	210139_ST38_08	392	31.0	426 303.0	5 731 780.0	426 313.5	5 731 784.7	11.5	-
18/07/2021	12:34:21	ST38	Still	210139_ST38_09	393	31.8	426 303.0	5 731 780.0	426 321.5	5 731 786.4	19.6	-
18/07/2021	12:34:27	ST38	Still	210139_ST38_10	394	31.7	426 303.0	5 731 780.0	426 324.4	5 731 786.5	22.3	-
18/07/2021	12:34:40	ST38	Still	210139_ST38_11	395	31.9	426 303.0	5 731 780.0	426 332.0	5 731 787.1	29.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	12:34:49	ST38	Still	210139_ST38_12	396	32.0	426 303.0	5 731 780.0	426 336.9	5 731 788.1	34.8	-
18/07/2021	12:34:55	ST38	Still	210139_ST38_13	397	31.4	426 303.0	5 731 780.0	426 338.9	5 731 788.1	36.8	-
18/07/2021	13:18:17	ST39	Still	210139_ST39_01	398	38.0	431 244.0	5 731 416.0	431 217.6	5 731 367.4	55.3	-
18/07/2021	13:18:39	ST39	Still	210139_ST39_02	399	38.2	431 244.0	5 731 416.0	431 222.8	5 731 371.1	49.7	-
18/07/2021	13:18:49	ST39	Still	210139_ST39_03	400	39.6	431 244.0	5 731 416.0	431 225.2	5 731 374.6	45.4	-
18/07/2021	13:18:58	ST39	Still	210139_ST39_04	401	39.0	431 244.0	5 731 416.0	431 226.5	5 731 377.2	42.6	-
18/07/2021	13:19:08	ST39	Still	210139_ST39_05	402	39.3	431 244.0	5 731 416.0	431 230.0	5 731 380.8	37.9	-
18/07/2021	13:19:15	ST39	Still	210139_ST39_06	403	39.8	431 244.0	5 731 416.0	431 231.3	5 731 381.5	36.8	-
18/07/2021	13:19:50	ST39	Still	210139_ST39_07	404	39.0	431 244.0	5 731 416.0	431 241.5	5 731 388.8	27.3	-
18/07/2021	13:20:00	ST39	Still	210139_ST39_08	405	39.2	431 244.0	5 731 416.0	431 243.1	5 731 394.7	21.4	-
18/07/2021	13:20:10	ST39	Still	210139_ST39_09	406	37.8	431 244.0	5 731 416.0	431 244.7	5 731 395.8	20.2	-
18/07/2021	13:20:19	ST39	Still	210139_ST39_10	407	38.9	431 244.0	5 731 416.0	431 246.6	5 731 399.6	16.6	-
18/07/2021	13:20:48	ST39	Still	210139_ST39_11	408	38.4	431 244.0	5 731 416.0	431 256.4	5 731 406.6	15.6	-
18/07/2021	13:20:53	ST39	Still	210139_ST39_12	409	39.4	431 244.0	5 731 416.0	431 260.2	5 731 406.0	19.0	-
18/07/2021	13:20:58	ST39	Still	210139_ST39_13	410	38.9	431 244.0	5 731 416.0	431 259.6	5 731 406.5	18.2	-
18/07/2021	13:21:05	ST39	Still	210139_ST39_14	411	38.1	431 244.0	5 731 416.0	431 262.1	5 731 404.7	21.3	-
18/07/2021	13:21:10	ST39	Still	210139_ST39_15	412	37.4	431 244.0	5 731 416.0	431 265.2	5 731 404.1	24.3	-
18/07/2021	13:21:21	ST39	Still	210139_ST39_16	413	36.5	431 244.0	5 731 416.0	431 268.3	5 731 404.8	26.8	-
18/07/2021	13:21:26	ST39	Still	210139_ST39_17	414	35.7	431 244.0	5 731 416.0	431 270.2	5 731 404.3	28.7	-
18/07/2021	13:21:37	ST39	Still	210139_ST39_18	415	36.5	431 244.0	5 731 416.0	431 269.8	5 731 404.8	28.1	-
18/07/2021	13:24:53	ST39	Still	210139_ST39_19	416	37.9	431 244.0	5 731 416.0	431 257.6	5 731 403.6	18.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	13:25:21	ST39	Still	210139_ST39_20	417	38.3	431 244.0	5 731 416.0	431 236.6	5 731 408.8	10.3	-
18/07/2021	13:25:30	ST39	Still	210139_ST39_21	418	36.0	431 244.0	5 731 416.0	431 231.2	5 731 411.0	13.7	-
18/07/2021	13:25:41	ST39	Still	210139_ST39_22	419	38.4	431 244.0	5 731 416.0	431 222.4	5 731 415.0	21.6	-
18/07/2021	13:25:53	ST39	Still	210139_ST39_23	420	39.0	431 244.0	5 731 416.0	431 212.8	5 731 418.6	31.3	-
18/07/2021	13:26:12	ST39	Still	210139_ST39_24	421	38.0	431 244.0	5 731 416.0	431 198.8	5 731 421.9	45.6	-
18/07/2021	14:00:06	ST42	Still	210139_ST42_01	422	17.7	427 804.0	5 726 990.0	427 788.4	5 726 951.4	41.6	-
18/07/2021	14:00:31	ST42	Still	210139_ST42_02	423	20.4	427 804.0	5 726 990.0	427 797.7	5 726 954.1	36.5	-
18/07/2021	14:01:22	ST42	Still	210139_ST42_03	425	18.6	427 804.0	5 726 990.0	427 798.0	5 726 977.3	14.1	-
18/07/2021	14:01:55	ST42	Still	210139_ST42_04	426	19.8	427 804.0	5 726 990.0	427 806.3	5 726 987.5	3.4	-
18/07/2021	14:01:59	ST42	Still	210139_ST42_05	427	20.6	427 804.0	5 726 990.0	427 807.3	5 726 987.6	4.1	-
18/07/2021	14:02:25	ST42	Still	210139_ST42_06	428	19.4	427 804.0	5 726 990.0	427 804.0	5 726 993.2	3.2	-
18/07/2021	14:02:38	ST42	Still	210139_ST42_07	429	18.0	427 804.0	5 726 990.0	427 806.4	5 726 995.6	6.1	-
18/07/2021	14:03:00	ST42	Still	210139_ST42_08	430	20.8	427 804.0	5 726 990.0	427 812.1	5 727 002.2	14.6	-
18/07/2021	14:03:13	ST42	Still	210139_ST42_09	431	25.9	427 804.0	5 726 990.0	427 815.6	5 727 004.1	18.3	-
18/07/2021	14:04:07	ST42	Still	210139_ST42_10	433	21.3	427 804.0	5 726 990.0	427 825.0	5 727 015.0	32.7	-
18/07/2021	14:04:12	ST42	Still	210139_ST42_11	434	18.3	427 804.0	5 726 990.0	427 823.6	5 727 014.2	31.1	-
18/07/2021	14:04:35	ST42	Still	210139_ST42_12	435	18.1	427 804.0	5 726 990.0	427 830.0	5 727 017.1	37.6	-
18/07/2021	14:04:40	ST42	Still	210139_ST42_13	436	19.8	427 804.0	5 726 990.0	427 830.8	5 727 018.1	38.8	-
18/07/2021	14:28:40	ST43	Still	210139_ST43_01	437	34.0	426 980.0	5 726 546.0	426 965.8	5 726 506.7	41.8	-
18/07/2021	14:28:58	ST43	Still	210139_ST43_02	438	30.4	426 980.0	5 726 546.0	426 965.0	5 726 508.2	40.7	-
18/07/2021	14:29:32	ST43	Still	210139_ST43_03	439	30.8	426 980.0	5 726 546.0	426 975.5	5 726 511.3	35.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	14:29:39	ST43	Still	210139_ST43_04	440	32.9	426 980.0	5 726 546.0	426 976.3	5 726 514.8	31.4	-
18/07/2021	14:29:44	ST43	Still	210139_ST43_05	441	31.5	426 980.0	5 726 546.0	426 974.9	5 726 515.9	30.6	-
18/07/2021	14:29:47	ST43	Still	210139_ST43_06	NF	-	-	-	-	-	-	-
18/07/2021	14:29:53	ST43	Still	210139_ST43_07	442	30.6	426 980.0	5 726 546.0	426 976.2	5 726 518.4	27.9	-
18/07/2021	14:30:00	ST43	Still	210139_ST43_08	443	32.9	426 980.0	5 726 546.0	426 978.5	5 726 523.7	22.4	-
18/07/2021	14:30:06	ST43	Still	210139_ST43_09	444	33.9	426 980.0	5 726 546.0	426 979.5	5 726 526.2	19.9	-
18/07/2021	14:30:09	ST43	Still	210139_ST43_10	445	33.2	426 980.0	5 726 546.0	426 979.0	5 726 527.5	18.5	-
18/07/2021	14:30:15	ST43	Still	210139_ST43_11	NF	-	-	-	-	-	-	-
18/07/2021	14:30:34	ST43	Still	210139_ST43_12	446	35.7	426 980.0	5 726 546.0	426 982.8	5 726 538.5	8.0	-
18/07/2021	14:30:42	ST43	Still	210139_ST43_13	447	34.9	426 980.0	5 726 546.0	426 983.0	5 726 541.1	5.8	-
18/07/2021	14:30:56	ST43	Still	210139_ST43_14	448	35.9	426 980.0	5 726 546.0	426 987.4	5 726 545.8	7.4	-
18/07/2021	14:31:09	ST43	Still	210139_ST43_15	449	36.7	426 980.0	5 726 546.0	426 989.4	5 726 551.8	11.1	-
18/07/2021	14:31:19	ST43	Still	210139_ST43_16	450	36.6	426 980.0	5 726 546.0	426 988.8	5 726 556.6	13.8	-
18/07/2021	14:31:23	ST43	Still	210139_ST43_17	NF	-	-	-	-	-	-	-
18/07/2021	14:31:29	ST43	Still	210139_ST43_18	451	36.7	426 980.0	5 726 546.0	426 991.4	5 726 558.1	16.6	-
18/07/2021	14:31:36	ST43	Still	210139_ST43_19	452	37.9	426 980.0	5 726 546.0	426 992.3	5 726 560.1	18.8	-
18/07/2021	14:31:54	ST43	Still	210139_ST43_20	453	35.2	426 980.0	5 726 546.0	426 996.3	5 726 560.8	22.0	-
18/07/2021	14:31:58	ST43	Still	210139_ST43_21	454	36.1	426 980.0	5 726 546.0	426 998.2	5 726 562.4	24.5	-
18/07/2021	14:32:02	ST43	Still	210139_ST43_22	455	35.8	426 980.0	5 726 546.0	426 999.3	5 726 563.1	25.8	-
18/07/2021	14:32:06	ST43	Still	210139_ST43_23	456	36.5	426 980.0	5 726 546.0	427 000.7	5 726 563.9	27.4	-
18/07/2021	14:32:12	ST43	Still	210139_ST43_24	457	35.4	426 980.0	5 726 546.0	427 000.4	5 726 563.4	26.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	15:09:34	ST47	Still	210139_ST47_01	458	39.0	423 556.0	5 723 665.0	423 543.0	5 723 635.3	32.5	-
18/07/2021	15:09:45	ST47	Still	210139_ST47_02	459	38.8	423 556.0	5 723 665.0	423 543.2	5 723 635.4	32.3	-
18/07/2021	15:09:54	ST47	Still	210139_ST47_03	460	39.0	423 556.0	5 723 665.0	423 546.2	5 723 636.3	30.4	-
18/07/2021	15:10:21	ST47	Still	210139_ST47_04	461	39.3	423 556.0	5 723 665.0	423 553.4	5 723 640.3	24.9	-
18/07/2021	15:10:35	ST47	Still	210139_ST47_05	462	39.7	423 556.0	5 723 665.0	423 555.6	5 723 643.2	21.8	-
18/07/2021	15:10:43	ST47	Still	210139_ST47_06	463	39.0	423 556.0	5 723 665.0	423 556.3	5 723 642.7	22.3	-
18/07/2021	15:10:56	ST47	Still	210139_ST47_07	464	39.2	423 556.0	5 723 665.0	423 556.6	5 723 647.6	17.4	-
18/07/2021	15:11:02	ST47	Still	210139_ST47_08	465	39.7	423 556.0	5 723 665.0	423 555.9	5 723 649.1	15.9	-
18/07/2021	15:11:09	ST47	Still	210139_ST47_09	466	39.4	423 556.0	5 723 665.0	423 555.2	5 723 649.6	15.4	-
18/07/2021	15:11:15	ST47	Still	210139_ST47_10	467	39.6	423 556.0	5 723 665.0	423 554.8	5 723 652.3	12.7	-
18/07/2021	15:11:17	ST47	Still	210139_ST47_11	NF	-	-	-	-	-	-	-
18/07/2021	15:11:30	ST47	Still	210139_ST47_12	468	39.4	423 556.0	5 723 665.0	423 556.3	5 723 654.5	10.5	-
18/07/2021	15:11:37	ST47	Still	210139_ST47_13	469	39.2	423 556.0	5 723 665.0	423 556.3	5 723 656.4	8.6	-
18/07/2021	15:11:58	ST47	Still	210139_ST47_14	470	39.6	423 556.0	5 723 665.0	423 556.6	5 723 662.5	2.6	-
18/07/2021	15:12:18	ST47	Still	210139_ST47_15	471	39.7	423 556.0	5 723 665.0	423 557.2	5 723 668.7	3.9	-
18/07/2021	15:12:23	ST47	Still	210139_ST47_16	472	39.8	423 556.0	5 723 665.0	423 557.5	5 723 669.3	4.6	-
18/07/2021	15:12:49	ST47	Still	210139_ST47_17	473	40.3	423 556.0	5 723 665.0	423 556.6	5 723 677.2	12.2	-
18/07/2021	15:13:10	ST47	Still	210139_ST47_18	474	39.8	423 556.0	5 723 665.0	423 561.7	5 723 684.0	19.9	-
18/07/2021	15:13:14	ST47	Still	210139_ST47_19	475	39.5	423 556.0	5 723 665.0	423 562.3	5 723 684.7	20.7	-
18/07/2021	15:13:34	ST47	Still	210139_ST47_20	476	40.8	423 556.0	5 723 665.0	423 566.9	5 723 693.6	30.6	-
18/07/2021	15:46:47	ST49	Still	210139_ST49_01	477	45.8	420 785.0	5 720 654.0	420 760.5	5 720 602.0	57.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	15:47:00	ST49	Still	210139_ST49_02	478	47.2	420 785.0	5 720 654.0	420 758.1	5 720 605.3	55.6	-
18/07/2021	15:47:32	ST49	Still	210139_ST49_03	479	48.5	420 785.0	5 720 654.0	420 767.9	5 720 613.9	43.6	-
18/07/2021	15:47:42	ST49	Still	210139_ST49_04	480	48.2	420 785.0	5 720 654.0	420 771.1	5 720 617.0	39.6	-
18/07/2021	15:47:49	ST49	Still	210139_ST49_05	481	47.5	420 785.0	5 720 654.0	420 775.1	5 720 618.0	37.3	-
18/07/2021	15:48:00	ST49	Still	210139_ST49_06	482	47.4	420 785.0	5 720 654.0	420 776.2	5 720 623.1	32.1	-
18/07/2021	15:48:08	ST49	Still	210139_ST49_07	483	48.0	420 785.0	5 720 654.0	420 776.1	5 720 626.3	29.1	-
18/07/2021	15:48:22	ST49	Still	210139_ST49_08	484	48.7	420 785.0	5 720 654.0	420 774.2	5 720 632.2	24.3	-
18/07/2021	15:48:34	ST49	Still	210139_ST49_09	485	48.7	420 785.0	5 720 654.0	420 773.7	5 720 638.3	19.3	-
18/07/2021	15:48:43	ST49	Still	210139_ST49_10	486	48.8	420 785.0	5 720 654.0	420 778.0	5 720 642.5	13.5	-
18/07/2021	15:48:55	ST49	Still	210139_ST49_11	487	49.0	420 785.0	5 720 654.0	420 782.5	5 720 647.3	7.1	-
18/07/2021	15:49:06	ST49	Still	210139_ST49_12	488	47.9	420 785.0	5 720 654.0	420 784.0	5 720 649.3	4.8	-
18/07/2021	15:49:14	ST49	Still	210139_ST49_13	489	48.9	420 785.0	5 720 654.0	420 785.4	5 720 654.1	.4	-
18/07/2021	15:49:28	ST49	Still	210139_ST49_14	490	49.8	420 785.0	5 720 654.0	420 786.6	5 720 661.0	7.2	-
18/07/2021	15:49:35	ST49	Still	210139_ST49_15	491	49.9	420 785.0	5 720 654.0	420 788.7	5 720 665.4	12.0	-
18/07/2021	15:49:49	ST49	Still	210139_ST49_16	492	49.7	420 785.0	5 720 654.0	420 790.2	5 720 670.5	17.3	-
18/07/2021	15:49:58	ST49	Still	210139_ST49_17	493	49.5	420 785.0	5 720 654.0	420 789.6	5 720 673.2	19.7	-
18/07/2021	15:50:11	ST49	Still	210139_ST49_18	494	49.9	420 785.0	5 720 654.0	420 792.0	5 720 676.3	23.3	-
18/07/2021	15:50:24	ST49	Still	210139_ST49_19	495	47.4	420 785.0	5 720 654.0	420 791.8	5 720 679.1	26.0	-
18/07/2021	15:50:37	ST49	Still	210139_ST49_20	496	48.2	420 785.0	5 720 654.0	420 792.4	5 720 682.5	29.5	-
18/07/2021	16:19:17	ST46	Still	210139_ST46_01	497	49.8	421 223.0	5 722 937.0	421 224.3	5 722 919.4	17.7	-
18/07/2021	16:19:54	ST46	Still	210139_ST46_02	498	48.3	421 223.0	5 722 937.0	421 217.7	5 722 923.2	14.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	16:20:14	ST46	Still	210139_ST46_03	499	49.7	421 223.0	5 722 937.0	421 212.8	5 722 926.2	14.8	-
18/07/2021	16:20:18	ST46	Still	210139_ST46_04	500	50.0	421 223.0	5 722 937.0	421 211.3	5 722 928.0	14.7	-
18/07/2021	16:20:28	ST46	Still	210139_ST46_05	501	50.2	421 223.0	5 722 937.0	421 208.8	5 722 930.3	15.7	-
18/07/2021	16:20:33	ST46	Still	210139_ST46_06	502	49.9	421 223.0	5 722 937.0	421 207.5	5 722 932.0	16.3	-
18/07/2021	16:20:40	ST46	Still	210139_ST46_07	503	50.2	421 223.0	5 722 937.0	421 205.8	5 722 934.6	17.4	-
18/07/2021	16:20:48	ST46	Still	210139_ST46_08	504	50.2	421 223.0	5 722 937.0	421 203.4	5 722 937.5	19.6	-
18/07/2021	16:20:54	ST46	Still	210139_ST46_09	505	50.1	421 223.0	5 722 937.0	421 200.6	5 722 940.0	22.6	-
18/07/2021	16:21:04	ST46	Still	210139_ST46_10	506	49.8	421 223.0	5 722 937.0	421 199.1	5 722 942.9	24.6	-
18/07/2021	16:21:14	ST46	Still	210139_ST46_11	507	49.7	421 223.0	5 722 937.0	421 195.0	5 722 946.5	29.6	-
18/07/2021	16:23:27	ST46	Still	210139_ST46_12	508	49.9	421 223.0	5 722 937.0	421 205.5	5 722 939.3	17.6	-
18/07/2021	16:23:35	ST46	Still	210139_ST46_13	509	50.2	421 223.0	5 722 937.0	421 204.0	5 722 934.1	19.2	-
18/07/2021	16:23:42	ST46	Still	210139_ST46_14	510	49.6	421 223.0	5 722 937.0	421 204.7	5 722 930.9	19.3	-
18/07/2021	16:23:47	ST46	Still	210139_ST46_15	511	51.2	421 223.0	5 722 937.0	421 208.8	5 722 924.9	18.7	-
18/07/2021	16:23:56	ST46	Still	210139_ST46_16	513	51.1	421 223.0	5 722 937.0	421 209.6	5 722 918.5	22.8	-
18/07/2021	16:24:10	ST46	Still	210139_ST46_17	514	51.3	421 223.0	5 722 937.0	421 211.0	5 722 909.0	30.5	-
18/07/2021	16:24:17	ST46	Still	210139_ST46_18	515	51.3	421 223.0	5 722 937.0	421 210.2	5 722 904.0	35.4	-
18/07/2021	17:33:59	ST48	Still	210139_ST48_01	517	50.9	419 780.0	5 726 009.0	419 740.0	5 725 996.5	41.9	-
18/07/2021	17:34:10	ST48	Still	210139_ST48_02	518	51.3	419 780.0	5 726 009.0	419 748.0	5 725 995.9	34.6	-
18/07/2021	17:34:17	ST48	Still	210139_ST48_03	519	51.0	419 780.0	5 726 009.0	419 750.8	5 725 995.3	32.3	-
18/07/2021	17:34:23	ST48	Still	210139_ST48_04	520	51.4	419 780.0	5 726 009.0	419 753.7	5 725 995.4	29.6	-
18/07/2021	17:34:35	ST48	Still	210139_ST48_05	521	51.3	419 780.0	5 726 009.0	419 759.3	5 725 996.4	24.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	17:34:45	ST48	Still	210139_ST48_06	522	51.2	419 780.0	5 726 009.0	419 765.5	5 725 997.2	18.7	-
18/07/2021	17:34:54	ST48	Still	210139_ST48_07	523	51.3	419 780.0	5 726 009.0	419 769.6	5 725 998.4	14.9	-
18/07/2021	17:35:02	ST48	Still	210139_ST48_08	524	51.6	419 780.0	5 726 009.0	419 773.9	5 725 998.9	11.8	-
18/07/2021	17:35:08	ST48	Still	210139_ST48_09	525	51.5	419 780.0	5 726 009.0	419 776.1	5 726 000.2	9.6	-
18/07/2021	17:35:16	ST48	Still	210139_ST48_10	526	51.5	419 780.0	5 726 009.0	419 779.1	5 726 001.0	8.1	-
18/07/2021	17:35:22	ST48	Still	210139_ST48_11	527	51.6	419 780.0	5 726 009.0	419 780.9	5 726 001.6	7.4	-
18/07/2021	17:35:33	ST48	Still	210139_ST48_12	528	51.5	419 780.0	5 726 009.0	419 784.0	5 726 003.8	6.6	-
18/07/2021	17:35:37	ST48	Still	210139_ST48_13	529	51.3	419 780.0	5 726 009.0	419 785.5	5 726 003.8	7.6	-
18/07/2021	17:35:46	ST48	Still	210139_ST48_14	530	51.7	419 780.0	5 726 009.0	419 790.2	5 726 005.6	10.7	-
18/07/2021	17:35:58	ST48	Still	210139_ST48_15	531	51.4	419 780.0	5 726 009.0	419 793.8	5 726 007.3	13.9	-
18/07/2021	17:36:07	ST48	Still	210139_ST48_16	532	51.8	419 780.0	5 726 009.0	419 795.6	5 726 008.0	15.7	-
18/07/2021	17:36:13	ST48	Still	210139_ST48_17	533	51.3	419 780.0	5 726 009.0	419 798.0	5 726 007.6	18.1	-
18/07/2021	17:36:18	ST48	Still	210139_ST48_18	534	51.3	419 780.0	5 726 009.0	419 799.0	5 726 008.1	19.0	-
18/07/2021	17:36:26	ST48	Still	210139_ST48_19	535	51.4	419 780.0	5 726 009.0	419 802.2	5 726 009.5	22.2	-
18/07/2021	17:36:36	ST48	Still	210139_ST48_20	536	51.1	419 780.0	5 726 009.0	419 804.0	5 726 010.4	24.0	-
18/07/2021	17:36:45	ST48	Still	210139_ST48_21	537	50.8	419 780.0	5 726 009.0	419 806.1	5 726 010.7	26.2	-
18/07/2021	17:36:58	ST48	Still	210139_ST48_22	538	51.0	419 780.0	5 726 009.0	419 808.3	5 726 012.3	28.4	-
18/07/2021	17:37:07	ST48	Still	210139_ST48_23	539	51.2	419 780.0	5 726 009.0	419 809.6	5 726 013.9	30.0	-
18/07/2021	17:37:15	ST48	Still	210139_ST48_24	540	50.8	419 780.0	5 726 009.0	419 811.7	5 726 014.6	32.2	-
18/07/2021	18:04:10	ST44	Still	210139_ST44_01	541	50.4	420 344.0	5 727 332.0	420 327.8	5 727 374.9	45.9	-
18/07/2021	18:04:17	ST44	Still	210139_ST44_02	542	50.7	420 344.0	5 727 332.0	420 328.1	5 727 370.7	41.9	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	18:04:29	ST44	Still	210139_ST44_03	543	50.9	420 344.0	5 727 332.0	420 330.1	5 727 363.3	34.2	-
18/07/2021	18:04:36	ST44	Still	210139_ST44_04	544	50.8	420 344.0	5 727 332.0	420 331.6	5 727 359.7	30.4	-
18/07/2021	18:04:43	ST44	Still	210139_ST44_05	545	50.4	420 344.0	5 727 332.0	420 331.6	5 727 358.6	29.4	-
18/07/2021	18:04:50	ST44	Still	210139_ST44_06	546	50.6	420 344.0	5 727 332.0	420 333.7	5 727 354.3	24.5	-
18/07/2021	18:04:56	ST44	Still	210139_ST44_07	547	50.6	420 344.0	5 727 332.0	420 334.2	5 727 350.3	20.8	-
18/07/2021	18:05:02	ST44	Still	210139_ST44_08	548	50.8	420 344.0	5 727 332.0	420 335.2	5 727 348.6	18.8	-
18/07/2021	18:05:08	ST44	Still	210139_ST44_09	549	51.1	420 344.0	5 727 332.0	420 336.6	5 727 345.5	15.4	-
18/07/2021	18:05:20	ST44	Still	210139_ST44_10	550	50.8	420 344.0	5 727 332.0	420 339.0	5 727 339.2	8.8	-
18/07/2021	18:05:28	ST44	Still	210139_ST44_11	551	50.6	420 344.0	5 727 332.0	420 339.0	5 727 334.9	5.7	-
18/07/2021	18:05:40	ST44	Still	210139_ST44_12	552	50.8	420 344.0	5 727 332.0	420 341.6	5 727 328.8	4.0	-
18/07/2021	18:05:50	ST44	Still	210139_ST44_13	553	50.9	420 344.0	5 727 332.0	420 341.8	5 727 323.7	8.6	-
18/07/2021	18:05:55	ST44	Still	210139_ST44_14	554	50.8	420 344.0	5 727 332.0	420 342.2	5 727 322.0	10.2	-
18/07/2021	18:06:06	ST44	Still	210139_ST44_15	555	51.0	420 344.0	5 727 332.0	420 342.9	5 727 317.1	15.0	-
18/07/2021	18:06:14	ST44	Still	210139_ST44_16	556	51.0	420 344.0	5 727 332.0	420 342.8	5 727 314.6	17.5	-
18/07/2021	18:06:28	ST44	Still	210139_ST44_17	557	50.8	420 344.0	5 727 332.0	420 342.5	5 727 308.8	23.3	-
18/07/2021	18:06:41	ST44	Still	210139_ST44_18	558	50.6	420 344.0	5 727 332.0	420 343.1	5 727 304.4	27.6	-
18/07/2021	18:06:52	ST44	Still	210139_ST44_19	559	50.6	420 344.0	5 727 332.0	420 343.7	5 727 303.0	29.0	-
18/07/2021	18:44:06	ST40	Still	210139_ST40_01	560	39.6	421 446.0	5 730 841.0	421 450.0	5 730 884.9	44.1	-
18/07/2021	18:44:13	ST40	Still	210139_ST40_02	561	39.4	421 446.0	5 730 841.0	421 449.7	5 730 883.2	42.3	-
18/07/2021	18:44:19	ST40	Still	210139_ST40_03	562	39.8	421 446.0	5 730 841.0	421 450.1	5 730 877.5	36.8	-
18/07/2021	18:44:31	ST40	Still	210139_ST40_04	563	40.6	421 446.0	5 730 841.0	421 447.2	5 730 870.3	29.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	18:44:37	ST40	Still	210139_ST40_05	564	40.5	421 446.0	5 730 841.0	421 446.8	5 730 867.4	26.4	-
18/07/2021	18:44:42	ST40	Still	210139_ST40_06	565	40.2	421 446.0	5 730 841.0	421 445.8	5 730 865.8	24.8	-
18/07/2021	18:44:48	ST40	Still	210139_ST40_07	566	39.8	421 446.0	5 730 841.0	421 448.1	5 730 864.5	23.5	-
18/07/2021	18:44:57	ST40	Still	210139_ST40_08	567	39.9	421 446.0	5 730 841.0	421 447.5	5 730 860.7	19.8	-
18/07/2021	18:45:05	ST40	Still	210139_ST40_09	568	40.1	421 446.0	5 730 841.0	421 446.2	5 730 857.3	16.3	-
18/07/2021	18:45:09	ST40	Still	210139_ST40_10	569	40.1	421 446.0	5 730 841.0	421 446.6	5 730 854.5	13.5	-
18/07/2021	18:45:21	ST40	Still	210139_ST40_11	570	40.1	421 446.0	5 730 841.0	421 444.8	5 730 848.9	8.0	-
18/07/2021	18:45:27	ST40	Still	210139_ST40_12	571	40.0	421 446.0	5 730 841.0	421 444.1	5 730 846.3	5.7	-
18/07/2021	18:45:33	ST40	Still	210139_ST40_13	572	40.0	421 446.0	5 730 841.0	421 443.3	5 730 844.6	4.4	-
18/07/2021	18:45:39	ST40	Still	210139_ST40_14	573	40.3	421 446.0	5 730 841.0	421 443.0	5 730 841.4	3.0	-
18/07/2021	18:45:50	ST40	Still	210139_ST40_15	574	39.9	421 446.0	5 730 841.0	421 441.7	5 730 838.2	5.1	-
18/07/2021	18:46:02	ST40	Still	210139_ST40_16	575	40.2	421 446.0	5 730 841.0	421 441.8	5 730 832.6	9.3	-
18/07/2021	18:46:08	ST40	Still	210139_ST40_17	576	39.9	421 446.0	5 730 841.0	421 440.8	5 730 830.6	11.6	-
18/07/2021	18:46:14	ST40	Still	210139_ST40_18	577	39.9	421 446.0	5 730 841.0	421 440.5	5 730 829.6	12.7	-
18/07/2021	18:46:21	ST40	Still	210139_ST40_19	578	39.7	421 446.0	5 730 841.0	421 439.3	5 730 826.7	15.8	-
18/07/2021	18:46:27	ST40	Still	210139_ST40_20	579	39.7	421 446.0	5 730 841.0	421 438.9	5 730 825.4	17.1	-
18/07/2021	18:46:34	ST40	Still	210139_ST40_21	580	39.7	421 446.0	5 730 841.0	421 437.3	5 730 822.0	20.9	-
18/07/2021	18:46:40	ST40	Still	210139_ST40_22	581	39.6	421 446.0	5 730 841.0	421 437.0	5 730 820.0	22.8	-
18/07/2021	18:46:46	ST40	Still	210139_ST40_23	582	39.1	421 446.0	5 730 841.0	421 435.4	5 730 819.5	24.0	-
18/07/2021	18:46:57	ST40	Still	210139_ST40_24	583	39.1	421 446.0	5 730 841.0	421 433.7	5 730 815.9	28.0	-
18/07/2021	18:47:05	ST40	Still	210139_ST40_25	584	39.1	421 446.0	5 730 841.0	421 431.8	5 730 814.2	30.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	19:24:44	ST41	Still	210139_ST41_01	585	41.2	424 614.0	5 728 693.0	424 613.7	5 728 716.2	23.2	-
18/07/2021	19:25:01	ST41	Still	210139_ST41_02	586	41.5	424 614.0	5 728 693.0	424 614.3	5 728 707.5	14.5	-
18/07/2021	19:25:09	ST41	Still	210139_ST41_03	587	42.0	424 614.0	5 728 693.0	424 614.5	5 728 702.6	9.6	-
18/07/2021	19:25:18	ST41	Still	210139_ST41_04	588	40.8	424 614.0	5 728 693.0	424 614.3	5 728 701.7	8.7	-
18/07/2021	19:25:33	ST41	Still	210139_ST41_05	589	40.4	424 614.0	5 728 693.0	424 612.4	5 728 695.3	2.8	-
18/07/2021	19:25:37	ST41	Still	210139_ST41_06	590	40.8	424 614.0	5 728 693.0	424 612.4	5 728 694.5	2.2	-
18/07/2021	19:25:44	ST41	Still	210139_ST41_07	591	41.0	424 614.0	5 728 693.0	424 611.2	5 728 692.1	3.0	-
18/07/2021	19:25:48	ST41	Still	210139_ST41_08	592	40.0	424 614.0	5 728 693.0	424 612.0	5 728 691.8	2.4	-
18/07/2021	19:25:54	ST41	Still	210139_ST41_09	593	39.4	424 614.0	5 728 693.0	424 612.3	5 728 690.9	2.7	-
18/07/2021	19:26:00	ST41	Still	210139_ST41_10	594	38.9	424 614.0	5 728 693.0	424 611.6	5 728 688.5	5.1	-
18/07/2021	19:26:10	ST41	Still	210139_ST41_11	595	38.7	424 614.0	5 728 693.0	424 610.4	5 728 685.0	8.7	-
18/07/2021	19:26:14	ST41	Still	210139_ST41_12	596	38.7	424 614.0	5 728 693.0	424 610.4	5 728 683.9	9.7	-
18/07/2021	19:26:20	ST41	Still	210139_ST41_13	597	37.9	424 614.0	5 728 693.0	424 610.4	5 728 683.4	10.3	-
18/07/2021	19:26:29	ST41	Still	210139_ST41_14	598	38.5	424 614.0	5 728 693.0	424 610.0	5 728 677.9	15.6	-
18/07/2021	19:26:40	ST41	Still	210139_ST41_15	599	38.2	424 614.0	5 728 693.0	424 610.2	5 728 674.2	19.2	-
18/07/2021	19:26:56	ST41	Still	210139_ST41_16	600	37.5	424 614.0	5 728 693.0	424 609.0	5 728 671.6	21.9	-
18/07/2021	19:27:12	ST41	Still	210139_ST41_17	601	37.5	424 614.0	5 728 693.0	424 608.3	5 728 667.6	26.0	-
18/07/2021	19:27:18	ST41	Still	210139_ST41_18	602	37.7	424 614.0	5 728 693.0	424 607.9	5 728 666.8	26.9	-
18/07/2021	19:27:26	ST41	Still	210139_ST41_19	603	38.5	424 614.0	5 728 693.0	424 607.5	5 728 663.8	30.0	-
18/07/2021	19:27:44	ST41	Still	210139_ST41_20	604	38.6	424 614.0	5 728 693.0	424 608.9	5 728 658.5	34.9	-
18/07/2021	19:27:54	ST41	Still	210139_ST41_21	605	38.1	424 614.0	5 728 693.0	424 608.0	5 728 659.0	34.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	19:28:02	ST41	Still	210139_ST41_22	606	38.1	424 614.0	5 728 693.0	424 609.8	5 728 657.8	35.4	-
18/07/2021	20:16:31	ST39_50E	Still	210139_ST39_50E_01	607	39.0	431 294.0	5 731 416.0	431 313.6	5 731 492.7	79.2	-
18/07/2021	20:16:43	ST39_50E	Still	210139_ST39_50E_02	608	40.9	431 294.0	5 731 416.0	431 313.2	5 731 489.3	75.8	-
18/07/2021	20:17:01	ST39_50E	Still	210139_ST39_50E_03	609	40.3	431 294.0	5 731 416.0	431 313.5	5 731 483.8	70.5	-
18/07/2021	20:17:17	ST39_50E	Still	210139_ST39_50E_04	610	40.9	431 294.0	5 731 416.0	431 313.9	5 731 479.3	66.3	-
18/07/2021	20:17:21	ST39_50E	Still	210139_ST39_50E_05	611	39.7	431 294.0	5 731 416.0	431 314.5	5 731 478.0	65.3	-
18/07/2021	20:17:26	ST39_50E	Still	210139_ST39_50E_06	612	40.3	431 294.0	5 731 416.0	431 312.8	5 731 475.7	62.6	-
18/07/2021	20:17:30	ST39_50E	Still	210139_ST39_50E_07	613	41.0	431 294.0	5 731 416.0	431 315.4	5 731 472.6	60.4	-
18/07/2021	20:17:53	ST39_50E	Still	210139_ST39_50E_08	615	39.1	431 294.0	5 731 416.0	431 312.4	5 731 462.8	50.2	-
18/07/2021	20:18:00	ST39_50E	Still	210139_ST39_50E_09	616	39.9	431 294.0	5 731 416.0	431 312.8	5 731 458.0	46.0	-
18/07/2021	20:18:23	ST39_50E	Still	210139_ST39_50E_10	617	40.9	431 294.0	5 731 416.0	431 309.8	5 731 443.2	31.4	-
18/07/2021	20:18:26	ST39_50E	Still	210139_ST39_50E_11	618	41.3	431 294.0	5 731 416.0	431 313.7	5 731 441.1	31.9	-
18/07/2021	20:18:32	ST39_50E	Still	210139_ST39_50E_12	619	40.5	431 294.0	5 731 416.0	431 312.8	5 731 438.0	28.9	-
18/07/2021	20:18:41	ST39_50E	Still	210139_ST39_50E_13	620	41.6	431 294.0	5 731 416.0	431 313.6	5 731 431.3	24.9	-
18/07/2021	20:18:57	ST39_50E	Still	210139_ST39_50E_14	621	40.1	431 294.0	5 731 416.0	431 317.2	5 731 425.5	25.1	-
18/07/2021	20:19:08	ST39_50E	Still	210139_ST39_50E_15	622	39.8	431 294.0	5 731 416.0	431 320.3	5 731 420.1	26.6	-
18/07/2021	20:28:06	ST39_50Ea	Still	210139_ST39_50Ea_01	623	39.3	431 294.0	5 731 416.0	431 303.6	5 731 466.7	51.6	-
18/07/2021	20:28:14	ST39_50Ea	Still	210139_ST39_50Ea_02	624	39.5	431 294.0	5 731 416.0	431 301.6	5 731 461.5	46.1	-
18/07/2021	20:28:30	ST39_50Ea	Still	210139_ST39_50Ea_03	625	39.6	431 294.0	5 731 416.0	431 296.2	5 731 453.4	37.5	-
18/07/2021	20:28:34	ST39_50Ea	Still	210139_ST39_50Ea_04	626	41.0	431 294.0	5 731 416.0	431 294.9	5 731 449.5	33.5	-
18/07/2021	20:28:38	ST39_50Ea	Still	210139_ST39_50Ea_05	627	39.2	431 294.0	5 731 416.0	431 293.8	5 731 448.9	32.9	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	20:28:42	ST39_50Ea	Still	210139_ST39_50Ea_06	628	39.7	431 294.0	5 731 416.0	431 292.0	5 731 446.6	30.6	-
18/07/2021	20:28:51	ST39_50Ea	Still	210139_ST39_50Ea_07	629	38.7	431 294.0	5 731 416.0	431 286.4	5 731 442.4	27.5	-
18/07/2021	20:28:58	ST39_50Ea	Still	210139_ST39_50Ea_08	630	39.9	431 294.0	5 731 416.0	431 284.0	5 731 438.0	24.1	-
18/07/2021	20:29:04	ST39_50Ea	Still	210139_ST39_50Ea_09	631	39.3	431 294.0	5 731 416.0	431 281.7	5 731 435.9	23.3	-
18/07/2021	20:29:12	ST39_50Ea	Still	210139_ST39_50Ea_10	632	38.7	431 294.0	5 731 416.0	431 278.4	5 731 432.8	22.9	-
18/07/2021	20:29:17	ST39_50Ea	Still	210139_ST39_50Ea_11	633	38.5	431 294.0	5 731 416.0	431 276.7	5 731 431.6	23.3	-
18/07/2021	20:29:22	ST39_50Ea	Still	210139_ST39_50Ea_12	634	38.9	431 294.0	5 731 416.0	431 276.1	5 731 431.5	23.7	-
18/07/2021	20:29:28	ST39_50Ea	Still	210139_ST39_50Ea_13	635	39.2	431 294.0	5 731 416.0	431 273.7	5 731 428.0	23.6	-
18/07/2021	20:29:45	ST39_50Ea	Still	210139_ST39_50Ea_14	NF	-	-	-	-	-	-	-
18/07/2021	20:29:52	ST39_50Ea	Still	210139_ST39_50Ea_14	636	38.9	431 294.0	5 731 416.0	431 255.6	5 731 426.7	39.9	-
18/07/2021	20:30:02	ST39_50Ea	Still	210139_ST39_50Ea_15	637	40.1	431 294.0	5 731 416.0	431 247.4	5 731 429.0	48.4	-
18/07/2021	20:54:28	ST39_50W	Still	210139_ST39_50W_01	638	38.1	431 194.0	5 731 416.0	431 170.8	5 731 438.0	32.0	-
18/07/2021	20:54:37	ST39_50W	Still	210139_ST39_50W_02	639	38.3	431 194.0	5 731 416.0	431 176.8	5 731 435.2	25.8	-
18/07/2021	20:54:49	ST39_50W	Still	210139_ST39_50W_03	640	38.1	431 194.0	5 731 416.0	431 183.8	5 731 434.2	20.8	-
18/07/2021	20:54:53	ST39_50W	Still	210139_ST39_50W_04	641	37.9	431 194.0	5 731 416.0	431 183.5	5 731 432.9	19.9	-
18/07/2021	20:54:58	ST39_50W	Still	210139_ST39_50W_05	642	37.9	431 194.0	5 731 416.0	431 186.5	5 731 431.3	17.0	-
18/07/2021	20:55:08	ST39_50W	Still	210139_ST39_50W_06	643	37.3	431 194.0	5 731 416.0	431 191.4	5 731 430.4	14.6	-
18/07/2021	20:55:13	ST39_50W	Still	210139_ST39_50W_07	644	37.5	431 194.0	5 731 416.0	431 194.0	5 731 430.2	14.2	-
18/07/2021	20:55:18	ST39_50W	Still	210139_ST39_50W_08	645	38.0	431 194.0	5 731 416.0	431 195.7	5 731 427.9	12.0	-
18/07/2021	20:55:29	ST39_50W	Still	210139_ST39_50W_09	646	37.5	431 194.0	5 731 416.0	431 201.8	5 731 427.8	14.1	-
18/07/2021	20:55:46	ST39_50W	Still	210139_ST39_50W_10	647	37.2	431 194.0	5 731 416.0	431 205.9	5 731 426.8	16.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	20:55:52	ST39_50W	Still	210139_ST39_50W_11	648	37.3	431 194.0	5 731 416.0	431 207.7	5 731 427.5	17.9	-
18/07/2021	20:55:58	ST39_50W	Still	210139_ST39_50W_12	649	37.1	431 194.0	5 731 416.0	431 211.0	5 731 428.4	21.1	-
18/07/2021	20:56:04	ST39_50W	Still	210139_ST39_50W_13	650	37.2	431 194.0	5 731 416.0	431 213.6	5 731 428.8	23.4	-
18/07/2021	20:56:09	ST39_50W	Still	210139_ST39_50W_14	651	37.0	431 194.0	5 731 416.0	431 215.4	5 731 428.1	24.6	-
18/07/2021	20:56:16	ST39_50W	Still	210139_ST39_50W_15	652	37.3	431 194.0	5 731 416.0	431 218.6	5 731 428.2	27.4	-
18/07/2021	20:56:32	ST39_50W	Still	210139_ST39_50W_16	653	37.5	431 194.0	5 731 416.0	431 224.9	5 731 427.2	32.9	-
18/07/2021	20:56:37	ST39_50W	Still	210139_ST39_50W_17	654	37.6	431 194.0	5 731 416.0	431 227.4	5 731 428.0	35.5	-
18/07/2021	20:57:45	ST39_50Eb	Still	210139_ST39_50Eb_01	655	37.4	431 294.0	5 731 416.0	431 252.6	5 731 429.9	43.7	Continued from ST39_50W
18/07/2021	20:57:54	ST39_50Eb	Still	210139_ST39_50Eb_02	656	36.8	431 294.0	5 731 416.0	431 255.2	5 731 429.1	41.0	-
18/07/2021	20:58:02	ST39_50Eb	Still	210139_ST39_50Eb_03	657	37.8	431 294.0	5 731 416.0	431 258.2	5 731 428.0	37.8	-
18/07/2021	20:58:08	ST39_50Eb	Still	210139_ST39_50Eb_04	658	37.6	431 294.0	5 731 416.0	431 258.4	5 731 427.4	37.3	-
18/07/2021	20:58:17	ST39_50Eb	Still	210139_ST39_50Eb_05	659	37.3	431 294.0	5 731 416.0	431 260.8	5 731 426.4	34.8	-
18/07/2021	20:58:31	ST39_50Eb	Still	210139_ST39_50Eb_06	660	36.8	431 294.0	5 731 416.0	431 265.0	5 731 426.3	30.8	-
18/07/2021	20:58:37	ST39_50Eb	Still	210139_ST39_50Eb_07	661	37.0	431 294.0	5 731 416.0	431 268.3	5 731 425.8	27.5	-
18/07/2021	20:58:42	ST39_50Eb	Still	210139_ST39_50Eb_08	662	37.3	431 294.0	5 731 416.0	431 270.1	5 731 425.8	25.9	-
18/07/2021	20:58:50	ST39_50Eb	Still	210139_ST39_50Eb_09	663	36.7	431 294.0	5 731 416.0	431 273.4	5 731 425.8	22.8	-
18/07/2021	20:59:03	ST39_50Eb	Still	210139_ST39_50Eb_10	664	37.0	431 294.0	5 731 416.0	431 278.8	5 731 426.5	18.5	-
18/07/2021	20:59:08	ST39_50Eb	Still	210139_ST39_50Eb_11	665	37.0	431 294.0	5 731 416.0	431 281.8	5 731 425.8	15.7	-
18/07/2021	20:59:14	ST39_50Eb	Still	210139_ST39_50Eb_12	666	36.9	431 294.0	5 731 416.0	431 283.2	5 731 425.3	14.3	-
18/07/2021	20:59:21	ST39_50Eb	Still	210139_ST39_50Eb_13	667	37.0	431 294.0	5 731 416.0	431 286.1	5 731 425.7	12.5	-
18/07/2021	20:59:29	ST39_50Eb	Still	210139_ST39_50Eb_14	668	36.8	431 294.0	5 731 416.0	431 288.8	5 731 425.6	10.9	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	20:59:34	ST39_50Eb	Still	210139_ST39_50Eb_15	669	37.1	431 294.0	5 731 416.0	431 291.2	5 731 425.2	9.6	-
18/07/2021	20:59:40	ST39_50Eb	Still	210139_ST39_50Eb_16	670	36.9	431 294.0	5 731 416.0	431 293.1	5 731 425.2	9.2	-
18/07/2021	20:59:52	ST39_50Eb	Still	210139_ST39_50Eb_17	671	37.1	431 294.0	5 731 416.0	431 295.9	5 731 424.5	8.7	-
18/07/2021	20:59:58	ST39_50Eb	Still	210139_ST39_50Eb_18	672	37.0	431 294.0	5 731 416.0	431 297.6	5 731 425.0	9.7	-
18/07/2021	21:00:03	ST39_50Eb	Still	210139_ST39_50Eb_19	673	37.0	431 294.0	5 731 416.0	431 298.1	5 731 426.2	11.0	-
18/07/2021	21:00:13	ST39_50Eb	Still	210139_ST39_50Eb_20	674	37.0	431 294.0	5 731 416.0	431 301.2	5 731 428.0	13.9	-
18/07/2021	21:00:22	ST39_50Eb	Still	210139_ST39_50Eb_21	675	37.1	431 294.0	5 731 416.0	431 304.5	5 731 428.6	16.4	-
18/07/2021	21:00:29	ST39_50Eb	Still	210139_ST39_50Eb_22	676	37.0	431 294.0	5 731 416.0	431 306.5	5 731 429.5	18.4	-
18/07/2021	21:00:35	ST39_50Eb	Still	210139_ST39_50Eb_23	677	37.0	431 294.0	5 731 416.0	431 308.8	5 731 430.0	20.4	-
18/07/2021	21:00:45	ST39_50Eb	Still	210139_ST39_50Eb_24	678	36.8	431 294.0	5 731 416.0	431 311.3	5 731 432.8	24.1	-
18/07/2021	21:00:51	ST39_50Eb	Still	210139_ST39_50Eb_25	679	37.0	431 294.0	5 731 416.0	431 314.2	5 731 433.6	26.8	-
18/07/2021	21:00:59	ST39_50Eb	Still	210139_ST39_50Eb_26	680	37.0	431 294.0	5 731 416.0	431 316.5	5 731 434.9	29.4	-
18/07/2021	21:01:06	ST39_50Eb	Still	210139_ST39_50Eb_27	681	37.0	431 294.0	5 731 416.0	431 318.7	5 731 435.2	31.2	-
18/07/2021	21:01:10	ST39_50Eb	Still	210139_ST39_50Eb_28	682	37.0	431 294.0	5 731 416.0	431 320.6	5 731 436.3	33.5	-
18/07/2021	22:20:06	ST33	Still	210139_ST33_01	683	42.8	424 295.0	5 737 091.0	424 303.4	5 737 131.6	41.4	-
18/07/2021	22:20:17	ST33	Still	210139_ST33_02	684	42.7	424 295.0	5 737 091.0	424 299.9	5 737 127.1	36.4	-
18/07/2021	22:20:24	ST33	Still	210139_ST33_03	685	43.0	424 295.0	5 737 091.0	424 298.6	5 737 123.0	32.2	-
18/07/2021	22:20:34	ST33	Still	210139_ST33_04	686	42.8	424 295.0	5 737 091.0	424 297.1	5 737 117.6	26.6	-
18/07/2021	22:20:40	ST33	Still	210139_ST33_05	687	43.0	424 295.0	5 737 091.0	424 295.3	5 737 114.9	23.9	-
18/07/2021	22:20:45	ST33	Still	210139_ST33_06	688	42.9	424 295.0	5 737 091.0	424 295.4	5 737 112.6	21.6	-
18/07/2021	22:20:52	ST33	Still	210139_ST33_07	689	42.5	424 295.0	5 737 091.0	424 295.0	5 737 110.5	19.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	22:20:59	ST33	Still	210139_ST33_08	690	43.1	424 295.0	5 737 091.0	424 292.0	5 737 107.0	16.3	-
18/07/2021	22:21:05	ST33	Still	210139_ST33_09	691	42.8	424 295.0	5 737 091.0	424 289.9	5 737 104.7	14.6	-
18/07/2021	22:21:09	ST33	Still	210139_ST33_10	692	42.0	424 295.0	5 737 091.0	424 290.6	5 737 104.9	14.5	-
18/07/2021	22:21:17	ST33	Still	210139_ST33_11	693	42.7	424 295.0	5 737 091.0	424 287.4	5 737 101.9	13.3	-
18/07/2021	22:21:22	ST33	Still	210139_ST33_12	694	42.5	424 295.0	5 737 091.0	424 287.2	5 737 102.0	13.5	-
18/07/2021	22:21:31	ST33	Still	210139_ST33_13	695	42.7	424 295.0	5 737 091.0	424 284.0	5 737 099.0	13.6	-
18/07/2021	22:21:40	ST33	Still	210139_ST33_14	696	42.4	424 295.0	5 737 091.0	424 281.1	5 737 096.2	14.8	-
18/07/2021	22:21:50	ST33	Still	210139_ST33_15	697	41.7	424 295.0	5 737 091.0	424 277.0	5 737 093.5	18.1	-
18/07/2021	22:21:57	ST33	Still	210139_ST33_16	698	41.9	424 295.0	5 737 091.0	424 275.9	5 737 092.6	19.2	-
18/07/2021	22:22:02	ST33	Still	210139_ST33_17	699	41.3	424 295.0	5 737 091.0	424 274.6	5 737 091.3	20.4	-
18/07/2021	22:22:11	ST33	Still	210139_ST33_18	700	41.3	424 295.0	5 737 091.0	424 273.4	5 737 089.2	21.7	-
18/07/2021	22:22:21	ST33	Still	210139_ST33_19	701	41.4	424 295.0	5 737 091.0	424 270.3	5 737 086.0	25.2	-
18/07/2021	22:22:31	ST33	Still	210139_ST33_20	702	41.1	424 295.0	5 737 091.0	424 267.9	5 737 085.9	27.6	-
18/07/2021	22:22:47	ST33	Still	210139_ST33_21	703	41.1	424 295.0	5 737 091.0	424 262.6	5 737 084.4	33.1	-
18/07/2021	22:22:56	ST33	Still	210139_ST33_22	704	41.1	424 295.0	5 737 091.0	424 260.3	5 737 085.3	35.2	-
18/07/2021	23:28:30	ST32	Still	210139_ST32_01	705	13.6	430 087.0	5 740 732.0	430 100.1	5 740 764.0	34.5	-
18/07/2021	23:28:40	ST32	Still	210139_ST32_02	706	13.6	430 087.0	5 740 732.0	430 104.1	5 740 760.7	33.4	-
18/07/2021	23:28:46	ST32	Still	210139_ST32_03	707	14.0	430 087.0	5 740 732.0	430 107.5	5 740 757.0	32.3	-
18/07/2021	23:29:15	ST32	Still	210139_ST32_04	708	13.0	430 087.0	5 740 732.0	430 117.6	5 740 737.5	31.1	-
18/07/2021	23:29:39	ST32	Still	210139_ST32_05	709	9.8	430 087.0	5 740 732.0	430 115.6	5 740 719.3	31.3	-
18/07/2021	23:30:01	ST32	Still	210139_ST32_06	710	10.2	430 087.0	5 740 732.0	430 103.6	5 740 714.5	24.1	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
18/07/2021	23:30:14	ST32	Still	210139_ST32_07	711	11.5	430 087.0	5 740 732.0	430 094.8	5 740 718.4	15.7	-
18/07/2021	23:30:25	ST32	Still	210139_ST32_08	712	12.1	430 087.0	5 740 732.0	430 092.0	5 740 724.9	8.7	-
18/07/2021	23:30:30	ST32	Still	210139_ST32_09	713	10.9	430 087.0	5 740 732.0	430 090.5	5 740 725.4	7.4	-
18/07/2021	23:30:39	ST32	Still	210139_ST32_10	714	11.6	430 087.0	5 740 732.0	430 087.3	5 740 731.5	.6	-
18/07/2021	23:30:48	ST32	Still	210139_ST32_11	715	11.6	430 087.0	5 740 732.0	430 085.8	5 740 736.0	4.2	-
18/07/2021	23:30:53	ST32	Still	210139_ST32_12	716	11.4	430 087.0	5 740 732.0	430 085.7	5 740 736.8	4.9	-
18/07/2021	23:30:57	ST32	Still	210139_ST32_13	717	12.6	430 087.0	5 740 732.0	430 085.1	5 740 739.0	7.2	-
18/07/2021	23:31:02	ST32	Still	210139_ST32_14	718	11.9	430 087.0	5 740 732.0	430 084.0	5 740 742.1	10.6	-
18/07/2021	23:31:14	ST32	Still	210139_ST32_15	719	12.6	430 087.0	5 740 732.0	430 082.5	5 740 748.3	16.9	-
18/07/2021	23:31:20	ST32	Still	210139_ST32_16	720	13.0	430 087.0	5 740 732.0	430 081.4	5 740 749.7	18.6	-
18/07/2021	23:31:29	ST32	Still	210139_ST32_17	721	12.8	430 087.0	5 740 732.0	430 081.1	5 740 755.1	23.8	-
18/07/2021	23:31:35	ST32	Still	210139_ST32_18	722	13.4	430 087.0	5 740 732.0	430 080.5	5 740 758.4	27.2	-
18/07/2021	23:31:59	ST32	Still	210139_ST32_19	723	14.1	430 087.0	5 740 732.0	430 079.3	5 740 767.9	36.7	-
19/07/2021	01:44:50	ST32	DG	PC	725	12.3	430 087.0	5 740 732.0	430 069.6	5 740 734.4	17.6	-
19/07/2021	02:07:10	ST32	HG	FA	726	14.6	430 087.0	5 740 732.0	430 084.3	5 740 732.6	2.8	-
19/07/2021	02:57:20	ST33	HG	FA	727	41.2	424 295.0	5 737 091.0	424 299.9	5 737 073.2	18.5	-
19/07/2021	03:41:15	ST36	DG	NS	728	31.0	423 165.0	5 733 376.0	423 173.8	5 733 381.8	10.6	-
19/07/2021	03:49:15	ST36	DG	PC	729	31.7	423 165.0	5 733 376.0	423 169.6	5 733 364.8	12.1	-
19/07/2021	04:09:14	ST36	HG	FA	730	31.6	423 165.0	5 733 376.0	423 180.9	5 733 387.2	19.4	-
19/07/2021	05:34:49	ST38	HG	FA	731	32.8	426 303.0	5 731 780.0	426 306.0	5 731 773.1	7.5	-
19/07/2021	06:37:38	ST40	HG	NS	732	38.7	421 446.0	5 730 841.0	421 447.2	5 730 844.2	3.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	06:47:47	ST40	HG	FA	733	38.2	421 446.0	5 730 841.0	421 442.9	5 730 827.8	13.5	-
19/07/2021	07:26:22	ST41	HG	FA	734	39.4	424 614.0	5 728 693.0	424 624.6	5 728 695.8	11.0	-
19/07/2021	07:37:08	ST41	DG	PC	735	40.3	424 614.0	5 728 693.0	424 628.4	5 728 695.1	14.6	-
19/07/2021	08:23:30	ST43	DG	NS	736	35.3	426 980.0	5 726 546.0	426 984.3	5 726 545.2	4.4	-
19/07/2021	08:29:19	ST43	DG	PC	737	35.8	426 980.0	5 726 546.0	426 982.4	5 726 554.3	8.7	-
19/07/2021	08:49:48	ST43	HG	FA	738	35.6	426 980.0	5 726 546.0	426 984.6	5 726 542.2	6.0	-
19/07/2021	09:14:35	ST42	HG	FA	739	20.6	427 804.0	5 726 990.0	427 820.1	5 726 995.0	16.8	-
19/07/2021	09:56:52	ST47	HG	FA	740	37.6	423 556.0	5 723 665.0	423 566.4	5 723 653.3	15.7	-
19/07/2021	10:26:24	ST49	HG	FA	741	45.3	420 785.0	5 720 654.0	420 794.9	5 720 642.9	14.9	-
19/07/2021	10:39:38	ST49	DG	PC	742	45.8	420 785.0	5 720 654.0	420 788.1	5 720 654.0	3.1	-
19/07/2021	11:23:30	ST46	DG	PC	743	46.5	421 223.0	5 722 937.0	421 235.4	5 722 932.1	13.3	-
19/07/2021	11:30:57	ST46	HG	FA	744	46.6	421 223.0	5 722 937.0	421 236.5	5 722 927.1	16.8	-
19/07/2021	12:37:46	ST37_50W	Still	210139_ST37_50W_01	745	44.2	424 709.0	5 732 535.0	424 672.9	5 732 568.2	49.0	-
19/07/2021	12:37:59	ST37_50W	Still	210139_ST37_50W_02	746	44.5	424 709.0	5 732 535.0	424 676.4	5 732 562.1	42.4	-
19/07/2021	12:38:06	ST37_50W	Still	210139_ST37_50W_03	747	46.2	424 709.0	5 732 535.0	424 678.5	5 732 559.2	38.9	-
19/07/2021	12:38:12	ST37_50W	Still	210139_ST37_50W_04	748	45.8	424 709.0	5 732 535.0	424 684.6	5 732 556.1	32.2	-
19/07/2021	12:38:22	ST37_50W	Still	210139_ST37_50W_05	NF	-	-	-	-	-	-	-
19/07/2021	12:38:27	ST37_50W	Still	210139_ST37_50W_06	749	46.4	424 709.0	5 732 535.0	424 690.0	5 732 548.5	23.3	-
19/07/2021	12:38:36	ST37_50W	Still	210139_ST37_50W_07	750	45.9	424 709.0	5 732 535.0	424 693.4	5 732 546.0	19.0	-
19/07/2021	12:38:41	ST37_50W	Still	210139_ST37_50W_08	751	46.2	424 709.0	5 732 535.0	424 694.8	5 732 543.0	16.3	-
19/07/2021	12:38:49	ST37_50W	Still	210139_ST37_50W_09	752	46.2	424 709.0	5 732 535.0	424 697.8	5 732 540.1	12.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	12:38:53	ST37_50W	Still	210139_ST37_50W_10	753	46.7	424 709.0	5 732 535.0	424 700.0	5 732 538.8	9.7	-
19/07/2021	12:39:02	ST37_50W	Still	210139_ST37_50W_11	754	46.3	424 709.0	5 732 535.0	424 703.0	5 732 535.8	6.0	-
19/07/2021	12:39:09	ST37_50W	Still	210139_ST37_50W_12	755	46.1	424 709.0	5 732 535.0	424 705.6	5 732 533.2	3.8	-
19/07/2021	12:39:15	ST37_50W	Still	210139_ST37_50W_13	756	46.7	424 709.0	5 732 535.0	424 708.0	5 732 530.0	5.1	-
19/07/2021	12:39:20	ST37_50W	Still	210139_ST37_50W_14	757	46.0	424 709.0	5 732 535.0	424 709.3	5 732 528.6	6.4	-
19/07/2021	12:39:29	ST37_50W	Still	210139_ST37_50W_15	758	46.3	424 709.0	5 732 535.0	424 711.9	5 732 526.1	9.4	-
19/07/2021	12:39:33	ST37_50W	Still	210139_ST37_50W_16	759	47.0	424 709.0	5 732 535.0	424 716.0	5 732 524.0	13.1	-
19/07/2021	12:39:42	ST37_50W	Still	210139_ST37_50W_17	760	46.3	424 709.0	5 732 535.0	424 716.8	5 732 521.8	15.3	-
19/07/2021	12:39:47	ST37_50W	Still	210139_ST37_50W_18	761	48.5	424 709.0	5 732 535.0	424 717.3	5 732 519.8	17.3	-
19/07/2021	12:39:58	ST37_50W	Still	210139_ST37_50W_19	762	46.3	424 709.0	5 732 535.0	424 722.0	5 732 517.2	22.0	-
19/07/2021	12:40:03	ST37_50W	Still	210139_ST37_50W_20	763	46.6	424 709.0	5 732 535.0	424 721.7	5 732 513.8	24.7	-
19/07/2021	12:40:09	ST37_50W	Still	210139_ST37_50W_21	764	46.5	424 709.0	5 732 535.0	424 725.3	5 732 513.5	27.0	-
19/07/2021	12:40:18	ST37_50W	Still	210139_ST37_50W_22	765	45.6	424 709.0	5 732 535.0	424 725.8	5 732 510.1	30.1	-
19/07/2021	12:40:26	ST37_50W	Still	210139_ST37_50W_23	766	46.6	424 709.0	5 732 535.0	424 726.0	5 732 508.2	31.8	-
19/07/2021	12:40:36	ST37_50W	Still	210139_ST37_50W_24	767	46.1	424 709.0	5 732 535.0	424 731.2	5 732 507.3	35.5	-
19/07/2021	12:40:43	ST37_50W	Still	210139_ST37_50W_25	768	46.8	424 709.0	5 732 535.0	424 733.8	5 732 503.9	39.8	-
19/07/2021	12:43:20	ST37_50E	Still	210139_ST37_50E_01	769	46.0	424 809.0	5 732 535.0	424 803.1	5 732 494.9	40.5	-
19/07/2021	12:43:31	ST37_50E	Still	210139_ST37_50E_02	770	45.0	424 809.0	5 732 535.0	424 802.9	5 732 500.9	34.7	-
19/07/2021	12:43:39	ST37_50E	Still	210139_ST37_50E_03	771	46.2	424 809.0	5 732 535.0	424 802.3	5 732 508.7	27.2	-
19/07/2021	12:43:46	ST37_50E	Still	210139_ST37_50E_04	772	46.5	424 809.0	5 732 535.0	424 800.7	5 732 509.7	26.6	-
19/07/2021	12:43:59	ST37_50E	Still	210139_ST37_50E_05	773	46.4	424 809.0	5 732 535.0	424 803.2	5 732 515.2	20.7	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	12:44:11	ST37_50E	Still	210139_ST37_50E_06	774	47.0	424 809.0	5 732 535.0	424 800.3	5 732 520.3	17.1	-
19/07/2021	12:44:18	ST37_50E	Still	210139_ST37_50E_07	775	47.0	424 809.0	5 732 535.0	424 802.9	5 732 523.5	13.1	-
19/07/2021	12:44:26	ST37_50E	Still	210139_ST37_50E_08	776	47.0	424 809.0	5 732 535.0	424 801.7	5 732 528.0	10.1	-
19/07/2021	12:44:31	ST37_50E	Still	210139_ST37_50E_09	777	46.5	424 809.0	5 732 535.0	424 802.1	5 732 530.0	8.6	-
19/07/2021	12:44:39	ST37_50E	Still	210139_ST37_50E_10	778	46.9	424 809.0	5 732 535.0	424 802.8	5 732 535.7	6.3	-
19/07/2021	12:44:45	ST37_50E	Still	210139_ST37_50E_11	779	46.7	424 809.0	5 732 535.0	424 803.9	5 732 537.2	5.5	-
19/07/2021	12:44:49	ST37_50E	Still	210139_ST37_50E_12	780	46.3	424 809.0	5 732 535.0	424 805.2	5 732 538.0	4.9	-
19/07/2021	12:44:55	ST37_50E	Still	210139_ST37_50E_13	781	46.4	424 809.0	5 732 535.0	424 806.5	5 732 541.5	6.9	-
19/07/2021	12:45:03	ST37_50E	Still	210139_ST37_50E_14	782	46.6	424 809.0	5 732 535.0	424 806.3	5 732 546.6	11.9	-
19/07/2021	12:45:12	ST37_50E	Still	210139_ST37_50E_15	783	46.4	424 809.0	5 732 535.0	424 807.6	5 732 551.9	17.0	-
19/07/2021	12:45:21	ST37_50E	Still	210139_ST37_50E_16	784	46.3	424 809.0	5 732 535.0	424 805.8	5 732 558.3	23.6	-
19/07/2021	12:45:27	ST37_50E	Still	210139_ST37_50E_17	785	46.5	424 809.0	5 732 535.0	424 806.8	5 732 560.3	25.4	-
19/07/2021	12:45:34	ST37_50E	Still	210139_ST37_50E_18	786	46.0	424 809.0	5 732 535.0	424 807.0	5 732 564.3	29.4	-
19/07/2021	12:45:41	ST37_50E	Still	210139_ST37_50E_19	787	46.6	424 809.0	5 732 535.0	424 807.7	5 732 568.6	33.6	-
19/07/2021	12:45:49	ST37_50E	Still	210139_ST37_50E_20	788	46.5	424 809.0	5 732 535.0	424 809.0	5 732 570.9	35.9	-
19/07/2021	12:46:02	ST37_50E	Still	210139_ST37_50E_21	789	46.6	424 809.0	5 732 535.0	424 809.1	5 732 577.9	42.9	-
19/07/2021	12:46:14	ST37_50E	Still	210139_ST37_50E_22	790	46.2	424 809.0	5 732 535.0	424 806.6	5 732 588.2	53.2	-
19/07/2021	12:46:17	ST37_50E	Still	210139_ST37_50E_23	NF	-	-	-	-	-	-	-
19/07/2021	12:46:23	ST37_50E	Still	210139_ST37_50E_24	791	45.9	424 809.0	5 732 535.0	424 809.1	5 732 588.3	53.3	-
19/07/2021	13:48:43	ST31	Still	210139_ST31_01	792	26.7	420 491.0	5 739 816.0	420 476.9	5 739 771.6	46.6	-
19/07/2021	13:49:09	ST31	Still	210139_ST31_02	793	28.7	420 491.0	5 739 816.0	420 480.2	5 739 775.3	42.1	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	13:49:27	ST31	Still	210139_ST31_03	794	28.5	420 491.0	5 739 816.0	420 481.5	5 739 781.4	35.9	-
19/07/2021	13:49:55	ST31	Still	210139_ST31_04	795	29.2	420 491.0	5 739 816.0	420 486.5	5 739 792.6	23.8	-
19/07/2021	13:50:01	ST31	Still	210139_ST31_05	796	28.8	420 491.0	5 739 816.0	420 486.7	5 739 794.3	22.2	-
19/07/2021	13:50:07	ST31	Still	210139_ST31_06	797	28.8	420 491.0	5 739 816.0	420 487.3	5 739 796.3	20.1	-
19/07/2021	13:50:17	ST31	Still	210139_ST31_07	798	28.5	420 491.0	5 739 816.0	420 488.8	5 739 797.6	18.6	-
19/07/2021	13:50:26	ST31	Still	210139_ST31_08	799	28.0	420 491.0	5 739 816.0	420 489.6	5 739 799.5	16.6	-
19/07/2021	13:50:33	ST31	Still	210139_ST31_09	800	28.7	420 491.0	5 739 816.0	420 490.3	5 739 800.2	15.8	-
19/07/2021	13:50:48	ST31	Still	210139_ST31_10	801	29.3	420 491.0	5 739 816.0	420 492.7	5 739 806.6	9.6	-
19/07/2021	13:50:55	ST31	Still	210139_ST31_11	802	28.7	420 491.0	5 739 816.0	420 493.9	5 739 809.6	7.1	-
19/07/2021	13:51:07	ST31	Still	210139_ST31_12	803	28.9	420 491.0	5 739 816.0	420 495.5	5 739 813.2	5.3	-
19/07/2021	13:51:15	ST31	Still	210139_ST31_13	804	28.9	420 491.0	5 739 816.0	420 497.0	5 739 815.0	6.1	-
19/07/2021	13:51:23	ST31	Still	210139_ST31_14	805	28.4	420 491.0	5 739 816.0	420 498.3	5 739 817.8	7.5	-
19/07/2021	13:51:29	ST31	Still	210139_ST31_15	806	28.7	420 491.0	5 739 816.0	420 499.1	5 739 819.9	9.0	-
19/07/2021	13:51:44	ST31	Still	210139_ST31_16	807	28.8	420 491.0	5 739 816.0	420 501.9	5 739 824.6	13.9	-
19/07/2021	13:51:48	ST31	Still	210139_ST31_17	808	28.7	420 491.0	5 739 816.0	420 502.5	5 739 825.5	14.9	-
19/07/2021	13:52:05	ST31	Still	210139_ST31_18	809	28.7	420 491.0	5 739 816.0	420 503.2	5 739 832.2	20.3	-
19/07/2021	13:52:12	ST31	Still	210139_ST31_19	810	28.7	420 491.0	5 739 816.0	420 503.3	5 739 834.4	22.2	-
19/07/2021	13:52:28	ST31	Still	210139_ST31_20	811	29.0	420 491.0	5 739 816.0	420 505.1	5 739 838.3	26.4	-
19/07/2021	13:52:37	ST31	Still	210139_ST31_21	812	28.6	420 491.0	5 739 816.0	420 506.8	5 739 839.6	28.4	-
19/07/2021	13:52:53	ST31	Still	210139_ST31_22	813	29.0	420 491.0	5 739 816.0	420 505.2	5 739 839.0	27.0	-
19/07/2021	14:06:35	ST31_50E	Still	210139_ST31_50E_01	814	28.2	420 541.0	5 739 816.0	420 536.1	5 739 778.7	37.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	14:06:41	ST31_50E	Still	210139_ST31_50E_02	815	28.4	420 541.0	5 739 816.0	420 535.2	5 739 780.2	36.2	-
19/07/2021	14:06:51	ST31_50E	Still	210139_ST31_50E_03	816	28.4	420 541.0	5 739 816.0	420 535.0	5 739 780.7	35.8	-
19/07/2021	14:06:58	ST31_50E	Still	210139_ST31_50E_04	817	28.2	420 541.0	5 739 816.0	420 534.8	5 739 781.6	34.9	-
19/07/2021	14:07:09	ST31_50E	Still	210139_ST31_50E_05	818	28.6	420 541.0	5 739 816.0	420 536.1	5 739 786.2	30.2	-
19/07/2021	14:07:35	ST31_50E	Still	210139_ST31_50E_06	819	28.9	420 541.0	5 739 816.0	420 541.5	5 739 795.5	20.5	-
19/07/2021	14:07:41	ST31_50E	Still	210139_ST31_50E_07	820	28.6	420 541.0	5 739 816.0	420 541.7	5 739 796.7	19.4	-
19/07/2021	14:07:57	ST31_50E	Still	210139_ST31_50E_08	821	28.6	420 541.0	5 739 816.0	420 542.1	5 739 801.3	14.7	-
19/07/2021	14:08:07	ST31_50E	Still	210139_ST31_50E_09	822	28.6	420 541.0	5 739 816.0	420 541.9	5 739 805.6	10.5	-
19/07/2021	14:08:38	ST31_50E	Still	210139_ST31_50E_10	823	28.9	420 541.0	5 739 816.0	420 546.4	5 739 816.9	5.5	-
19/07/2021	14:08:46	ST31_50E	Still	210139_ST31_50E_11	824	29.9	420 541.0	5 739 816.0	420 547.3	5 739 822.2	8.8	-
19/07/2021	14:09:02	ST31_50E	Still	210139_ST31_50E_12	825	28.6	420 541.0	5 739 816.0	420 550.2	5 739 828.4	15.4	-
19/07/2021	14:09:16	ST31_50E	Still	210139_ST31_50E_13	826	29.2	420 541.0	5 739 816.0	420 551.0	5 739 833.0	19.7	-
19/07/2021	14:09:20	ST31_50E	Still	210139_ST31_50E_14	827	29.7	420 541.0	5 739 816.0	420 552.2	5 739 835.9	22.8	-
19/07/2021	14:09:25	ST31_50E	Still	210139_ST31_50E_15	828	29.4	420 541.0	5 739 816.0	420 553.5	5 739 837.8	25.1	-
19/07/2021	14:09:35	ST31_50E	Still	210139_ST31_50E_16	829	29.0	420 541.0	5 739 816.0	420 552.9	5 739 840.4	27.2	-
19/07/2021	14:15:06	ST31_50W	Still	210139_ST31_50W_01	830	28.0	420 441.0	5 739 816.0	420 446.2	5 739 770.7	45.6	-
19/07/2021	14:15:17	ST31_50W	Still	210139_ST31_50W_02	831	28.2	420 441.0	5 739 816.0	420 442.7	5 739 774.5	41.6	-
19/07/2021	14:15:22	ST31_50W	Still	210139_ST31_50W_03	832	28.1	420 441.0	5 739 816.0	420 441.3	5 739 775.3	40.8	-
19/07/2021	14:15:40	ST31_50W	Still	210139_ST31_50W_04	833	28.6	420 441.0	5 739 816.0	420 437.3	5 739 779.6	36.6	-
19/07/2021	14:15:55	ST31_50W	Still	210139_ST31_50W_05	834	29.3	420 441.0	5 739 816.0	420 437.6	5 739 785.6	30.6	-
19/07/2021	14:16:06	ST31_50W	Still	210139_ST31_50W_06	835	28.9	420 441.0	5 739 816.0	420 442.7	5 739 788.7	27.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	14:16:12	ST31_50W	Still	210139_ST31_50W_07	836	29.3	420 441.0	5 739 816.0	420 443.8	5 739 790.2	26.0	-
19/07/2021	14:16:22	ST31_50W	Still	210139_ST31_50W_08	837	29.4	420 441.0	5 739 816.0	420 443.4	5 739 793.8	22.4	-
19/07/2021	14:16:32	ST31_50W	Still	210139_ST31_50W_09	838	29.1	420 441.0	5 739 816.0	420 441.6	5 739 797.0	19.1	-
19/07/2021	14:16:58	ST31_50W	Still	210139_ST31_50W_10	839	29.1	420 441.0	5 739 816.0	420 427.9	5 739 809.7	14.6	-
19/07/2021	14:17:03	ST31_50W	Still	210139_ST31_50W_11	840	29.4	420 441.0	5 739 816.0	420 426.5	5 739 811.5	15.2	-
19/07/2021	14:17:09	ST31_50W	Still	210139_ST31_50W_12	841	29.1	420 441.0	5 739 816.0	420 424.6	5 739 813.9	16.5	-
19/07/2021	14:17:14	ST31_50W	Still	210139_ST31_50W_13	842	28.9	420 441.0	5 739 816.0	420 424.4	5 739 816.0	16.7	-
19/07/2021	14:17:20	ST31_50W	Still	210139_ST31_50W_14	843	29.4	420 441.0	5 739 816.0	420 421.5	5 739 817.5	19.6	-
19/07/2021	14:17:29	ST31_50W	Still	210139_ST31_50W_15	844	28.9	420 441.0	5 739 816.0	420 417.7	5 739 819.0	23.5	-
19/07/2021	14:17:53	ST31_50W	Still	210139_ST31_50W_16	846	29.0	420 441.0	5 739 816.0	420 409.1	5 739 825.6	33.4	-
19/07/2021	14:17:57	ST31_50W	Still	210139_ST31_50W_17	847	28.7	420 441.0	5 739 816.0	420 408.6	5 739 826.1	34.0	-
19/07/2021	14:18:03	ST31_50W	Still	210139_ST31_50W_18	848	29.1	420 441.0	5 739 816.0	420 408.4	5 739 825.6	34.0	-
19/07/2021	14:18:09	ST31_50W	Still	210139_ST31_50W_19	849	28.6	420 441.0	5 739 816.0	420 404.7	5 739 826.0	37.6	-
19/07/2021	14:18:21	ST31_50W	Still	210139_ST31_50W_20	850	28.6	420 441.0	5 739 816.0	420 400.9	5 739 825.7	41.3	Seaspyder - reduced vis
19/07/2021	15:21:26	ST20	Still	210139_ST20_01	851	35.4	410 699.0	5 741 083.0	410 690.9	5 741 042.5	41.3	-
19/07/2021	15:21:37	ST20	Still	210139_ST20_02	852	36.2	410 699.0	5 741 083.0	410 688.7	5 741 046.8	37.6	-
19/07/2021	15:21:39	ST20	Still	210139_ST20_03	853	36.0	410 699.0	5 741 083.0	410 688.6	5 741 046.5	37.9	-
19/07/2021	15:21:46	ST20	Still	210139_ST20_04	854	36.3	410 699.0	5 741 083.0	410 689.7	5 741 049.3	35.0	-
19/07/2021	15:21:53	ST20	Still	210139_ST20_05	855	36.8	410 699.0	5 741 083.0	410 691.6	5 741 051.1	32.7	-
19/07/2021	15:22:00	ST20	Still	210139_ST20_06	856	34.8	410 699.0	5 741 083.0	410 691.3	5 741 050.2	33.7	-
19/07/2021	15:22:06	ST20	Still	210139_ST20_07	857	36.3	410 699.0	5 741 083.0	410 692.3	5 741 052.8	30.9	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	15:22:14	ST20	Still	210139_ST20_08	858	36.4	410 699.0	5 741 083.0	410 695.4	5 741 055.2	28.1	-
19/07/2021	15:22:21	ST20	Still	210139_ST20_09	859	35.9	410 699.0	5 741 083.0	410 695.3	5 741 057.1	26.2	-
19/07/2021	15:22:32	ST20	Still	210139_ST20_10	860	36.4	410 699.0	5 741 083.0	410 697.0	5 741 060.4	22.7	-
19/07/2021	15:22:42	ST20	Still	210139_ST20_11	861	36.4	410 699.0	5 741 083.0	410 696.5	5 741 061.9	21.3	-
19/07/2021	15:22:50	ST20	Still	210139_ST20_12	862	36.7	410 699.0	5 741 083.0	410 697.9	5 741 064.7	18.4	-
19/07/2021	15:23:05	ST20	Still	210139_ST20_13	863	35.1	410 699.0	5 741 083.0	410 698.3	5 741 068.5	14.5	-
19/07/2021	15:23:16	ST20	Still	210139_ST20_14	864	36.8	410 699.0	5 741 083.0	410 698.0	5 741 073.2	9.8	-
19/07/2021	15:23:25	ST20	Still	210139_ST20_15	865	36.3	410 699.0	5 741 083.0	410 695.7	5 741 076.1	7.7	-
19/07/2021	15:23:59	ST20	Still	210139_ST20_16	866	36.5	410 699.0	5 741 083.0	410 692.1	5 741 092.0	11.4	-
19/07/2021	15:24:06	ST20	Still	210139_ST20_17	867	36.8	410 699.0	5 741 083.0	410 689.0	5 741 096.6	16.8	-
19/07/2021	15:24:23	ST20	Still	210139_ST20_18	868	36.9	410 699.0	5 741 083.0	410 682.9	5 741 101.6	24.6	-
19/07/2021	15:24:43	ST20	Still	210139_ST20_19	869	36.9	410 699.0	5 741 083.0	410 679.1	5 741 107.1	31.3	-
19/07/2021	15:45:26	ST21	Still	210139_ST21_01	870	30.1	411 620.0	5 741 073.0	411 613.0	5 741 037.7	36.0	Seaspyder - reduced vis
19/07/2021	15:45:50	ST21	Still	210139_ST21_02	871	31.1	411 620.0	5 741 073.0	411 610.0	5 741 043.4	31.3	-
19/07/2021	15:45:57	ST21	Still	210139_ST21_03	872	30.8	411 620.0	5 741 073.0	411 611.5	5 741 043.7	30.5	-
19/07/2021	15:46:14	ST21	Still	210139_ST21_04	873	31.3	411 620.0	5 741 073.0	411 614.1	5 741 049.3	24.4	-
19/07/2021	15:46:23	ST21	Still	210139_ST21_05	874	31.7	411 620.0	5 741 073.0	411 614.5	5 741 052.6	21.1	-
19/07/2021	15:46:30	ST21	Still	210139_ST21_06	875	31.5	411 620.0	5 741 073.0	411 616.2	5 741 053.0	20.4	-
19/07/2021	15:46:35	ST21	Still	210139_ST21_07	876	31.3	411 620.0	5 741 073.0	411 617.2	5 741 056.2	17.0	-
19/07/2021	15:46:47	ST21	Still	210139_ST21_08	877	31.2	411 620.0	5 741 073.0	411 618.5	5 741 057.8	15.3	-
19/07/2021	15:46:54	ST21	Still	210139_ST21_09	NF	-	-	-	-	-	-	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	15:47:09	ST21	Still	210139_ST21_10	878	30.8	411 620.0	5 741 073.0	411 620.7	5 741 060.9	12.1	-
19/07/2021	15:47:27	ST21	Still	210139_ST21_11	879	31.0	411 620.0	5 741 073.0	411 624.3	5 741 061.7	12.1	-
19/07/2021	15:47:42	ST21	Still	210139_ST21_12	880	30.9	411 620.0	5 741 073.0	411 623.7	5 741 064.2	9.5	-
19/07/2021	15:47:56	ST21	Still	210139_ST21_13	881	31.0	411 620.0	5 741 073.0	411 625.0	5 741 068.4	6.7	-
19/07/2021	15:48:09	ST21	Still	210139_ST21_14	882	30.2	411 620.0	5 741 073.0	411 625.6	5 741 069.4	6.7	-
19/07/2021	15:48:26	ST21	Still	210139_ST21_15	883	30.7	411 620.0	5 741 073.0	411 628.3	5 741 074.7	8.5	-
19/07/2021	15:48:43	ST21	Still	210139_ST21_16	884	31.3	411 620.0	5 741 073.0	411 631.5	5 741 079.0	13.0	-
19/07/2021	15:48:57	ST21	Still	210139_ST21_17	885	31.0	411 620.0	5 741 073.0	411 633.7	5 741 083.0	16.9	-
19/07/2021	15:49:06	ST21	Still	210139_ST21_18	886	31.0	411 620.0	5 741 073.0	411 634.3	5 741 085.5	19.0	-
19/07/2021	15:49:14	ST21	Still	210139_ST21_19	887	30.8	411 620.0	5 741 073.0	411 635.7	5 741 088.3	21.9	-
19/07/2021	15:49:24	ST21	Still	210139_ST21_20	888	30.9	411 620.0	5 741 073.0	411 638.8	5 741 090.5	25.7	-
19/07/2021	15:49:33	ST21	Still	210139_ST21_21	889	31.2	411 620.0	5 741 073.0	411 639.8	5 741 093.7	28.7	-
19/07/2021	16:14:51	ST19	Still	210139_ST19_01	890	28.8	409 747.0	5 742 513.0	409 741.1	5 742 463.5	49.8	Seaspyder - no vis
19/07/2021	16:15:03	ST19	Still	210139_ST19_02	NF	-	-	-	-	-	-	-
19/07/2021	16:15:13	ST19	Still	210139_ST19_03	891	31.0	409 747.0	5 742 513.0	409 742.8	5 742 474.0	39.3	-
19/07/2021	16:15:34	ST19	Still	210139_ST19_04	NF	-	-	-	-	-	-	-
19/07/2021	16:15:48	ST19	Still	210139_ST19_05	NF	-	-	-	-	-	-	-
19/07/2021	16:16:05	ST19	Still	210139_ST19_06	892	31.0	409 747.0	5 742 513.0	409 743.0	5 742 498.0	15.5	-
19/07/2021	16:16:24	ST19	Still	210139_ST19_07	893	32.1	409 747.0	5 742 513.0	409 743.2	5 742 502.4	11.3	-
19/07/2021	16:16:38	ST19	Still	210139_ST19_08	894	32.0	409 747.0	5 742 513.0	409 742.8	5 742 510.2	5.0	-
19/07/2021	16:17:02	ST19	Still	210139_ST19_09	895	32.3	409 747.0	5 742 513.0	409 741.3	5 742 520.8	9.7	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	16:17:20	ST19	Still	210139_ST19_10	896	29.5	409 747.0	5 742 513.0	409 740.2	5 742 533.6	21.6	-
19/07/2021	16:17:45	ST19	Still	210139_ST19_11	897	31.9	409 747.0	5 742 513.0	409 738.4	5 742 539.8	28.2	-
19/07/2021	16:17:57	ST19	Still	210139_ST19_12	898	32.0	409 747.0	5 742 513.0	409 736.3	5 742 545.4	34.1	-
19/07/2021	17:33:31	ST22	Still	210139_ST22_01	899	45.0	414 194.0	5 737 504.0	414 163.3	5 737 462.7	51.5	-
19/07/2021	17:33:43	ST22	Still	210139_ST22_02	900	48.1	414 194.0	5 737 504.0	414 166.2	5 737 465.2	47.7	-
19/07/2021	17:33:54	ST22	Still	210139_ST22_03	901	41.5	414 194.0	5 737 504.0	414 168.2	5 737 462.5	48.9	-
19/07/2021	17:34:02	ST22	Still	210139_ST22_04	902	43.8	414 194.0	5 737 504.0	414 173.9	5 737 469.7	39.7	-
19/07/2021	17:34:07	ST22	Still	210139_ST22_05	903	43.9	414 194.0	5 737 504.0	414 173.6	5 737 471.7	38.2	-
19/07/2021	17:34:13	ST22	Still	210139_ST22_06	904	43.8	414 194.0	5 737 504.0	414 176.2	5 737 472.9	35.8	-
19/07/2021	17:34:18	ST22	Still	210139_ST22_07	905	42.8	414 194.0	5 737 504.0	414 177.6	5 737 472.8	35.2	-
19/07/2021	17:34:24	ST22	Still	210139_ST22_08	906	43.2	414 194.0	5 737 504.0	414 179.3	5 737 475.3	32.2	-
19/07/2021	17:34:36	ST22	Still	210139_ST22_09	907	43.1	414 194.0	5 737 504.0	414 182.6	5 737 479.4	27.1	-
19/07/2021	17:34:44	ST22	Still	210139_ST22_10	908	43.1	414 194.0	5 737 504.0	414 185.1	5 737 483.4	22.5	-
19/07/2021	17:34:49	ST22	Still	210139_ST22_11	909	43.0	414 194.0	5 737 504.0	414 187.3	5 737 485.3	19.9	-
19/07/2021	17:34:54	ST22	Still	210139_ST22_12	910	43.6	414 194.0	5 737 504.0	414 188.9	5 737 488.6	16.2	-
19/07/2021	17:34:59	ST22	Still	210139_ST22_13	911	42.9	414 194.0	5 737 504.0	414 189.0	5 737 489.2	15.6	-
19/07/2021	17:35:05	ST22	Still	210139_ST22_14	912	42.7	414 194.0	5 737 504.0	414 190.0	5 737 490.7	13.9	-
19/07/2021	17:35:13	ST22	Still	210139_ST22_15	913	43.6	414 194.0	5 737 504.0	414 194.9	5 737 496.9	7.2	-
19/07/2021	17:35:18	ST22	Still	210139_ST22_16	914	43.3	414 194.0	5 737 504.0	414 194.6	5 737 498.9	5.1	-
19/07/2021	17:35:23	ST22	Still	210139_ST22_17	915	42.8	414 194.0	5 737 504.0	414 196.5	5 737 499.1	5.5	-
19/07/2021	17:35:29	ST22	Still	210139_ST22_18	916	43.2	414 194.0	5 737 504.0	414 197.9	5 737 501.2	4.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	17:35:34	ST22	Still	210139_ST22_19	917	43.0	414 194.0	5 737 504.0	414 199.0	5 737 502.0	5.3	-
19/07/2021	17:35:39	ST22	Still	210139_ST22_20	918	43.9	414 194.0	5 737 504.0	414 198.3	5 737 505.1	4.4	-
19/07/2021	17:35:44	ST22	Still	210139_ST22_21	919	43.6	414 194.0	5 737 504.0	414 197.1	5 737 504.9	3.3	-
19/07/2021	17:35:54	ST22	Still	210139_ST22_22	920	42.7	414 194.0	5 737 504.0	414 200.3	5 737 509.7	8.5	-
19/07/2021	17:36:00	ST22	Still	210139_ST22_23	921	43.7	414 194.0	5 737 504.0	414 199.8	5 737 512.2	10.1	-
19/07/2021	17:36:05	ST22	Still	210139_ST22_24	922	43.7	414 194.0	5 737 504.0	414 200.7	5 737 513.6	11.7	-
19/07/2021	17:36:10	ST22	Still	210139_ST22_25	923	43.4	414 194.0	5 737 504.0	414 202.0	5 737 514.6	13.3	-
19/07/2021	17:36:16	ST22	Still	210139_ST22_26	924	43.1	414 194.0	5 737 504.0	414 202.0	5 737 514.3	13.0	-
19/07/2021	17:36:22	ST22	Still	210139_ST22_27	925	42.7	414 194.0	5 737 504.0	414 202.1	5 737 518.8	16.9	-
19/07/2021	17:36:27	ST22	Still	210139_ST22_28	926	43.6	414 194.0	5 737 504.0	414 204.0	5 737 522.3	20.9	-
19/07/2021	17:36:32	ST22	Still	210139_ST22_29	927	43.0	414 194.0	5 737 504.0	414 203.2	5 737 524.1	22.1	-
19/07/2021	17:36:36	ST22	Still	210139_ST22_30	928	43.7	414 194.0	5 737 504.0	414 204.6	5 737 525.1	23.6	-
19/07/2021	17:36:43	ST22	Still	210139_ST22_31	929	43.3	414 194.0	5 737 504.0	414 205.7	5 737 527.2	26.0	-
19/07/2021	17:36:51	ST22	Still	210139_ST22_32	930	42.5	414 194.0	5 737 504.0	414 206.3	5 737 528.9	27.8	-
19/07/2021	17:37:00	ST22	Still	210139_ST22_33	931	43.1	414 194.0	5 737 504.0	414 206.3	5 737 532.2	30.8	-
19/07/2021	17:37:08	ST22	Still	210139_ST22_34	932	42.9	414 194.0	5 737 504.0	414 206.3	5 737 532.2	30.8	-
19/07/2021	18:23:14	ST23	Still	210139_ST23_01	933	44.8	418 027.0	5 736 430.0	417 997.0	5 736 400.4	42.1	-
19/07/2021	18:23:25	ST23	Still	210139_ST23_02	934	44.4	418 027.0	5 736 430.0	418 003.7	5 736 404.7	34.4	-
19/07/2021	18:23:32	ST23	Still	210139_ST23_03	935	44.6	418 027.0	5 736 430.0	418 006.2	5 736 406.3	31.5	-
19/07/2021	18:23:37	ST23	Still	210139_ST23_04	936	44.5	418 027.0	5 736 430.0	418 008.7	5 736 408.6	28.2	-
19/07/2021	18:23:49	ST23	Still	210139_ST23_05	937	44.7	418 027.0	5 736 430.0	418 014.5	5 736 413.9	20.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	18:23:54	ST23	Still	210139_ST23_06	938	44.6	418 027.0	5 736 430.0	418 016.2	5 736 415.3	18.2	-
19/07/2021	18:23:59	ST23	Still	210139_ST23_07	939	44.5	418 027.0	5 736 430.0	418 017.9	5 736 416.9	15.9	-
19/07/2021	18:24:09	ST23	Still	210139_ST23_08	940	45.1	418 027.0	5 736 430.0	418 023.1	5 736 422.3	8.7	-
19/07/2021	18:24:15	ST23	Still	210139_ST23_09	941	45.2	418 027.0	5 736 430.0	418 024.5	5 736 423.7	6.8	-
19/07/2021	18:24:20	ST23	Still	210139_ST23_10	942	45.0	418 027.0	5 736 430.0	418 023.7	5 736 425.0	6.0	-
19/07/2021	18:24:25	ST23	Still	210139_ST23_11	943	44.5	418 027.0	5 736 430.0	418 026.5	5 736 425.4	4.6	-
19/07/2021	18:24:30	ST23	Still	210139_ST23_12	944	44.6	418 027.0	5 736 430.0	418 029.7	5 736 426.7	4.2	-
19/07/2021	18:24:34	ST23	Still	210139_ST23_13	945	45.3	418 027.0	5 736 430.0	418 030.6	5 736 431.3	3.9	-
19/07/2021	18:24:40	ST23	Still	210139_ST23_14	946	45.2	418 027.0	5 736 430.0	418 032.7	5 736 432.9	6.4	-
19/07/2021	18:24:44	ST23	Still	210139_ST23_15	947	44.5	418 027.0	5 736 430.0	418 033.3	5 736 430.5	6.4	-
19/07/2021	18:24:50	ST23	Still	210139_ST23_16	948	44.4	418 027.0	5 736 430.0	418 035.1	5 736 433.2	8.7	-
19/07/2021	18:24:55	ST23	Still	210139_ST23_17	949	44.9	418 027.0	5 736 430.0	418 037.2	5 736 435.1	11.4	-
19/07/2021	18:25:02	ST23	Still	210139_ST23_18	950	45.1	418 027.0	5 736 430.0	418 040.3	5 736 437.4	15.2	-
19/07/2021	18:25:09	ST23	Still	210139_ST23_19	951	45.2	418 027.0	5 736 430.0	418 044.1	5 736 440.3	19.9	-
19/07/2021	18:25:13	ST23	Still	210139_ST23_20	952	45.0	418 027.0	5 736 430.0	418 043.6	5 736 442.6	20.8	-
19/07/2021	18:25:16	ST23	Still	210139_ST23_21	953	44.7	418 027.0	5 736 430.0	418 044.2	5 736 442.2	21.0	-
19/07/2021	18:25:21	ST23	Still	210139_ST23_22	954	44.8	418 027.0	5 736 430.0	418 045.2	5 736 445.2	23.7	-
19/07/2021	18:25:27	ST23	Still	210139_ST23_23	955	45.1	418 027.0	5 736 430.0	418 047.7	5 736 446.1	26.3	-
19/07/2021	18:25:31	ST23	Still	210139_ST23_24	956	45.2	418 027.0	5 736 430.0	418 048.2	5 736 447.4	27.4	-
19/07/2021	18:25:38	ST23	Still	210139_ST23_25	958	45.0	418 027.0	5 736 430.0	418 049.7	5 736 448.6	29.4	-
19/07/2021	18:37:06	ST23_50W	Still	210139_ST23_50W_01	959	44.0	417 976.8	5 736 429.3	417 930.8	5 736 409.8	50.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	18:37:19	ST23_50W	Still	210139_ST23_50W_02	960	44.4	417 976.8	5 736 429.3	417 934.3	5 736 410.3	46.6	-
19/07/2021	18:37:22	ST23_50W	Still	210139_ST23_50W_03	961	44.2	417 976.8	5 736 429.3	417 936.2	5 736 410.6	44.7	-
19/07/2021	18:37:29	ST23_50W	Still	210139_ST23_50W_04	962	44.5	417 976.8	5 736 429.3	417 939.3	5 736 411.5	41.5	-
19/07/2021	18:37:43	ST23_50W	Still	210139_ST23_50W_05	963	45.2	417 976.8	5 736 429.3	417 947.7	5 736 414.4	32.7	-
19/07/2021	18:37:52	ST23_50W	Still	210139_ST23_50W_06	964	44.9	417 976.8	5 736 429.3	417 953.6	5 736 415.5	27.0	-
19/07/2021	18:38:01	ST23_50W	Still	210139_ST23_50W_07	965	45.0	417 976.8	5 736 429.3	417 959.4	5 736 417.1	21.3	-
19/07/2021	18:38:05	ST23_50W	Still	210139_ST23_50W_08	966	44.9	417 976.8	5 736 429.3	417 961.7	5 736 418.5	18.5	-
19/07/2021	18:38:13	ST23_50W	Still	210139_ST23_50W_09	967	45.4	417 976.8	5 736 429.3	417 966.8	5 736 419.8	13.8	-
19/07/2021	18:38:19	ST23_50W	Still	210139_ST23_50W_10	968	45.3	417 976.8	5 736 429.3	417 969.6	5 736 419.9	11.8	-
19/07/2021	18:38:26	ST23_50W	Still	210139_ST23_50W_11	969	45.2	417 976.8	5 736 429.3	417 973.1	5 736 421.9	8.3	-
19/07/2021	18:38:35	ST23_50W	Still	210139_ST23_50W_12	970	44.9	417 976.8	5 736 429.3	417 978.2	5 736 423.4	6.0	-
19/07/2021	18:38:40	ST23_50W	Still	210139_ST23_50W_13	971	44.6	417 976.8	5 736 429.3	417 980.7	5 736 424.2	6.3	-
19/07/2021	18:38:46	ST23_50W	Still	210139_ST23_50W_14	972	45.0	417 976.8	5 736 429.3	417 981.7	5 736 426.5	5.6	-
19/07/2021	18:38:52	ST23_50W	Still	210139_ST23_50W_15	973	45.1	417 976.8	5 736 429.3	417 985.6	5 736 426.9	9.1	-
19/07/2021	18:38:56	ST23_50W	Still	210139_ST23_50W_16	974	45.3	417 976.8	5 736 429.3	417 988.0	5 736 428.0	11.3	-
19/07/2021	18:39:00	ST23_50W	Still	210139_ST23_50W_17	975	45.1	417 976.8	5 736 429.3	417 988.8	5 736 428.4	12.0	-
19/07/2021	18:39:05	ST23_50W	Still	210139_ST23_50W_18	976	45.0	417 976.8	5 736 429.3	417 992.3	5 736 429.6	15.4	-
19/07/2021	18:39:10	ST23_50W	Still	210139_ST23_50W_19	977	45.0	417 976.8	5 736 429.3	417 993.5	5 736 432.1	16.9	-
19/07/2021	18:39:15	ST23_50W	Still	210139_ST23_50W_20	978	45.2	417 976.8	5 736 429.3	417 997.1	5 736 433.6	20.7	-
19/07/2021	18:39:20	ST23_50W	Still	210139_ST23_50W_21	979	44.8	417 976.8	5 736 429.3	417 997.9	5 736 432.9	21.3	-
19/07/2021	18:39:25	ST23_50W	Still	210139_ST23_50W_22	980	44.9	417 976.8	5 736 429.3	417 999.9	5 736 434.3	23.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	18:39:29	ST23_50W	Still	210139_ST23_50W_23	981	45.2	417 976.8	5 736 429.3	418 001.6	5 736 435.7	25.6	-
19/07/2021	18:39:35	ST23_50W	Still	210139_ST23_50W_24	982	45.1	417 976.8	5 736 429.3	418 002.9	5 736 437.8	27.5	-
19/07/2021	18:39:42	ST23_50W	Still	210139_ST23_50W_25	983	44.8	417 976.8	5 736 429.3	418 005.7	5 736 439.8	30.7	-
19/07/2021	18:39:48	ST23_50W	Still	210139_ST23_50W_26	984	44.9	417 976.8	5 736 429.3	418 005.9	5 736 440.6	31.2	-
19/07/2021	18:48:00	ST23_50E	Still	210139_ST23_50E_01	985	43.2	418 076.5	5 736 430.4	418 061.3	5 736 390.1	43.0	-
19/07/2021	18:48:12	ST23_50E	Still	210139_ST23_50E_02	986	43.3	418 076.5	5 736 430.4	418 057.1	5 736 394.7	40.6	-
19/07/2021	18:48:21	ST23_50E	Still	210139_ST23_50E_03	987	43.3	418 076.5	5 736 430.4	418 054.5	5 736 396.8	40.2	-
19/07/2021	18:48:27	ST23_50E	Still	210139_ST23_50E_04	988	43.0	418 076.5	5 736 430.4	418 053.2	5 736 399.4	38.8	-
19/07/2021	18:48:33	ST23_50E	Still	210139_ST23_50E_05	989	43.8	418 076.5	5 736 430.4	418 051.0	5 736 401.0	38.9	-
19/07/2021	18:48:38	ST23_50E	Still	210139_ST23_50E_06	990	43.6	418 076.5	5 736 430.4	418 051.8	5 736 403.4	36.6	-
19/07/2021	18:48:53	ST23_50E	Still	210139_ST23_50E_07	991	43.6	418 076.5	5 736 430.4	418 051.4	5 736 412.7	30.7	-
19/07/2021	18:49:06	ST23_50E	Still	210139_ST23_50E_08	992	44.5	418 076.5	5 736 430.4	418 056.7	5 736 420.3	22.2	-
19/07/2021	18:49:11	ST23_50E	Still	210139_ST23_50E_09	993	44.4	418 076.5	5 736 430.4	418 057.4	5 736 421.8	21.0	-
19/07/2021	18:49:15	ST23_50E	Still	210139_ST23_50E_10	994	44.0	418 076.5	5 736 430.4	418 058.6	5 736 423.7	19.1	-
19/07/2021	18:49:21	ST23_50E	Still	210139_ST23_50E_11	995	44.1	418 076.5	5 736 430.4	418 060.6	5 736 425.7	16.6	-
19/07/2021	18:49:25	ST23_50E	Still	210139_ST23_50E_12	996	44.6	418 076.5	5 736 430.4	418 063.1	5 736 426.6	13.9	-
19/07/2021	18:49:30	ST23_50E	Still	210139_ST23_50E_13	997	44.4	418 076.5	5 736 430.4	418 063.8	5 736 428.9	12.8	-
19/07/2021	18:49:36	ST23_50E	Still	210139_ST23_50E_14	998	44.3	418 076.5	5 736 430.4	418 066.1	5 736 429.8	10.4	-
19/07/2021	18:49:42	ST23_50E	Still	210139_ST23_50E_15	999	44.4	418 076.5	5 736 430.4	418 068.1	5 736 432.4	8.7	-
19/07/2021	18:49:58	ST23_50E	Still	210139_ST23_50E_16	1000	44.5	418 076.5	5 736 430.4	418 075.5	5 736 438.1	7.8	-
19/07/2021	18:50:02	ST23_50E	Still	210139_ST23_50E_17	1001	44.6	418 076.5	5 736 430.4	418 077.5	5 736 439.5	9.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	18:50:07	ST23_50E	Still	210139_ST23_50E_18	1002	44.5	418 076.5	5 736 430.4	418 078.7	5 736 441.2	11.0	-
19/07/2021	18:50:12	ST23_50E	Still	210139_ST23_50E_19	1003	44.1	418 076.5	5 736 430.4	418 080.3	5 736 442.1	12.4	-
19/07/2021	18:50:18	ST23_50E	Still	210139_ST23_50E_20	1004	44.4	418 076.5	5 736 430.4	418 081.2	5 736 443.7	14.2	-
19/07/2021	18:50:25	ST23_50E	Still	210139_ST23_50E_21	1005	44.2	418 076.5	5 736 430.4	418 084.6	5 736 447.5	19.0	-
19/07/2021	18:50:29	ST23_50E	Still	210139_ST23_50E_22	1006	44.5	418 076.5	5 736 430.4	418 087.6	5 736 451.2	23.6	-
19/07/2021	18:50:35	ST23_50E	Still	210139_ST23_50E_23	1007	44.9	418 076.5	5 736 430.4	418 089.5	5 736 453.9	26.8	-
19/07/2021	18:50:41	ST23_50E	Still	210139_ST23_50E_24	1008	45.1	418 076.5	5 736 430.4	418 091.0	5 736 455.2	28.7	-
19/07/2021	18:50:46	ST23_50E	Still	210139_ST23_50E_25	1009	44.8	418 076.5	5 736 430.4	418 092.5	5 736 456.5	30.7	-
19/07/2021	19:59:01	ST19a	Still	210139_ST19a_01	1011	32.0	409 747.0	5 742 513.0	409 758.1	5 742 540.3	29.5	Seaspyder - no vis
19/07/2021	19:59:12	ST19a	Still	210139_ST19a_02	1012	31.9	409 747.0	5 742 513.0	409 758.9	5 742 533.2	23.5	-
19/07/2021	19:59:25	ST19a	Still	210139_ST19a_03	1013	32.5	409 747.0	5 742 513.0	409 755.9	5 742 526.6	16.3	-
19/07/2021	19:59:32	ST19a	Still	210139_ST19a_04	1014	32.6	409 747.0	5 742 513.0	409 756.8	5 742 526.0	16.3	-
19/07/2021	19:59:47	ST19a	Still	210139_ST19a_05	1015	32.2	409 747.0	5 742 513.0	409 755.2	5 742 519.4	10.4	-
19/07/2021	20:00:03	ST19a	Still	210139_ST19a_06	1016	32.8	409 747.0	5 742 513.0	409 752.8	5 742 514.5	6.0	-
19/07/2021	20:00:19	ST19a	Still	210139_ST19a_07	1017	31.9	409 747.0	5 742 513.0	409 751.9	5 742 509.6	6.0	-
19/07/2021	20:00:38	ST19a	Still	210139_ST19a_08	1018	32.7	409 747.0	5 742 513.0	409 751.3	5 742 505.1	9.0	-
19/07/2021	20:00:49	ST19a	Still	210139_ST19a_09	1019	32.6	409 747.0	5 742 513.0	409 749.6	5 742 498.3	14.9	-
19/07/2021	20:00:58	ST19a	Still	210139_ST19a_10	1020	33.6	409 747.0	5 742 513.0	409 751.0	5 742 491.9	21.4	-
19/07/2021	20:01:14	ST19a	Still	210139_ST19a_11	1021	33.9	409 747.0	5 742 513.0	409 749.1	5 742 486.1	27.0	-
19/07/2021	20:01:28	ST19a	Still	210139_ST19a_12	1022	33.1	409 747.0	5 742 513.0	409 748.8	5 742 486.3	26.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	20:24:28	ST18	Still	210139_ST18_01	1023	27.7	409 777.0	5 744 431.0	409 800.2	5 744 476.0	50.7	Seaspyder - no vis
19/07/2021	20:24:37	ST18	Still	210139_ST18_02	1024	28.6	409 777.0	5 744 431.0	409 796.9	5 744 474.5	47.8	-
19/07/2021	20:24:44	ST18	Still	210139_ST18_03	1025	27.9	409 777.0	5 744 431.0	409 797.0	5 744 470.3	44.1	-
19/07/2021	20:24:47	ST18	Still	210139_ST18_04	1026	28.7	409 777.0	5 744 431.0	409 796.2	5 744 468.3	41.9	-
19/07/2021	20:24:57	ST18	Still	210139_ST18_05	1027	28.0	409 777.0	5 744 431.0	409 792.9	5 744 465.1	37.6	-
19/07/2021	20:25:06	ST18	Still	210139_ST18_06	1028	28.1	409 777.0	5 744 431.0	409 790.8	5 744 459.5	31.6	-
19/07/2021	20:25:13	ST18	Still	210139_ST18_07	1029	29.5	409 777.0	5 744 431.0	409 789.0	5 744 454.5	26.4	-
19/07/2021	20:25:26	ST18	Still	210139_ST18_08	1030	29.4	409 777.0	5 744 431.0	409 786.1	5 744 449.1	20.2	-
19/07/2021	20:25:41	ST18	Still	210139_ST18_09	1031	28.8	409 777.0	5 744 431.0	409 783.3	5 744 442.0	12.7	-
19/07/2021	20:26:03	ST18	Still	210139_ST18_10	1032	28.9	409 777.0	5 744 431.0	409 780.9	5 744 440.0	9.8	-
19/07/2021	20:26:17	ST18	Still	210139_ST18_11	1033	27.2	409 777.0	5 744 431.0	409 779.6	5 744 439.4	8.7	-
19/07/2021	20:26:27	ST18	Still	210139_ST18_12	1034	28.9	409 777.0	5 744 431.0	409 778.4	5 744 435.2	4.5	-
19/07/2021	20:26:41	ST18	Still	210139_ST18_13	1035	29.7	409 777.0	5 744 431.0	409 776.4	5 744 429.8	1.3	-
19/07/2021	20:26:48	ST18	Still	210139_ST18_14	1036	29.4	409 777.0	5 744 431.0	409 776.4	5 744 426.1	4.9	-
19/07/2021	20:26:56	ST18	Still	210139_ST18_15	1037	29.0	409 777.0	5 744 431.0	409 774.5	5 744 424.1	7.4	-
19/07/2021	20:27:12	ST18	Still	210139_ST18_16	1038	29.3	409 777.0	5 744 431.0	409 774.0	5 744 418.3	13.0	-
19/07/2021	20:27:21	ST18	Still	210139_ST18_17	1039	30.1	409 777.0	5 744 431.0	409 771.4	5 744 417.7	14.4	-
19/07/2021	20:27:33	ST18	Still	210139_ST18_18	1040	31.2	409 777.0	5 744 431.0	409 771.0	5 744 409.8	22.1	-
19/07/2021	20:27:48	ST18	Still	210139_ST18_19	1041	29.5	409 777.0	5 744 431.0	409 771.1	5 744 410.3	21.6	-
19/07/2021	20:27:52	ST18	Still	210139_ST18_20	1042	30.6	409 777.0	5 744 431.0	409 772.1	5 744 409.2	22.3	-
19/07/2021	20:27:58	ST18	Still	210139_ST18_21	1043	30.7	409 777.0	5 744 431.0	409 770.4	5 744 409.4	22.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
19/07/2021	20:28:13	ST18	Still	210139_ST18_22	1044	31.0	409 777.0	5 744 431.0	409 769.5	5 744 406.7	25.5	-
19/07/2021	20:28:30	ST18	Still	210139_ST18_23	1045	30.1	409 777.0	5 744 431.0	409 768.6	5 744 402.8	29.4	-
19/07/2021	21:16:14	ST20	HG	NS	1046	35.2	410 699.0	5 741 083.0	410 691.3	5 741 076.3	10.2	-
19/07/2021	21:24:47	ST20	HG	FA	1047	35.2	410 699.0	5 741 083.0	410 695.7	5 741 072.5	11.0	-
19/07/2021	21:49:45	ST21	HG	FA	1048	29.1	411 620.0	5 741 073.0	411 600.3	5 741 068.5	20.2	-
19/07/2021	22:04:03	ST21	DG	PC	1049	29.5	411 620.0	5 741 073.0	411 612.5	5 741 066.5	9.9	-
19/07/2021	22:40:32	ST19b	Still	210139_ST19b_01	1050	29.8	409 747.0	5 742 513.0	409 791.6	5 742 530.5	47.9	-
19/07/2021	22:40:49	ST19b	Still	210139_ST19b_02	1051	31.1	409 747.0	5 742 513.0	409 785.4	5 742 528.1	41.2	-
19/07/2021	22:40:57	ST19b	Still	210139_ST19b_03	1052	30.4	409 747.0	5 742 513.0	409 782.1	5 742 527.0	37.8	-
19/07/2021	22:41:12	ST19b	Still	210139_ST19b_04	1053	30.5	409 747.0	5 742 513.0	409 775.6	5 742 522.8	30.2	-
19/07/2021	22:41:28	ST19b	Still	210139_ST19b_05	1054	31.4	409 747.0	5 742 513.0	409 769.2	5 742 521.2	23.6	-
19/07/2021	22:41:37	ST19b	Still	210139_ST19b_06	1055	30.7	409 747.0	5 742 513.0	409 764.2	5 742 522.8	19.8	-
19/07/2021	22:41:58	ST19b	Still	210139_ST19b_07	1056	31.4	409 747.0	5 742 513.0	409 758.9	5 742 522.2	15.0	-
19/07/2021	22:42:07	ST19b	Still	210139_ST19b_08	1057	32.5	409 747.0	5 742 513.0	409 754.2	5 742 520.2	10.2	-
19/07/2021	22:42:19	ST19b	Still	210139_ST19b_09	1058	32.6	409 747.0	5 742 513.0	409 745.6	5 742 523.1	10.2	-
19/07/2021	22:42:38	ST19b	Still	210139_ST19b_10	1059	32.1	409 747.0	5 742 513.0	409 742.4	5 742 522.9	10.9	-
19/07/2021	22:42:49	ST19b	Still	210139_ST19b_11	1060	30.9	409 747.0	5 742 513.0	409 735.6	5 742 526.4	17.6	-
19/07/2021	22:43:02	ST19b	Still	210139_ST19b_12	1061	31.2	409 747.0	5 742 513.0	409 732.1	5 742 526.6	20.1	-
19/07/2021	22:43:22	ST19b	Still	210139_ST19b_13	1062	32.3	409 747.0	5 742 513.0	409 725.6	5 742 530.7	27.8	-
19/07/2021	22:43:43	ST19b	Still	210139_ST19b_14	1063	32.0	409 747.0	5 742 513.0	409 718.7	5 742 534.9	35.8	-
19/07/2021	23:56:51	ST22	HG	NS	1064	38.0	414 194.0	5 737 504.0	414 185.8	5 737 534.1	31.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	00:04:43	ST22	HG	FA	1065	38.3	414 194.0	5 737 504.0	414 171.0	5 737 498.2	23.8	-
20/07/2021	00:52:19	ST34	HG	FA	1066	33.7	419 554.0	5 734 896.0	419 540.9	5 734 904.2	15.5	-
20/07/2021	01:04:03	ST34	DG	NS	1067	33.3	419 554.0	5 734 896.0	419 573.7	5 734 898.8	19.9	-
20/07/2021	01:10:58	ST34	DG	PC	1068	33.3	419 554.0	5 734 896.0	419 547.0	5 734 872.1	24.9	-
20/07/2021	01:41:16	ST35	HG	FA	1069	30.7	420 655.0	5 735 133.0	420 652.9	5 735 113.6	19.5	-
20/07/2021	03:14:17	ST30_50W	Still	210139_ST30_50W_01	1070	48.2	419 864.0	5 746 592.0	419 836.5	5 746 556.9	44.6	-
20/07/2021	03:14:28	ST30_50W	Still	210139_ST30_50W_02	1071	49.5	419 864.0	5 746 592.0	419 842.7	5 746 561.4	37.3	-
20/07/2021	03:14:33	ST30_50W	Still	210139_ST30_50W_03	1072	49.2	419 864.0	5 746 592.0	419 843.0	5 746 563.1	35.7	-
20/07/2021	03:14:39	ST30_50W	Still	210139_ST30_50W_04	1073	49.3	419 864.0	5 746 592.0	419 845.5	5 746 566.7	31.3	-
20/07/2021	03:14:44	ST30_50W	Still	210139_ST30_50W_05	1074	49.5	419 864.0	5 746 592.0	419 848.7	5 746 567.3	29.1	-
20/07/2021	03:14:49	ST30_50W	Still	210139_ST30_50W_06	1075	49.4	419 864.0	5 746 592.0	419 847.1	5 746 570.8	27.2	-
20/07/2021	03:14:57	ST30_50W	Still	210139_ST30_50W_07	1076	49.9	419 864.0	5 746 592.0	419 851.3	5 746 573.4	22.5	-
20/07/2021	03:15:01	ST30_50W	Still	210139_ST30_50W_08	1077	49.0	419 864.0	5 746 592.0	419 853.3	5 746 574.6	20.4	-
20/07/2021	03:15:05	ST30_50W	Still	210139_ST30_50W_09	1078	48.9	419 864.0	5 746 592.0	419 854.7	5 746 576.1	18.4	-
20/07/2021	03:15:20	ST30_50W	Still	210139_ST30_50W_10	1079	49.0	419 864.0	5 746 592.0	419 860.8	5 746 582.0	10.5	-
20/07/2021	03:15:25	ST30_50W	Still	210139_ST30_50W_11	1080	49.3	419 864.0	5 746 592.0	419 864.7	5 746 583.2	8.8	-
20/07/2021	03:15:34	ST30_50W	Still	210139_ST30_50W_12	1081	49.3	419 864.0	5 746 592.0	419 867.4	5 746 589.0	4.5	-
20/07/2021	03:15:43	ST30_50W	Still	210139_ST30_50W_13	1082	49.2	419 864.0	5 746 592.0	419 870.6	5 746 592.6	6.6	-
20/07/2021	03:15:48	ST30_50W	Still	210139_ST30_50W_14	1083	49.6	419 864.0	5 746 592.0	419 871.6	5 746 594.5	8.0	-
20/07/2021	03:15:52	ST30_50W	Still	210139_ST30_50W_15	1084	49.0	419 864.0	5 746 592.0	419 873.1	5 746 593.6	9.3	-
20/07/2021	03:16:07	ST30_50W	Still	210139_ST30_50W_16	1085	49.2	419 864.0	5 746 592.0	419 879.4	5 746 601.9	18.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	03:16:12	ST30_50W	Still	210139_ST30_50W_17	1086	49.0	419 864.0	5 746 592.0	419 882.4	5 746 602.4	21.1	-
20/07/2021	03:16:16	ST30_50W	Still	210139_ST30_50W_18	1087	49.2	419 864.0	5 746 592.0	419 881.7	5 746 605.6	22.3	-
20/07/2021	03:16:25	ST30_50W	Still	210139_ST30_50W_19	1088	48.0	419 864.0	5 746 592.0	419 881.9	5 746 607.3	23.6	-
20/07/2021	03:16:34	ST30_50W	Still	210139_ST30_50W_20	1089	49.5	419 864.0	5 746 592.0	419 886.6	5 746 610.9	29.5	-
20/07/2021	03:16:41	ST30_50W	Still	210139_ST30_50W_21	1090	49.9	419 864.0	5 746 592.0	419 888.5	5 746 614.9	33.5	-
20/07/2021	03:16:48	ST30_50W	Still	210139_ST30_50W_22	1091	49.9	419 864.0	5 746 592.0	419 889.3	5 746 615.9	34.8	-
20/07/2021	03:25:27	ST30_50E	Still	210139_ST30_50E_01	1092	47.1	419 964.0	5 746 592.0	419 946.6	5 746 554.9	41.0	Continued from ST30_50W
20/07/2021	03:25:40	ST30_50E	Still	210139_ST30_50E_02	1093	47.0	419 964.0	5 746 592.0	419 951.0	5 746 561.3	33.4	-
20/07/2021	03:25:47	ST30_50E	Still	210139_ST30_50E_03	1094	46.7	419 964.0	5 746 592.0	419 953.3	5 746 565.9	28.2	-
20/07/2021	03:25:58	ST30_50E	Still	210139_ST30_50E_04	1095	46.5	419 964.0	5 746 592.0	419 957.7	5 746 572.3	20.7	-
20/07/2021	03:26:01	ST30_50E	Still	210139_ST30_50E_05	1096	46.3	419 964.0	5 746 592.0	419 958.7	5 746 573.5	19.3	-
20/07/2021	03:26:05	ST30_50E	Still	210139_ST30_50E_06	1097	46.7	419 964.0	5 746 592.0	419 959.4	5 746 576.0	16.7	-
20/07/2021	03:26:14	ST30_50E	Still	210139_ST30_50E_07	1098	46.4	419 964.0	5 746 592.0	419 962.6	5 746 582.0	10.1	-
20/07/2021	03:26:22	ST30_50E	Still	210139_ST30_50E_08	1099	46.6	419 964.0	5 746 592.0	419 965.9	5 746 586.7	5.6	-
20/07/2021	03:26:27	ST30_50E	Still	210139_ST30_50E_09	1100	47.0	419 964.0	5 746 592.0	419 967.5	5 746 587.9	5.4	-
20/07/2021	03:26:34	ST30_50E	Still	210139_ST30_50E_10	1101	46.9	419 964.0	5 746 592.0	419 969.1	5 746 591.8	5.1	-
20/07/2021	03:26:39	ST30_50E	Still	210139_ST30_50E_11	1102	46.5	419 964.0	5 746 592.0	419 971.6	5 746 594.7	8.0	-
20/07/2021	03:26:46	ST30_50E	Still	210139_ST30_50E_12	1103	46.9	419 964.0	5 746 592.0	419 973.4	5 746 598.2	11.2	-
20/07/2021	03:26:50	ST30_50E	Still	210139_ST30_50E_13	1104	46.0	419 964.0	5 746 592.0	419 971.3	5 746 599.5	10.5	-
20/07/2021	03:26:56	ST30_50E	Still	210139_ST30_50E_14	1105	46.5	419 964.0	5 746 592.0	419 974.0	5 746 599.8	12.6	-
20/07/2021	03:27:01	ST30_50E	Still	210139_ST30_50E_15	1106	46.9	419 964.0	5 746 592.0	419 975.1	5 746 603.5	16.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	03:27:06	ST30_50E	Still	210139_ST30_50E_16	1107	46.7	419 964.0	5 746 592.0	419 976.6	5 746 605.3	18.4	-
20/07/2021	03:27:11	ST30_50E	Still	210139_ST30_50E_17	1108	47.1	419 964.0	5 746 592.0	419 977.4	5 746 607.3	20.3	-
20/07/2021	03:27:23	ST30_50E	Still	210139_ST30_50E_18	1109	46.7	419 964.0	5 746 592.0	419 978.0	5 746 611.2	23.8	-
20/07/2021	03:27:29	ST30_50E	Still	210139_ST30_50E_19	1110	46.5	419 964.0	5 746 592.0	419 981.9	5 746 614.2	28.5	-
20/07/2021	03:27:34	ST30_50E	Still	210139_ST30_50E_20	1111	46.3	419 964.0	5 746 592.0	419 981.7	5 746 615.3	29.3	-
20/07/2021	03:27:38	ST30_50E	Still	210139_ST30_50E_21	1112	45.9	419 964.0	5 746 592.0	419 981.7	5 746 617.8	31.2	-
20/07/2021	03:27:47	ST30_50E	Still	210139_ST30_50E_22	1113	46.8	419 964.0	5 746 592.0	419 980.9	5 746 619.9	32.6	-
20/07/2021	03:27:53	ST30_50E	Still	210139_ST30_50E_23	1114	47.4	419 964.0	5 746 592.0	419 983.1	5 746 622.1	35.6	-
20/07/2021	04:19:53	ST29_50E	Still	210139_ST29_50E_01	1115	51.9	420 793.0	5 751 976.0	420 780.1	5 751 939.7	38.6	-
20/07/2021	04:20:09	ST29_50E	Still	210139_ST29_50E_02	1116	53.6	420 793.0	5 751 976.0	420 781.9	5 751 951.7	26.7	-
20/07/2021	04:20:20	ST29_50E	Still	210139_ST29_50E_03	1117	52.9	420 793.0	5 751 976.0	420 785.0	5 751 957.2	20.5	-
20/07/2021	04:20:26	ST29_50E	Still	210139_ST29_50E_04	1118	53.0	420 793.0	5 751 976.0	420 784.0	5 751 961.3	17.2	-
20/07/2021	04:20:30	ST29_50E	Still	210139_ST29_50E_05	1119	52.9	420 793.0	5 751 976.0	420 785.1	5 751 963.3	15.0	-
20/07/2021	04:20:34	ST29_50E	Still	210139_ST29_50E_06	1120	53.5	420 793.0	5 751 976.0	420 783.8	5 751 967.4	12.6	-
20/07/2021	04:20:43	ST29_50E	Still	210139_ST29_50E_07	1121	52.4	420 793.0	5 751 976.0	420 786.1	5 751 971.3	8.3	-
20/07/2021	04:20:47	ST29_50E	Still	210139_ST29_50E_08	1122	54.2	420 793.0	5 751 976.0	420 787.8	5 751 974.6	5.4	-
20/07/2021	04:20:59	ST29_50E	Still	210139_ST29_50E_09	1123	54.3	420 793.0	5 751 976.0	420 787.8	5 751 982.7	8.5	-
20/07/2021	04:21:04	ST29_50E	Still	210139_ST29_50E_10	1124	53.4	420 793.0	5 751 976.0	420 787.5	5 751 983.9	9.6	-
20/07/2021	04:21:08	ST29_50E	Still	210139_ST29_50E_11	1125	54.0	420 793.0	5 751 976.0	420 785.8	5 751 986.7	12.9	-
20/07/2021	04:21:12	ST29_50E	Still	210139_ST29_50E_12	1126	53.5	420 793.0	5 751 976.0	420 787.4	5 751 988.4	13.6	-
20/07/2021	04:21:15	ST29_50E	Still	210139_ST29_50E_13	1127	52.2	420 793.0	5 751 976.0	420 786.6	5 751 989.9	15.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	04:21:19	ST29_50E	Still	210139_ST29_50E_14	1128	53.7	420 793.0	5 751 976.0	420 787.4	5 751 992.9	17.8	-
20/07/2021	04:21:24	ST29_50E	Still	210139_ST29_50E_15	1129	53.6	420 793.0	5 751 976.0	420 786.0	5 751 995.5	20.7	-
20/07/2021	04:21:29	ST29_50E	Still	210139_ST29_50E_16	1130	53.2	420 793.0	5 751 976.0	420 787.6	5 751 997.5	22.2	-
20/07/2021	04:21:33	ST29_50E	Still	210139_ST29_50E_17	1131	54.0	420 793.0	5 751 976.0	420 786.7	5 752 000.3	25.1	-
20/07/2021	04:21:38	ST29_50E	Still	210139_ST29_50E_18	1132	53.8	420 793.0	5 751 976.0	420 787.1	5 752 002.8	27.4	-
20/07/2021	04:21:44	ST29_50E	Still	210139_ST29_50E_19	1133	53.6	420 793.0	5 751 976.0	420 788.4	5 752 005.7	30.1	-
20/07/2021	04:21:50	ST29_50E	Still	210139_ST29_50E_20	1134	53.9	420 793.0	5 751 976.0	420 787.9	5 752 009.1	33.5	-
20/07/2021	04:33:57	ST29_50W	Still	210139_ST29_50W_01	1135	55.1	420 693.0	5 751 976.0	420 677.8	5 751 935.7	43.1	-
20/07/2021	04:34:08	ST29_50W	Still	210139_ST29_50W_02	1136	55.1	420 693.0	5 751 976.0	420 680.5	5 751 943.1	35.2	-
20/07/2021	04:34:12	ST29_50W	Still	210139_ST29_50W_03	1137	55.3	420 693.0	5 751 976.0	420 681.9	5 751 945.1	32.8	-
20/07/2021	04:34:17	ST29_50W	Still	210139_ST29_50W_04	1138	55.3	420 693.0	5 751 976.0	420 683.2	5 751 948.1	29.6	-
20/07/2021	04:34:22	ST29_50W	Still	210139_ST29_50W_05	1139	55.3	420 693.0	5 751 976.0	420 685.1	5 751 950.3	26.9	-
20/07/2021	04:34:25	ST29_50W	Still	210139_ST29_50W_06	1140	55.6	420 693.0	5 751 976.0	420 685.7	5 751 951.3	25.7	-
20/07/2021	04:34:35	ST29_50W	Still	210139_ST29_50W_07	1141	55.4	420 693.0	5 751 976.0	420 689.0	5 751 957.2	19.3	-
20/07/2021	04:34:41	ST29_50W	Still	210139_ST29_50W_08	1142	55.7	420 693.0	5 751 976.0	420 688.8	5 751 960.8	15.8	-
20/07/2021	04:34:46	ST29_50W	Still	210139_ST29_50W_09	1143	55.4	420 693.0	5 751 976.0	420 692.1	5 751 962.3	13.7	-
20/07/2021	04:34:50	ST29_50W	Still	210139_ST29_50W_10	1144	55.6	420 693.0	5 751 976.0	420 692.7	5 751 965.1	10.9	-
20/07/2021	04:34:55	ST29_50W	Still	210139_ST29_50W_11	1145	55.6	420 693.0	5 751 976.0	420 695.3	5 751 965.7	10.6	-
20/07/2021	04:35:00	ST29_50W	Still	210139_ST29_50W_12	1146	54.4	420 693.0	5 751 976.0	420 697.2	5 751 967.0	9.9	-
20/07/2021	04:35:06	ST29_50W	Still	210139_ST29_50W_13	1147	54.8	420 693.0	5 751 976.0	420 698.1	5 751 970.8	7.3	-
20/07/2021	04:35:11	ST29_50W	Still	210139_ST29_50W_14	1148	55.6	420 693.0	5 751 976.0	420 699.6	5 751 972.5	7.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	04:35:22	ST29_50W	Still	210139_ST29_50W_15	1149	55.6	420 693.0	5 751 976.0	420 705.0	5 751 978.7	12.3	-
20/07/2021	04:35:29	ST29_50W	Still	210139_ST29_50W_16	1150	55.8	420 693.0	5 751 976.0	420 706.6	5 751 981.4	14.6	-
20/07/2021	04:35:41	ST29_50W	Still	210139_ST29_50W_17	1151	55.3	420 693.0	5 751 976.0	420 713.1	5 751 988.6	23.7	-
20/07/2021	04:35:45	ST29_50W	Still	210139_ST29_50W_18	1152	55.5	420 693.0	5 751 976.0	420 714.8	5 751 990.1	26.0	-
20/07/2021	04:35:53	ST29_50W	Still	210139_ST29_50W_19	1153	54.6	420 693.0	5 751 976.0	420 716.9	5 751 992.7	29.1	-
20/07/2021	04:36:00	ST29_50W	Still	210139_ST29_50W_20	1154	55.7	420 693.0	5 751 976.0	420 719.3	5 751 997.1	33.7	-
20/07/2021	04:36:05	ST29_50W	Still	210139_ST29_50W_21	1155	54.4	420 693.0	5 751 976.0	420 722.5	5 751 995.4	35.3	-
20/07/2021	07:41:19	ST01	Still	210139_ST01_01	1156	11.7	379 985.0	5 741 353.0	379 980.8	5 741 352.5	4.3	SeaSpyder - no vis
20/07/2021	07:41:25	ST01	Still	210139_ST01_02	1157	11.7	379 985.0	5 741 353.0	379 980.4	5 741 354.6	4.9	-
20/07/2021	07:41:47	ST01	Still	210139_ST01_03	1158	11.9	379 985.0	5 741 353.0	379 980.7	5 741 366.8	14.4	-
20/07/2021	07:41:53	ST01	Still	210139_ST01_04	1159	11.7	379 985.0	5 741 353.0	379 980.2	5 741 367.9	15.6	-
20/07/2021	07:42:04	ST01	Still	210139_ST01_05	1160	11.8	379 985.0	5 741 353.0	379 979.9	5 741 372.5	20.2	-
20/07/2021	07:42:14	ST01	Still	210139_ST01_06	1161	12.0	379 985.0	5 741 353.0	379 979.6	5 741 377.0	24.6	-
20/07/2021	07:42:26	ST01	Still	210139_ST01_07	1162	10.8	379 985.0	5 741 353.0	379 977.9	5 741 381.8	29.7	-
20/07/2021	07:42:38	ST01	Still	210139_ST01_08	1163	11.6	379 985.0	5 741 353.0	379 977.3	5 741 386.0	33.9	-
20/07/2021	07:42:57	ST01	Still	210139_ST01_09	1164	11.5	379 985.0	5 741 353.0	379 975.2	5 741 394.3	42.4	-
20/07/2021	07:43:07	ST01	Still	210139_ST01_10	1165	11.4	379 985.0	5 741 353.0	379 974.5	5 741 398.5	46.7	-
20/07/2021	07:43:20	ST01	Still	210139_ST01_11	1166	11.8	379 985.0	5 741 353.0	379 972.8	5 741 404.0	52.5	-
20/07/2021	07:43:34	ST01	Still	210139_ST01_12	1167	11.5	379 985.0	5 741 353.0	379 971.5	5 741 408.4	57.0	-
20/07/2021	08:15:07	ST01a	Still	210139_ST01_01	1168	7.8	379 985.0	5 741 353.0	380 008.4	5 741 392.6	46.0	Freshwater lens - no vis.

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	08:15:10	ST01a	Still	210139_ST01_02	1169	7.8	379 985.0	5 741 353.0	380 008.5	5 741 392.8	46.2	-
20/07/2021	08:15:44	ST01a	Still	210139_ST01_03	1170	7.8	379 985.0	5 741 353.0	380 004.9	5 741 386.8	39.2	-
20/07/2021	08:16:06	ST01a	Still	210139_ST01_04	1171	7.8	379 985.0	5 741 353.0	380 003.5	5 741 379.9	32.6	-
20/07/2021	08:16:21	ST01a	Still	210139_ST01_05	NF	7.8	-	-	-	-	-	-
20/07/2021	08:16:33	ST01a	Still	210139_ST01_06	1172	7.8	379 985.0	5 741 353.0	380 008.8	5 741 366.2	27.2	-
20/07/2021	08:17:08	ST01a	Still	210139_ST01_07	1173	7.8	379 985.0	5 741 353.0	380 005.6	5 741 351.6	20.6	-
20/07/2021	08:17:12	ST01a	Still	210139_ST01_08	1174	7.8	379 985.0	5 741 353.0	380 005.2	5 741 350.0	20.4	-
20/07/2021	08:17:35	ST01a	Still	210139_ST01_09	1175	7.8	379 985.0	5 741 353.0	379 996.0	5 741 347.6	12.2	-
20/07/2021	08:17:47	ST01a	Still	210139_ST01_10	1176	7.8	379 985.0	5 741 353.0	379 991.5	5 741 346.9	8.9	-
20/07/2021	08:18:05	ST01a	Still	210139_ST01_11	1177	7.8	379 985.0	5 741 353.0	379 988.9	5 741 342.9	10.8	-
20/07/2021	08:18:21	ST01a	Still	210139_ST01_12	1178	7.8	379 985.0	5 741 353.0	379 987.2	5 741 339.4	13.8	-
20/07/2021	08:18:34	ST01a	Still	210139_ST01_13	1179	7.8	379 985.0	5 741 353.0	379 986.4	5 741 336.7	16.3	-
20/07/2021	08:18:50	ST01a	Still	210139_ST01_14	1180	7.8	379 985.0	5 741 353.0	379 984.5	5 741 332.2	20.8	-
20/07/2021	08:19:06	ST01a	Still	210139_ST01_15	1181	7.8	379 985.0	5 741 353.0	379 980.8	5 741 327.4	26.0	-
20/07/2021	08:19:19	ST01a	Still	210139_ST01_16	1182	7.8	379 985.0	5 741 353.0	379 978.2	5 741 324.6	29.2	-
20/07/2021	08:19:35	ST01a	Still	210139_ST01_17	1183	7.8	379 985.0	5 741 353.0	379 975.4	5 741 322.2	32.3	-
20/07/2021	08:35:54	ST02	Still	210139_ST02_01	1184	8.8	381 073.0	5 741 369.0	381 101.9	5 741 399.4	42.0	Freshwater lens - no vis.
20/07/2021	08:36:36	ST02	Still	210139_ST02_02	1185	8.8	381 073.0	5 741 369.0	381 093.6	5 741 383.6	25.2	-
20/07/2021	08:36:41	ST02	Still	210139_ST02_03	1186	8.8	381 073.0	5 741 369.0	381 092.9	5 741 381.6	23.6	-
20/07/2021	08:37:06	ST02	Still	210139_ST02_04	1187	8.8	381 073.0	5 741 369.0	381 081.9	5 741 378.3	12.9	-
20/07/2021	08:37:25	ST02	Still	210139_ST02_05	1188	8.8	381 073.0	5 741 369.0	381 078.9	5 741 373.5	7.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	08:37:39	ST02	Still	210139_ST02_06	1189	8.8	381 073.0	5 741 369.0	381 076.2	5 741 369.4	3.2	-
20/07/2021	08:37:49	ST02	Still	210139_ST02_07	NF	8.8	-	-	-	-	-	-
20/07/2021	08:38:02	ST02	Still	210139_ST02_08	1190	8.8	381 073.0	5 741 369.0	381 064.5	5 741 374.0	9.8	-
20/07/2021	08:38:17	ST02	Still	210139_ST02_09	1191	8.8	381 073.0	5 741 369.0	381 059.8	5 741 375.3	14.6	-
20/07/2021	08:38:28	ST02	Still	210139_ST02_10	1192	8.8	381 073.0	5 741 369.0	381 056.8	5 741 374.2	17.1	-
20/07/2021	08:38:42	ST02	Still	210139_ST02_11	1193	8.8	381 073.0	5 741 369.0	381 049.3	5 741 375.4	24.6	-
20/07/2021	08:38:56	ST02	Still	210139_ST02_12	1194	8.8	381 073.0	5 741 369.0	381 044.2	5 741 376.2	29.7	-
20/07/2021	08:39:19	ST02	Still	210139_ST02_13	1195	8.8	381 073.0	5 741 369.0	381 038.9	5 741 377.4	35.1	-
20/07/2021	09:02:19	ST03	Still	210139_ST03_01	1196	9.3	383 492.0	5 741 352.0	383 530.6	5 741 383.0	49.5	Freshwater lens - no vis.
20/07/2021	09:02:39	ST03	Still	210139_ST03_02	1197	9.3	383 492.0	5 741 352.0	383 526.4	5 741 375.7	41.8	-
20/07/2021	09:03:02	ST03	Still	210139_ST03_03	1198	9.3	383 492.0	5 741 352.0	383 520.2	5 741 371.1	34.0	-
20/07/2021	09:03:12	ST03	Still	210139_ST03_04	1199	9.3	383 492.0	5 741 352.0	383 516.4	5 741 370.5	30.6	-
20/07/2021	09:03:28	ST03	Still	210139_ST03_05	1200	9.3	383 492.0	5 741 352.0	383 513.6	5 741 367.3	26.5	-
20/07/2021	09:04:06	ST03	Still	210139_ST03_06	1201	9.3	383 492.0	5 741 352.0	383 503.1	5 741 359.6	13.5	-
20/07/2021	09:04:25	ST03	Still	210139_ST03_07	NF	9.3	-	-	-	-	-	-
20/07/2021	09:04:42	ST03	Still	210139_ST03_08	1202	9.3	383 492.0	5 741 352.0	383 491.0	5 741 354.4	2.6	-
20/07/2021	09:05:01	ST03	Still	210139_ST03_09	1203	9.3	383 492.0	5 741 352.0	383 484.6	5 741 350.6	7.5	-
20/07/2021	09:05:29	ST03	Still	210139_ST03_10	1204	9.3	383 492.0	5 741 352.0	383 475.0	5 741 345.1	18.3	-
20/07/2021	09:05:54	ST03	Still	210139_ST03_11	1205	9.3	383 492.0	5 741 352.0	383 468.4	5 741 341.3	25.9	-
20/07/2021	09:06:12	ST03	Still	210139_ST03_12	1206	9.3	383 492.0	5 741 352.0	383 462.2	5 741 340.1	32.1	

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	09:50:06	ST04c	Still	210139_ST04c_01	1208	9.3	388 074.0	5 742 433.0	388 115.6	5 742 441.9	42.6	Freshwater lens - no vis.
20/07/2021	09:50:33	ST04c	Still	210139_ST04c_02	1209	9.3	388 074.0	5 742 433.0	388 104.1	5 742 440.0	30.9	-
20/07/2021	09:50:53	ST04c	Still	210139_ST04c_03	1210	9.3	388 074.0	5 742 433.0	388 099.1	5 742 436.4	25.3	-
20/07/2021	09:51:11	ST04c	Still	210139_ST04c_04	1211	9.3	388 074.0	5 742 433.0	388 091.8	5 742 437.4	18.3	-
20/07/2021	09:51:30	ST04c	Still	210139_ST04c_05	1212	9.3	388 074.0	5 742 433.0	388 085.7	5 742 436.3	12.1	-
20/07/2021	09:51:50	ST04c	Still	210139_ST04c_06	1213	9.3	388 074.0	5 742 433.0	388 076.6	5 742 439.6	7.1	-
20/07/2021	09:52:00	ST04c	Still	210139_ST04c_07	1214	9.3	388 074.0	5 742 433.0	388 072.9	5 742 438.8	5.9	-
20/07/2021	09:52:29	ST04c	Still	210139_ST04c_08	1215	9.3	388 074.0	5 742 433.0	388 059.4	5 742 447.0	20.2	-
20/07/2021	09:52:53	ST04c	Still	210139_ST04c_09	1216	9.3	388 074.0	5 742 433.0	388 050.9	5 742 455.3	32.1	-
20/07/2021	09:53:08	ST04c	Still	210139_ST04c_10	1217	9.3	388 074.0	5 742 433.0	388 045.7	5 742 463.3	41.5	-
20/07/2021	10:51:57	ST01	HG	FA	1218	8.2	379 985.0	5 741 353.0	379 986.2	5 741 344.0	9.1	-
20/07/2021	10:57:27	ST01	DG	PC	1219	8.2	379 985.0	5 741 353.0	379 991.6	5 741 342.6	12.3	-
20/07/2021	11:16:51	ST02	HG	FA	1220	12.2	381 073.0	5 741 369.0	381 080.7	5 741 374.9	9.7	-
20/07/2021	12:01:59	ST03	HG	FA	1221	12.5	383 492.0	5 741 352.0	383 496.6	5 741 341.1	11.8	-
20/07/2021	12:07:22	ST03	DG	PC	1222	13.7	383 492.0	5 741 352.0	383 491.3	5 741 339.2	12.9	-
20/07/2021	12:34:41	ST04	HG	FA	1223	14.4	388 074.0	5 742 433.0	388 083.3	5 742 436.9	10.0	-
20/07/2021	13:01:49	ST05	Still	210139_ST05_01	1224	9.8	388 987.0	5 743 193.0	389 015.0	5 743 197.0	28.3	Freshwater lens - no vis.
20/07/2021	13:02:28	ST05	Still	210139_ST05_02	1225	9.8	388 987.0	5 743 193.0	389 008.5	5 743 191.2	21.6	-
20/07/2021	13:02:49	ST05	Still	210139_ST05_03	NF	9.8						-
20/07/2021	13:03:27	ST05	Still	210139_ST05_04	1226	9.8	388 987.0	5 743 193.0	388 993.6	5 743 193.3	6.6	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	13:03:52	ST05	Still	210139_ST05_05	1227	9.8	388 987.0	5 743 193.0	388 987.1	5 743 192.4	.6	-
20/07/2021	13:04:01	ST05	Still	210139_ST05_06	1228	9.8	388 987.0	5 743 193.0	388 984.8	5 743 192.4	2.3	-
20/07/2021	13:04:17	ST05	Still	210139_ST05_07	1229	9.8	388 987.0	5 743 193.0	388 981.3	5 743 192.7	5.7	-
20/07/2021	13:04:29	ST05	Still	210139_ST05_08	1230	9.8	388 987.0	5 743 193.0	388 979.2	5 743 192.8	7.8	-
20/07/2021	13:04:55	ST05	Still	210139_ST05_09	1231	9.8	388 987.0	5 743 193.0	388 975.3	5 743 193.5	11.8	-
20/07/2021	13:05:37	ST05	Still	210139_ST05_10	1232	9.8	388 987.0	5 743 193.0	388 971.3	5 743 195.3	15.8	-
20/07/2021	13:05:47	ST05	Still	210139_ST05_11	1233	9.8	388 987.0	5 743 193.0	388 970.5	5 743 195.7	16.7	-
20/07/2021	13:05:57	ST05	Still	210139_ST05_12	1234	9.8	388 987.0	5 743 193.0	388 969.7	5 743 196.3	17.7	-
20/07/2021	13:06:49	ST05	Still	210139_ST05_13	1235	9.8	388 987.0	5 743 193.0	388 967.9	5 743 199.2	20.1	-
20/07/2021	13:07:13	ST05	Still	210139_ST05_14	1236	9.8	388 987.0	5 743 193.0	388 966.1	5 743 198.0	21.4	-
20/07/2021	13:07:43	ST05	Still	210139_ST05_15	NF	9.8						-
20/07/2021	13:08:18	ST05	Still	210139_ST05_16	1237	9.8	388 987.0	5 743 193.0	388 963.0	5 743 199.3	24.8	-
20/07/2021	13:08:40	ST05	Still	210139_ST05_17	1238	9.8	388 987.0	5 743 193.0	388 963.2	5 743 200.0	24.8	-
20/07/2021	13:09:33	ST05	Still	210139_ST05_18	1239	9.8	388 987.0	5 743 193.0	388 958.9	5 743 195.9	28.2	-
20/07/2021	13:09:43	ST05	Still	210139_ST05_19	1240	9.8	388 987.0	5 743 193.0	388 957.5	5 743 193.6	29.5	-
20/07/2021	13:25:00	ST06	Still	210139_ST06_01	1241	9.8	390 116.0	5 743 702.0	390 137.7	5 743 694.4	23.0	Freshwater lens - no vis.
20/07/2021	13:25:11	ST06	Still	210139_ST06_02	1242	9.8	390 116.0	5 743 702.0	390 136.3	5 743 692.8	22.3	-
20/07/2021	13:25:39	ST06	Still	210139_ST06_03	1243	9.8	390 116.0	5 743 702.0	390 127.0	5 743 691.3	15.3	-
20/07/2021	13:25:45	ST06	Still	210139_ST06_04	NF	9.8						-
20/07/2021	13:26:03	ST06	Still	210139_ST06_05	1244	9.8	390 116.0	5 743 702.0	390 125.6	5 743 689.9	15.5	-
20/07/2021	13:26:17	ST06	Still	210139_ST06_06	1245	9.8	390 116.0	5 743 702.0	390 125.9	5 743 690.5	15.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	13:26:34	ST06	Still	210139_ST06_07	1246	9.8	390 116.0	5 743 702.0	390 125.5	5 743 691.8	13.9	-
20/07/2021	13:26:45	ST06	Still	210139_ST06_08	NF	9.8	-	-	-	-	-	-
20/07/2021	13:26:57	ST06	Still	210139_ST06_09	1247	9.8	390 116.0	5 743 702.0	390 124.0	5 743 693.8	11.5	-
20/07/2021	13:27:06	ST06	Still	210139_ST06_10	1248	9.8	390 116.0	5 743 702.0	390 124.2	5 743 694.7	11.0	-
20/07/2021	13:27:23	ST06	Still	210139_ST06_11	1249	9.8	390 116.0	5 743 702.0	390 123.1	5 743 696.6	8.9	-
20/07/2021	13:27:42	ST06	Still	210139_ST06_12	1250	9.8	390 116.0	5 743 702.0	390 127.2	5 743 694.7	13.3	-
20/07/2021	13:28:15	ST06	Still	210139_ST06_13	1251	9.8	390 116.0	5 743 702.0	390 122.0	5 743 685.1	17.9	-
20/07/2021	13:28:38	ST06	Still	210139_ST06_14	1252	9.8	390 116.0	5 743 702.0	390 118.2	5 743 678.8	23.3	-
20/07/2021	13:29:03	ST06	Still	210139_ST06_15	1253	9.8	390 116.0	5 743 702.0	390 115.6	5 743 676.1	25.9	-
20/07/2021	13:29:21	ST06	Still	210139_ST06_16	1254	9.8	390 116.0	5 743 702.0	390 113.0	5 743 674.6	27.6	-
20/07/2021	13:29:44	ST06	Still	210139_ST06_17	1255	9.8	390 116.0	5 743 702.0	390 109.7	5 743 671.7	30.9	-
20/07/2021	13:30:13	ST06	Still	210139_ST06_18	1256	9.8	390 116.0	5 743 702.0	390 105.7	5 743 666.2	37.3	-
20/07/2021	13:30:22	ST06	Still	210139_ST06_19	1257	9.8	390 116.0	5 743 702.0	390 104.2	5 743 665.1	38.8	-
20/07/2021	14:03:40	ST07	Still	210139_ST07_01	1258	9.8	391 192.0	5 744 291.0	391 132.9	5 744 280.7	60.0	-
20/07/2021	14:04:33	ST07	Still	210139_ST07_02	1259	11.2	391 192.0	5 744 291.0	391 167.8	5 744 253.6	44.5	Freshwater lens - no vis.
20/07/2021	14:05:06	ST07	Still	210139_ST07_03	1260	11.2	391 192.0	5 744 291.0	391 178.4	5 744 258.7	35.1	-
20/07/2021	14:05:15	ST07	Still	210139_ST07_04	1261	11.2	391 192.0	5 744 291.0	391 179.5	5 744 260.6	32.9	-
20/07/2021	14:05:30	ST07	Still	210139_ST07_05	1262	11.2	391 192.0	5 744 291.0	391 180.0	5 744 268.5	25.5	-
20/07/2021	14:05:42	ST07	Still	210139_ST07_06	1263	11.2	391 192.0	5 744 291.0	391 179.0	5 744 274.0	21.5	-
20/07/2021	14:05:50	ST07	Still	210139_ST07_07	1264	11.2	391 192.0	5 744 291.0	391 178.2	5 744 279.1	18.3	-
20/07/2021	14:06:15	ST07	Still	210139_ST07_08	1265	11.2	391 192.0	5 744 291.0	391 178.0	5 744 290.8	14.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	14:06:27	ST07	Still	210139_ST07_09	1266	11.2	391 192.0	5 744 291.0	391 178.9	5 744 296.2	14.1	-
20/07/2021	14:06:36	ST07	Still	210139_ST07_10	1267	11.2	391 192.0	5 744 291.0	391 178.8	5 744 299.9	15.9	-
20/07/2021	14:07:17	ST07	Still	210139_ST07_11	1268	11.2	391 192.0	5 744 291.0	391 173.4	5 744 313.5	29.2	-
20/07/2021	14:07:29	ST07	Still	210139_ST07_12	1269	11.2	391 192.0	5 744 291.0	391 171.4	5 744 316.0	32.4	-
20/07/2021	14:07:35	ST07	Still	210139_ST07_13	1270	11.2	391 192.0	5 744 291.0	391 170.3	5 744 317.0	33.9	-
20/07/2021	14:26:44	TR08	Still	210139_TR08_01	1271	8.8	391 917.0	5 744 663.0	391 896.0	5 744 639.0	31.8	Freshwater lens - no vis.
20/07/2021	14:27:00	TR08	Still	210139_TR08_02	1272	8.8	391 917.0	5 744 663.0	391 900.5	5 744 643.6	25.5	-
20/07/2021	14:27:20	TR08	Still	210139_TR08_03	1273	8.8	391 917.0	5 744 663.0	391 906.6	5 744 654.6	13.4	-
20/07/2021	14:27:42	TR08	Still	210139_TR08_04	1274	8.8	391 917.0	5 744 663.0	391 920.6	5 744 662.2	3.7	-
20/07/2021	14:27:55	TR08	Still	210139_TR08_05	1275	8.8	391 917.0	5 744 663.0	391 928.6	5 744 664.0	11.6	-
20/07/2021	14:28:02	TR08	Still	210139_TR08_06	1276	8.8	391 917.0	5 744 663.0	391 933.2	5 744 664.6	16.3	-
20/07/2021	14:28:25	TR08	Still	210139_TR08_07	1277	8.8	391 917.0	5 744 663.0	391 948.6	5 744 663.4	31.6	-
20/07/2021	14:28:39	TR08	Still	210139_TR08_08	1278	8.8	391 917.0	5 744 663.0	391 956.4	5 744 665.6	39.5	-
20/07/2021	14:28:50	TR08	Still	210139_TR08_09	1279	8.8	391 917.0	5 744 663.0	391 961.4	5 744 668.8	44.8	-
20/07/2021	14:29:06	TR08	Still	210139_TR08_10	1280	8.8	391 917.0	5 744 663.0	391 971.6	5 744 675.4	56.0	-
20/07/2021	14:29:34	TR08	Still	210139_TR08_11	1281	8.8	391 917.0	5 744 663.0	391 986.2	5 744 685.7	72.9	-
20/07/2021	14:29:55	TR08	Still	210139_TR08_12	1282	8.8	391 917.0	5 744 663.0	391 995.4	5 744 687.2	82.0	-
20/07/2021	14:30:04	TR08	Still	210139_TR08_13	1283	8.8	391 917.0	5 744 663.0	391 999.3	5 744 687.1	85.7	-
20/07/2021	14:30:15	TR08	Still	210139_TR08_14	1284	8.8	391 917.0	5 744 663.0	392 003.9	5 744 686.4	90.0	-
20/07/2021	14:30:30	TR08	Still	210139_TR08_15	1285	8.8	391 917.0	5 744 663.0	392 011.1	5 744 685.5	96.7	-
20/07/2021	14:30:50	TR08	Still	210139_TR08_16	1286	8.8	391 917.0	5 744 663.0	392 019.7	5 744 685.0	105.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	14:31:05	TR08	Still	210139_TR08_17	1287	8.8	391 917.0	5 744 663.0	392 026.8	5 744 688.5	112.7	-
20/07/2021	14:31:35	TR08	Still	210139_TR08_18	1288	8.8	391 917.0	5 744 663.0	392 039.0	5 744 691.9	125.4	-
20/07/2021	14:31:47	TR08	Still	210139_TR08_19	1289	8.8	391 917.0	5 744 663.0	392 044.2	5 744 693.1	130.7	-
20/07/2021	14:32:00	TR08	Still	210139_TR08_20	1290	8.8	391 917.0	5 744 663.0	392 048.2	5 744 694.1	134.8	-
20/07/2021	15:33:13	ST05	HG	FA	1291	10.3	388 987.0	5 743 193.0	388 976.8	5 743 194.6	10.3	-
20/07/2021	15:43:34	ST05	DG	NS	1292	9.3	388 987.0	5 743 193.0	388 980.3	5 743 186.5	9.3	-
20/07/2021	15:47:39	ST05	DG	PC	1293	10.4	388 987.0	5 743 193.0	388 983.6	5 743 183.2	10.4	-
20/07/2021	16:02:07	ST06	HG	NS	1294	12.4	390 116.0	5 743 702.0	390 105.9	5 743 694.9	12.4	-
20/07/2021	16:04:47	ST06	HG	FA	1295	7.4	390 116.0	5 743 702.0	390 111.7	5 743 700.3	4.6	-
20/07/2021	17:43:47	ST07	HG	FA	1296	16.8	391 192.0	5 744 291.0	391 176.2	5 744 285.2	16.8	-
20/07/2021	19:04:46	ST07	DG	PC	1297	9.5	391 192.0	5 744 291.0	391 192.3	5 744 284.3	6.7	-
20/07/2021	19:25:48	ST08	HG	NS	1298	15.7	391 917.0	5 744 663.0	391 902.3	5 744 657.7	15.7	-
20/07/2021	19:33:48	ST08	HG	NS	1299	13.0	391 917.0	5 744 663.0	391 918.0	5 744 650.0	13.0	-
20/07/2021	19:40:18	ST08	HG	NS	1300	13.4	391 917.0	5 744 663.0	391 911.1	5 744 675.1	13.4	-
20/07/2021	20:50:47	ST12	Still	210139_ST12_01	1301	10.8	394 881.0	5 748 778.0	394 903.6	5 748 830.1	56.8	Freshwater lens - no vis.
20/07/2021	20:51:40	ST12	Still	210139_ST12_02	1302	10.8	394 881.0	5 748 778.0	394 889.2	5 748 798.9	22.4	-
20/07/2021	20:51:50	ST12	Still	210139_ST12_03	1303	10.8	394 881.0	5 748 778.0	394 886.3	5 748 795.0	17.8	-
20/07/2021	20:52:01	ST12	Still	210139_ST12_04	1304	10.8	394 881.0	5 748 778.0	394 883.3	5 748 791.3	13.5	-
20/07/2021	20:52:27	ST12	Still	210139_ST12_05	1305	10.8	394 881.0	5 748 778.0	394 876.5	5 748 784.0	7.5	-
20/07/2021	20:52:39	ST12	Still	210139_ST12_06	1306	10.8	394 881.0	5 748 778.0	394 874.6	5 748 781.8	7.4	-
20/07/2021	20:52:53	ST12	Still	210139_ST12_07	1307	10.8	394 881.0	5 748 778.0	394 870.8	5 748 780.6	10.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	20:53:14	ST12	Still	210139_ST12_08	1308	10.8	394 881.0	5 748 778.0	394 865.0	5 748 778.0	16.0	-
20/07/2021	20:53:39	ST12	Still	210139_ST12_09	1309	10.8	394 881.0	5 748 778.0	394 855.1	5 748 773.3	26.4	-
20/07/2021	20:54:01	ST12	Still	210139_ST12_10	1310	10.8	394 881.0	5 748 778.0	394 844.8	5 748 773.9	36.4	-
20/07/2021	22:07:53	TR13	Still	210139_TR13_01	1312	11.8	395 710.0	5 749 161.0	395 717.1	5 749 195.2	34.9	Freshwater lens - no vis.
20/07/2021	22:08:39	TR13	Still	210139_TR13_02	1313	11.8	395 710.0	5 749 161.0	395 721.0	5 749 176.9	19.3	-
20/07/2021	22:08:55	TR13	Still	210139_TR13_03	1314	11.8	395 710.0	5 749 161.0	395 719.6	5 749 170.5	13.5	-
20/07/2021	22:09:10	TR13	Still	210139_TR13_04	1315	11.8	395 710.0	5 749 161.0	395 716.2	5 749 165.3	7.5	-
20/07/2021	22:09:31	TR13	Still	210139_TR13_05	1316	11.8	395 710.0	5 749 161.0	395 714.0	5 749 155.7	6.7	-
20/07/2021	22:09:55	TR13	Still	210139_TR13_06	1317	11.8	395 710.0	5 749 161.0	395 715.6	5 749 147.0	15.1	-
20/07/2021	22:10:34	TR13	Still	210139_TR13_07	1318	11.8	395 710.0	5 749 161.0	395 729.3	5 749 155.4	20.0	-
20/07/2021	22:12:25	TR13	Still	210139_TR13_08	1319	11.8	395 710.0	5 749 161.0	395 754.7	5 749 155.6	45.1	-
20/07/2021	22:18:08	TR13a	Still	210139_TR13a_01	1320	11.8	395 710.0	5 749 161.0	395 711.5	5 749 173.5	12.5	Freshwater lens - no vis.
20/07/2021	22:18:28	TR13a	Still	210139_TR13a_02	1321	11.8	395 710.0	5 749 161.0	395 711.7	5 749 166.8	6.0	-
20/07/2021	22:18:40	TR13a	Still	210139_TR13a_03	1322	11.8	395 710.0	5 749 161.0	395 711.5	5 749 164.5	3.8	-
20/07/2021	22:19:02	TR13a	Still	210139_TR13a_04	1323	11.8	395 710.0	5 749 161.0	395 709.1	5 749 161.2	1.0	-
20/07/2021	22:19:44	TR13a	Still	210139_TR13a_05	1324	11.8	395 710.0	5 749 161.0	395 707.7	5 749 166.3	5.7	-
20/07/2021	22:20:20	TR13a	Still	210139_TR13a_06	1325	11.8	395 710.0	5 749 161.0	395 711.5	5 749 180.5	19.5	-
20/07/2021	22:20:48	TR13a	Still	210139_TR13a_07	1326	11.8	395 710.0	5 749 161.0	395 705.0	5 749 192.5	31.9	-
20/07/2021	22:22:13	TR13a	Still	210139_TR13a_08	1327	11.8	395 710.0	5 749 161.0	395 722.7	5 749 166.2	13.7	-
20/07/2021	22:23:05	TR13a	Still	210139_TR13a_09	1328	11.8	395 710.0	5 749 161.0	395 719.5	5 749 155.7	10.9	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	22:23:46	TR13a	Still	210139_TR13a_10	1329	11.8	395 710.0	5 749 161.0	395 715.1	5 749 157.1	6.4	-
20/07/2021	22:30:45	TR13b	Still	210139_TR13b_01	1330	11.8	395 710.0	5 749 161.0	395 769.6	5 749 114.6	75.5	Freshwater lens - no vis.
20/07/2021	22:31:00	TR13b	Still	210139_TR13b_02	1331	11.8	395 710.0	5 749 161.0	395 766.8	5 749 113.4	74.2	-
20/07/2021	22:31:35	TR13b	Still	210139_TR13b_03	1332	11.8	395 710.0	5 749 161.0	395 761.5	5 749 119.4	66.2	-
20/07/2021	22:31:49	TR13b	Still	210139_TR13b_04	1333	11.8	395 710.0	5 749 161.0	395 756.9	5 749 123.9	59.8	-
20/07/2021	22:32:16	TR13b	Still	210139_TR13b_05	1334	11.8	395 710.0	5 749 161.0	395 756.3	5 749 126.4	57.8	-
20/07/2021	22:33:00	TR13b	Still	210139_TR13b_06	1335	11.8	395 710.0	5 749 161.0	395 755.0	5 749 127.0	56.4	-
20/07/2021	22:33:31	TR13b	Still	210139_TR13b_07	1336	11.8	395 710.0	5 749 161.0	395 749.5	5 749 128.2	51.4	-
20/07/2021	22:33:43	TR13b	Still	210139_TR13b_08	1337	11.8	395 710.0	5 749 161.0	395 748.2	5 749 129.7	49.4	-
20/07/2021	22:34:17	TR13b	Still	210139_TR13b_09	1338	11.8	395 710.0	5 749 161.0	395 736.4	5 749 148.2	29.3	-
20/07/2021	22:34:47	TR13b	Still	210139_TR13b_10	1339	11.8	395 710.0	5 749 161.0	395 733.5	5 749 151.1	25.5	-
20/07/2021	22:34:53	TR13b	Still	210139_TR13b_11	NF	11.8	-	-	-	-	-	-
20/07/2021	22:35:12	TR13b	Still	210139_TR13b_12	1340	11.8	395 710.0	5 749 161.0	395 732.0	5 749 154.2	23.1	-
20/07/2021	22:35:49	TR13b	Still	210139_TR13b_13	1341	11.8	395 710.0	5 749 161.0	395 723.7	5 749 161.0	13.7	-
20/07/2021	22:36:20	TR13b	Still	210139_TR13b_14	1342	11.8	395 710.0	5 749 161.0	395 715.3	5 749 167.0	7.9	-
20/07/2021	22:36:49	TR13b	Still	210139_TR13b_15	1343	11.8	395 710.0	5 749 161.0	395 708.2	5 749 174.2	13.3	-
20/07/2021	22:37:14	TR13b	Still	210139_TR13b_16	1344	11.8	395 710.0	5 749 161.0	395 701.8	5 749 176.5	17.5	-
20/07/2021	22:37:46	TR13b	Still	210139_TR13b_17	1345	11.8	395 710.0	5 749 161.0	395 695.4	5 749 185.6	28.6	-
20/07/2021	22:37:52	TR13b	Still	210139_TR13b_18	1346	11.8	395 710.0	5 749 161.0	395 694.2	5 749 188.8	32.0	-
20/07/2021	23:27:29	ST12a	Still	210139_ST12a_01	1347	11.8	394 881.0	5 748 778.0	394 893.4	5 748 811.1	35.3	-
20/07/2021	23:27:59	ST12a	Still	210139_ST12a_02	1348	11.8	394 881.0	5 748 778.0	394 884.8	5 748 801.4	23.7	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	23:28:25	ST12a	Still	210139_ST12a_03	1349	11.8	394 881.0	5 748 778.0	394 881.4	5 748 788.0	10.0	-
20/07/2021	23:28:48	ST12a	Still	210139_ST12a_04	1350	11.8	394 881.0	5 748 778.0	394 882.2	5 748 775.9	2.4	-
20/07/2021	23:29:10	ST12a	Still	210139_ST12a_05	1351	11.8	394 881.0	5 748 778.0	394 876.9	5 748 766.1	12.6	-
20/07/2021	23:29:20	ST12a	Still	210139_ST12a_06	1352	11.8	394 881.0	5 748 778.0	394 875.2	5 748 761.5	17.5	-
20/07/2021	23:29:26	ST12a	Still	210139_ST12a_07	1353	11.8	394 881.0	5 748 778.0	394 875.2	5 748 759.3	19.5	-
20/07/2021	23:29:49	ST12a	Still	210139_ST12a_08	1354	11.8	394 881.0	5 748 778.0	394 874.8	5 748 751.4	27.3	-
20/07/2021	23:30:16	ST12a	Still	210139_ST12a_09	1355	11.8	394 881.0	5 748 778.0	394 876.8	5 748 742.7	35.5	-
20/07/2021	23:43:12	ST11	Still	210139_ST11_01	1356	7.8	394 526.0	5 748 593.0	394 533.6	5 748 647.1	54.6	Freshwater lens - no vis.
20/07/2021	23:43:43	ST11	Still	210139_ST11_02	1357	7.8	394 526.0	5 748 593.0	394 533.2	5 748 629.5	37.2	-
20/07/2021	23:44:01	ST11	Still	210139_ST11_03	1358	7.8	394 526.0	5 748 593.0	394 532.7	5 748 617.7	25.5	-
20/07/2021	23:44:37	ST11	Still	210139_ST11_04	1359	7.8	394 526.0	5 748 593.0	394 537.2	5 748 594.9	11.3	-
20/07/2021	23:44:58	ST11	Still	210139_ST11_05	1360	7.8	394 526.0	5 748 593.0	394 538.7	5 748 582.4	16.6	-
20/07/2021	23:45:17	ST11	Still	210139_ST11_06	1361	7.8	394 526.0	5 748 593.0	394 542.8	5 748 575.6	24.2	-
20/07/2021	23:45:25	ST11	Still	210139_ST11_07	1362	7.8	394 526.0	5 748 593.0	394 545.9	5 748 573.7	27.7	-
20/07/2021	23:46:02	ST11	Still	210139_ST11_08	1363	7.8	394 526.0	5 748 593.0	394 562.8	5 748 573.8	41.5	-
20/07/2021	23:51:06	ST11	Still	210139_ST11_09	1364	7.8	394 526.0	5 748 593.0	394 563.4	5 748 630.3	52.9	-
20/07/2021	23:51:39	ST11	Still	210139_ST11_10	1365	7.8	394 526.0	5 748 593.0	394 544.7	5 748 629.8	41.3	-
20/07/2021	23:51:50	ST11	Still	210139_ST11_11	1366	7.8	394 526.0	5 748 593.0	394 540.8	5 748 626.5	36.6	-
20/07/2021	23:52:08	ST11	Still	210139_ST11_12	1367	7.8	394 526.0	5 748 593.0	394 534.2	5 748 620.8	28.9	-
20/07/2021	23:52:29	ST11	Still	210139_ST11_13	1368	7.8	394 526.0	5 748 593.0	394 528.0	5 748 614.0	21.0	-
20/07/2021	23:52:46	ST11	Still	210139_ST11_14	1369	7.8	394 526.0	5 748 593.0	394 523.0	5 748 608.9	16.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
20/07/2021	23:53:01	ST11	Still	210139_ST11_15	1370	7.8	394 526.0	5 748 593.0	394 519.3	5 748 605.1	13.9	-
20/07/2021	23:53:18	ST11	Still	210139_ST11_16	1371	7.8	394 526.0	5 748 593.0	394 514.0	5 748 600.8	14.3	-
20/07/2021	23:53:31	ST11	Still	210139_ST11_17	1372	7.8	394 526.0	5 748 593.0	394 510.0	5 748 596.1	16.3	-
20/07/2021	23:53:47	ST11	Still	210139_ST11_18	1373	7.8	394 526.0	5 748 593.0	394 505.4	5 748 591.3	20.7	-
20/07/2021	23:54:00	ST11	Still	210139_ST11_19	1374	7.8	394 526.0	5 748 593.0	394 500.8	5 748 587.4	25.8	-
21/07/2021	00:12:23	ST10	Still	210139_ST10_01	1375	7.8	393 846.0	5 747 621.0	393 864.4	5 747 669.1	51.5	Freshwater lens - no vis.
21/07/2021	00:12:58	ST10	Still	210139_ST10_02	1376	7.8	393 846.0	5 747 621.0	393 853.6	5 747 647.5	27.5	-
21/07/2021	00:13:11	ST10	Still	210139_ST10_03	1377	7.8	393 846.0	5 747 621.0	393 850.8	5 747 641.2	20.8	-
21/07/2021	00:13:26	ST10	Still	210139_ST10_04	1378	7.8	393 846.0	5 747 621.0	393 847.1	5 747 633.7	12.7	-
21/07/2021	00:13:50	ST10	Still	210139_ST10_05	1379	7.8	393 846.0	5 747 621.0	393 840.6	5 747 623.7	6.1	-
21/07/2021	00:14:14	ST10	Still	210139_ST10_06	1380	7.8	393 846.0	5 747 621.0	393 831.2	5 747 615.4	15.8	-
21/07/2021	00:14:21	ST10	Still	210139_ST10_07	1381	7.8	393 846.0	5 747 621.0	393 828.5	5 747 613.5	19.0	-
21/07/2021	00:14:34	ST10	Still	210139_ST10_08	1382	7.8	393 846.0	5 747 621.0	393 824.1	5 747 609.7	24.7	-
21/07/2021	00:14:52	ST10	Still	210139_ST10_09	1383	7.8	393 846.0	5 747 621.0	393 817.5	5 747 603.9	33.2	-
21/07/2021	00:38:08	TR09	Still	210139_TR09_01	1384	7.7	393 565.0	5 746 208.0	393 567.5	5 746 251.5	43.5	Distance from ST09. Freshwater lens - no vis
21/07/2021	00:38:28	TR09	Still	210139_TR09_02	1385	7.7	393 565.0	5 746 208.0	393 570.2	5 746 236.6	29.0	-
21/07/2021	00:39:02	TR09	Still	210139_TR09_03	1386	7.7	393 565.0	5 746 208.0	393 569.0	5 746 212.7	6.2	-
21/07/2021	00:39:18	TR09	Still	210139_TR09_04	1387	7.7	393 565.0	5 746 208.0	393 571.7	5 746 202.7	8.5	-
21/07/2021	00:39:30	TR09	Still	210139_TR09_05	1388	7.7	393 565.0	5 746 208.0	393 572.5	5 746 195.5	14.5	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	00:39:38	TR09	Still	210139_TR09_06	1389	7.7	393 565.0	5 746 208.0	393 572.8	5 746 190.5	19.2	-
21/07/2021	00:39:47	TR09	Still	210139_TR09_07	1390	7.7	393 565.0	5 746 208.0	393 575.9	5 746 185.7	24.9	-
21/07/2021	00:40:06	TR09	Still	210139_TR09_08	1391	7.7	393 565.0	5 746 208.0	393 576.5	5 746 172.7	37.1	-
21/07/2021	00:40:19	TR09	Still	210139_TR09_09	1392	7.7	393 565.0	5 746 208.0	393 580.9	5 746 166.5	44.5	-
21/07/2021	00:41:05	TR09	Still	210139_TR09_10	1393	7.7	393 565.0	5 746 208.0	393 627.5	5 746 173.1	71.6	-
21/07/2021	00:45:43	TR09a	Still	210139_TR09a_01	1394	7.7	393 565.0	5 746 208.0	393 563.0	5 746 017.7	190.3	-
21/07/2021	00:46:07	TR09a	Still	210139_TR09a_02	1395	7.7	393 565.0	5 746 208.0	393 564.8	5 746 024.9	183.2	-
21/07/2021	00:46:24	TR09a	Still	210139_TR09a_03	1396	7.7	393 565.0	5 746 208.0	393 568.8	5 746 031.5	176.5	-
21/07/2021	00:47:13	TR09a	Still	210139_TR09a_04	1397	7.7	393 565.0	5 746 208.0	393 570.1	5 746 052.8	155.3	-
21/07/2021	00:47:34	TR09a	Still	210139_TR09a_05	1398	7.7	393 565.0	5 746 208.0	393 573.0	5 746 062.0	146.2	-
21/07/2021	00:47:54	TR09a	Still	210139_TR09a_06	1399	7.7	393 565.0	5 746 208.0	393 571.9	5 746 066.9	141.3	-
21/07/2021	00:48:16	TR09a	Still	210139_TR09a_07	1400	7.7	393 565.0	5 746 208.0	393 574.5	5 746 071.6	136.8	-
21/07/2021	00:48:42	TR09a	Still	210139_TR09a_08	1401	7.7	393 565.0	5 746 208.0	393 579.6	5 746 076.2	132.6	-
21/07/2021	00:48:59	TR09a	Still	210139_TR09a_09	1402	7.7	393 565.0	5 746 208.0	393 585.1	5 746 079.3	130.3	-
21/07/2021	00:50:59	TR09a	Still	210139_TR09a_10	1403	7.7	393 565.0	5 746 208.0	393 575.7	5 746 081.6	126.8	-
21/07/2021	00:51:13	TR09a	Still	210139_TR09a_11	1404	7.7	393 565.0	5 746 208.0	393 578.4	5 746 092.6	116.2	-
21/07/2021	00:51:21	TR09a	Still	210139_TR09a_12	1405	7.7	393 565.0	5 746 208.0	393 581.9	5 746 099.3	110.0	-
21/07/2021	00:51:32	TR09a	Still	210139_TR09a_13	1406	7.7	393 565.0	5 746 208.0	393 581.8	5 746 107.3	102.1	-
21/07/2021	00:51:39	TR09a	Still	210139_TR09a_14	1408	7.7	393 565.0	5 746 208.0	393 579.8	5 746 110.4	98.7	-
21/07/2021	00:51:51	TR09a	Still	210139_TR09a_15	1409	7.7	393 565.0	5 746 208.0	393 578.0	5 746 119.3	89.7	-
21/07/2021	00:52:05	TR09a	Still	210139_TR09a_16	1410	7.7	393 565.0	5 746 208.0	393 579.3	5 746 129.9	79.4	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	00:52:27	TR09a	Still	210139_TR09a_17	1411	7.7	393 565.0	5 746 208.0	393 581.6	5 746 148.9	61.4	-
21/07/2021	00:52:49	TR09a	Still	210139_TR09a_18	1412	7.7	393 565.0	5 746 208.0	393 579.8	5 746 164.8	45.7	-
21/07/2021	00:53:03	TR09a	Still	210139_TR09a_19	1413	7.7	393 565.0	5 746 208.0	393 578.5	5 746 176.9	33.9	-
21/07/2021	00:53:11	TR09a	Still	210139_TR09a_20	1414	7.7	393 565.0	5 746 208.0	393 578.2	5 746 183.8	27.6	-
21/07/2021	00:53:53	TR09a	Still	210139_TR09a_21	1415	7.7	393 565.0	5 746 208.0	393 579.4	5 746 200.3	16.3	-
21/07/2021	00:54:07	TR09a	Still	210139_TR09a_22	1416	7.7	393 565.0	5 746 208.0	393 582.0	5 746 203.4	17.6	-
21/07/2021	00:54:14	TR09a	Still	210139_TR09a_23	1417	7.7	393 565.0	5 746 208.0	393 584.3	5 746 205.0	19.5	-
21/07/2021	01:09:26	ST09	HG	NS	1418	7.7	393 565.0	5 746 208.0	393 557.1	5 746 212.5	9.1	-
21/07/2021	01:42:25	ST09	HG	NS	1428	7.7	393 565.0	5 746 208.0	393 566.1	5 746 220.4	12.4	-
21/07/2021	01:49:08	ST09	HG	NS	1429	7.7	393 565.0	5 746 208.0	393 564.9	5 746 221.8	13.8	-
21/07/2021	02:09:50	ST10	HG	FA	1430	7.8	393 846.0	5 747 621.0	393 847.5	5 747 618.6	2.9	-
21/07/2021	02:35:22	ST11	HG	FA	1431	7.8	394 526.0	5 748 593.0	394 516.4	5 748 592.1	9.7	-
21/07/2021	02:43:58	ST11	DG	PC	1432	7.8	394 526.0	5 748 593.0	394 511.8	5 748 599.8	15.7	-
21/07/2021	03:15:23	ST12	HG	NS	1433	11.8	394 881.0	5 748 778.0	394 865.3	5 748 777.2	15.7	-
21/07/2021	03:22:12	ST12	HG	FA	1434	11.8	394 881.0	5 748 778.0	394 885.1	5 748 761.8	16.7	-
21/07/2021	04:00:58	ST14	HG	NS	1435	19.0	398 378.0	5 748 267.0	398 371.8	5 748 270.4	7.1	-
21/07/2021	04:07:09	ST14	HG	NS	1436	19.0	398 378.0	5 748 267.0	398 359.0	5 748 280.5	23.3	-
21/07/2021	04:15:11	ST14	HG	FA	1437	19.0	398 378.0	5 748 267.0	398 389.7	5 748 262.0	12.7	-
21/07/2021	04:22:28	ST14	HG	NS	1438	19.0	398 378.0	5 748 267.0	398 383.5	5 748 266.1	5.5	-
21/07/2021	06:05:37	ST15a	Still	210139_ST15a_01	1440	14.8	401 415.0	5 744 932.0	401 392.6	5 744 883.5	53.4	Freshwater lens - very low vis
21/07/2021	06:06:21	ST15a	Still	210139_ST15a_02	1441	14.8	401 415.0	5 744 932.0	401 407.6	5 744 897.5	35.3	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	06:06:36	ST15a	Still	210139_ST15a_03	1442	14.8	401 415.0	5 744 932.0	401 408.6	5 744 904.4	28.4	-
21/07/2021	06:06:51	ST15a	Still	210139_ST15a_04	1443	14.8	401 415.0	5 744 932.0	401 405.7	5 744 911.7	22.3	-
21/07/2021	06:07:09	ST15a	Still	210139_ST15a_05	1444	14.8	401 415.0	5 744 932.0	401 406.6	5 744 914.7	19.2	-
21/07/2021	06:07:18	ST15a	Still	210139_ST15a_06	1445	14.8	401 415.0	5 744 932.0	401 408.1	5 744 914.1	19.2	-
21/07/2021	06:07:27	ST15a	Still	210139_ST15a_07	1446	14.8	401 415.0	5 744 932.0	401 408.5	5 744 915.7	17.6	-
21/07/2021	06:07:47	ST15a	Still	210139_ST15a_08	1447	14.8	401 415.0	5 744 932.0	401 409.9	5 744 919.4	13.5	-
21/07/2021	06:08:15	ST15a	Still	210139_ST15a_09	1448	14.8	401 415.0	5 744 932.0	401 416.1	5 744 922.9	9.2	-
21/07/2021	06:08:28	ST15a	Still	210139_ST15a_10	1449	14.8	401 415.0	5 744 932.0	401 422.3	5 744 923.4	11.3	-
21/07/2021	06:09:06	ST15a	Still	210139_ST15a_11	1450	14.8	401 415.0	5 744 932.0	401 421.1	5 744 938.6	9.0	-
21/07/2021	06:09:28	ST15a	Still	210139_ST15a_12	1451	14.8	401 415.0	5 744 932.0	401 415.6	5 744 951.5	19.5	-
21/07/2021	06:09:45	ST15a	Still	210139_ST15a_13	1452	14.8	401 415.0	5 744 932.0	401 419.1	5 744 956.4	24.8	-
21/07/2021	06:10:13	ST15a	Still	210139_ST15a_14	1453	14.8	401 415.0	5 744 932.0	401 420.3	5 744 966.3	34.7	-
21/07/2021	06:10:44	ST15a	Still	210139_ST15a_15	1454	14.8	401 415.0	5 744 932.0	401 420.3	5 744 973.1	41.4	-
21/07/2021	06:42:38	ST16a	Still	210139_ST16a_01	1455	17.8	404 555.0	5 744 452.0	404 536.9	5 744 416.9	39.5	Freshwater lens - very low vis
21/07/2021	06:42:57	ST16a	Still	210139_ST16a_02	1456	17.8	404 555.0	5 744 452.0	404 543.4	5 744 422.2	32.0	-
21/07/2021	06:43:16	ST16a	Still	210139_ST16a_03	1457	17.8	404 555.0	5 744 452.0	404 551.9	5 744 427.5	24.7	-
21/07/2021	06:43:41	ST16a	Still	210139_ST16a_04	1458	17.8	404 555.0	5 744 452.0	404 556.5	5 744 439.1	12.9	-
21/07/2021	06:43:59	ST16a	Still	210139_ST16a_05	NF	17.8	-	-	-	-	-	-
21/07/2021	06:44:21	ST16a	Still	210139_ST16a_06	1459	17.8	404 555.0	5 744 452.0	404 555.9	5 744 453.8	2.0	-
21/07/2021	06:44:29	ST16a	Still	210139_ST16a_07	NF	17.8	-	-	-	-	-	-
21/07/2021	06:44:53	ST16a	Still	210139_ST16a_08	1460	17.8	404 555.0	5 744 452.0	404 569.0	5 744 453.2	14.0	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	06:45:22	ST16a	Still	210139_ST16a_09	1461	17.8	404 555.0	5 744 452.0	404 575.7	5 744 464.2	24.0	-
21/07/2021	06:45:40	ST16a	Still	210139_ST16a_10	1462	17.8	404 555.0	5 744 452.0	404 577.2	5 744 471.1	29.2	-
21/07/2021	06:45:58	ST16a	Still	210139_ST16a_11	1463	17.8	404 555.0	5 744 452.0	404 578.3	5 744 476.3	33.7	-
21/07/2021	06:46:18	ST16a	Still	210139_ST16a_12	1464	17.8	404 555.0	5 744 452.0	404 579.0	5 744 478.2	35.5	-
21/07/2021	07:27:19	ST17a	Still	210139_ST17a_01	1465	22.8	408 149.0	5 745 360.0	408 134.3	5 745 325.0	37.9	Freshwater lens - very low vis
21/07/2021	07:27:38	ST17a	Still	210139_ST17a_02	1466	22.8	408 149.0	5 745 360.0	408 134.1	5 745 332.3	31.5	-
21/07/2021	07:28:07	ST17a	Still	210139_ST17a_03	1467	22.8	408 149.0	5 745 360.0	408 135.1	5 745 347.6	18.6	-
21/07/2021	07:28:31	ST17a	Still	210139_ST17a_04	1468	22.8	408 149.0	5 745 360.0	408 145.6	5 745 354.4	6.6	-
21/07/2021	07:28:53	ST17a	Still	210139_ST17a_05	1469	22.8	408 149.0	5 745 360.0	408 151.7	5 745 357.2	3.9	-
21/07/2021	07:29:29	ST17a	Still	210139_ST17a_06	1470	22.8	408 149.0	5 745 360.0	408 163.2	5 745 361.4	14.3	-
21/07/2021	07:29:44	ST17a	Still	210139_ST17a_07	1471	22.8	408 149.0	5 745 360.0	408 168.1	5 745 363.1	19.4	-
21/07/2021	07:30:02	ST17a	Still	210139_ST17a_08	1472	22.8	408 149.0	5 745 360.0	408 171.4	5 745 367.1	23.5	-
21/07/2021	07:30:23	ST17a	Still	210139_ST17a_09	1473	22.8	408 149.0	5 745 360.0	408 176.5	5 745 368.7	28.9	-
21/07/2021	07:48:36	ST18	Still	210139_ST18_01	1474	22.8	409 777.0	5 744 431.0	409 778.1	5 744 396.7	34.3	-
21/07/2021	07:48:49	ST18	Still	210139_ST18_02	1475	22.8	409 777.0	5 744 431.0	409 779.9	5 744 401.5	29.7	-
21/07/2021	07:49:11	ST18	Still	210139_ST18_03	1476	22.8	409 777.0	5 744 431.0	409 777.1	5 744 412.7	18.3	-
21/07/2021	07:49:51	ST18	Still	210139_ST18_04	1477	22.8	409 777.0	5 744 431.0	409 775.6	5 744 429.4	2.1	-
21/07/2021	07:50:10	ST18	Still	210139_ST18_05	1478	22.8	409 777.0	5 744 431.0	409 773.4	5 744 434.7	5.1	-
21/07/2021	07:50:32	ST18	Still	210139_ST18_06	1479	22.8	409 777.0	5 744 431.0	409 772.3	5 744 443.3	13.2	-
21/07/2021	07:50:56	ST18	Still	210139_ST18_07	1480	22.8	409 777.0	5 744 431.0	409 770.7	5 744 454.9	24.7	-
21/07/2021	07:51:19	ST18	Still	210139_ST18_08	1481	22.8	409 777.0	5 744 431.0	409 771.3	5 744 461.7	31.2	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	07:51:25	ST18	Still	210139_ST18_09	1482	22.8	409 777.0	5 744 431.0	409 770.7	5 744 462.4	32.0	-
21/07/2021	08:07:57	ST18	HG	NS	1483	20.0	409 777.0	5 744 431.0	409 760.5	5 744 426.6	17.1	-
21/07/2021	08:11:57	ST18	HG	FA	1484	25.4	409 777.0	5 744 431.0	409 757.6	5 744 439.6	21.2	-
21/07/2021	08:57:57	ST15	HG	FA	1485	24.5	401 415.0	5 744 932.0	401 424.0	5 744 940.5	12.3	-
21/07/2021	09:03:02	ST15	DG	PC	1486	26.2	401 415.0	5 744 932.0	401 410.9	5 744 930.4	4.4	-
21/07/2021	09:28:29	ST16	HG	FA	1487	22.8	404 555.0	5 744 452.0	404 562.7	5 744 462.0	12.6	-
21/07/2021	09:55:18	ST17	HG	NS	1489	24.7	408 149.0	5 745 360.0	408 142.8	5 745 362.9	6.9	-
21/07/2021	10:15:22	ST17	HG	FA	1490	26.3	408 149.0	5 745 360.0	408 149.9	5 745 369.2	9.3	-
21/07/2021	10:21:25	ST17	DG	NS	1492	14.8	408 149.0	5 745 360.0	408 154.5	5 745 363.3	6.4	-
21/07/2021	10:25:45	ST17	DG	PC	1494	-	-	-	-	-	-	Small (4 cm) sample accepted
21/07/2021	10:39:49	ST17	DG	NS	1495	26.5	408 149.0	5 745 360.0	408 150.3	5 745 359.3	1.4	-
21/07/2021	11:06:24	ST19	DG	PC	1496	25.6	408 149.0	5 745 360.0	408 149.9	5 745 358.4	1.8	-
21/07/2021	11:11:01	ST19	HG	FA	1497	25.3	408 149.0	5 745 360.0	408 147.0	5 745 362.2	3.0	-
21/07/2021	12:09:06	ST31ALT	HG	NS	1498	30.0	420 480.0	5 739 778.0	420 481.3	5 739 782.3	4.5	-
21/07/2021	12:16:48	ST31ALT	HG	FA	1499	29.8	420 480.0	5 739 778.0	420 485.5	5 739 775.2	6.2	-
21/07/2021	12:23:03	ST31ALT	DG	PC	1500	29.4	420 480.0	5 739 778.0	420 488.5	5 739 772.9	9.9	-
21/07/2021	14:15:36	ST45ALT	Still	210139_ST45ALT_01	1502	48.0	420 822.3	5 723 785.5	420 822.4	5 723 815.8	30.3	-
21/07/2021	14:15:55	ST45ALT	Still	210139_ST45ALT_02	1503	47.9	420 822.3	5 723 785.5	420 823.7	5 723 811.3	25.9	-
21/07/2021	14:16:04	ST45ALT	Still	210139_ST45ALT_03	1504	48.0	420 822.3	5 723 785.5	420 825.3	5 723 807.5	22.3	-
21/07/2021	14:16:15	ST45ALT	Still	210139_ST45ALT_04	1505	48.2	420 822.3	5 723 785.5	420 826.7	5 723 802.7	17.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	14:16:27	ST45ALT	Still	210139_ST45ALT_05	1506	47.9	420 822.3	5 723 785.5	420 825.6	5 723 799.2	14.1	-
21/07/2021	14:16:35	ST45ALT	Still	210139_ST45ALT_06	1507	47.8	420 822.3	5 723 785.5	420 825.4	5 723 794.7	9.8	-
21/07/2021	14:16:40	ST45ALT	Still	210139_ST45ALT_07	1508	48.5	420 822.3	5 723 785.5	420 824.6	5 723 791.8	6.7	-
21/07/2021	14:16:49	ST45ALT	Still	210139_ST45ALT_08	1509	47.0	420 822.3	5 723 785.5	420 825.4	5 723 791.8	7.0	-
21/07/2021	14:16:58	ST45ALT	Still	210139_ST45ALT_09	1510	47.8	420 822.3	5 723 785.5	420 825.2	5 723 788.6	4.3	-
21/07/2021	14:17:12	ST45ALT	Still	210139_ST45ALT_10	1511	48.9	420 822.3	5 723 785.5	420 826.8	5 723 781.4	6.0	-
21/07/2021	14:17:16	ST45ALT	Still	210139_ST45ALT_11	1512	48.8	420 822.3	5 723 785.5	420 825.3	5 723 779.0	7.1	-
21/07/2021	14:17:21	ST45ALT	Still	210139_ST45ALT_12	1513	50.3	420 822.3	5 723 785.5	420 825.3	5 723 779.1	7.0	-
21/07/2021	14:17:27	ST45ALT	Still	210139_ST45ALT_13	1514	47.5	420 822.3	5 723 785.5	420 826.6	5 723 779.8	7.1	-
21/07/2021	14:17:34	ST45ALT	Still	210139_ST45ALT_14	1515	48.2	420 822.3	5 723 785.5	420 823.7	5 723 776.9	8.7	-
21/07/2021	14:17:39	ST45ALT	Still	210139_ST45ALT_15	1516	48.5	420 822.3	5 723 785.5	420 823.9	5 723 774.6	11.0	-
21/07/2021	14:17:51	ST45ALT	Still	210139_ST45ALT_16	1517	49.5	420 822.3	5 723 785.5	420 823.0	5 723 771.7	13.8	-
21/07/2021	14:18:00	ST45ALT	Still	210139_ST45ALT_17	1518	48.8	420 822.3	5 723 785.5	420 822.7	5 723 768.0	17.4	-
21/07/2021	14:18:10	ST45ALT	Still	210139_ST45ALT_18	1519	48.5	420 822.3	5 723 785.5	420 821.8	5 723 765.7	19.7	-
21/07/2021	14:18:23	ST45ALT	Still	210139_ST45ALT_19	1520	48.3	420 822.3	5 723 785.5	420 822.1	5 723 764.0	21.5	-
21/07/2021	14:18:32	ST45ALT	Still	210139_ST45ALT_20	1521	47.8	420 822.3	5 723 785.5	420 821.7	5 723 763.8	21.7	-
21/07/2021	14:18:37	ST45ALT	Still	210139_ST45ALT_21	1522	48.4	420 822.3	5 723 785.5	420 821.0	5 723 761.4	24.1	-
21/07/2021	14:18:42	ST45ALT	Still	210139_ST45ALT_22	1523	47.9	420 822.3	5 723 785.5	420 820.4	5 723 760.0	25.5	-
21/07/2021	14:18:55	ST45ALT	Still	210139_ST45ALT_23	1524	47.8	420 822.3	5 723 785.5	420 819.3	5 723 758.0	27.6	-
21/07/2021	14:19:14	ST45ALT	Still	210139_ST45ALT_24	1525	48.3	420 822.3	5 723 785.5	420 819.9	5 723 758.0	27.5	-
21/07/2021	14:32:45	ST45ALT	HG	FA	1526	47.1	420 822.3	5 723 785.5	420 833.5	5 723 789.3	11.8	-

Geodetic Parameters: WGS 84, UTM Zone 31 North												
Date	Time [UTC]	Transect/ Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m MSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
21/07/2021	15:02:53	ST48	HG	FA	1527	47.6	419 780.0	5 726 009.0	419 776.4	5 725 997.1	12.5	-
21/07/2021	15:22:32	ST44	HG	FA	1528	47.7	420 344.0	5 727 332.0	420 341.4	5 727 330.1	3.2	-
21/07/2021	15:28:27	ST44	DG	PC	1529	46.9	420 344.0	5 727 332.0	420 337.6	5 727 325.2	9.4	-
21/07/2021	17:48:36	ST28	HG	NS	1530	57.1	421 119.0	5 755 766.0	421 112.3	5 755 762.4	7.6	-
21/07/2021	17:58:17	ST28	HG	FA	1531	47.8	421 119.0	5 755 766.0	421 115.7	5 755 746.4	19.9	-
21/07/2021	18:09:37	ST28	DG	NS	1532	43.8	421 119.0	5 755 766.0	421 091.2	5 755 767.3	27.8	-
21/07/2021	18:40:00	ST28	DG	PC	1534	49.0	421 119.0	5 755 766.0	421 099.5	5 755 761.3	20.1	-
21/07/2021	19:07:02	ST27	HG	FA	1535	37.7	422 500.0	5 757 360.0	422 491.5	5 757 354.3	10.2	-
21/07/2021	19:41:45	ST25	HG	NS	1537	30.1	426 729.0	5 759 733.0	426 723.8	5 759 731.5	5.4	-
21/07/2021	19:53:45	ST25	HG	FA	1538	29.4	426 729.0	5 759 733.0	426 716.1	5 759 737.9	13.8	-

Notes
UTC = Coordinated Universal Time
MSL = Mean Sea Level
SOL = Start of line
EOL = End of line
NF = No fix
DG = Day grab
PC = Physico-chemical sample
HG = Mini-Hamon grab
FA = Fauna sample A
NS = No sample
USBL = Ultra short baseline

C.2 Grab Log

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth/ Volume	Comments (fauna, smell, bioturbation, debris)			
						Sediment Type	Sediment Description	Munsell Colour	Comments (fauna, smell, bioturbation, debris)
19/07/2021	01:44:50	ST32	PC	725	14.5 cm	S	Fine sand with shell fragments	Yellow brown	-
19/07/2021	02:07:10	ST32	FA	726	9 L	S	Fine sand with shell fragments	Yellow brown	-
19/07/2021	02:57:20	ST33	FA	727	9 L	(g)mS	Slightly gravelly muddy sand	Brown	Crab
19/07/2021	03:41:15	ST36	NS	728	3 cm	-	-	-	Washed out
19/07/2021	03:49:15	ST36	PC	729	9 cm	(g)mS	Slightly gravelly muddy sand	Brown	Brittlestars
19/07/2021	04:09:14	ST36	FA	730	10 L	(g)mS	Slightly gravelly muddy sand	Brown	-
19/07/2021	05:34:49	ST38	FA	731	10 L	gS	Gravelly sand with shell fragments	Mixed	-
19/07/2021	06:37:38	ST40	NS	732	7 L	-	-	-	Stone in jaws
19/07/2021	06:40:00	ST40	NS	NF	9 L	-	-	-	-
19/07/2021	06:47:47	ST40	FA	733	8 L	(g)mS	Slightly gravelly muddy sand with shell fragments	Brown	Mud shrimp
19/07/2021	07:26:22	ST40	FA	734	7 L	S	Sand with shell fragments	Brown	-
19/07/2021	07:37:08	ST41	PC	735	12 cm	S	Sand with shell fragments	Brown	-
19/07/2021	08:23:30	ST41	NS	736	-	-	-	-	Empty
19/07/2021	08:29:19	ST43	PC	737	9 cm	S	Sand with shell fragments	Brown	-
19/07/2021	08:49:48	ST43	FA	738	10 L	S	Sand with shell fragments	Brown	-
19/07/2021	09:14:35	ST43	FA	739	10 L	S	Sand	Brown	-
19/07/2021	09:56:52	ST42	FA	740	10 L	S	Sand	Brown	-
19/07/2021	10:26:24	ST47	FA	741	8 L	mS	Muddy sand	Brown	Wood, Ophiuroidea
19/07/2021	10:39:38	ST49	PC	742	9 cm	mS	Muddy sand	Brown	Wood, Ophiuroidea
19/07/2021	11:23:30	ST49	PC	743	14 cm	S	Sand	Brown	-
19/07/2021	11:30:57	ST46	FA	744	8 L	S	Sand	Brown	-
19/07/2021	21:16:14	ST20	NS	1046	4 L	-	-	-	Too small

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth/ Volume	Comments (fauna, smell, bioturbation, debris)			
						Sediment Type	Sediment Description	Munsell Colour	Comments (fauna, smell, bioturbation, debris)
19/07/2021	21:24:47	ST20	FA	1047	6 L	sG	Sandy gravel	Yellow brown	-
19/07/2021	21:49:45	ST21	FA	1048	7 L	msG	Muddy sandy gravel	Brown	Brittlestars
19/07/2021	22:04:03	ST21	PC	1049	10 cm	msG	Muddy sandy gravel	Brown	-
19/07/2021	23:56:51	ST22	NS	1064	-	-	-	-	Off position
20/07/2021	00:04:43	ST22	FA	1065	10 L	gM	Gravelly mud	Brown	Clay fragments
20/07/2021	00:52:19	ST34	FA	1066	7 L	(g)S	Slightly gravelly sand with shell fragments	Yellow brown	-
20/07/2021	01:04:03	ST34	NS	1067	<1 cm	-	-	-	-
20/07/2021	01:10:58	ST34	PC	1068	14 cm	-	-	-	-
20/07/2021	01:41:16	ST35	FA	1069	8 L	msG	Muddy sandy gravel	Brown	Clay fragments
20/07/2021	10:51:57	ST01	FA	1218	5 L	mG	Muddy gravel with shell fragments	Grey brown	Anoxic patches
20/07/2021	10:57:27	ST01	PC	1219	15 cm	mG	Muddy gravel with shell fragments	Grey brown	Anoxic patches
20/07/2021	11:16:51	ST02	FA	1220	7 L	M	Mud with shell fragments	Grey brown	Clay fragments, shell
20/07/2021	12:01:59	ST03	FA	1221	6 L	gM	Gravelly mud	Brown	Sipunculans
20/07/2021	12:07:22	ST03	PC	1222	13 cm	gM	Gravelly mud	Brown	Sipunculans
20/07/2021	12:34:41	ST04	FA	1223	6 L	M	Mud	Brown	-
20/07/2021	15:33:13	ST05	FA	1291	7 L	M	Mud	Grey brown	Anoxic layer
20/07/2021	15:43:34	ST05	NS	1292	Overfull	-	-	-	Overfull
20/07/2021	15:47:39	ST05	PC	1293	15 cm	M	Mud	Grey brown	Anoxic
20/07/2021	16:02:07	ST06	NS	1294	2 L	-	-	-	Too small
20/07/2021	16:04:47	ST06	FA	1295	10 L	(g)M	Slightly gravelly mud	Grey brown	Anoxic layer
20/07/2021	17:43:47	ST07	FA	1296	8 L	(g)sM	Slightly gravelly sandy mud	Grey brown	Clay layer
20/07/2021	19:04:46	ST07	PC	1297	11 cm	(g)S	Slightly gravelly sand	Yellow	-
20/07/2021	19:25:48	ST08	NS	1298	-	-	-	-	Stone in jaws

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth/ Volume	Comments (fauna, smell, bioturbation, debris)			
						Sediment Type	Sediment Description	Munsell Colour	Comments (fauna, smell, bioturbation, debris)
20/07/2021	19:33:48	ST08	NS	1299	-	-	-	-	Stone in jaws
20/07/2021	19:40:18	ST08	NS	1300	-	-	-	-	Stone in jaws
21/07/2021	01:09:26	ST09	NS	1418	-	-	-	-	Stone in jaws
21/07/2021	01:42:25	ST09	NS	1428	-	-	-	-	Stone in jaws
21/07/2021	01:49:08	ST09	NS	1429	-	-	-	-	Stone in jaws
21/07/2021	02:09:50	ST10	FA	1430	6 L	(g)sM	Slightly gravelly sandy mud	Brown/black	Anoxic patches
21/07/2021	02:35:22	ST11	FA	1431	9 L	S	Sand with shell fragments	Yellow	-
21/07/2021	02:43:58	ST11	PC	1432	9 cm	S	Sand	Yellow	-
21/07/2021	03:15:23	ST12	NS	1433	3 L	-	-	-	Too small
21/07/2021	03:22:12	ST12	FA	1434	5 L	(g)sM	Slightly gravelly sandy mud	Brown	-
21/07/2021	04:00:58	ST14	NS	1435	3 L	-	-	-	Too small
21/07/2021	04:07:09	ST14	NS	1436	-	-	-	-	Didn't trigger
21/07/2021	04:15:11	ST14	FA	1437	3 L	gsM	Gravelly sandy mud	Brown	-
21/07/2021	04:22:28	ST14	NS	1438	< 1 L	-	-	-	-
21/07/2021	08:07:57	ST18	NS	1483	3 L	-	-	-	Stone in jaws
21/07/2021	08:11:57	ST18	FA	1484	8 L	(g)mS	Slightly gravelly muddy sand	Brown	-
21/07/2021	08:57:57	ST15	FA	1485	10 L	S	Coarse sand with shell fragments	Mixed	-
21/07/2021	09:03:02	ST15	PC	1486	12 cm	S	Coarse sand with shell fragments	Mixed	-
21/07/2021	09:28:29	ST16	FA	1487	10 L	S	Coarse sand with shell fragments	Mixed	-
21/07/2021	09:55:18	ST17	NS	1489	2 L	-	-	-	-
21/07/2021	10:15:22	ST17	FA	1490	7 L	gmS	Gravelly muddy sand	Brown	-
21/07/2021	10:21:25	ST17	NS	1492	< 2 cm	-	-	-	-
21/07/2021	10:25:45	ST17	PC	1494	4 cm	gmS	Gravelly muddy sand	Brown	Accepted, but too small
21/07/2021	10:39:49	ST17	NS	1495	2 cm	-	-	-	-

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth/ Volume	Comments (fauna, smell, bioturbation, debris)			
						Sediment Type	Sediment Description	Munsell Colour	Comments (fauna, smell, bioturbation, debris)
21/07/2021	11:06:24	ST19	PC	1496	14 cm	gmS	Gravelly muddy sand	Brown	Anoxic layer (> 2 cm)
21/07/2021	11:11:01	ST19	FA	1497	7 L	gmS	Gravelly muddy sand	Brown	Anoxic layer. Polychaete (?*Lagis koreni*)
21/07/2021	12:09:06	ST31ALT	NS	1498	1 L	-	-	-	-
21/07/2021	12:16:48	ST31ALT	FA	1499	5 L	gmS	Gravelly muddy sand	Brown	-
21/07/2021	12:23:03	ST31ALT	PC	1500	5 cm	gmS	Gravelly muddy sand	Brown	Crab (?*Inachus* sp.)
21/07/2021	14:32:45	ST45ALT	FA	1526	10 L	S	Sand	Brown	Piece coal
21/07/2021	15:02:53	ST48	FA	1527	7 L	(g)mS	Slightly gravelly muddy sand	Brown/grey	Mud shrimp
21/07/2021	15:22:32	ST44	FA	1528	10 L	S	Coarse sand	Brown	-
21/07/2021	15:28:27	ST44	PC	1529	13 cm	S	Sand	Brown	-
21/07/2021	17:48:36	ST28	NS	1530	2 L	-	-	-	Too small
21/07/2021	17:58:17	ST28	FA	1531	8 L	gsM	Gravelly sandy mud	Brown	-
21/07/2021	18:09:37	ST28	NS	1532	3 cm	-	-	-	Too small
21/07/2021	18:40:00	ST28	PC	1534	7 cm	gsM	Gravelly sandy mud	Brown	-
21/07/2021	19:07:02	ST27	FA	1535	9 L	gS	Gravelly sand	Yellow	-
21/07/2021	19:41:45	ST25	NS	1537	5 L	-	-	-	Burrowed mud - washed out
21/07/2021	19:53:45	ST25	FA	1538	5 L	gS	Gravelly sand	Yellow	-

C.3 Video and Photographic Log

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
20/07/2021	ST01a	08:15:07	380 008.4	5 741 392.6	78	01 - 17	Muddy sandy gravel with shell fragments	No visibility: No visible fauna, sediment type defined from grab samples
		08:19:35	379 975.4	5 741 322.2				
20/07/2021	ST02	08:35:54	381 101.9	5 741 399.4	67	01 - 13	Gravelly mud with consolidated mud (clay)	No visibility: No visible fauna, sediment type defined from grab samples
		08:39:19	381 038.9	5 741 377.4				
20/07/2021	ST03	09:02:19	383 530.6	5 741 383.0	81	01 - 12	Gravelly mud	No visibility: No visible fauna, sediment type defined from grab samples
		09:06:12	383 462.2	5 741 340.1				
20/07/2021	ST04c	09:50:06	388 115.6	5 742 441.9	73	01 - 10	Muddy sand	No visibility: No visible fauna, sediment type defined from grab samples
		09:53:08	388 045.7	5 742 463.3				
20/07/2021	ST05	13:01:49	389 015.0	5 743 197.0	58	01 - 19	Mud/sandy mud	No visibility: No visible fauna, sediment type defined from grab samples
		13:09:43	388 957.5	5 743 193.6				
20/07/2021	ST06	13:25:00	390 137.7	5 743 694.4	44	01 - 19	Slightly gravelly mud/muddy sandy gravel with shell fragments and consolidated mud (clay)	No visibility: No visible fauna, sediment type defined from grab samples
		13:30:22	390 104.2	5 743 665.1				
20/07/2021	ST07	14:03:40	391 132.9	5 744 280.7	52	01 - 13	Slightly gravelly sandy mud/muddy sandy gravel	No visibility: No visible fauna, sediment type defined from grab samples
		14:07:35	391 170.3	5 744 317.0				
21/07/2021	ST10	00:12:23	393 864.4	5 747 669.1	80	01 - 09	Slightly gravelly sandy mud/gravelly sand	No visibility: No visible fauna, sediment type defined from grab samples
		00:14:52	393 817.5	5 747 603.9				
20/07/2021	ST11	23:43:12	394 533.6	5 748 647.1	68	01 - 19	Sand	No visibility: No visible fauna, sediment type defined from grab samples
		23:54:00	394 500.8	5 748 587.4				
20/07/2021	ST12a	23:27:29	394 893.4	5 748 811.1	70	01 - 09	Gravelly sand	No visibility: No visible fauna, sediment type defined from grab samples
		23:30:16	394 876.8	5 748 742.7				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
17/07/2021	ST14a	16:44:12	398 388.2	5 748 246.6	73	01 - 12	Gravelly sand/sandy gravel with pebbles and infrequent cobbles	Sporadic starfish (*Asterias rubens*) and Bryozoa (Flustridae
		16:46:55	398 354.6	5 748 311.6				
21/07/2021	ST15a	06:05:37	401 392.6	5 744 883.5	94	01 - 15	Sand with shell fragments	No visible fauna
		06:10:44	401 420.3	5 744 973.1				
21/07/2021	ST16a	06:42:38	404 536.9	5 744 416.9	74	01 - 12	Sand with shell fragments	No visible fauna
		06:46:18	404 579.0	5 744 478.2				
21/07/2021	ST17a	07:27:19	408 134.3	5 745 325.0	61	01 - 09	Gravelly muddy sand/muddy sandy gravel with shell fragments, pebbles and cobbles	No visibility: No visible fauna, sediment type defined from grab samples
		07:30:23	408 176.5	5 745 368.7				
21/07/2021	ST18	07:48:36	409 778.1	5 744 396.7	66	01 - 09	Gravelly muddy sand/muddy sandy gravel with shell fragments and pebbles	No visibility: No visible fauna, sediment type defined from grab samples
		07:51:33	409 770.7	5 744 462.2				
19/07/2021	ST19b	22:40:32	409 791.6	5 742 530.5	73	01 - 14	Gravelly muddy sand	No visibility: No visible fauna, sediment type defined from grab samples
		22:43:43	409 718.7	5 742 534.9				
19/07/2021	ST20	15:21:26	410 690.9	5 741 042.5	66	01 - 19	Sandy gravel with shell fragments and pebbles	Faunal turf (Hydrozoa/Bryozoa)
		15:24:43	410 679.1	5 741 107.1				
19/07/2021	ST21	15:45:26	411 613.0	5 741 037.7	62	01 - 21	Gravelly muddy sand/muddy sandy gravel with shell fragments and pebbles	Numerous brittlestars (Ophiuridae inc. *Ophiura albida*). Infrequent starfish (*A. rubens*), sea urchins (*Psammechinus miliaris*), crab (Brachyura), hermit crab (Paguridae) and sparse faunal turf (Hydrozoa/Bryozoa)
		15:49:33	411 639.8	5 741 093.7				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
19/07/2021	ST22	17:33:31	414 163.3	5 737 462.7	82	01 - 34	Gravelly muddy sand/muddy sandy gravel with shell fragments and consolidated clay	Numerous brittlestars (Ophiuridae inc. *Ophiur* sp.), anemone (Actiniaria), sea urchin (Echinoidea). Sparse faunal turf (Hydrozoa/Bryozoa), soft coral (*Alcyonium digitatum*), starfish (*A. rubens*), hermit crab (Paguridae). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.), evidence of piddocks (Imparidentia)
		17:37:08	414 206.3	5 737 532.2				
19/07/2021	ST23	18:23:14	417 997.0	5 736 400.4	71	01 - 25	Sandy gravel with shell fragments and consolidated clay	Numerous brittlestars (Ophiuroidea inc. *Ophiura* sp. and ?*Ophiothrix fragilis*), sea urchin (Echinoidea inc. *P. miliaris*), anemones (Actiniaria). Sporadic scallops (Pectinidae), starfish (*A. rubens*), crab (Brachyura). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.), evidence of piddocks (Imparidentia)
		18:25:38	418 049.7	5 736 448.6				
19/07/2021	ST23_50W	18:37:06	417 930.8	5 736 409.8	81	01 - 26	Gravelly sand with shell fragments and infrequent pebbles and cobbles	Numerous brittlestars (Ophiuroidea inc. *Ophiura* sp. and ?*Ophiothrix fragilis*), sea urchin (Echinoidea). Sporadic soft coral (Anthozoa, inc. *A. digitatum*), anemones (Actiniaria), fish (Pisces), starfish (*A. rubens*). Evidence of piddocks (Imparidentia)
		18:39:48	418 005.9	5 736 440.6				
19/07/2021	ST23_50E	18:48:00	418 061.3	5 736 390.1	73	01 - 25	Gravelly sand/sandy gravel with shell fragments and consolidated clay	Numerous brittlestars (Ophiuroidea inc. *Ophiura* sp. and ?*Ophiothrix fragilis*), sea urchin (Echinoidea), anemones (Actiniaria). Sporadic starfish (*A. rubens*). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.), evidence of piddocks (Imparidentia)
		18:50:46	418 092.5	5 736 456.5				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST24a	03:48:28	424 087.3	5 761 649.4	62	01 - 13	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles, consolidated clay and clay clasts	Several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), crab (Brachyura inc. *Ebalia* sp., *Macropodia* sp.), some coverage of soft coral (*A. digitatum*), faunal crust (Bryozoa), faunal turf (Hydrozoa/Bryozoa). Infrequent possible hermit crab (?Paguridae), possible sea slug (?Nudibranchia), top shell (*Calliostoma* sp.). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.), evidence of piddocks (Imparidentia)
		03:52:11	424 069.4	5 761 709.0				
18/07/2021	ST24_50W	04:05:16	424 036.9	5 761 658.7	69	01 - 20	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles, solitary boulder, consolidated clay and clay clasts	Several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. *Sagartia* sp., *Metridium senile*), sea urchin (Echinoidea inc. *P. miliaris, Echinus esculentus*), starfish (Asteroidea inc. *A. rubens*), crab (Brachyura inc. *Liocarcinus* sp., *Ebalia* sp.), some coverage of soft coral (*A. digitatum*), faunal crust (Bryozoa), faunal turf (Hydrozoa/Bryozoa). Infrequent hermit crab (Paguridae), snails (Gastropoda inc. top shell *Calliostoma* sp. and whelk (Buccinidae)). Faunal tubes (Serpulidae inc. *Spirobranchus* sp., Sabellidae: ?*Sabellaria spinulosa*), evidence of piddocks (Imparidentia)., possible egg case (?Elasmobranchii)
		04:08:33	424 051.9	5 761 726.4				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST24_50E	04:19:16	424 140.0	5 761 662.0	65	01 - 20	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles, consolidated clay and clay clasts	Several anemones (Actiniaria inc. ?*Urticina* sp., Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris, ?Echinus esculentus*), starfish (Asteroidea inc. *A. rubens*), crab (?*Liocarcinus* sp.), some coverage of soft coral (*A. digitatum*), faunal crust (Bryozoa), faunal turf (Hydrozoa/Bryozoa). Infrequent hermit crab (Paguridae), top shell (*Calliostoma* sp.), whelk (Buccinidae), possible sea squirt (?*Dendrodoa grossularia*), encrusting sponge (Porifera), faunal tubes (Serpulidae inc. *Spirobranchus* sp., Sabellidae), egg cases (Elasmobranchii). Evidence of piddocks (Imparidentia)
		04:21:47	424 184.2	5 761 709.9				
18/07/2021	ST25	05:39:33	426 761.5	5 759 761.5	74	01 - 25	Gravelly sand/gravelly muddy sand with shell fragments, consolidated clay, proportions of pebbles and cobbles, infrequent boulders	No fauna observed on sandy areas. Associated with hard substrata (inc. consolidated mud), some coverage of possible barnacles (?Cirripedia), faunal turf (Hydrozoa/Bryozoa inc. *F. foliacea* and *Alcyonidium diaphanum*). Infrequent starfish (*A. rubens*), hermit crab (Paguridae), top shell (*Calliostoma* sp.). Evidence of piddocks (Imparidentia)
		05:43:48	426 718.6	5 759 701.7				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
17/07/2021	ST26	23:24:28	424 759.0	5 759 870.9	75	01 - 18	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles, infrequent boulders	Several anemones (Actiniaria inc. Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P miliaris, ?Echinus esculentus*), starfish (Asteroidea inc. *Asterias rubens*), some coverage of soft coral (*Alcyonium digitatum*), faunal crust (Bryozoan), faunal/floral crust (Bryozoan/?Corallinales), faunal turf (Hydrozoa/Bryozoa). Infrequent crab (Brachyura inc. ?*Ebalia* sp.), hermit crab (Paguridae), snail (?Trochoidea) inc. top shell (*Calliostoma* sp.), possible encrusting sponge (?Porifera), faunal tubes (Serpulidae inc. *Spirobranchus* sp.). Unidentified fish (Pisces), sandeels (Ammodytidae)
		23:26:49	424 757.9	5 759 796.2				
18/07/2021	ST26_50W	04:47:26	424 671.1	5 759 817.1	69	01 - 11	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles	Several anemones (Actiniaria inc. ?*Urticina* sp., Sagartiidae), sea urchin (Echinoidea inc. *P. miliaris*), starfish (Asteroidea inc. *A. rubens*), some coverage of soft coral (*A. digitatum*), faunal crust (Bryozoa), faunal turf (Hydrozoa/Bryozoa). Infrequent hermit crab (Paguridae), crab (Majoidea, ?*Ebalia* sp.), snail (Gastropoda), top shell (*Calliostoma* sp.), queen scallop (*Aequipecten opercularis*), possible sea slug (?Nudibranchia). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.)
		04:49:45	424 739.8	5 759 822.0				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST26_50Ea	04:50:56	424 785.4	5 759 814.8	65	01 - 17	Sandy gravel/muddy sandy gravel with shell fragments, pebbles and cobbles, solitary boulder	Numerous anemones (Actiniaria, Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris, E. esculentus*), starfish (*A. rubens*), some coverage of soft coral (*Alcyonium digitatum*), faunal/floral crust (Bryozoa/?Corallinales), faunal crust (Bryozoa), faunal turf (Hydrozoa/Bryozoa), encrusting sponge (Porifera). Infrequent crab (Brachyura inc. *Ebalia* sp.), shrimp (Caridae), snail (?Trochoidea) inc. top shell (*Calliostoma* sp.), possible whelk (?Buccinidae), queen scallop (*Aequipecten opercularis*), possible sea squirt (Ascidiacea). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.). Unidentified fish (Pisces: ?*Pholis gunnellus*), egg case (Elasmobranchii)
		04:53:31	424 836.2	5 759 855.9				
17/07/2021	ST27	22:42:17	422 515.2	5 757 393.6	68	01 - 18	Sandy gravel/gravelly sand with shell fragments and pebbles	Infrequent sea urchins (Echinoidea inc. *Psammechinus miliaris*), brittlestars (Ophiuridae inc. *Ophiura albida*), queen scallops (*Aequipecten opercularis*) and snails (?Trochoidea), possible anemone (?Actiniaria), solitary crab (Ebalia sp.), possible sea squirt (?Ascidiacea: D*endrodoa grossularia),* starfish (Asteroidea) and possible bristleworm (?Polychaeta), sparse faunal turf (Hydrozoa/Bryozoa). Solitary ray (Rajidae: ?*Raja clavata*), common sole (*Solea solea*) and unidentified fish (Pisces: ?Ammodytidae). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.)
		22:44:34	422 480.0	5 757 335.1				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
17/07/2021	ST28	21:57:35	421 140.1	5 755 813.2	75	01 - 26	Muddy sandy gravel with shell fragments and pebbles, clay clasts	Numerous brittlestars (Ophiuridae inc. *Ophiura albida* and ?*Ophiothrix fragilis*), infrequent sea urchins (Echinoidea inc. ?*Psammechinus miliaris*) and starfish (Asteroidea inc. *Asterias rubens*), queen scallop (*Aequipecten opercularis*), sparse faunal turf (Hydrozoa/Bryozoa). Faunal tube (Serpulidae), evidence of piddocks (Imparidentia)
		22:01:58	421 073.1	5 755 780.2				
18/07/2021	ST29	07:31:56	420 770.3	5 752 008.7	70	01 - 26	Sandy gravel/gravelly sand with shell fragments and infrequent consolidated clay	Numerous brittlestars (Ophiuridae inc. *Ophiura* sp. and *O. fragilis*), soft coral (*A. digitatum*), polychaete worm (*Spirobranchus triqueter*), faunal turf (Hydrozoa/Bryozoa). Sporadic hermit crabs (Paguridae), starfish (*A. rubens*). Evidence of piddocks (Imparidentia)
		07:37:09	420 742.5	5 751 944.7				
20/07/2021	ST29_50W	04:33:57	420 677.8	5 751 935.7	75	01 - 21	Sandy gravel/gravelly sand and consolidated clay with infrequent pebbles and cobbles	Numerous brittlestars (Ophiuroidea inc. *Ophiura* sp. and ?*O. fragilis*), soft coral (*A. digitatum*), polychaete worm (*S. triqueter*), sporadic hermit crabs (Paguridae), anemone (Actiniaria), sea urchin (Echinoidea), faunal turf (Hydrozoa/Bryozoa), starfish (*A. rubens*). Evidence of piddocks (Imparidentia)
		04:36:05	420 722.5	5 751 995.4				
20/07/2021	ST29_50E	04:19:53	420 780.1	5 751 939.7	70	01 - 20	Sandy gravel/gravelly sand and consolidated clay	Numerous brittlestars (Ophiuroidea inc. *Ophiura* sp. and ?*O. fragilis*), soft coral (*A. digitatum*), polychaete worm (*S. triqueter*), sporadic sea urchins (Echinoidea), faunal turf (Hydrozoa/Bryozoa), starfish (*A. rubens*). Evidence of piddocks (Imparidentia)
		04:21:50	420 787.9	5 752 009.1				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST30	08:37:21	419 943.3	5 746 644.0	79	01 - 20	Sandy gravel/gravelly sand and consolidated clay	Numerous brittlestars (Ophiuroidea inc. *O. fragilis*), soft coral (*A. digitatum*), polychaete worm (*S. triqueter*), sporadic anemones (Actiniaria), faunal turf (Hydrozoa/Bryozoa), starfish (*A. rubens*). Evidence of piddocks (Imparidentia)
		08:42:02	419 934.1	5 746 565.9				
20/07/2021	ST30_50W	03:14:17	419 836.5	5 746 556.9	79	01 - 22	Muddy sandy gravel with shell fragments, pebbles, infrequent cobbles, solitary boulder, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *O. fragilis*), several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), possible encrusting bryozoan (?Bryozoa), faunal turf (Hydrozoa/Bryozoa inc. ?*Nemertesia* sp.). Infrequent hermit crabs (Paguridae), snail (Gastropoda inc. ?Trochoidea), queen scallop (*Aequipecten opercularis*), cluster anemone (Zoantharia : ?*Parazoanthus* sp.), solitary burrowing anemone (Ceriantharia), sea squirt (Ascidiacea), possible pogge (?*Agonus cataphractus*), faunal tubes (Serpulidae inc. *Spirobranchus* sp.), evidence of piddocks (Imparidentia
		03:16:48	419 889.3	5 746 615.9				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
20/07/2021	ST30_50E	03:25:27	419 946.6	5 746 554.9	77	01 - 23	Gravelly mud/muddy sandy gravel with shell fragments, sand, pebbles, infrequent cobbles, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *?Ophiothrix fragilis*), anemones (Actiniaria inc. Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), encrusting sponge (?Porifera), faunal encrusting bryozoan (Bryozoa), faunal turf (Hydrozoa/Bryozoa inc. ?*Nemertesia* sp.). Infrequent hermit crabs (Paguridae), snail (Gastropoda inc. ?Trochoidea), top shell (*Calliostoma* sp.), bristleworm (Serpulidae), crab (*Ebalia* sp.), sea squirt (Ascidiacea), chiton (Polyplacophora), gadoid fish (Gadidae). Faunal tubes (Serpulidae), evidence of piddocks (Imparidentia)
		03:27:53	419 983.1	5 746 622.1				
19/07/2021	ST31	13:48:43	420 476.9	5 739 771.6	73	01 - 22	Gravelly muddy sand with shell fragments, pebbles and cobbles, consolidated clay and clay clasts	Several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), branching sponge (Porifera: ?*Raspailia ramosa*), faunal/floral crust (Bryozoan/?Corallinales), faunal turf (Hydrozoa/Bryozoa). Infrequent crab (Brachyura), snail (Gastropoda inc. ?Trochoidea) inc. top shell (*Calliostoma* sp.), whelk (Buccinidae). Faunal tubes (Serpulidae inc. *Spirobranchus* sp. Egg case (Elasmobranchii) Evidence of piddocks (Imparidentia)
		13:52:53	420 505.2	5 739 839.0				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
19/07/2021	ST31_50W	14:15:06	420 446.2	5 739 770.7	71	01 - 20	Gravelly muddy sand with shell fragments, pebbles and cobbles, consolidated clay and clay clasts	Several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. *Sagartia* sp.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), branching sponge (Porifera: ?*R. ramosa*), faunal turf (Hydrozoa/Bryozoa). Infrequent crab (*Ebalia* sp., *Macropodia* sp.), hermit crab (Paguridae), top shell (*Calliostoma* sp.), possible whelk (?Buccinidae). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.). Evidence of piddocks (Imparidentia). Dragonet (*Callionymus* sp.), solitary ray/skate (Rajidae)
		14:18:21	420 400.9	5 739 825.7				
19/07/2021	ST31_50E	14:06:35	420 536.1	5 739 778.7	64	01 - 16	Gravelly muddy sand/sandy mud with shell fragments, pebbles and cobbles, consolidated clay and clay clasts	No fauna observed on sandy areas. Associated with hard substrata (inc. consolidated mud), several anemones (Actiniaria inc. Sagartiidae.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*Alcyonium digitatum*), branching sponge (Porifera: ?*R. ramosa*), barnacles (Cirripedia), faunal turf (Hydrozoa/Bryozoa inc. Tubulariidae, *A. diaphanum*), faunal crust (Bryozoa). Infrequent hermit crab (Paguridae), snail (Gastropoda) inc. top shell (*Calliostoma* sp.), possible whelk (?Buccinidae), possible sea squirt (Ascidiacea). Faunal tubes (Serpulidae inc. *Spirobranchus* sp.). Evidence of piddocks (Imparidentia)
		14:09:35	420 552.9	5 739 840.4				
18/07/2021	ST32	23:28:30	430 100.1	5 740 764.0	21	01 - 19	Sand (rippled)	Infrequent unidentified fish (Pisces: ?Gadidae and ?Trachinidae)
		23:31:59	430 079.3	5 740 767.9				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST33	22:20:06	424 303.4	5 737 131.6	63	01 - 22	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *O albida* and ?*O. fragilis*), several anemones (Actiniaria inc. ?*Capnea sanguinea*, Sagartiidae), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum, Nemertesia* sp.), barnacles (Cirripedia). Infrequent hermit crab (Paguridae), crabs (Brachyura inc. *Ebalia* sp., Majoidea), shrimp (Caridea), top shell (*Calliostoma* sp.), possible sea squirts (?*D. grossularia*), queen scallop (*A. opercularis*), solitary dragonet (*Callionymus* sp.), gadoid fish (Gadidae), possible catshark (?Scyliorhinidae). Faunal tubes (Serpulidae, Pectinariidae). Evidence of piddocks (Imparidentia)
		22:22:56	424 260.3	5 737 085.3				
18/07/2021	ST34	10:41:47	419 573.7	5 734 860.8	63	01 - 13	Sand (rippled) with varying proportions of shell fragments and pebbles	Several brittlestars (Ophiuridae inc. *Ophiura albida*), infrequent hermit crab (Paguridae). Faunal tubes (Serpulidae)
		10:44:01	419 567.2	5 734 923.0				
18/07/2021	ST35	10:21:18	420 695.2	5 735 135.5	71	01 - 16	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa), faunal crust (Bryozoan), sponge (Porifera inc. ?Polymastiidae). Infrequent sea urchin (Echinoidea inc. *P. miliaris*), starfish (Asteroidea), hermit crab (Paguridae), top shell (*Calliostoma* sp.), possible anthozoan (?Anthozoa), cluster anemone (Zoantharia: ?*Parazoanthus* sp.), possible sea squirts (?*D. grossularia*). Faunal tubes (Serpulidae, Pectinariidae)
		10:23:57	420 624.9	5 735 141.8				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST36	11:34:30	423 175.3	5 733 345.9	69	01 - 21	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), several anemones (Actiniaria Sagartiidae inc. *Sagartia* sp.), cluster anemones (Zoantharia: ?*Parazoanthus* sp.), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa), encrusting sponge (Porifera). Infrequent hermit crab (Paguridae), solitary possible sea slug (Nudibranchia), bristleworm (Sabellidae). Faunal tubes (Serpulidae)
		11:37:25	423 155.6	5 733 412.0				
18/07/2021	ST37	12:04:35	424 753.6	5 732 483.5	91	01 - 16	Muddy sandy gravel with shell fragments, pebbles and varying proportions of cobbles, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), several anemones (Actiniaria inc. Sagartiidae inc. ?*Sagartia* sp.), queen scallop (*A. opercularis*), sea urchin (Echinoidea inc. *P. miliaris*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa), sponge (Porifera). Infrequent starfish (*A. rubens*), faunal tubes (Serpulidae). Evidence of piddocks (Imparidentia)
		12:08:27	424 749.3	5 732 574.4				
19/07/2021	ST37_50W	12:37:46	424 672.9	5 732 568.2	89	01 - 25	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), several anemones (Actiniaria inc. Sagartiidae inc. *Sagartia* sp.), queen scallop (*A. opercularis*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum, ?Nemertesia* sp.). Infrequent sea urchin (Echinoidea inc. ?*P. miliaris*), starfish (*A. rubens*), hermit crab (Paguridae), crabs (*Necora puber, Ebalia sp.*), snail (Gastropoda) inc. possible (Buccinidae), faunal tubes (Serpulidae). Evidence of piddocks (Imparidentia)
		12:40:43	424 733.8	5 732 503.9				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
19/07/2021	ST37_50E	12:43:20	424 803.1	5 732 494.9	94	01 - 24	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles, consolidated clay and clay clasts	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. ?*Sagartia* sp.), cluster anemones (Zoantharia: ?*Parazoanthus sp.*), hermit crab (Paguridae), sea urchin (Echinoidea inc. *P. miliaris*), queen scallop (*A. opercularis*), whelk (Buccinidae), some coverage of soft coral (*A. digitatum*), sparse stunted faunal turf (Hydrozoa/Bryozoa), barnacles (Cirripedia), encrusting seaweed (Corallinaceae). Infrequent starfish (*A. rubens*), faunal tubes (Serpulidae). Evidence of piddocks (Imparidentia)
		12:46:23	424 809.1	5 732 588.3				
18/07/2021	ST38	12:32:00	426 278.8	5 731 750.6	71	01 - 13	Sand (rippled) with varying proportions of shell fragments, pebbles, solitary cobble	Infrequent hermit crab (Paguridae)
		12:34:55	426 338.9	5 731 788.1				
18/07/2021	ST39	13:18:17	431 217.6	5 731 367.4	58	01 - 24	Gravelly muddy sand with areas of sand (rippled) with shell fragments and varying proportions of pebbles, cobbles, consolidated clay and clay clasts	Several brittlestars (Ophiuridae inc. *Ophiura albida*). Associated with hard substrata, some coverage of faunal turf (Hydrozoa/Bryozoa inc. ?*Hydrallmania falcata, A. diaphanum*), soft coral (*A. digitatum*), infrequent hermit crabs (Paguridae) with barnacles (Cirripedia), starfish (*A. rubens*), queen scallop (*A. opercularis*), unidentified fish. Faunal tubes (Serpulidae), crust of Ross worm (*Sabellaria spinulosa*). Evidence of piddocks (Imparidentia). Anthropogenic debris (?plastic fishing gear)
		13:26:12	431 198.8	5 731 421.9				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST39_50W	20:54:28	431 170.8	5 731 438.0	57	01 - 17	Gravelly muddy sand with areas of sand (rippled) with shell fragments and varying proportions of pebbles, cobbles and boulders, clay clasts	Several brittlestars (Ophiuridae inc. *Ophiura ophiura* and *Ophiura albida*). Solitary unidentified fish (Pisces) Associated with hard substrata, ross worm aggregations (*Sabellaria spinulosa*), several starfish (Asteroidea inc. *A. rubens*), some coverage of faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum*), soft coral (*A. digitatum*), infrequent hermit crabs (Paguridae) with associated hydroid (*Hydractinia echinata*), anemones (Actiniaria inc. Sagartiidae), sea squirt (Ascidiacea), solitary crab (Majoidea), faunal tubes (Serpulidae)
		20:56:37	431 227.4	5 731 428.0				
18/07/2021	ST39_50Eb	20:57:45	431 252.6	5 731 429.9	68	01 - 28	Gravelly muddy sand with areas of sand (rippled) with shell fragments and varying proportions of pebbles, cobbles, consolidated clay and clay clasts	Several brittlestars (Ophiuridae inc. *Ophiura albida*). Associated with hard substrata, ross worm aggregations (*Sabellaria spinulosa*), several anemones (Actiniaria inc. *Urticina* sp., Sagartiidae inc. *Sagartia* sp.), hermit crabs (Paguridae inc. ?*Pagurus bernhardus*) with associated hydroid (*H. echinata*), some coverage of faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum, Nemertesia* sp.), soft coral (*A. digitatum*), infrequent starfish (*A. rubens*), faunal tubes (Sabellidae). evidence of piddocks (Imparidentia)
		21:01:10	431 320.6	5 731 436.3				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST40	18:44:06	421 450.0	5 730 884.9	73	01 - 25	Muddy sandy gravel with shell fragments, pebbles and infrequent cobbles	Numerous brittlestars (Ophiuroidea inc. *O. albida* and *O. fragilis*), several hermit crab (Paguridae), sea urchin (Echinoidea inc. *P. miliaris*), starfish (*A. rubens*), some coverage of soft coral (*A. digitatum*), faunal turf (Hydrozoa/Bryozoa). Infrequent anemones (Actiniaria inc. Sagartiidae), cluster anemone (Zoantharia : ?*Parazoanthus* sp.), sea squirt (Ascidiacea), possible queen scallop (?*A. opercularis*). Faunal tubes (Serpulidae, Sabellidae)
		18:47:05	421 431.8	5 730 814.2				
18/07/2021	ST41	19:24:44	424 613.7	5 728 716.2	58	01 - 22	Sand (rippled) with shell fragments and infrequent consolidated mud (?peat) clasts	Hermit crab (Paguridae), unidentified fish (Pisces). Possible brittlestar legs (Ophiuroidea)
		19:28:02	424 609.8	5 728 657.8				
18/07/2021	ST42	14:00:06	427 788.4	5 726 951.4	79	01 - 13	Sand (rippled) with shell fragments	No fauna observed
		14:04:40	427 830.8	5 727 018.1				
18/07/2021	ST43	14:28:40	426 965.8	5 726 506.7	66	01 - 24	Sand (rippled) with varying proportions of shell fragments and pebbles	Solitary brittlestar (Ophiuridae), sparse faunal turf (Hydrozoa/Bryozoa), infrequent unidentified fish (Pisces)
		14:32:12	427 000.4	5 726 563.4				
18/07/2021	ST44	18:04:10	420 327.8	5 727 374.9	74	01 - 19	Gravelly muddy sand with varying proportions of shell fragments and pebbles, consolidated mud (clay) outcrop and infrequent (?peat) clasts	Several brittlestars (Ophiuridae inc. *Ophiura albida*), infrequent hermit crab (Paguridae inc. *P. bernhardus*), starfish (*A. rubens*), solitary necklace shell (*Euspira* sp.)
		18:06:52	420 343.7	5 727 303.0				
21/07/2021	ST45ALT	14:15:36	420 822.4	5 723 815.8	58	01 - 24	Sand/gravelly sand with varying proportions of shell fragments and pebbles, infrequent cobbles and consolidated mud (?peat) clasts	Several brittlestars (Ophiuridae inc. *Ophiura albida*), solitary hermit crab (Paguridae), mobile bristleworm (Polychaeta)
		14:19:14	420 819.9	5 723 758.0				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
18/07/2021	ST46	16:19:17	421 224.3	5 722 919.4	21	01 - 18	Sand (rippled) with shell fragments and infrequent pebbles	Several brittlestars (Ophiuridae inc. *Ophiura albida*), infrequent hermit crab (Paguridae), solitary starfish (Asteroidea). Associated with pebbles, faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum*)
		16:24:17	421 210.2	5 722 904.0				
18/07/2021	ST47	15:09:34	423 543.0	5 723 635.3	63	01 - 20	Sand (rippled) with shell fragments	Several brittlestars (Ophiuridae inc. *Ophiura albida*), solitary hermit crab (Paguridae), unidentified fish (Pisces: ?Trachinidae). Drift non-native seaweed (*Sargassum muticum*) with encrusting bryozoan (Bryozoa)
		15:13:34	423 566.9	5 723 693.6				
18/07/2021	ST48	17:33:59	419 740.0	5 725 996.5	74	01 - 24	Gravelly muddy sand with areas of sand (rippled) with shell fragments, pebbles, infrequent cobbles, solitary boulder, consolidated mud (clay) clasts	Numerous brittlestars (Ophiuridae inc. *Ophiura albida*), several starfish (*A. rubens*), hermit crabs (Paguridae inc. ?*P. bernhardus*), some coverage of faunal turf (Hydrozoa/Bryozoa inc. *A. diaphanum*), soft coral (*A. digitatum*), infrequent sea urchin (Echinoidea inc. ?*P. miliaris*), tusk shell (Scaphopoda), solitary necklace shell (*Euspira* sp.), scallop (Pectinidae), ray/skate (Rajidae), possible catshark (?Scyliorhinidae). Faunal tubes (Pectinariidae)
		17:37:15	419 811.7	5 726 014.6				
18/07/2021	ST49	15:46:47	420 760.5	5 720 602.0	87	1 - 20	Sand (rippled) with varying proportions of shell fragments, pebbles, infrequent cobbles, solitary boulder, consolidated clay	Several brittlestars (Ophiuridae inc. *O. albida*), infrequent hermit crab (Paguridae), starfish (*A. rubens*), possible bryozoan (?*A. diaphanum*)
		15:50:37	420 792.4	5 720 682.5				
20/07/2021	TR08	14:26:44	391 896.0	5 744 639.0	162	01 - 20	Gravelly, muddy sand with pebbles and cobble	No visibility: No visible fauna, sediment type defined from grab samples from adjacent stations
		14:32:00	392 048.2	5 744 694.1				
21/07/2021	TR09a	00:45:43	393 563.0	5 746 017.7	188	01 - 23	Gravelly, muddy sand with pebbles and cobble	No visibility: No visible fauna, sediment type defined from grab samples from adjacent stations
		00:54:14	393 584.3	5 746 205.0				

Geodetic Parameters: WGS 84, UTM Zone 31 North								
Date	Transect/ Station	Time [UTC]	Video Coordinates		Length [m]	Still Nos.	Sediment Description	Fauna/Bioturbation/Debris/Notes
			Easting	Northing				
20/07/2021	TR13b	22:30:45	395 769.6	5 749 114.6	106	01 - 18	No visibility	No visibility: No visible fauna
		22:37:52	395 694.2	5 749 188.8				

Notes
UTC = Coordinated Universal Time
Inc. = Included
? = Identification is uncertain

Appendix D

Sediment Particle Size and Grab Sample Photographs

Certificate of Analysis

Certificate Number	EP/21/4971	**Revision Number**	0
Job Number	210139		
Job Reference	North Falls 2021		
Prepared For		**Prepared By**	
RWE		**Adam Burtonshaw** **Fugro GB Marine Limited** Trafalgar Wharf (Unit 16) Hamilton Road Portchester Portsmouth PO6 4PX United Kingdom	
		Phone: [redacted] **Email:** **Web:**	

Sampling Undertaken By	FGBML	**Sampling Date**	19/07/2021 – 21/07/2021
Date of Receipt	23/07/2021	**Date of Analysis**	19/08/2021 – 02/09/2021
Sample Matrix	Marine Sediments		
Method Reference	Particle Size Distribution by Dry Sieving – EUAF-FGBM-SED-TM-001 based on NMBAQC's Best Practice Guidance - Particle Size Analysis (PSA) for Supporting Biological Analysis 2016 and EUAF-FGBM-SED-TM-002 based on BS 1377: Parts 1: 2016 and 2: 1990. Particle Size Distribution by Laser Diffraction using a Malvern Mastersizer 2000 and Hydro 2000G Dispersion Unit – EUAF-FGBM-SED-TM-006 based on NMBAQC's Best Practice Guidance - Particle Size Analysis (PSA) for Supporting Biological Analysis 2016 and BS ISO 13320: 2020.		
Test Results	Refer to pages 2-4 of 4 Refer to Excel results file for laser diffraction metadata.		
Laboratory Comments	**Deviating Codes:** None		
Authorised Signature	[redacted]		
Name	Fiona Maclennan		
Position	Marine Environmental Scientist		
Issue Date	02/09/2021		

- Further information on methods of analysis may be obtained from the above address
- Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
- Test results reported relate only to those items tested
- Test results reported specifically refer to sample(s) tested as received unless otherwise stated
- [Sub] indicates subcontracted test
- [DS] indicates relevant Deviating Code applies to test results

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TEST RESULTS

Test Results: Particle Size Distribution by Dry Sieving (63000 - 1000 µm) and Laser Diffraction (< 1000 - < 0.98 µm) @ 0.5 Phi Intervals
Job Number: 210139
Job Reference: North Falls 2021

SAMPLE ID:	ST01	ST02	ST03	ST04	ST05	ST06	ST07	ST10	ST11	ST12	ST14	ST15	ST16
LAB ID:	WL039291	WL039292	WL039293	WL039294	WL039295	WL039296	WL039297	WL039298	WL039299	WL039300	WL039301	WL039302	WL039303
Aperture [µm]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]
63000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22400	8.73	0.00	0.00	0.00	0.00	23.58	0.00	0.00	0.00	14.87	0.00	0.00	0.00
16000	16.75	0.00	0.00	0.00	0.00	14.83	27.31	0.00	0.00	0.00	0.00	1.08	0.00
11200	2.21	0.00	4.72	0.00	0.00	0.00	6.02	3.07	0.00	6.49	8.60	0.00	0.00
8000	7.91	0.00	1.18	0.00	0.00	2.56	4.97	0.00	0.00	1.10	10.46	0.18	0.58
5600	4.33	0.74	1.44	0.00	0.00	2.68	5.39	0.67	0.03	1.51	7.27	0.58	0.53
4000	2.57	1.93	1.11	0.00	0.13	1.96	2.53	0.61	0.00	0.38	6.74	0.73	0.28
2800	2.28	2.45	1.04	0.04	0.05	1.28	1.71	0.98	0.02	0.70	3.35	0.43	0.46
2000	1.87	1.48	1.42	0.01	0.05	1.35	1.37	0.46	0.00	0.98	2.72	0.42	0.42
1400	2.41	1.63	1.24	0.03	0.09	1.17	1.31	0.57	0.00	1.51	2.29	0.85	0.96
1000	2.18	1.71	1.49	0.04	0.05	1.29	1.29	0.45	0.02	2.31	1.97	1.87	1.51
707	2.73	0.98	2.03	0.14	0.13	3.01	3.02	0.16	0.00	9.98	2.59	19.30	18.95
500.00	4.01	1.54	2.82	0.16	0.06	3.95	5.41	0.13	2.34	14.30	7.65	33.09	31.87
353.55	4.37	1.87	2.72	0.23	0.03	4.35	6.00	2.85	16.81	15.71	12.95	28.86	29.44
250.00	3.38	1.73	1.85	1.52	1.57	4.45	5.86	12.66	34.54	13.30	14.05	11.49	13.29
176.78	2.01	1.24	1.23	6.99	6.40	4.67	7.07	24.89	31.60	8.72	9.70	1.11	1.71
125.00	1.61	0.89	1.74	14.83	12.36	4.85	4.23	26.58	12.25	4.28	3.96	0.00	0.00
88.39	2.32	1.17	3.20	19.11	14.84	4.46	2.30	15.63	1.04	1.49	0.86	0.00	0.00
62.50	3.13	2.21	4.62	16.11	11.94	3.42	1.50	4.27	0.00	0.42	0.42	0.00	0.00
44.19	3.22	3.70	5.28	9.09	6.96	2.32	1.12	0.18	0.00	0.23	0.68	0.00	0.00
31.25	2.72	5.03	5.32	3.81	3.98	1.64	0.79	0.07	0.00	0.23	0.60	0.00	0.00
22.10	2.23	5.83	5.30	2.22	3.70	1.38	0.56	0.81	0.00	0.18	0.33	0.00	0.00
15.63	2.01	6.37	5.54	2.64	4.47	1.30	0.50	0.90	0.00	0.14	0.21	0.00	0.00
11.05	2.03	7.20	6.05	3.19	5.05	1.26	0.54	0.55	0.02	0.16	0.27	0.00	0.00
7.81	2.14	8.44	6.62	3.40	5.30	1.27	0.62	0.39	0.28	0.20	0.36	0.00	0.00
5.52	2.25	9.51	7.03	3.48	5.37	1.33	0.69	0.51	0.40	0.23	0.41	0.00	0.00
3.91	2.25	9.50	6.90	3.43	5.08	1.36	0.72	0.63	0.38	0.23	0.42	0.00	0.00
2.76	2.05	8.24	6.12	3.12	4.34	1.29	0.68	0.63	0.28	0.20	0.38	0.00	0.00
1.95	1.63	6.02	4.69	2.44	3.20	1.06	0.56	0.51	0.19	0.15	0.30	0.00	0.00
1.38	1.17	3.95	3.25	1.72	2.14	0.79	0.41	0.37	0.01	0.01	0.21	0.00	0.00
0.98	0.84	2.65	2.27	1.24	1.50	0.60	0.29	0.27	0.00	0.00	0.14	0.00	0.00
<0.98	0.67	2.01	1.78	1.01	1.20	0.50	0.21	0.20	0.00	0.00	0.08	0.00	0.00
TOTAL:	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TEST RESULTS

Test Results: Particle Size Distribution by Dry Sieving (63000 - 1000 µm) and Laser Diffraction (< 1000 - < 0.98 µm) @ 0.5 Phi Intervals
Job Number: 210139
Job Reference: North Falls 2021

SAMPLE ID:	ST17	ST18	ST19	ST20	ST21	ST22	ST25	ST27	ST28	ST31	ST32	ST33	ST34
LAB ID:	WL039304	WL039305	WL039306	WL039307	WL039308	WL039309	WL039310	WL039311	WL039312	WL039313	WL039314	WL039315	WL039316
Aperture [µm]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]
63000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22400	9.62	8.33	0.00	0.00	0.00	0.00	0.00	0.00	24.60	0.00	0.00	0.00	0.00
16000	12.96	28.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.23	0.00
11200	19.15	15.13	0.00	4.69	4.32	0.00	0.00	0.00	10.66	14.76	0.00	0.00	0.00
8000	8.79	7.75	0.25	14.69	9.44	0.00	0.00	2.46	2.61	2.13	0.00	7.10	0.81
5600	3.56	4.56	0.06	7.29	5.10	2.65	0.41	3.46	2.76	3.15	0.00	2.07	1.29
4000	2.59	2.92	0.07	1.87	3.73	0.30	0.84	2.34	2.68	3.31	0.00	3.12	1.17
2800	2.21	2.19	0.17	1.81	2.63	1.42	1.71	2.32	2.16	2.17	0.00	3.36	1.08
2000	1.80	1.98	0.12	2.61	2.34	1.15	3.06	3.17	1.96	2.03	0.03	3.21	1.84
1400	1.75	2.00	0.17	3.82	2.14	1.50	5.04	3.34	1.50	1.98	0.03	3.64	2.76
1000	1.90	2.12	0.19	5.15	1.88	2.12	6.81	3.51	1.01	2.32	0.27	4.43	5.62
707	4.94	3.81	1.62	4.89	5.67	9.87	33.22	13.19	1.94	9.91	13.43	12.30	30.92
500.00	5.91	4.08	1.39	6.51	7.04	13.01	32.47	20.42	4.55	14.25	33.95	13.47	29.41
353.55	5.23	3.47	1.57	6.79	6.90	11.70	14.82	22.06	7.78	14.79	36.51	10.65	17.55
250.00	3.77	2.48	5.48	5.07	5.44	6.75	1.63	15.54	8.70	10.16	14.67	5.66	5.16
176.78	2.85	1.79	14.02	2.42	3.84	2.19	0.00	6.00	5.87	3.90	1.11	1.67	0.10
125.00	2.58	1.53	21.15	0.67	2.90	0.41	0.00	0.46	2.03	0.45	0.00	0.15	0.00
88.39	2.26	1.29	19.74	0.35	2.42	0.69	0.00	0.00	0.19	0.00	0.00	0.22	0.00
62.50	1.59	0.88	11.36	0.72	2.00	1.43	0.00	0.00	0.08	0.23	0.00	0.54	0.00
44.19	0.90	0.48	3.69	1.14	1.69	1.93	0.00	0.00	0.61	0.68	0.00	0.58	0.00
31.25	0.52	0.31	0.89	1.54	1.69	2.34	0.00	0.00	0.99	0.77	0.00	0.49	0.00
22.10	0.43	0.33	1.29	2.01	1.99	2.87	0.00	0.00	1.11	0.78	0.00	0.49	0.00
15.63	0.46	0.40	1.98	2.60	2.46	3.44	0.00	0.01	1.24	0.91	0.00	0.62	0.17
11.05	0.49	0.47	2.04	3.21	3.01	3.90	0.00	0.21	1.51	1.13	0.00	0.81	0.25
7.81	0.53	0.53	1.93	3.71	3.58	4.31	0.00	0.29	1.89	1.37	0.00	1.04	0.29
5.52	0.59	0.58	2.03	3.95	4.00	4.76	0.00	0.32	2.25	1.61	0.00	1.25	0.34
3.91	0.62	0.59	2.16	3.77	3.98	5.05	0.00	0.31	2.40	1.73	0.00	1.33	0.37
2.76	0.60	0.53	2.08	3.20	3.49	4.91	0.00	0.28	2.25	1.66	0.00	1.22	0.36
1.95	0.50	0.41	1.70	2.33	2.60	4.10	0.00	0.21	1.79	1.37	0.00	0.93	0.29
1.38	0.38	0.28	1.24	1.52	1.73	3.06	0.00	0.11	1.27	1.02	0.00	0.64	0.20
0.98	0.28	0.19	0.90	0.98	1.15	2.27	0.00	0.00	0.90	0.78	0.00	0.44	0.00
<0.98	0.22	0.15	0.72	0.69	0.85	1.85	0.00	0.00	0.71	0.66	0.00	0.34	0.00
TOTAL:	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TEST RESULTS

Test Results: Particle Size Distribution by Dry Sieving (63000 - 1000 µm) and Laser Diffraction (< 1000 - < 0.98 µm) @ 0.5 Phi Intervals
Job Number: 210139
Job Reference: North Falls 2021

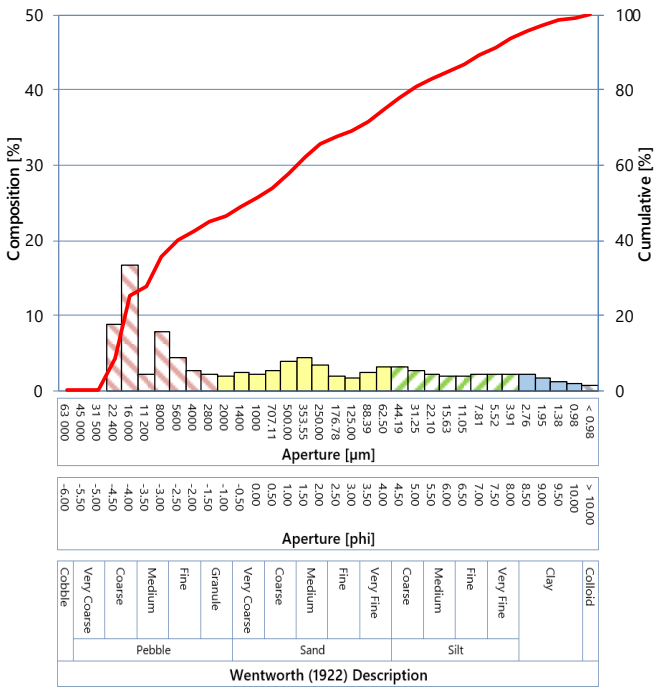
SAMPLE ID:	ST35	ST36	ST38	ST40	ST41	ST42	ST43	ST44	ST45	ST46	ST47	ST48	ST49
LAB ID:	WL039317	WL039318	WL039319	WL039320	WL039321	WL039322	WL039323	WL039324	WL039325	WL039326	WL039327	WL039328	WL039329
Aperture [µm]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]	Fractional [%]
63000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15	0.00	0.00	0.00	0.00
16000	13.85	9.84	0.00	9.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01	5.44
11200	16.49	18.25	0.28	3.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	2.84	0.65
8000	2.57	2.60	0.13	5.68	0.00	0.00	0.00	0.00	0.00	0.22	0.00	2.62	1.40
5600	1.17	1.48	1.42	7.11	0.16	0.00	0.00	0.08	0.32	0.24	0.17	3.07	0.62
4000	1.01	2.27	1.14	2.99	0.26	0.00	0.21	0.34	0.59	0.32	0.00	4.07	0.52
2800	0.90	3.66	1.85	4.51	0.21	0.00	0.08	0.49	0.62	0.41	0.06	4.67	0.67
2000	1.29	3.70	3.54	5.34	0.31	0.00	0.05	0.94	0.41	0.76	0.13	4.16	0.40
1400	1.86	3.22	5.67	4.88	0.32	0.00	0.13	1.31	0.50	0.68	0.18	3.58	0.33
1000	2.32	3.15	8.55	4.35	0.42	0.01	0.17	3.32	0.61	0.78	0.28	3.47	0.32
707	5.14	7.30	26.87	6.88	6.80	0.04	1.44	27.69	6.30	5.49	4.06	7.43	0.02
500.00	7.90	11.42	27.65	9.53	28.75	6.58	17.94	36.37	35.31	26.87	26.55	13.78	4.44
353.55	10.29	12.00	17.38	9.76	39.79	38.98	42.54	23.65	41.94	39.76	43.73	16.78	25.60
250.00	9.84	7.67	5.34	6.90	20.35	44.15	31.01	5.77	11.01	21.46	22.38	12.63	39.07
176.78	5.87	2.42	0.19	2.97	2.64	10.10	5.98	0.05	0.23	3.02	2.45	5.18	18.74
125.00	1.66	0.13	0.00	0.53	0.00	0.14	0.06	0.00	0.00	0.00	0.00	0.69	1.78
88.39	0.06	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62.50	0.08	0.38	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00
44.19	0.63	0.66	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00
31.25	0.94	0.59	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00
22.10	1.00	0.53	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00
15.63	1.12	0.62	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00
11.05	1.38	0.80	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00
7.81	1.73	1.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.00
5.52	2.06	1.20	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.00
3.91	2.21	1.29	0.00	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00
2.76	2.10	1.23	0.00	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00
1.95	1.69	0.98	0.00	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00
1.38	1.22	0.70	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00
0.98	0.89	0.49	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00
<0.98	0.72	0.39	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00
TOTAL:	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

STATION: ST01

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	8.73	8.73
16 000	-4.00	16.75	25.47
11 200	-3.50	2.21	27.68
8000	-3.00	7.91	35.59
5600	-2.50	4.33	39.92
4000	-2.00	2.57	42.49
2800	-1.50	2.28	44.77
2000	-1.00	1.87	46.64
1400	-0.50	2.41	49.05
1000	0.00	2.18	51.23
707.11	0.50	2.73	53.96
500.00	1.00	4.01	57.97
353.55	1.50	4.37	62.33
250.00	2.00	3.38	65.72
176.78	2.50	2.01	67.72
125.00	3.00	1.61	69.33
88.39	3.50	2.32	71.66
62.50	4.00	3.13	74.78
44.19	4.50	3.22	78.00
31.25	5.00	2.72	80.72
22.10	5.50	2.23	82.95
15.63	6.00	2.01	84.96
11.05	6.50	2.03	86.99
7.81	7.00	2.14	89.14
5.52	7.50	2.25	91.39
3.91	8.00	2.25	93.63
2.76	8.50	2.05	95.69
1.95	9.00	1.63	97.32
1.38	9.50	1.17	98.49
0.98	10.00	0.84	99.33
< 0.98	> 10.00	0.67	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	19200	Coarse pebble
Mode 2 [µm]*	9600	Medium pebble
Mode 3 [µm]*	427	Medium sand
Median [µm]*	1209	Very coarse sand
Median [phi]*	-0.27	
Mean [µm]*†	756	Coarse sand
Mean [phi]*†	0.40	
Sorting [µm]†	22.36	Extremely poorly sorted
Sorting [phi]†	4.48	
Skewness [µm]†	-0.26	Fine skewed
Skewness [phi]†	0.26	
Gravel [%]‡	46.64	Muddy, sandy gravel
Sand [%]‡	28.15	
Fines [%]‡	25.22	

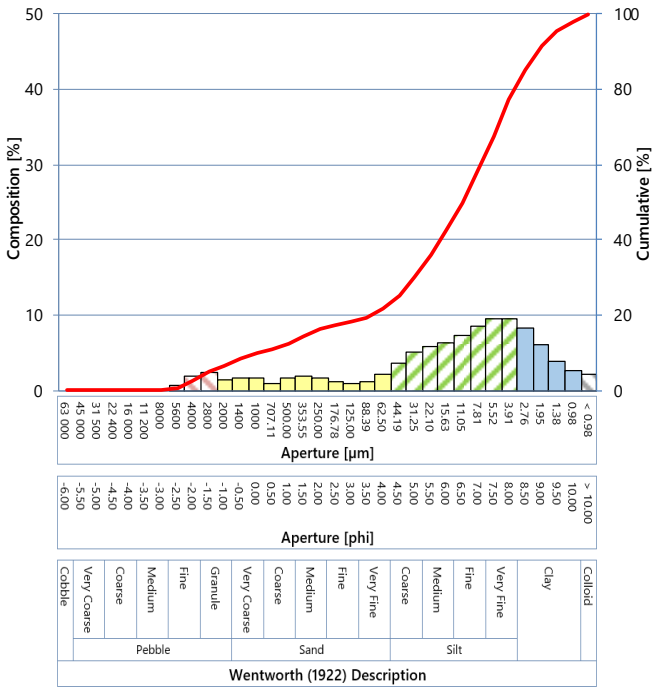
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST02

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.74	0.74
4000	-2.00	1.93	2.67
2800	-1.50	2.45	5.12
2000	-1.00	1.48	6.60
1400	-0.50	1.63	8.23
1000	0.00	1.71	9.94
707.11	0.50	0.98	10.92
500.00	1.00	1.54	12.46
353.55	1.50	1.87	14.33
250.00	2.00	1.73	16.06
176.78	2.50	1.24	17.30
125.00	3.00	0.89	18.19
88.39	3.50	1.17	19.36
62.50	4.00	2.21	21.56
44.19	4.50	3.70	25.26
31.25	5.00	5.03	30.29
22.10	5.50	5.83	36.12
15.63	6.00	6.37	42.48
11.05	6.50	7.20	49.68
7.81	7.00	8.44	58.12
5.52	7.50	9.51	67.63
3.91	8.00	9.50	77.13
2.76	8.50	8.24	85.37
1.95	9.00	6.02	91.39
1.38	9.50	3.95	95.34
0.98	10.00	2.65	97.99
< 0.98	> 10.00	2.01	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	5	Very fine silt
Mode 2 [µm]*	3400	Granule
Mode 3 [µm]*	427	Medium sand
Median [µm]*	11	Fine silt
Median [phi]*	6.52	
Mean [µm]*†	20	Medium silt
Mean [phi]*†	5.64	
Sorting [µm]†	9.65	Very poorly sorted
Sorting [phi]†	3.27	
Skewness [µm]†	0.44	Very coarse skewed
Skewness [phi]†	-0.44	
Gravel [%]‡	6.60	Gravelly mud
Sand [%]‡	14.96	
Fines [%]‡	78.44	

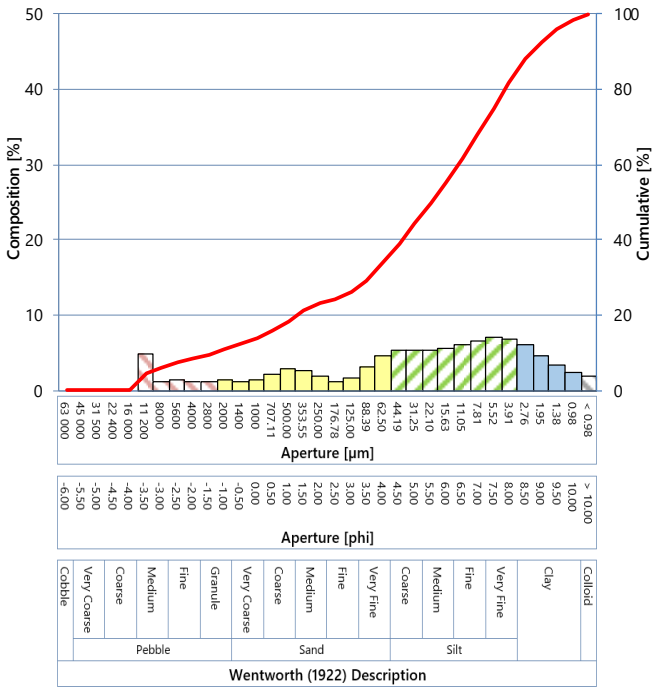
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST03

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	4.72	4.72
8000	-3.00	1.18	5.90
5600	-2.50	1.44	7.34
4000	-2.00	1.11	8.45
2800	-1.50	1.04	9.49
2000	-1.00	1.42	10.91
1400	-0.50	1.24	12.15
1000	0.00	1.49	13.64
707.11	0.50	2.03	15.67
500.00	1.00	2.82	18.49
353.55	1.50	2.72	21.21
250.00	2.00	1.85	23.06
176.78	2.50	1.23	24.29
125.00	3.00	1.74	26.03
88.39	3.50	3.20	29.24
62.50	4.00	4.62	33.85
44.19	4.50	5.28	39.13
31.25	5.00	5.32	44.46
22.10	5.50	5.30	49.75
15.63	6.00	5.54	55.29
11.05	6.50	6.05	61.34
7.81	7.00	6.62	67.96
5.52	7.50	7.03	74.98
3.91	8.00	6.90	81.88
2.76	8.50	6.12	88.00
1.95	9.00	4.69	92.70
1.38	9.50	3.25	95.95
0.98	10.00	2.27	98.22
< 0.98	> 10.00	1.78	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	7	Very fine silt
Mode 2 [µm]*	38	Coarse silt
Mode 3 [µm]*	604	Coarse sand
Median [µm]*	22	Medium silt
Median [phi]*	5.52	
Mean [µm]*†	37	Coarse silt
Mean [phi]*†	4.75	
Sorting [µm]†	14.24	Very poorly sorted
Sorting [phi]†	3.83	
Skewness [µm]†	0.35	Very coarse skewed
Skewness [phi]†	-0.35	
Gravel [%]‡	10.91	Gravelly mud
Sand [%]‡	22.94	
Fines [%]‡	66.15	

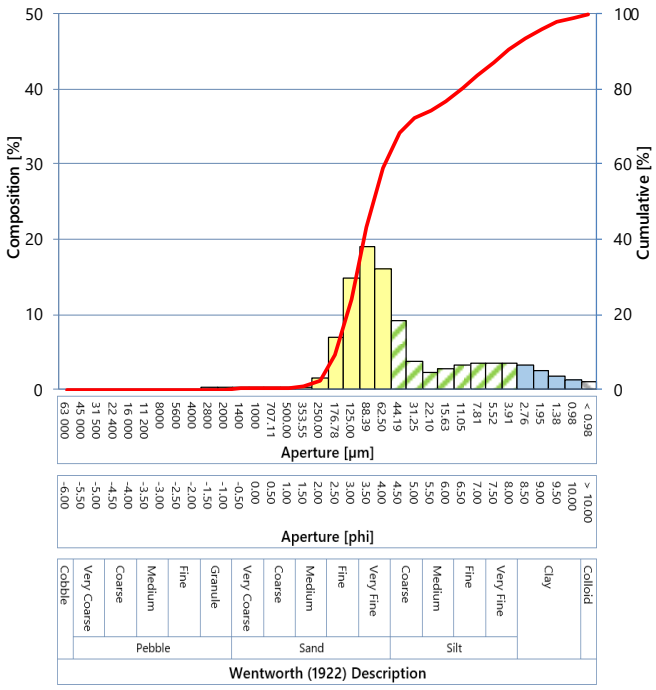
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST04

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.00	0.00
4000	-2.00	0.00	0.00
2800	-1.50	0.04	0.04
2000	-1.00	0.01	0.04
1400	-0.50	0.03	0.08
1000	0.00	0.04	0.11
707.11	0.50	0.14	0.26
500.00	1.00	0.16	0.42
353.55	1.50	0.23	0.65
250.00	2.00	1.52	2.17
176.78	2.50	6.99	9.16
125.00	3.00	14.83	23.99
88.39	3.50	19.11	43.10
62.50	4.00	16.11	59.21
44.19	4.50	9.09	68.30
31.25	5.00	3.81	72.11
22.10	5.50	2.22	74.33
15.63	6.00	2.64	76.97
11.05	6.50	3.19	80.16
7.81	7.00	3.40	83.56
5.52	7.50	3.48	87.04
3.91	8.00	3.43	90.47
2.76	8.50	3.12	93.59
1.95	9.00	2.44	96.04
1.38	9.50	1.72	97.76
0.98	10.00	1.24	98.99
< 0.98	> 10.00	1.01	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]†	107	Very fine sand
Mode 2 [µm]†	7	Very fine silt
Mode 3 [µm]†	-	-
Median [µm]†	76	Very fine sand
Median [phi]†	3.71	
Mean [µm]†‡	44	Coarse silt
Mean [phi]†‡	4.50	
Sorting [µm]‡	4.23	Very poorly sorted
Sorting [phi]‡	2.08	
Skewness [µm]‡	-0.54	Very fine skewed
Skewness [phi]‡	0.54	
Gravel [%]#	0.04	Muddy sand
Sand [%]#	59.16	
Fines [%]#	40.79	

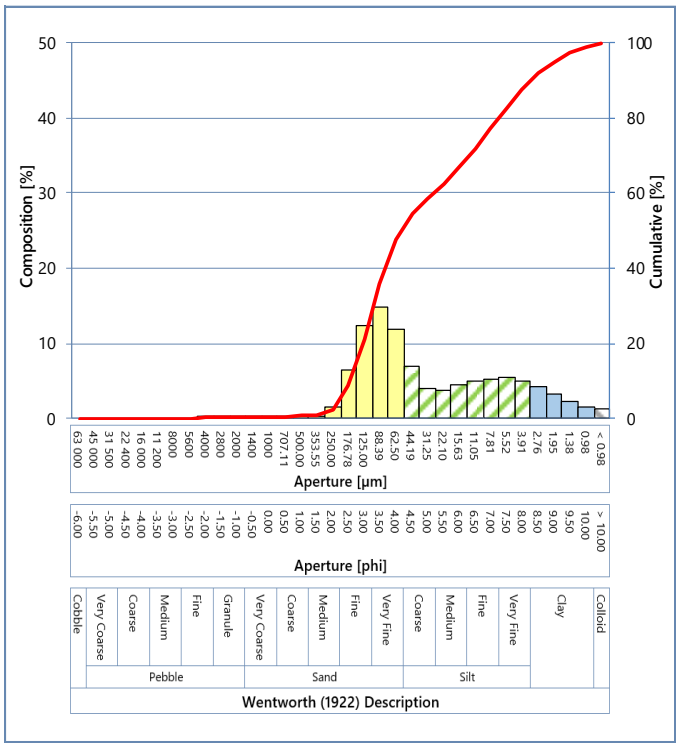
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST05

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.00	0.00
4000	-2.00	0.13	0.13
2800	-1.50	0.05	0.18
2000	-1.00	0.05	0.24
1400	-0.50	0.09	0.33
1000	0.00	0.05	0.38
707.11	0.50	0.13	0.51
500.00	1.00	0.06	0.57
353.55	1.50	0.03	0.60
250.00	2.00	1.57	2.17
176.78	2.50	6.40	8.57
125.00	3.00	12.36	20.93
88.39	3.50	14.84	35.77
62.50	4.00	11.94	47.71
44.19	4.50	6.96	54.67
31.25	5.00	3.98	58.65
22.10	5.50	3.70	62.36
15.63	6.00	4.47	66.82
11.05	6.50	5.05	71.87
7.81	7.00	5.30	77.17
5.52	7.50	5.37	82.54
3.91	8.00	5.08	87.61
2.76	8.50	4.34	91.96
1.95	9.00	3.20	95.15
1.38	9.50	2.14	97.30
0.98	10.00	1.50	98.80
< 0.98	> 10.00	1.20	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	107	Very fine sand
Mode 2 [µm]*	7	Very fine silt
Mode 3 [µm]*	-	-
Median [µm]*	56	Coarse silt
Median [phi]*	4.16	
Mean [µm]*†	34	Coarse silt
Mean [phi]*†	4.87	
Sorting [µm]†	4.71	Very poorly sorted
Sorting [phi]†	2.23	
Skewness [µm]†	-0.43	Very fine skewed
Skewness [phi]†	0.43	
Gravel [%]‡	0.24	Sandy mud
Sand [%]‡	47.48	
Fines [%]‡	52.29	

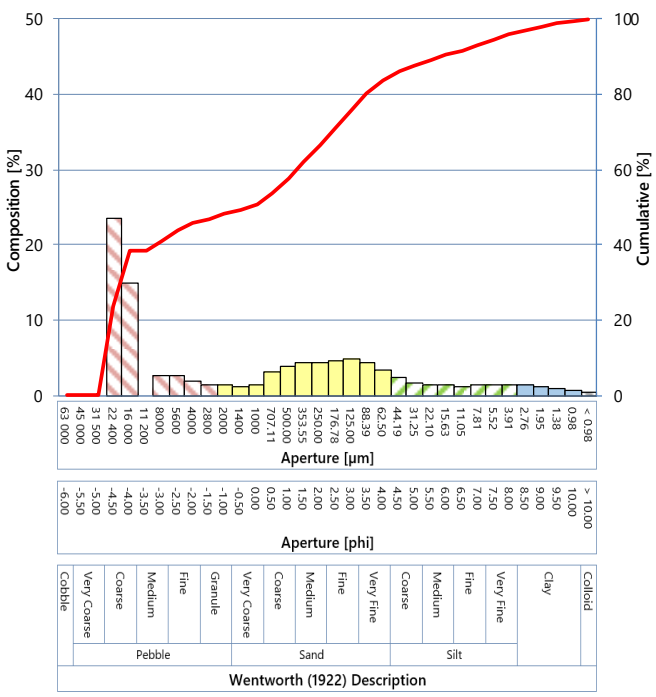
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST06

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	23.58	23.58
16 000	-4.00	14.83	38.41
11 200	-3.50	0.00	38.41
8000	-3.00	2.56	40.97
5600	-2.50	2.68	43.65
4000	-2.00	1.96	45.60
2800	-1.50	1.28	46.88
2000	-1.00	1.35	48.23
1400	-0.50	1.17	49.41
1000	0.00	1.29	50.70
707.11	0.50	3.01	53.71
500.00	1.00	3.95	57.66
353.55	1.50	4.35	62.01
250.00	2.00	4.45	66.46
176.78	2.50	4.67	71.13
125.00	3.00	4.85	75.99
88.39	3.50	4.46	80.45
62.50	4.00	3.42	83.87
44.19	4.50	2.32	86.19
31.25	5.00	1.64	87.84
22.10	5.50	1.38	89.22
15.63	6.00	1.30	90.52
11.05	6.50	1.26	91.79
7.81	7.00	1.27	93.06
5.52	7.50	1.33	94.39
3.91	8.00	1.36	95.76
2.76	8.50	1.29	97.05
1.95	9.00	1.06	98.10
1.38	9.50	0.79	98.90
0.98	10.00	0.60	99.50
< 0.98	> 10.00	0.50	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	26950	Coarse pebble
Mode 2 [µm]*	151	Fine sand
Mode 3 [µm]*	-	-
Median [µm]*	1200	Very coarse sand
Median [phi]*	-0.26	
Mean [µm]*†	1225	Very coarse sand
Mean [phi]*†	-0.29	
Sorting [µm]†	16.87	Extremely poorly sorted
Sorting [phi]†	4.08	
Skewness [µm]†	-0.13	Fine skewed
Skewness [phi]†	0.13	
Gravel [%]‡	48.23	Muddy, sandy gravel
Sand [%]‡	35.64	
Fines [%]‡	16.13	

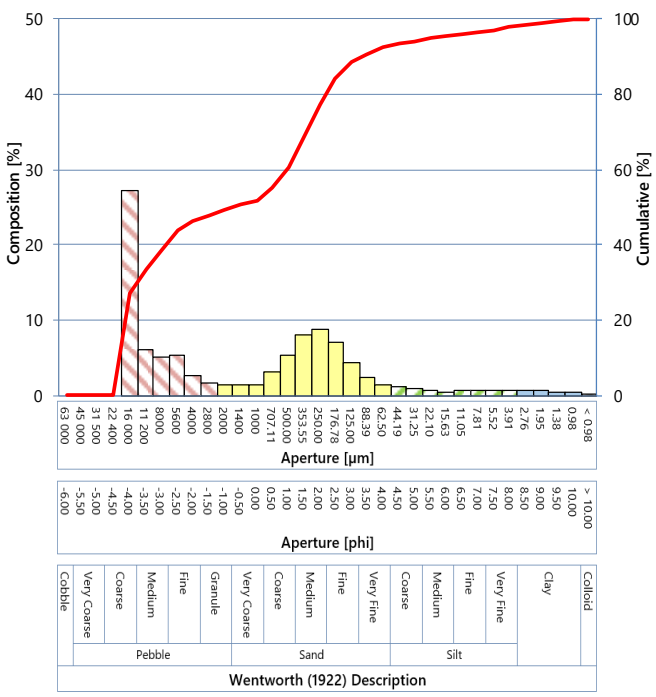
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST07

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	27.31	27.31
11 200	-3.50	6.02	33.34
8000	-3.00	4.97	38.31
5600	-2.50	5.39	43.69
4000	-2.00	2.53	46.22
2800	-1.50	1.71	47.94
2000	-1.00	1.37	49.30
1400	-0.50	1.31	50.61
1000	0.00	1.29	51.91
707.11	0.50	3.02	54.92
500.00	1.00	5.41	60.33
353.55	1.50	8.00	68.33
250.00	2.00	8.86	77.19
176.78	2.50	7.07	84.27
125.00	3.00	4.23	88.50
88.39	3.50	2.30	90.80
62.50	4.00	1.50	92.30
44.19	4.50	1.12	93.42
31.25	5.00	0.79	94.22
22.10	5.50	0.56	94.78
15.63	6.00	0.50	95.28
11.05	6.50	0.54	95.82
7.81	7.00	0.62	96.44
5.52	7.50	0.69	97.13
3.91	8.00	0.72	97.85
2.76	8.50	0.68	98.53
1.95	9.00	0.56	99.09
1.38	9.50	0.41	99.50
0.98	10.00	0.29	99.79
< 0.98	> 10.00	0.21	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	19200	Coarse pebble
Mode 2 [µm]*	302	Medium sand
Mode 3 [µm]*	6800	Fine pebble
Median [µm]*	1654	Very coarse sand
Median [phi]*	-0.73	
Mean [µm]*†	1760	Very coarse sand
Mean [phi]*†	-0.82	
Sorting [µm]†	9.21	Very poorly sorted
Sorting [phi]†	3.20	
Skewness [µm]†	-0.12	Fine skewed
Skewness [phi]†	0.12	
Gravel [%]‡	49.30	Muddy, sandy gravel
Sand [%]‡	42.99	
Fines [%]‡	7.70	

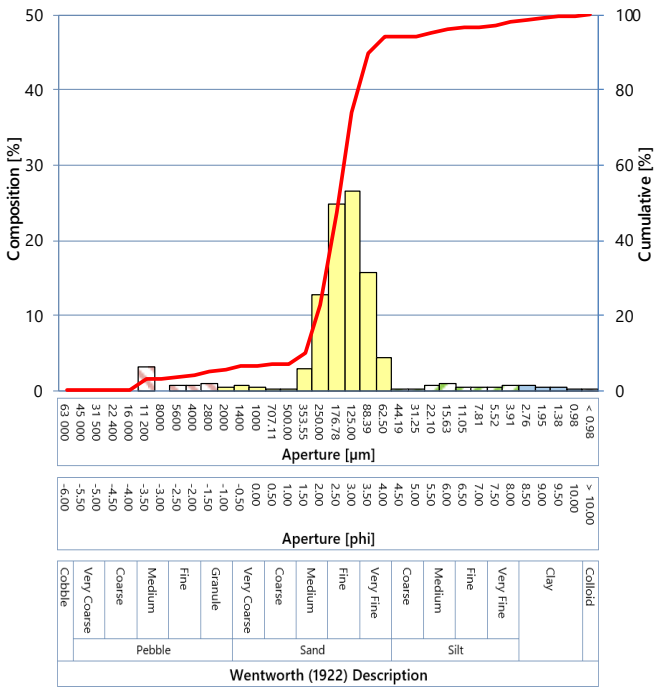
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST10

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	3.07	3.07
8000	-3.00	0.00	3.07
5600	-2.50	0.67	3.74
4000	-2.00	0.61	4.34
2800	-1.50	0.98	5.32
2000	-1.00	0.46	5.78
1400	-0.50	0.57	6.35
1000	0.00	0.45	6.81
707.11	0.50	0.16	6.97
500.00	1.00	0.13	7.10
353.55	1.50	2.85	9.95
250.00	2.00	12.66	22.61
176.78	2.50	24.89	47.50
125.00	3.00	26.58	74.08
88.39	3.50	15.63	89.71
62.50	4.00	4.27	93.98
44.19	4.50	0.18	94.17
31.25	5.00	0.07	94.24
22.10	5.50	0.81	95.05
15.63	6.00	0.90	95.95
11.05	6.50	0.55	96.50
7.81	7.00	0.39	96.89
5.52	7.50	0.51	97.39
3.91	8.00	0.63	98.03
2.76	8.50	0.63	98.66
1.95	9.00	0.51	99.17
1.38	9.50	0.37	99.54
0.98	10.00	0.27	99.80
< 0.98	> 10.00	0.20	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	151	Fine sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	171	Fine sand
Median [phi]*	2.55	
Mean [µm]*†	173	Fine sand
Mean [phi]*†	2.53	
Sorting [µm]†	2.78	Poorly sorted
Sorting [phi]†	1.47	
Skewness [µm]†	0.10	Coarse skewed
Skewness [phi]†	-0.10	
Gravel [%]‡	5.78	Gravelly sand
Sand [%]‡	88.20	
Fines [%]‡	6.02	

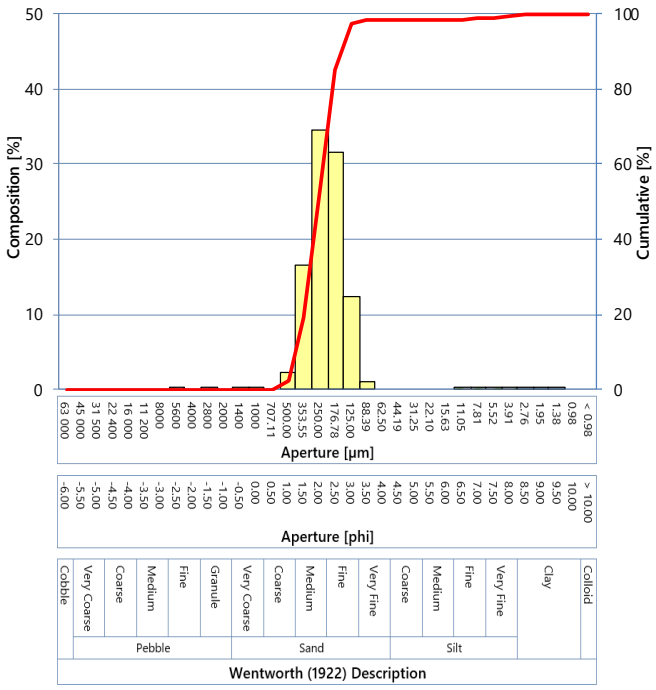
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST11

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.03	0.03
4000	-2.00	0.00	0.03
2800	-1.50	0.02	0.05
2000	-1.00	0.00	0.05
1400	-0.50	0.00	0.05
1000	0.00	0.02	0.07
707.11	0.50	0.00	0.07
500.00	1.00	2.34	2.41
353.55	1.50	16.61	19.02
250.00	2.00	34.54	53.55
176.78	2.50	31.60	85.15
125.00	3.00	12.25	97.40
88.39	3.50	1.04	98.44
62.50	4.00	0.00	98.44
44.19	4.50	0.00	98.44
31.25	5.00	0.00	98.44
22.10	5.50	0.00	98.44
15.63	6.00	0.00	98.44
11.05	6.50	0.02	98.46
7.81	7.00	0.28	98.74
5.52	7.50	0.40	99.15
3.91	8.00	0.38	99.52
2.76	8.50	0.28	99.80
1.95	9.00	0.19	99.99
1.38	9.50	0.01	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	302	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	259	Medium sand
Median [phi]*	1.95	
Mean [µm]*†	259	Medium sand
Mean [phi]*†	1.95	
Sorting [µm]†	1.46	Moderately well sorted
Sorting [phi]†	0.54	
Skewness [µm]†	-0.02	Symmetrical
Skewness [phi]†	0.02	
Gravel [%]‡	0.05	Sand
Sand [%]‡	98.39	
Fines [%]‡	1.56	

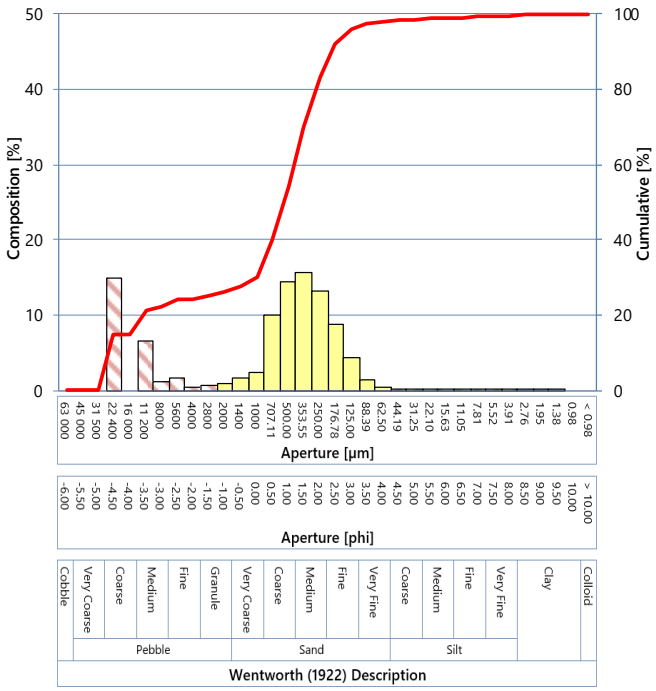
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST12

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	14.87	14.87
16 000	-4.00	0.00	14.87
11 200	-3.50	6.49	21.35
8000	-3.00	1.10	22.45
5600	-2.50	1.51	23.96
4000	-2.00	0.38	24.35
2800	-1.50	0.70	25.05
2000	-1.00	0.98	26.03
1400	-0.50	1.51	27.54
1000	0.00	2.31	29.85
707.11	0.50	9.98	39.82
500.00	1.00	14.30	54.13
353.55	1.50	15.71	69.83
250.00	2.00	13.30	83.14
176.78	2.50	8.72	91.86
125.00	3.00	4.28	96.14
88.39	3.50	1.49	97.63
62.50	4.00	0.42	98.05
44.19	4.50	0.23	98.28
31.25	5.00	0.23	98.51
22.10	5.50	0.18	98.69
15.63	6.00	0.14	98.83
11.05	6.50	0.16	98.98
7.81	7.00	0.20	99.18
5.52	7.50	0.23	99.41
3.91	8.00	0.23	99.64
2.76	8.50	0.20	99.84
1.95	9.00	0.15	99.99
1.38	9.50	0.01	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	26950	Coarse pebble
Mode 3 [µm]*	13600	Medium pebble
Median [µm]*	553	Coarse sand
Median [phi]*	0.86	
Mean [µm]*†	1261	Very coarse sand
Mean [phi]*†	-0.33	
Sorting [µm]†	6.29	Very poorly sorted
Sorting [phi]†	2.65	
Skewness [µm]†	0.54	Very coarse skewed
Skewness [phi]†	-0.54	
Gravel [%]‡	26.03	Gravelly sand
Sand [%]‡	72.02	
Fines [%]‡	1.95	

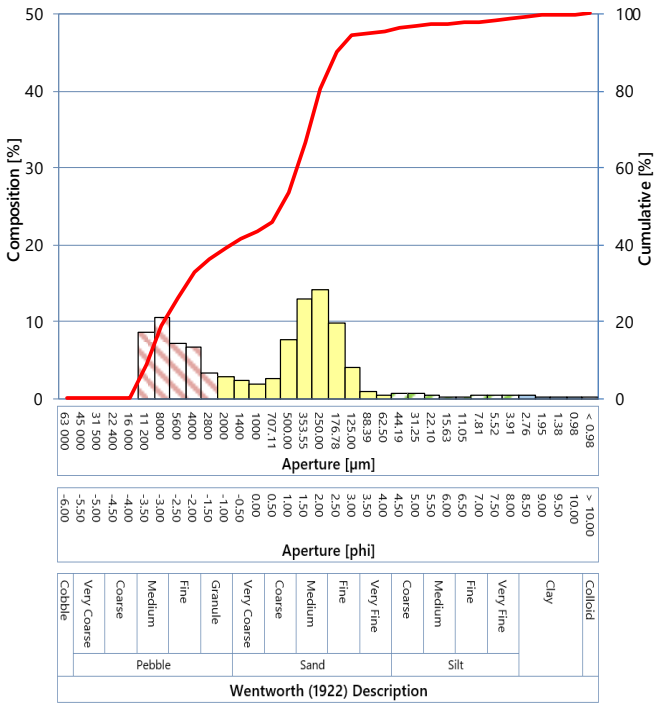
Notes
Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals
* = Particle size expressed in accordance with Wentworth (1922) scale
† = Statistics calculated using Folk and Ward (1957) method
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST14

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	8.60	8.60
8000	-3.00	10.46	19.06
5600	-2.50	7.27	26.33
4000	-2.00	6.74	33.07
2800	-1.50	3.35	36.42
2000	-1.00	2.72	39.15
1400	-0.50	2.29	41.44
1000	0.00	1.97	43.41
707.11	0.50	2.59	46.00
500.00	1.00	7.65	53.65
353.55	1.50	12.95	66.60
250.00	2.00	14.05	80.65
176.78	2.50	9.70	90.35
125.00	3.00	3.96	94.31
88.39	3.50	0.86	95.17
62.50	4.00	0.42	95.59
44.19	4.50	0.68	96.27
31.25	5.00	0.60	96.87
22.10	5.50	0.33	97.20
15.63	6.00	0.21	97.41
11.05	6.50	0.27	97.68
7.81	7.00	0.36	98.05
5.52	7.50	0.41	98.46
3.91	8.00	0.42	98.88
2.76	8.50	0.38	99.26
1.95	9.00	0.30	99.57
1.38	9.50	0.21	99.78
0.98	10.00	0.14	99.92
< 0.98	> 10.00	0.08	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	302	Medium sand
Mode 2 [µm]*	9600	Medium pebble
Mode 3 [µm]*	-	-
Median [µm]*	590	Coarse sand
Median [phi]*	0.76	
Mean [µm]*†	1049	Very coarse sand
Mean [phi]*†	-0.07	
Sorting [µm]†	5.30	Very poorly sorted
Sorting [phi]†	2.40	
Skewness [µm]†	0.36	Very coarse skewed
Skewness [phi]†	-0.36	
Gravel [%]‡	39.15	Sandy gravel
Sand [%]‡	56.44	
Fines [%]‡	4.41	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

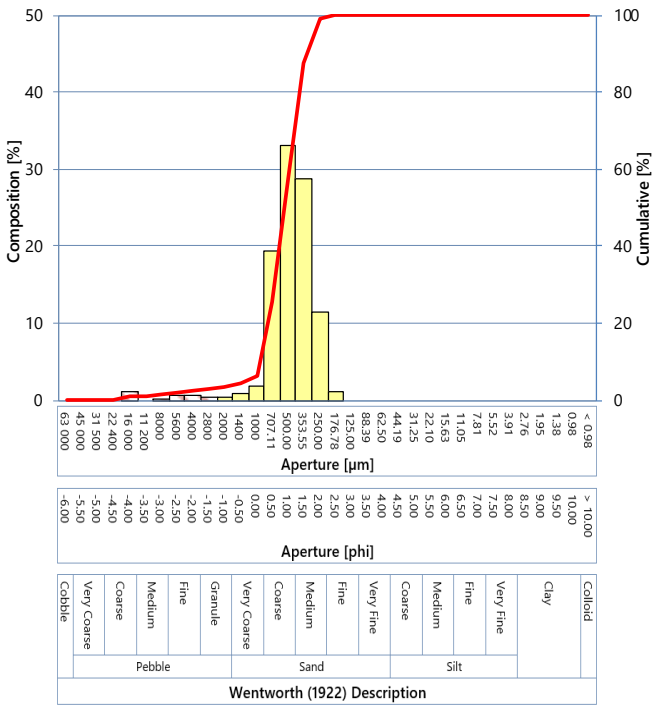
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST15

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	1.08	1.08
11 200	-3.50	0.00	1.08
8000	-3.00	0.18	1.26
5600	-2.50	0.58	1.84
4000	-2.00	0.73	2.57
2800	-1.50	0.43	3.01
2000	-1.00	0.42	3.43
1400	-0.50	0.85	4.28
1000	0.00	1.87	6.15
707.11	0.50	19.30	25.45
500.00	1.00	33.09	58.54
353.55	1.50	28.86	87.40
250.00	2.00	11.49	98.89
176.78	2.50	1.11	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	604	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	547	Coarse sand
Median [phi]*	0.87	
Mean [µm]*†	553	Coarse sand
Mean [phi]*†	0.86	
Sorting [µm]†	1.54	Moderately well sorted
Sorting [phi]†	0.62	
Skewness [µm]†	0.07	Symmetrical
Skewness [phi]†	-0.07	
Gravel [%]‡	3.43	Sand
Sand [%]‡	96.57	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

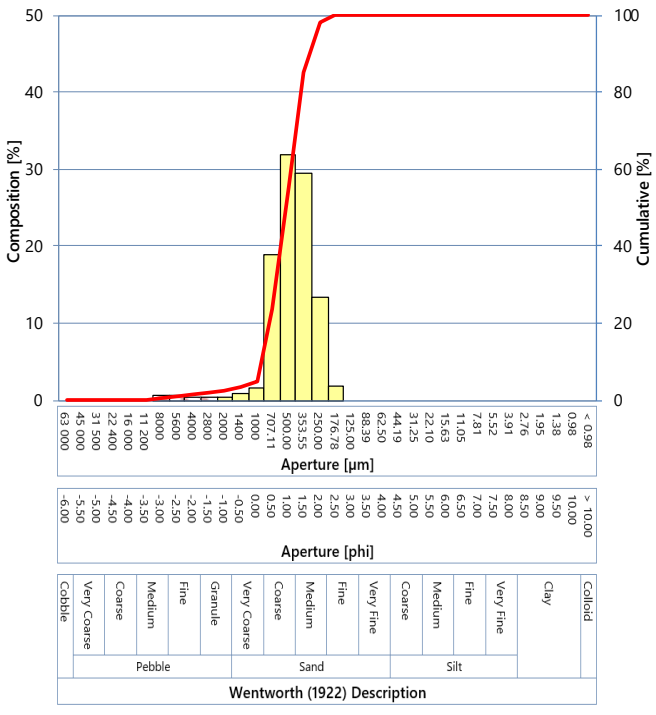
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST16

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.58	0.58
5600	-2.50	0.53	1.11
4000	-2.00	0.28	1.39
2800	-1.50	0.46	1.85
2000	-1.00	0.42	2.27
1400	-0.50	0.96	3.23
1000	0.00	1.51	4.74
707.11	0.50	18.95	23.69
500.00	1.00	31.87	55.56
353.55	1.50	29.44	85.00
250.00	2.00	13.29	98.29
176.78	2.50	1.71	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	604	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	531	Coarse sand
Median [phi]*	0.91	
Mean [µm]*†	537	Coarse sand
Mean [phi]*†	0.90	
Sorting [µm]†	1.49	Moderately well sorted
Sorting [phi]†	0.58	
Skewness [µm]†	0.00	Symmetrical
Skewness [phi]†	0.00	
Gravel [%]‡	2.27	Sand
Sand [%]‡	97.73	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

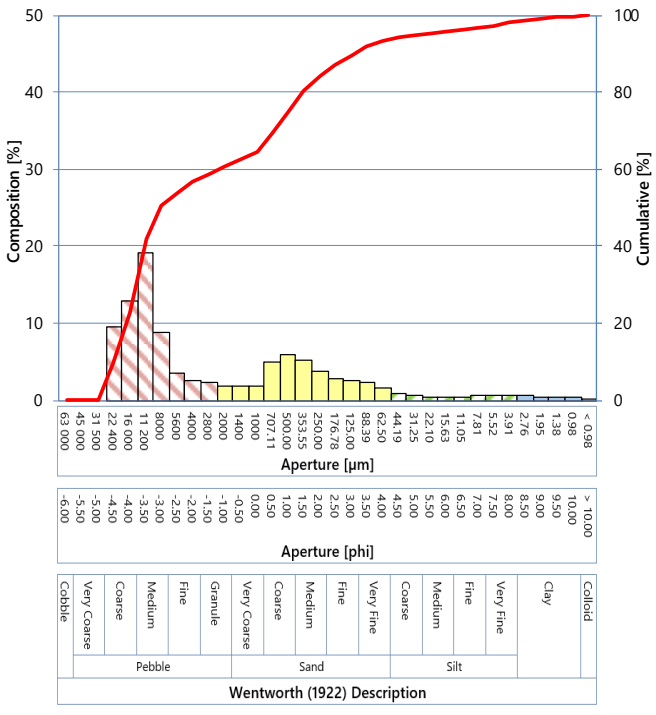
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST17

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	9.62	9.62
16 000	-4.00	12.96	22.57
11 200	-3.50	19.15	41.73
8000	-3.00	8.79	50.52
5600	-2.50	3.56	54.09
4000	-2.00	2.59	56.67
2800	-1.50	2.21	58.88
2000	-1.00	1.80	60.68
1400	-0.50	1.75	62.43
1000	0.00	1.90	64.33
707.11	0.50	4.94	69.27
500.00	1.00	5.91	75.18
353.55	1.50	5.23	80.41
250.00	2.00	3.77	84.18
176.78	2.50	2.85	87.03
125.00	3.00	2.58	89.61
88.39	3.50	2.26	91.87
62.50	4.00	1.59	93.47
44.19	4.50	0.90	94.37
31.25	5.00	0.52	94.88
22.10	5.50	0.43	95.32
15.63	6.00	0.46	95.78
11.05	6.50	0.49	96.27
7.81	7.00	0.53	96.80
5.52	7.50	0.59	97.39
3.91	8.00	0.62	98.01
2.76	8.50	0.60	98.62
1.95	9.00	0.50	99.12
1.38	9.50	0.38	99.50
0.98	10.00	0.28	99.78
< 0.98	> 10.00	0.22	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	13600	Medium pebble
Mode 2 [µm]*	604	Coarse sand
Mode 3 [µm]*	-	-
Median [µm]*	8161	Medium pebble
Median [phi]*	-3.03	
Mean [µm]*†	3402	Granule
Mean [phi]*†	-1.77	
Sorting [µm]†	8.27	Very poorly sorted
Sorting [phi]†	3.05	
Skewness [µm]†	-0.63	Very fine skewed
Skewness [phi]†	0.63	
Gravel [%]‡	60.68	Muddy, sandy gravel
Sand [%]‡	32.79	
Fines [%]‡	6.53	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

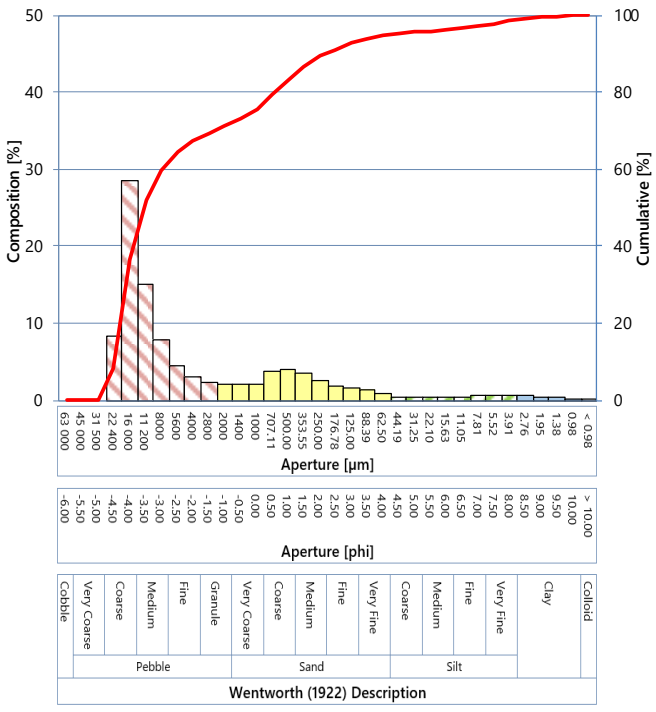
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST18

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	8.33	8.33
16 000	-4.00	28.46	36.79
11 200	-3.50	15.13	51.92
8000	-3.00	7.75	59.67
5600	-2.50	4.56	64.23
4000	-2.00	2.92	67.15
2800	-1.50	2.19	69.34
2000	-1.00	1.98	71.33
1400	-0.50	2.00	73.33
1000	0.00	2.12	75.44
707.11	0.50	3.81	79.26
500.00	1.00	4.08	83.34
353.55	1.50	3.47	86.81
250.00	2.00	2.48	89.29
176.78	2.50	1.79	91.07
125.00	3.00	1.53	92.60
88.39	3.50	1.29	93.89
62.50	4.00	0.88	94.77
44.19	4.50	0.48	95.25
31.25	5.00	0.31	95.56
22.10	5.50	0.33	95.88
15.63	6.00	0.40	96.28
11.05	6.50	0.47	96.75
7.81	7.00	0.53	97.28
5.52	7.50	0.58	97.86
3.91	8.00	0.59	98.45
2.76	8.50	0.53	98.98
1.95	9.00	0.41	99.38
1.38	9.50	0.28	99.66
0.98	10.00	0.19	99.85
< 0.98	> 10.00	0.15	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	19200	Coarse pebble
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	11718	Medium pebble
Median [phi]*	-3.55	
Mean [µm]*†	4823	Fine pebble
Mean [phi]*†	-2.27	
Sorting [µm]†	6.56	Very poorly sorted
Sorting [phi]†	2.71	
Skewness [µm]†	-0.73	Very fine skewed
Skewness [phi]†	0.73	
Gravel [%]‡	71.33	Muddy, sandy gravel
Sand [%]‡	23.44	
Fines [%]‡	5.23	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

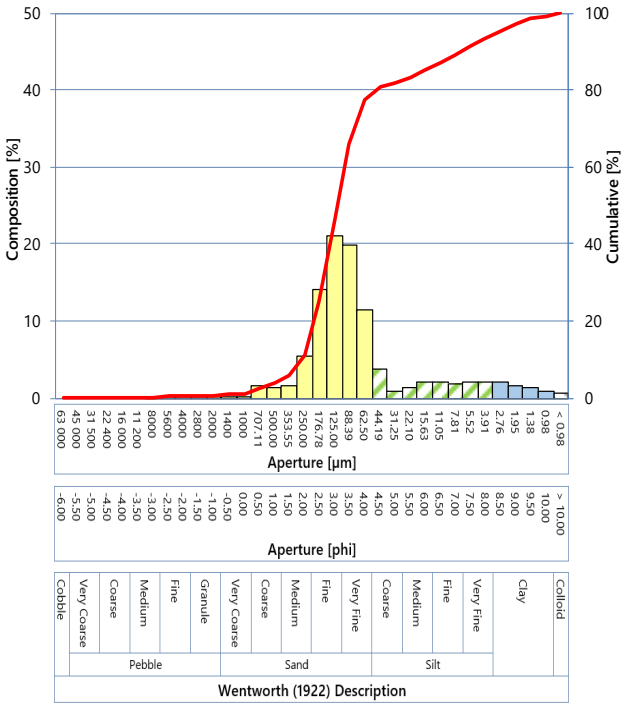
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST19

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.25	0.25
5600	-2.50	0.06	0.31
4000	-2.00	0.07	0.37
2800	-1.50	0.17	0.54
2000	-1.00	0.12	0.66
1400	-0.50	0.17	0.83
1000	0.00	0.19	1.02
707.11	0.50	1.62	2.64
500.00	1.00	1.39	4.03
353.55	1.50	1.57	5.60
250.00	2.00	5.48	11.08
176.78	2.50	14.02	25.10
125.00	3.00	21.15	46.25
88.39	3.50	19.74	65.99
62.50	4.00	11.36	77.35
44.19	4.50	3.69	81.03
31.25	5.00	0.89	81.93
22.10	5.50	1.29	83.22
15.63	6.00	1.98	85.20
11.05	6.50	2.04	87.25
7.81	7.00	1.93	89.18
5.52	7.50	2.03	91.20
3.91	8.00	2.16	93.36
2.76	8.50	2.08	95.44
1.95	9.00	1.70	97.14
1.38	9.50	1.24	98.38
0.98	10.00	0.90	99.28
< 0.98	> 10.00	0.72	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	151	Fine sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	117	Very fine sand
Median [phi]*	3.10	
Mean [µm]*†	79	Very fine sand
Mean [phi]*†	3.66	
Sorting [µm]†	3.87	Poorly sorted
Sorting [phi]†	1.95	
Skewness [µm]†	-0.49	Very fine skewed
Skewness [phi]†	0.49	
Gravel [%]‡	0.66	Muddy sand
Sand [%]‡	76.69	
Fines [%]‡	22.65	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

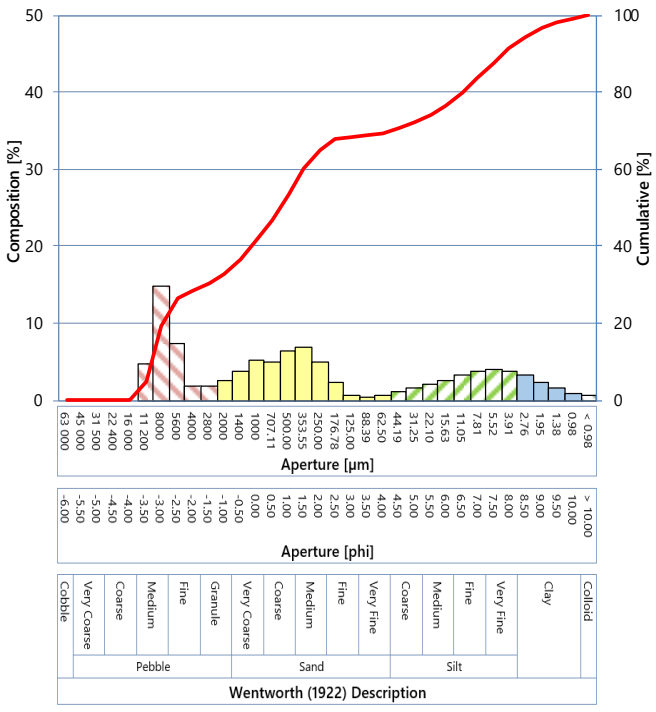
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST20

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	4.69	4.69
8000	-3.00	14.69	19.38
5600	-2.50	7.29	26.67
4000	-2.00	1.87	28.53
2800	-1.50	1.81	30.35
2000	-1.00	2.61	32.96
1400	-0.50	3.82	36.78
1000	0.00	5.15	41.93
707.11	0.50	4.89	46.81
500.00	1.00	6.51	53.32
353.55	1.50	6.79	60.11
250.00	2.00	5.07	65.18
176.78	2.50	2.42	67.59
125.00	3.00	0.67	68.27
88.39	3.50	0.35	68.62
62.50	4.00	0.72	69.34
44.19	4.50	1.14	70.48
31.25	5.00	1.54	72.02
22.10	5.50	2.01	74.03
15.63	6.00	2.60	76.63
11.05	6.50	3.21	79.84
7.81	7.00	3.71	83.55
5.52	7.50	3.95	87.51
3.91	8.00	3.77	91.28
2.76	8.50	3.20	94.48
1.95	9.00	2.33	96.81
1.38	9.50	1.52	98.33
0.98	10.00	0.98	99.31
< 0.98	> 10.00	0.69	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	9600	Medium pebble
Mode 2 [µm]*	427	Medium sand
Mode 3 [µm]*	1200	Very coarse sand
Median [µm]*	597	Coarse sand
Median [phi]*	0.74	
Mean [µm]*†	338	Medium sand
Mean [phi]*†	1.56	
Sorting [µm]†	20.73	Extremely poorly sorted
Sorting [phi]†	4.37	
Skewness [µm]†	-0.27	Fine skewed
Skewness [phi]†	0.27	
Gravel [%]‡	32.96	Muddy, sandy gravel
Sand [%]‡	36.38	
Fines [%]‡	30.66	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

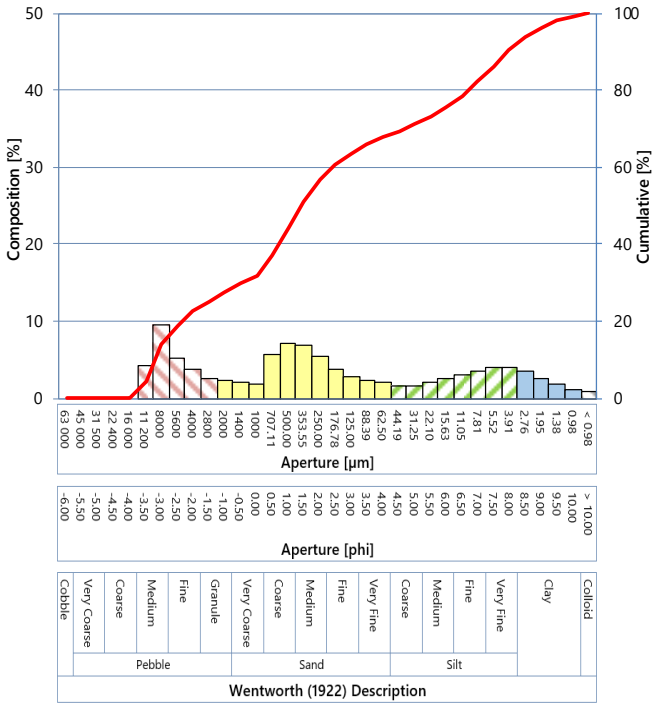
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST21

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	4.32	4.32
8000	-3.00	9.44	13.77
5600	-2.50	5.10	18.87
4000	-2.00	3.73	22.60
2800	-1.50	2.63	25.22
2000	-1.00	2.34	27.56
1400	-0.50	2.14	29.69
1000	0.00	1.88	31.58
707.11	0.50	5.67	37.24
500.00	1.00	7.04	44.28
353.55	1.50	6.90	51.18
250.00	2.00	5.44	56.62
176.78	2.50	3.84	60.45
125.00	3.00	2.90	63.35
88.39	3.50	2.42	65.78
62.50	4.00	2.00	67.78
44.19	4.50	1.69	69.47
31.25	5.00	1.69	71.16
22.10	5.50	1.99	73.15
15.63	6.00	2.46	75.61
11.05	6.50	3.01	78.62
7.81	7.00	3.58	82.21
5.52	7.50	4.00	86.20
3.91	8.00	3.98	90.18
2.76	8.50	3.49	93.67
1.95	9.00	2.60	96.27
1.38	9.50	1.73	98.00
0.98	10.00	1.15	99.15
< 0.98	> 10.00	0.85	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	9600	Medium pebble
Mode 2 [µm]*	604	Coarse sand
Mode 3 [µm]*	5	Very fine silt
Median [µm]*	375	Medium sand
Median [phi]*	1.41	
Mean [µm]*†	258	Medium sand
Mean [phi]*†	1.96	
Sorting [µm]†	20.39	Extremely poorly sorted
Sorting [phi]†	4.35	
Skewness [µm]†	-0.18	Fine skewed
Skewness [phi]†	0.18	
Gravel [%]‡	27.56	Gravelly muddy sand
Sand [%]‡	40.23	
Fines [%]‡	32.22	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

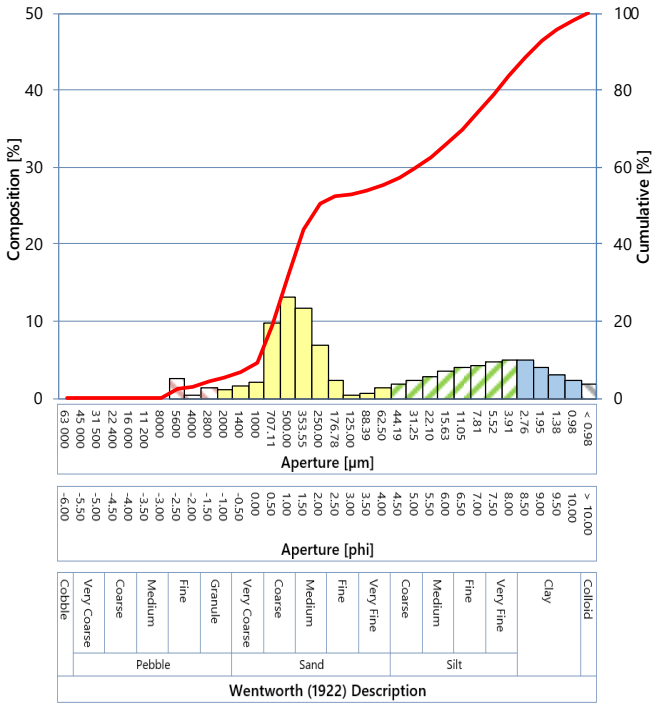
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST22

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	2.65	2.65
4000	-2.00	0.30	2.95
2800	-1.50	1.42	4.37
2000	-1.00	1.15	5.51
1400	-0.50	1.50	7.01
1000	0.00	2.12	9.13
707.11	0.50	9.87	19.00
500.00	1.00	13.01	32.01
353.55	1.50	11.70	43.72
250.00	2.00	6.75	50.47
176.78	2.50	2.19	52.66
125.00	3.00	0.41	53.08
88.39	3.50	0.69	53.77
62.50	4.00	1.43	55.20
44.19	4.50	1.93	57.13
31.25	5.00	2.34	59.47
22.10	5.50	2.87	62.35
15.63	6.00	3.44	65.79
11.05	6.50	3.90	69.69
7.81	7.00	4.31	74.00
5.52	7.50	4.76	78.76
3.91	8.00	5.05	83.81
2.76	8.50	4.91	88.71
1.95	9.00	4.10	92.82
1.38	9.50	3.06	95.88
0.98	10.00	2.27	98.15
< 0.98	> 10.00	1.85	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	604	Coarse sand
Mode 2 [µm]*	5	Very fine silt
Mode 3 [µm]*	6800	Fine pebble
Median [µm]*	256	Medium sand
Median [phi]*	1.97	
Mean [µm]*†	92	Very fine sand
Mean [phi]*†	3.44	
Sorting [µm]†	11.47	Very poorly sorted
Sorting [phi]†	3.52	
Skewness [µm]†	-0.49	Very fine skewed
Skewness [phi]†	0.49	
Gravel [%]‡	5.51	Gravelly muddy sand
Sand [%]‡	49.68	
Fines [%]‡	44.80	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

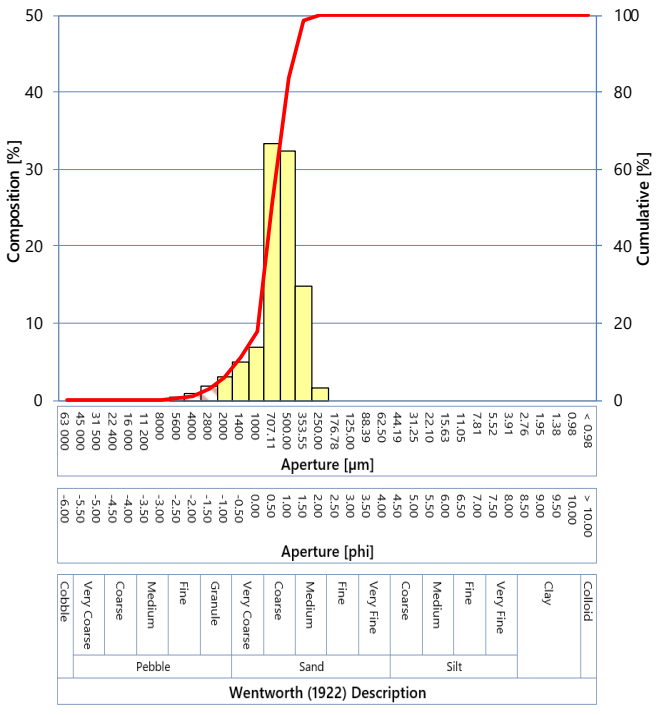
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST25

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.41	0.41
4000	-2.00	0.84	1.25
2800	-1.50	1.71	2.96
2000	-1.00	3.06	6.01
1400	-0.50	5.04	11.05
1000	0.00	6.81	17.86
707.11	0.50	33.22	51.08
500.00	1.00	32.47	83.55
353.55	1.50	14.82	98.37
250.00	2.00	1.63	100.00
176.78	2.50	0.00	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		100.00	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	854	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	715	Coarse sand
Median [phi]*	0.48	
Mean [µm]*†	729	Coarse sand
Mean [phi]*†	0.46	
Sorting [µm]†	1.59	Moderately well sorted
Sorting [phi]†	0.67	
Skewness [µm]†	0.18	Coarse skewed
Skewness [phi]†	-0.18	
Gravel [%]‡	6.01	Gravelly sand
Sand [%]‡	93.99	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

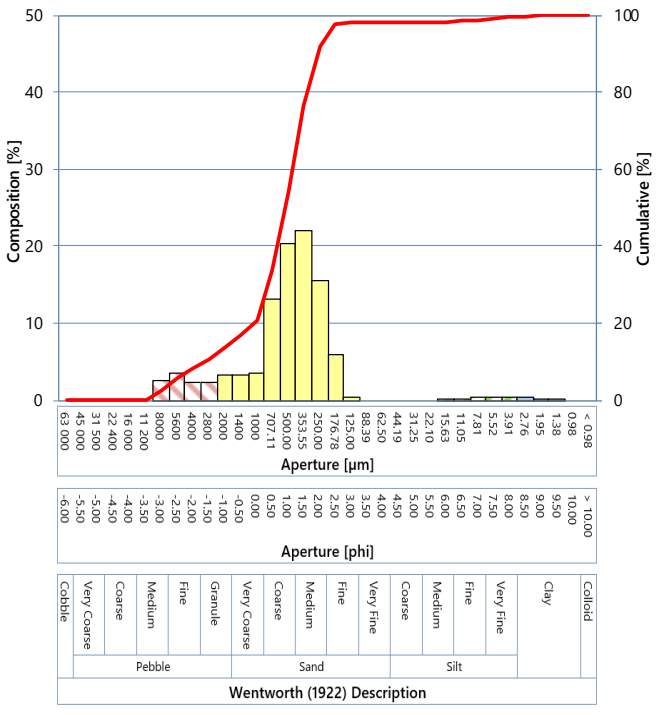
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST27

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	2.46	2.46
5600	-2.50	3.46	5.92
4000	-2.00	2.34	8.26
2800	-1.50	2.32	10.57
2000	-1.00	3.17	13.74
1400	-0.50	3.34	17.08
1000	0.00	3.51	20.59
707.11	0.50	13.19	33.78
500.00	1.00	20.42	54.20
353.55	1.50	22.06	76.26
250.00	2.00	15.54	91.80
176.78	2.50	6.00	97.80
125.00	3.00	0.46	98.26
88.39	3.50	0.00	98.26
62.50	4.00	0.00	98.26
44.19	4.50	0.00	98.26
31.25	5.00	0.00	98.26
22.10	5.50	0.00	98.26
15.63	6.00	0.01	98.27
11.05	6.50	0.21	98.48
7.81	7.00	0.29	98.77
5.52	7.50	0.32	99.09
3.91	8.00	0.31	99.41
2.76	8.50	0.28	99.68
1.95	9.00	0.21	99.89
1.38	9.50	0.11	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	6800	Fine pebble
Mode 3 [µm]*	-	-
Median [µm]*	537	Coarse sand
Median [phi]*	0.90	
Mean [µm]*†	631	Coarse sand
Mean [phi]*†	0.66	
Sorting [µm]†	2.53	Poorly sorted
Sorting [phi]†	1.34	
Skewness [µm]†	0.37	Very coarse skewed
Skewness [phi]†	-0.37	
Gravel [%]‡	13.74	Gravelly sand
Sand [%]‡	84.51	
Fines [%]‡	1.74	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

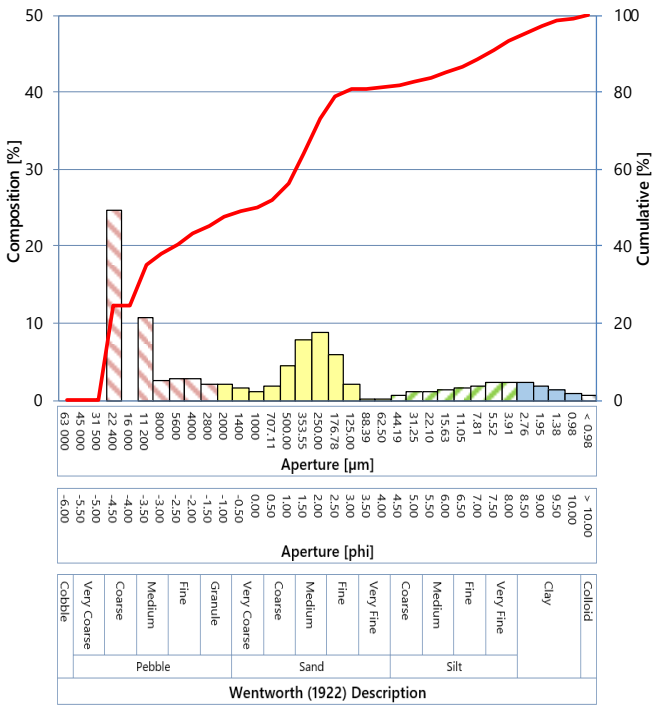
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST28

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	24.60	24.60
16 000	-4.00	0.00	24.60
11 200	-3.50	10.66	35.26
8000	-3.00	2.61	37.87
5600	-2.50	2.76	40.63
4000	-2.00	2.68	43.31
2800	-1.50	2.16	45.47
2000	-1.00	1.96	47.43
1400	-0.50	1.50	48.93
1000	0.00	1.01	49.93
707.11	0.50	1.94	51.88
500.00	1.00	4.55	56.42
353.55	1.50	7.78	64.21
250.00	2.00	8.70	72.91
176.78	2.50	5.87	78.78
125.00	3.00	2.03	80.81
88.39	3.50	0.19	81.00
62.50	4.00	0.08	81.08
44.19	4.50	0.61	81.69
31.25	5.00	0.99	82.68
22.10	5.50	1.11	83.80
15.63	6.00	1.24	85.04
11.05	6.50	1.51	86.54
7.81	7.00	1.89	88.43
5.52	7.50	2.25	90.69
3.91	8.00	2.40	93.09
2.76	8.50	2.25	95.34
1.95	9.00	1.79	97.13
1.38	9.50	1.27	98.39
0.98	10.00	0.90	99.29
< 0.98	> 10.00	0.71	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	26950	Coarse pebble
Mode 2 [µm]*	13600	Medium pebble
Mode 3 [µm]*	302	Medium sand
Median [µm]*	988	Coarse sand
Median [phi]*	0.02	
Mean [µm]*†	805	Coarse sand
Mean [phi]*†	0.31	
Sorting [µm]†	23.84	Extremely poorly sorted
Sorting [phi]†	4.58	
Skewness [µm]†	-0.18	Fine skewed
Skewness [phi]†	0.18	
Gravel [%]‡	47.43	Muddy, sandy gravel
Sand [%]‡	33.65	
Fines [%]‡	18.92	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

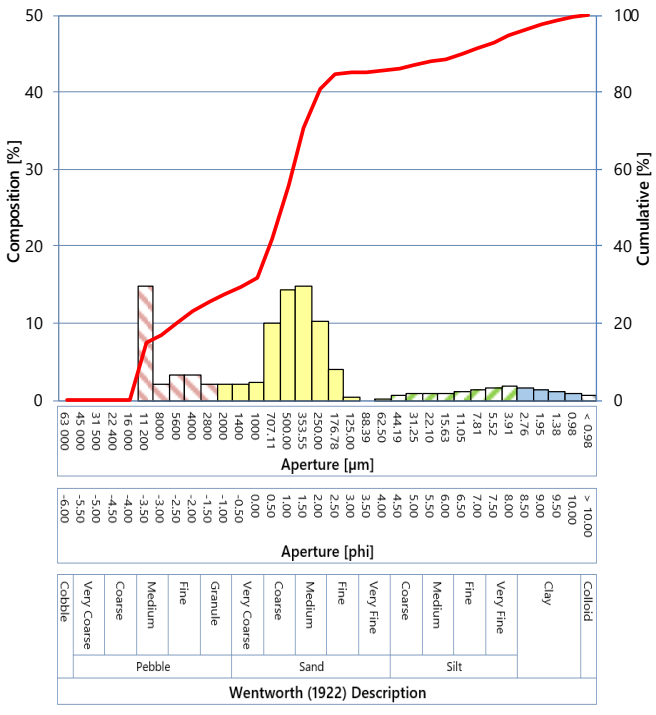
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST31

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	14.76	14.76
8000	-3.00	2.13	16.90
5600	-2.50	3.15	20.05
4000	-2.00	3.31	23.36
2800	-1.50	2.17	25.52
2000	-1.00	2.03	27.55
1400	-0.50	1.98	29.53
1000	0.00	2.32	31.86
707.11	0.50	9.91	41.77
500.00	1.00	14.25	56.01
353.55	1.50	14.79	70.80
250.00	2.00	10.16	80.97
176.78	2.50	3.90	84.87
125.00	3.00	0.45	85.32
88.39	3.50	0.00	85.32
62.50	4.00	0.23	85.55
44.19	4.50	0.68	86.23
31.25	5.00	0.77	87.00
22.10	5.50	0.78	87.78
15.63	6.00	0.91	88.68
11.05	6.50	1.13	89.81
7.81	7.00	1.37	91.18
5.52	7.50	1.61	92.79
3.91	8.00	1.73	94.51
2.76	8.50	1.66	96.17
1.95	9.00	1.37	97.54
1.38	9.50	1.02	98.56
0.98	10.00	0.78	99.34
< 0.98	> 10.00	0.66	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	13600	Medium pebble
Mode 3 [µm]*	4800	Fine pebble
Median [µm]*	579	Coarse sand
Median [phi]*	0.79	
Mean [µm]*†	1006	Very coarse sand
Mean [phi]*†	-0.01	
Sorting [µm]†	9.27	Very poorly sorted
Sorting [phi]†	3.21	
Skewness [µm]†	0.10	Symmetrical
Skewness [phi]†	-0.10	
Gravel [%]‡	27.55	Gravelly muddy sand
Sand [%]‡	58.00	
Fines [%]‡	14.45	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

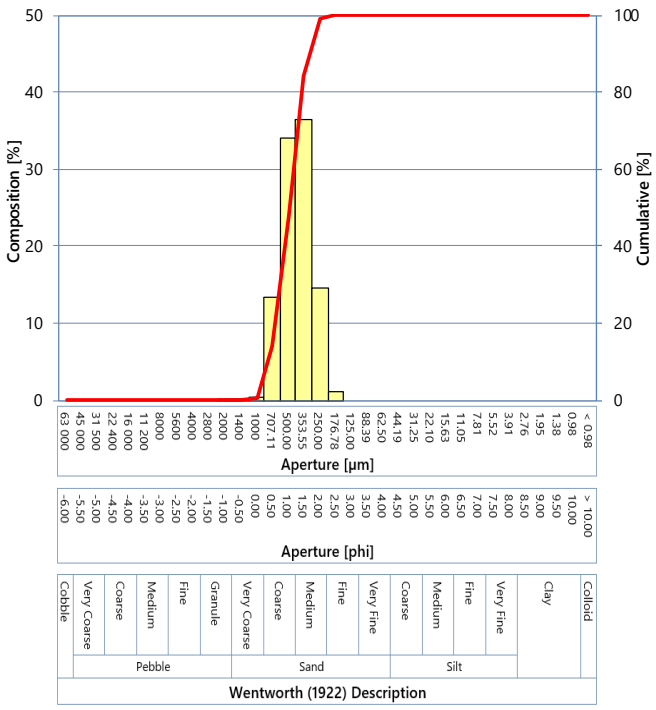
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST32

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.00	0.00
4000	-2.00	0.00	0.00
2800	-1.50	0.00	0.00
2000	-1.00	0.03	0.03
1400	-0.50	0.03	0.06
1000	0.00	0.27	0.33
707.11	0.50	13.43	13.76
500.00	1.00	33.95	47.71
353.55	1.50	36.51	84.21
250.00	2.00	14.67	98.89
176.78	2.50	1.11	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	489	Medium sand
Median [phi]*	1.03	
Mean [µm]*†	493	Medium sand
Mean [phi]*†	1.02	
Sorting [µm]†	1.41	Moderately well sorted
Sorting [phi]†	0.50	
Skewness [µm]†	0.02	Symmetrical
Skewness [phi]†	-0.02	
Gravel [%]‡	0.03	Sand
Sand [%]‡	99.97	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

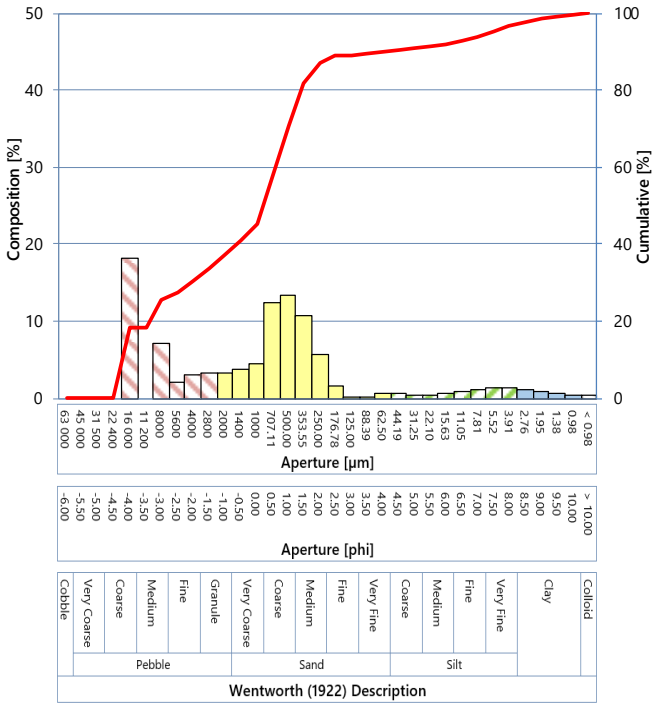
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST33

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	18.23	18.23
11 200	-3.50	0.00	18.23
8000	-3.00	7.10	25.33
5600	-2.50	2.07	27.39
4000	-2.00	3.12	30.51
2800	-1.50	3.36	33.87
2000	-1.00	3.21	37.08
1400	-0.50	3.64	40.72
1000	0.00	4.43	45.15
707.11	0.50	12.30	57.45
500.00	1.00	13.47	70.92
353.55	1.50	10.65	81.57
250.00	2.00	5.66	87.23
176.78	2.50	1.67	88.90
125.00	3.00	0.15	89.05
88.39	3.50	0.22	89.27
62.50	4.00	0.54	89.81
44.19	4.50	0.58	90.39
31.25	5.00	0.49	90.88
22.10	5.50	0.49	91.38
15.63	6.00	0.62	91.99
11.05	6.50	0.81	92.81
7.81	7.00	1.04	93.85
5.52	7.50	1.25	95.10
3.91	8.00	1.33	96.43
2.76	8.50	1.22	97.65
1.95	9.00	0.93	98.58
1.38	9.50	0.64	99.22
0.98	10.00	0.44	99.66
< 0.98	> 10.00	0.34	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	19200	Coarse pebble
Mode 2 [µm]*	604	Coarse sand
Mode 3 [µm]*	9600	Medium pebble
Median [µm]*	872	Coarse sand
Median [phi]*	0.20	
Mean [µm]*†	1642	Very coarse sand
Mean [phi]*†	-0.72	
Sorting [µm]†	9.40	Very poorly sorted
Sorting [phi]†	3.23	
Skewness [µm]†	0.12	Coarse skewed
Skewness [phi]†	-0.12	
Gravel [%]‡	37.08	Muddy, sandy gravel
Sand [%]‡	52.73	
Fines [%]‡	10.19	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

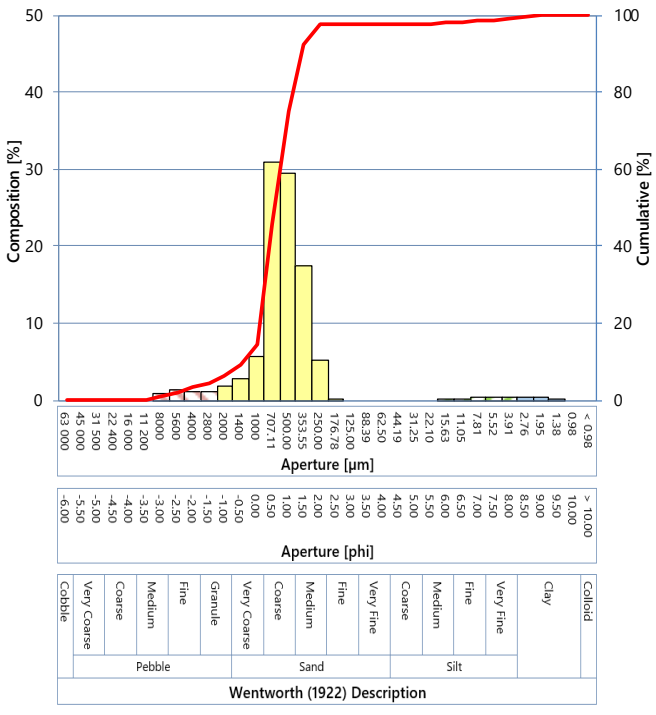
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST34

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.81	0.81
5600	-2.50	1.29	2.10
4000	-2.00	1.17	3.28
2800	-1.50	1.08	4.36
2000	-1.00	1.84	6.21
1400	-0.50	2.76	8.96
1000	0.00	5.62	14.58
707.11	0.50	30.92	45.50
500.00	1.00	29.41	74.91
353.55	1.50	17.55	92.46
250.00	2.00	5.16	97.62
176.78	2.50	0.10	97.72
125.00	3.00	0.00	97.72
88.39	3.50	0.00	97.72
62.50	4.00	0.00	97.72
44.19	4.50	0.00	97.72
31.25	5.00	0.00	97.72
22.10	5.50	0.00	97.72
15.63	6.00	0.17	97.90
11.05	6.50	0.25	98.15
7.81	7.00	0.29	98.44
5.52	7.50	0.34	98.78
3.91	8.00	0.37	99.16
2.76	8.50	0.36	99.51
1.95	9.00	0.29	99.80
1.38	9.50	0.20	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	854	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	671	Coarse sand
Median [phi]*	0.58	
Mean [µm]*†	651	Coarse sand
Mean [phi]*†	0.62	
Sorting [µm]†	1.71	Moderately sorted
Sorting [phi]†	0.77	
Skewness [µm]†	0.07	Symmetrical
Skewness [phi]†	-0.07	
Gravel [%]‡	6.21	Gravelly sand
Sand [%]‡	91.52	
Fines [%]‡	2.28	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

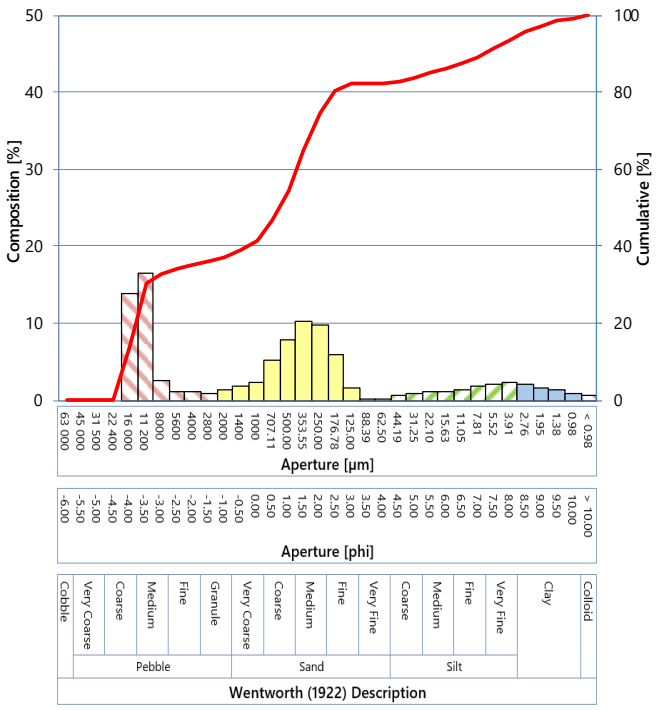
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST35

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	13.85	13.85
11 200	-3.50	16.49	30.34
8000	-3.00	2.57	32.91
5600	-2.50	1.17	34.08
4000	-2.00	1.01	35.09
2800	-1.50	0.90	36.00
2000	-1.00	1.29	37.29
1400	-0.50	1.86	39.15
1000	0.00	2.32	41.47
707.11	0.50	5.14	46.61
500.00	1.00	7.90	54.52
353.55	1.50	10.29	64.81
250.00	2.00	9.84	74.65
176.78	2.50	5.87	80.52
125.00	3.00	1.66	82.18
88.39	3.50	0.06	82.24
62.50	4.00	0.08	82.32
44.19	4.50	0.63	82.95
31.25	5.00	0.94	83.89
22.10	5.50	1.00	84.89
15.63	6.00	1.12	86.01
11.05	6.50	1.38	87.39
7.81	7.00	1.73	89.11
5.52	7.50	2.06	91.17
3.91	8.00	2.21	93.38
2.76	8.50	2.10	95.48
1.95	9.00	1.69	97.17
1.38	9.50	1.22	98.40
0.98	10.00	0.89	99.28
< 0.98	> 10.00	0.72	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	13600	Medium pebble
Mode 2 [µm]*	427	Medium sand
Mode 3 [µm]*	-	-
Median [µm]*	610	Coarse sand
Median [phi]*	0.71	
Mean [µm]*†	654	Coarse sand
Mean [phi]*†	0.61	
Sorting [µm]†	18.01	Extremely poorly sorted
Sorting [phi]†	4.17	
Skewness [µm]†	-0.09	Symmetrical
Skewness [phi]†	0.09	
Gravel [%]‡	37.29	Muddy, sandy gravel
Sand [%]‡	45.03	
Fines [%]‡	17.68	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

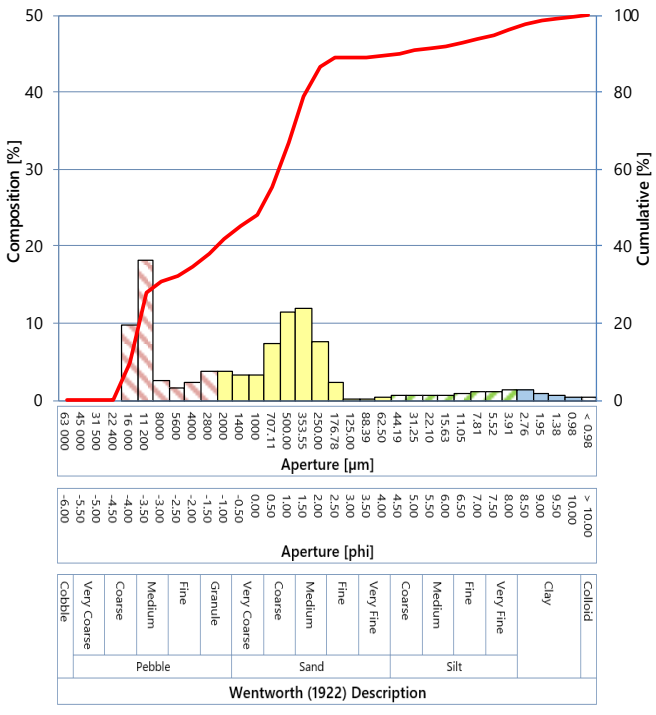
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST36

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	9.84	9.84
11 200	-3.50	18.25	28.09
8000	-3.00	2.60	30.69
5600	-2.50	1.48	32.16
4000	-2.00	2.27	34.43
2800	-1.50	3.66	38.10
2000	-1.00	3.70	41.80
1400	-0.50	3.22	45.02
1000	0.00	3.15	48.17
707.11	0.50	7.30	55.47
500.00	1.00	11.42	66.89
353.55	1.50	12.00	78.89
250.00	2.00	7.67	86.57
176.78	2.50	2.42	88.99
125.00	3.00	0.13	89.12
88.39	3.50	0.00	89.12
62.50	4.00	0.38	89.50
44.19	4.50	0.66	90.16
31.25	5.00	0.59	90.76
22.10	5.50	0.53	91.29
15.63	6.00	0.62	91.91
11.05	6.50	0.80	92.72
7.81	7.00	1.00	93.72
5.52	7.50	1.20	94.92
3.91	8.00	1.29	96.21
2.76	8.50	1.23	97.44
1.95	9.00	0.98	98.43
1.38	9.50	0.70	99.12
0.98	10.00	0.49	99.61
< 0.98	> 10.00	0.39	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	13600	Medium pebble
Mode 2 [µm]*	427	Medium sand
Mode 3 [µm]*	2400	Granule
Median [µm]*	917	Coarse sand
Median [phi]*	0.13	
Mean [µm]*†	1540	Very coarse sand
Mean [phi]*†	-0.62	
Sorting [µm]†	9.18	Very poorly sorted
Sorting [phi]†	3.20	
Skewness [µm]†	0.07	Symmetrical
Skewness [phi]†	-0.07	
Gravel [%]‡	41.80	Muddy, sandy gravel
Sand [%]‡	47.70	
Fines [%]‡	10.50	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

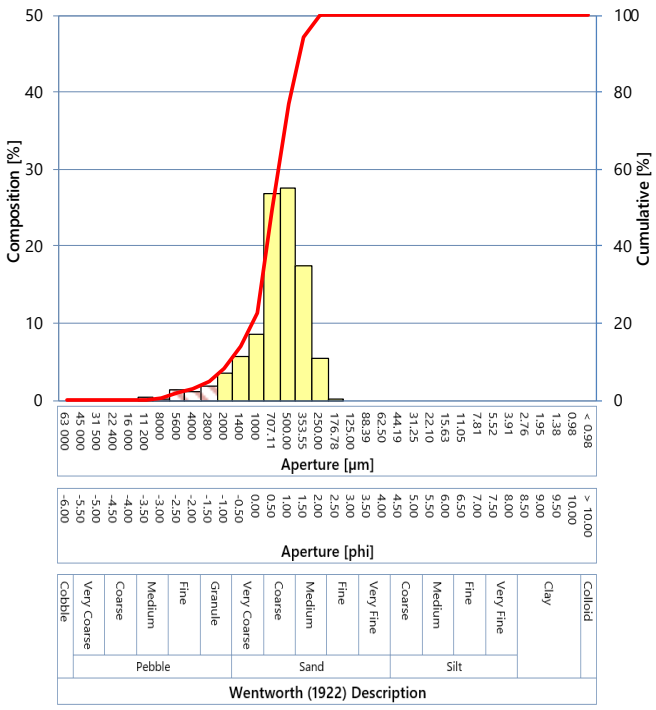
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST38

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.28	0.28
8000	-3.00	0.13	0.41
5600	-2.50	1.42	1.83
4000	-2.00	1.14	2.97
2800	-1.50	1.85	4.83
2000	-1.00	3.54	8.36
1400	-0.50	5.67	14.03
1000	0.00	8.55	22.58
707.11	0.50	26.87	49.45
500.00	1.00	27.65	77.10
353.55	1.50	17.38	94.48
250.00	2.00	5.34	99.81
176.78	2.50	0.19	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	604	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	702	Coarse sand
Median [phi]*	0.51	
Mean [µm]*†	735	Coarse sand
Mean [phi]*†	0.45	
Sorting [µm]†	1.80	Moderately sorted
Sorting [phi]†	0.85	
Skewness [µm]†	0.22	Coarse skewed
Skewness [phi]†	-0.22	
Gravel [%]‡	8.36	Gravelly sand
Sand [%]‡	91.64	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

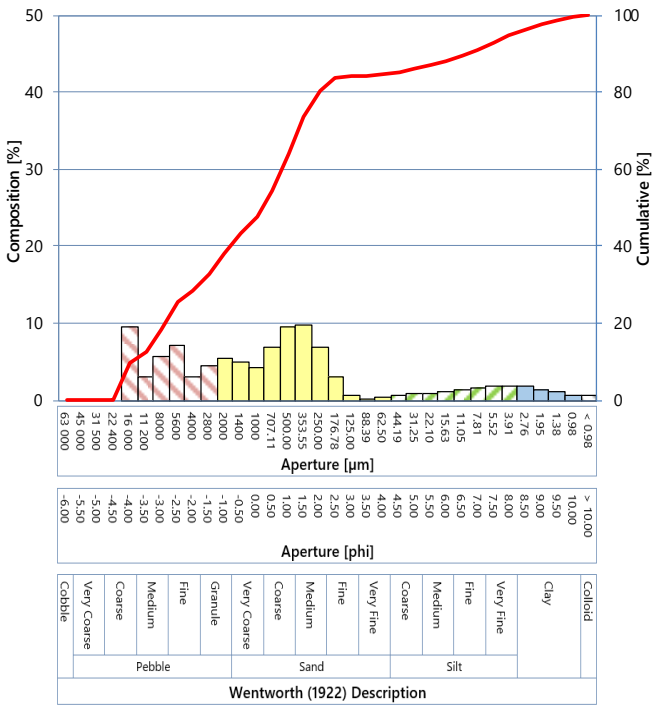
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST40

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	9.60	9.60
11 200	-3.50	3.00	12.60
8000	-3.00	5.68	18.28
5600	-2.50	7.11	25.39
4000	-2.00	2.99	28.38
2800	-1.50	4.51	32.89
2000	-1.00	5.34	38.23
1400	-0.50	4.88	43.12
1000	0.00	4.35	47.46
707.11	0.50	6.88	54.35
500.00	1.00	9.53	63.88
353.55	1.50	9.76	73.64
250.00	2.00	6.90	80.54
176.78	2.50	2.97	83.51
125.00	3.00	0.53	84.04
88.39	3.50	0.03	84.07
62.50	4.00	0.39	84.46
44.19	4.50	0.71	85.18
31.25	5.00	0.81	85.98
22.10	5.50	0.89	86.87
15.63	6.00	1.06	87.93
11.05	6.50	1.32	89.25
7.81	7.00	1.60	90.85
5.52	7.50	1.83	92.68
3.91	8.00	1.90	94.57
2.76	8.50	1.75	96.32
1.95	9.00	1.39	97.71
1.38	9.50	0.99	98.70
0.98	10.00	0.72	99.42
< 0.98	> 10.00	0.58	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	19200	Coarse pebble
Mode 2 [µm]*	427	Medium sand
Mode 3 [µm]*	6800	Fine pebble
Median [µm]*	880	Coarse sand
Median [phi]*	0.18	
Mean [µm]*†	1011	Very coarse sand
Mean [phi]*†	-0.02	
Sorting [µm]†	10.64	Very poorly sorted
Sorting [phi]†	3.41	
Skewness [µm]†	-0.09	Symmetrical
Skewness [phi]†	0.09	
Gravel [%]‡	38.23	Muddy, sandy gravel
Sand [%]‡	46.23	
Fines [%]‡	15.54	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

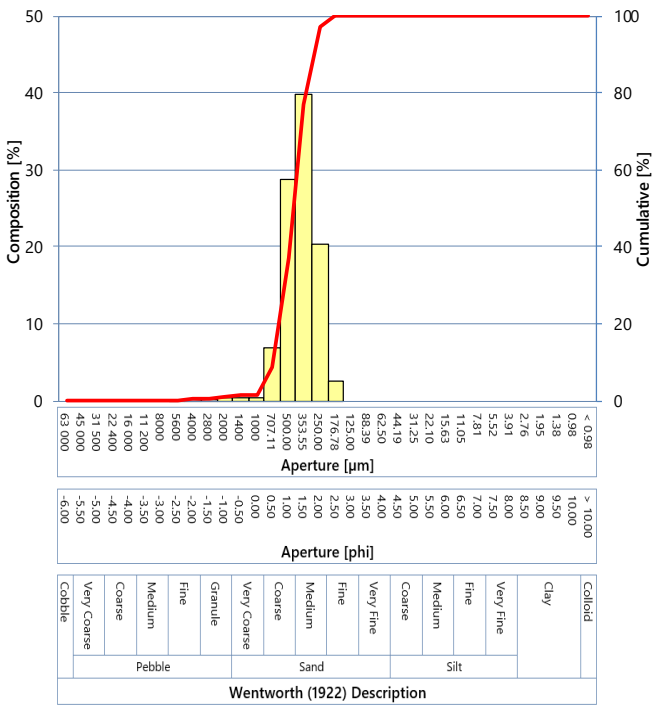
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST41

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.16	0.16
4000	-2.00	0.26	0.42
2800	-1.50	0.21	0.63
2000	-1.00	0.31	0.94
1400	-0.50	0.32	1.25
1000	0.00	0.42	1.67
707.11	0.50	6.80	8.47
500.00	1.00	28.75	37.22
353.55	1.50	39.79	77.01
250.00	2.00	20.35	97.36
176.78	2.50	2.64	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	447	Medium sand
Median [phi]*	1.16	
Mean [µm]*†	449	Medium sand
Mean [phi]*†	1.15	
Sorting [µm]†	1.43	Moderately well sorted
Sorting [phi]†	0.52	
Skewness [µm]†	0.05	Symmetrical
Skewness [phi]†	-0.05	
Gravel [%]‡	0.94	Sand
Sand [%]‡	99.06	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

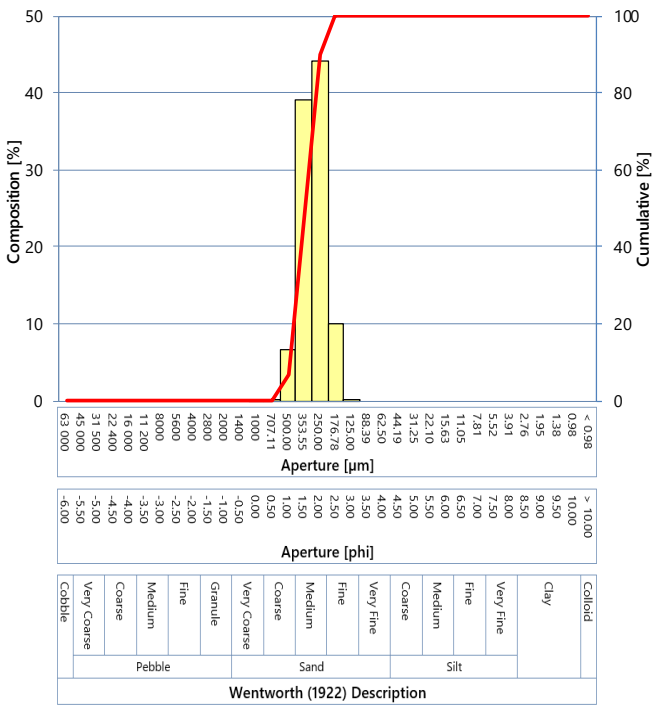
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST42

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.00	0.00
4000	-2.00	0.00	0.00
2800	-1.50	0.00	0.00
2000	-1.00	0.00	0.00
1400	-0.50	0.00	0.00
1000	0.00	0.01	0.01
707.11	0.50	0.04	0.05
500.00	1.00	6.58	6.63
353.55	1.50	38.98	45.61
250.00	2.00	44.15	89.76
176.78	2.50	10.10	99.86
125.00	3.00	0.14	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	302	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	342	Medium sand
Median [phi]*	1.55	
Mean [µm]*†	345	Medium sand
Mean [phi]*†	1.53	
Sorting [µm]†	1.33	Well sorted
Sorting [phi]†	0.41	
Skewness [µm]†	0.01	Symmetrical
Skewness [phi]†	-0.01	
Gravel [%]‡	0.00	Sand
Sand [%]‡	100.00	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

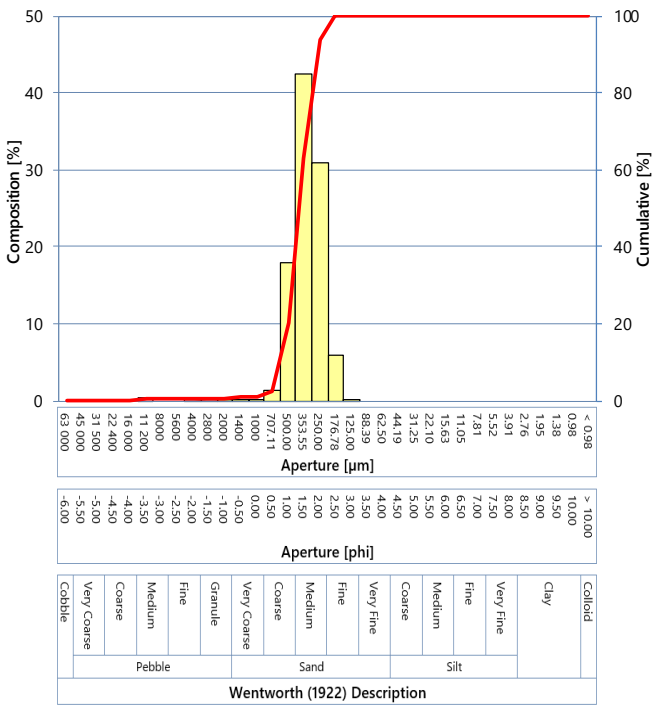
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST43

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.39	0.39
8000	-3.00	0.00	0.39
5600	-2.50	0.00	0.39
4000	-2.00	0.21	0.59
2800	-1.50	0.08	0.68
2000	-1.00	0.05	0.73
1400	-0.50	0.13	0.85
1000	0.00	0.17	1.03
707.11	0.50	1.44	2.47
500.00	1.00	17.94	20.41
353.55	1.50	42.54	62.95
250.00	2.00	31.01	93.97
176.78	2.50	5.98	99.94
125.00	3.00	0.06	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	393	Medium sand
Median [phi]*	1.35	
Mean [µm]*†	391	Medium sand
Mean [phi]*†	1.35	
Sorting [µm]†	1.39	Well sorted
Sorting [phi]†	0.47	
Skewness [µm]†	0.00	Symmetrical
Skewness [phi]†	0.00	
Gravel [%]‡	0.73	Sand
Sand [%]‡	99.27	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

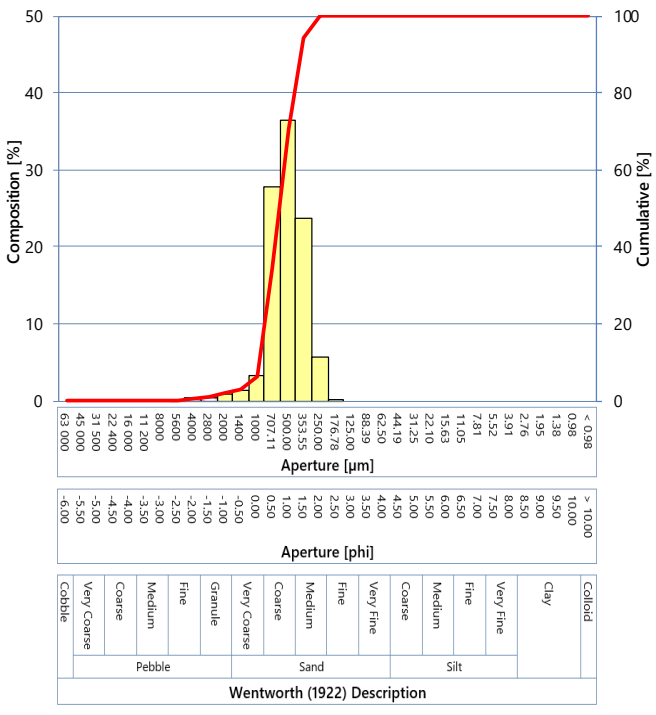
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST44

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.08	0.08
4000	-2.00	0.34	0.42
2800	-1.50	0.49	0.91
2000	-1.00	0.94	1.85
1400	-0.50	1.31	3.16
1000	0.00	3.32	6.48
707.11	0.50	27.69	34.17
500.00	1.00	36.37	70.54
353.55	1.50	23.65	94.19
250.00	2.00	5.77	99.95
176.78	2.50	0.05	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	604	Coarse sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	608	Coarse sand
Median [phi]*	0.72	
Mean [µm]*†	605	Coarse sand
Mean [phi]*†	0.72	
Sorting [µm]†	1.46	Moderately well sorted
Sorting [phi]†	0.55	
Skewness [µm]†	0.01	Symmetrical
Skewness [phi]†	-0.01	
Gravel [%]‡	1.85	Sand
Sand [%]‡	98.15	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

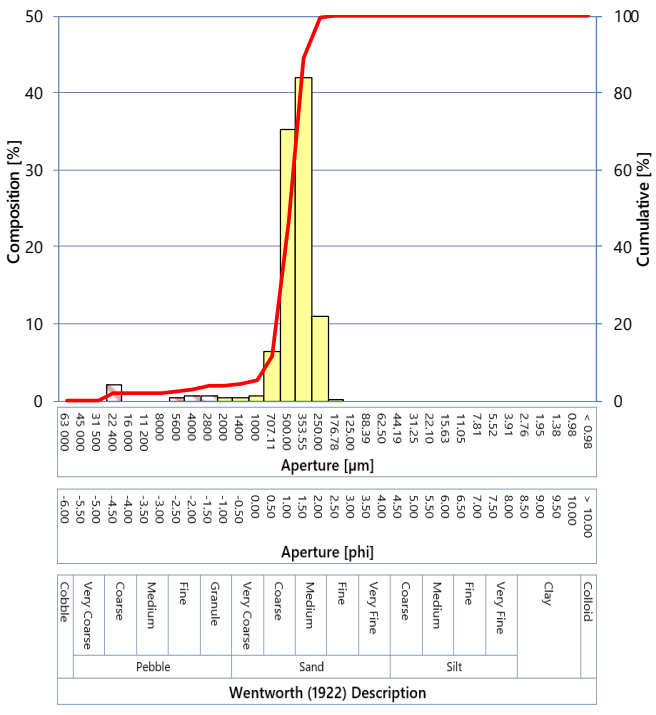
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST45

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	2.15	2.15
16 000	-4.00	0.00	2.15
11 200	-3.50	0.00	2.15
8000	-3.00	0.00	2.15
5600	-2.50	0.32	2.48
4000	-2.00	0.59	3.07
2800	-1.50	0.62	3.69
2000	-1.00	0.41	4.10
1400	-0.50	0.50	4.60
1000	0.00	0.61	5.21
707.11	0.50	6.30	11.51
500.00	1.00	35.31	46.82
353.55	1.50	41.94	88.76
250.00	2.00	11.01	99.77
176.78	2.50	0.23	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	487	Medium sand
Median [phi]*	1.04	
Mean [µm]*†	495	Medium sand
Mean [phi]*†	1.01	
Sorting [µm]†	1.43	Moderately well sorted
Sorting [phi]†	0.52	
Skewness [µm]†	0.16	Coarse skewed
Skewness [phi]†	-0.16	
Gravel [%]‡	4.10	Sand
Sand [%]‡	95.90	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

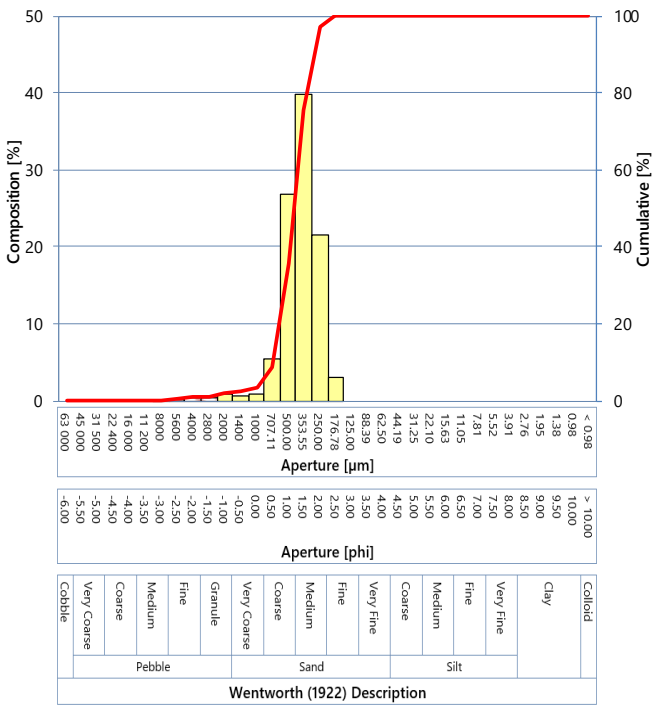
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST46

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.22	0.22
5600	-2.50	0.24	0.46
4000	-2.00	0.32	0.78
2800	-1.50	0.41	1.19
2000	-1.00	0.76	1.95
1400	-0.50	0.68	2.63
1000	0.00	0.78	3.41
707.11	0.50	5.49	8.89
500.00	1.00	26.87	35.76
353.55	1.50	39.76	75.52
250.00	2.00	21.46	96.98
176.78	2.50	3.02	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	442	Medium sand
Median [phi]*	1.18	
Mean [µm]*†	445	Medium sand
Mean [phi]*†	1.17	
Sorting [µm]†	1.45	Moderately well sorted
Sorting [phi]†	0.54	
Skewness [µm]†	0.08	Symmetrical
Skewness [phi]†	-0.08	
Gravel [%]‡	1.95	Sand
Sand [%]‡	98.05	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

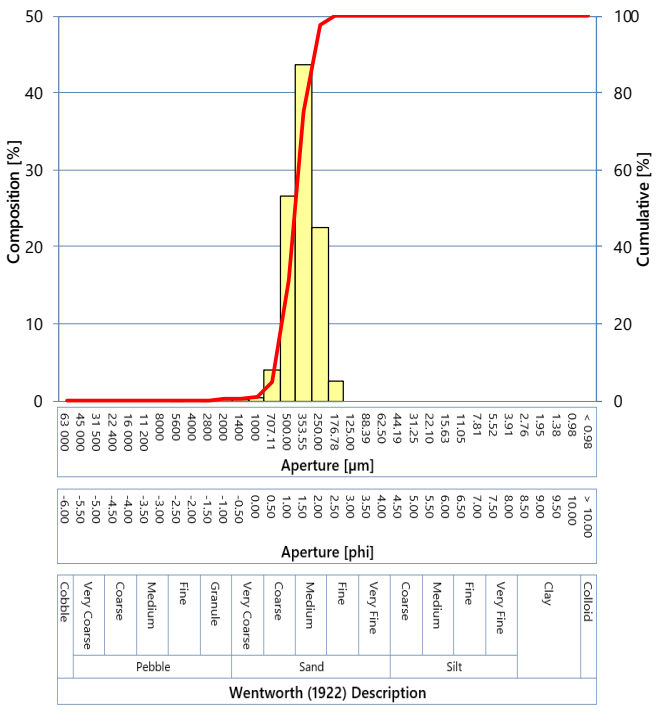
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST47

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	0.00	0.00
11 200	-3.50	0.00	0.00
8000	-3.00	0.00	0.00
5600	-2.50	0.17	0.17
4000	-2.00	0.00	0.17
2800	-1.50	0.06	0.24
2000	-1.00	0.13	0.36
1400	-0.50	0.18	0.54
1000	0.00	0.28	0.82
707.11	0.50	4.06	4.88
500.00	1.00	26.55	31.43
353.55	1.50	43.73	75.17
250.00	2.00	22.38	97.55
176.78	2.50	2.45	100.00
125.00	3.00	0.00	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	432	Medium sand
Median [phi]*	1.21	
Mean [µm]*†	433	Medium sand
Mean [phi]*†	1.21	
Sorting [µm]†	1.38	Well sorted
Sorting [phi]†	0.47	
Skewness [µm]†	0.00	Symmetrical
Skewness [phi]†	0.00	
Gravel [%]‡	0.36	Sand
Sand [%]‡	99.64	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

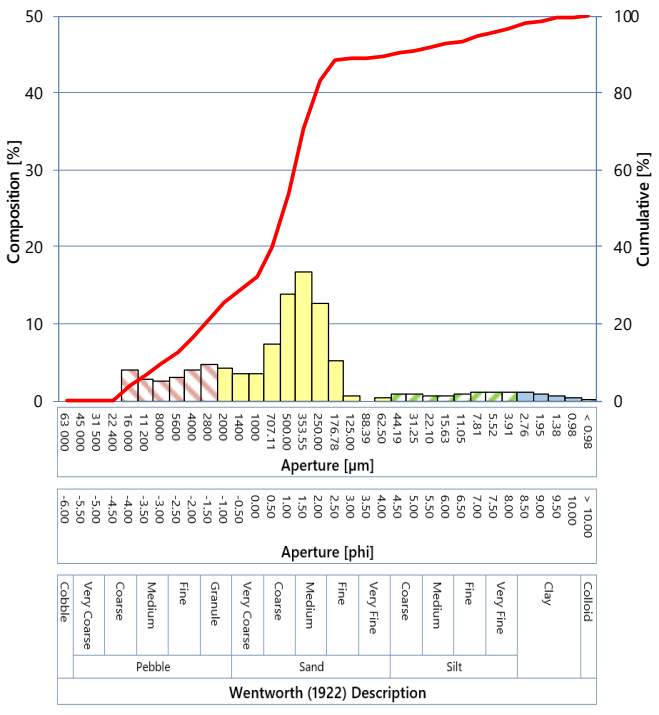
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST48

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	4.01	4.01
11 200	-3.50	2.84	6.85
8000	-3.00	2.62	9.47
5600	-2.50	3.07	12.54
4000	-2.00	4.07	16.60
2800	-1.50	4.67	21.28
2000	-1.00	4.16	25.44
1400	-0.50	3.58	29.02
1000	0.00	3.47	32.49
707.11	0.50	7.43	39.91
500.00	1.00	13.78	53.70
353.55	1.50	16.78	70.47
250.00	2.00	12.63	83.11
176.78	2.50	5.18	88.28
125.00	3.00	0.69	88.97
88.39	3.50	0.00	88.97
62.50	4.00	0.37	89.34
44.19	4.50	0.90	90.24
31.25	5.00	0.89	91.13
22.10	5.50	0.73	91.87
15.63	6.00	0.73	92.60
11.05	6.50	0.88	93.48
7.81	7.00	1.05	94.53
5.52	7.50	1.18	95.71
3.91	8.00	1.20	96.91
2.76	8.50	1.09	97.99
1.95	9.00	0.84	98.83
1.38	9.50	0.56	99.40
0.98	10.00	0.36	99.76
< 0.98	> 10.00	0.24	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	427	Medium sand
Mode 2 [µm]*	3400	Granule
Mode 3 [µm]*	19200	Coarse pebble
Median [µm]*	549	Coarse sand
Median [phi]*	0.87	
Mean [µm]*†	816	Coarse sand
Mean [phi]*†	0.29	
Sorting [µm]†	6.54	Very poorly sorted
Sorting [phi]†	2.71	
Skewness [µm]†	0.13	Coarse skewed
Skewness [phi]†	-0.13	
Gravel [%]‡	25.44	Gravelly muddy sand
Sand [%]‡	63.90	
Fines [%]‡	10.66	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

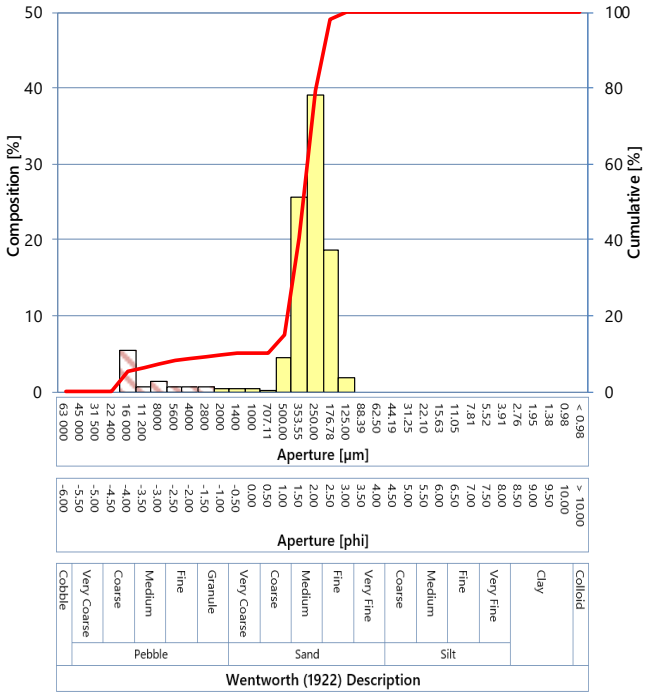
‡ = Description based on BGS modified Folk classification (Long, 2006)

STATION: ST49

FRACTIONAL DATA

Aperture [µm]	Aperture [phi]	Fractional [%]	Cumulative [%]
63 000	-6.00	0.00	0.00
45 000	-5.50	0.00	0.00
31 500	-5.00	0.00	0.00
22 400	-4.50	0.00	0.00
16 000	-4.00	5.44	5.44
11 200	-3.50	0.65	6.09
8000	-3.00	1.40	7.49
5600	-2.50	0.62	8.11
4000	-2.00	0.52	8.63
2800	-1.50	0.67	9.30
2000	-1.00	0.40	9.70
1400	-0.50	0.33	10.03
1000	0.00	0.32	10.35
707.11	0.50	0.02	10.37
500.00	1.00	4.44	14.81
353.55	1.50	25.60	40.41
250.00	2.00	39.07	79.48
176.78	2.50	18.74	98.22
125.00	3.00	1.78	100.00
88.39	3.50	0.00	100.00
62.50	4.00	0.00	100.00
44.19	4.50	0.00	100.00
31.25	5.00	0.00	100.00
22.10	5.50	0.00	100.00
15.63	6.00	0.00	100.00
11.05	6.50	0.00	100.00
7.81	7.00	0.00	100.00
5.52	7.50	0.00	100.00
3.91	8.00	0.00	100.00
2.76	8.50	0.00	100.00
1.95	9.00	0.00	100.00
1.38	9.50	0.00	100.00
0.98	10.00	0.00	100.00
< 0.98	> 10.00	0.00	100.00
Total		**100.00**	-

PARTICLE SIZE DISTRIBUTION



SUMMARY STATISTICS

Mode 1 [µm]*	302	Medium sand
Mode 2 [µm]*	-	-
Mode 3 [µm]*	-	-
Median [µm]*	325	Medium sand
Median [phi]*	1.62	
Mean [µm]*†	332	Medium sand
Mean [phi]*†	1.59	
Sorting [µm]†	2.38	Poorly sorted
Sorting [phi]†	1.25	
Skewness [µm]†	0.42	Very coarse skewed
Skewness [phi]†	-0.42	
Gravel [%]‡	9.70	Gravelly sand
Sand [%]‡	90.30	
Fines [%]‡	0.00	

Notes

Particle Size Distribution by Dry Sieving (63 000 µm - 1000 µm) and Laser Diffraction (< 1000 µm - < 0.98 µm) at 0.5 phi Intervals

* = Particle size expressed in accordance with Wentworth (1922) scale

† = Statistics calculated using Folk and Ward (1957) method

‡ = Description based on BGS modified Folk classification (Long, 2006)

Appendix E

Chemistry Analysis Certificates

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	**MAR01112**
Issue Version	1
Customer	Fugro GB Marine Limited, Gait 8, Research Park South, Heriot-Watt University, Edinburgh, EH14 4AP
Customer Reference	210139 - MMO PAH & Metal Analysis
Date Sampled	17-21-Jul-21
Date Received	23-Aug-21
Date Reported	21-Sep-21
Condition of samples	Ambient Satisfactory

[redacted]

Authorised by: Marya Hubbard

Position: Laboratory Manager

Any additional opinions or interpretations found in this report, are outside the scope of UKAS accreditation.

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

		Units	mg/Kg (Dry Weight)							
		Method No	SOCOTEC Env Chem*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)	Zinc (Zn)
ST01 210139-1	MAR01112.001	Sediment	30.2	0.13	17.4	12.9	0.07	16.1	17.1	62.0
ST03 210139-2	MAR01112.002	Sediment	9.7	0.08	14.2	6.9	0.03	9.1	10.3	35.5
ST05 210139-3	MAR01112.003	Sediment	19.6	0.23	26.5	18.0	0.07	25.9	18.0	89.1
ST07 210139-4	MAR01112.004	Sediment	16.1	<0.04	8.6	5.0	0.01	6.1	8.4	33.6
ST11 210139-5	MAR01112.005	Sediment	23.5	<0.04	6.8	3.9	<0.01	4.6	9.6	31.9
ST15 210139-6	MAR01112.006	Sediment	17.5	<0.04	4.9	3.4	0.04	4.2	4.1	18.6
ST17 210139-7	MAR01112.007	Sediment	33.0	0.16	9.6	5.0	<0.01	11.9	6.2	26.6
ST19 210139-8	MAR01112.008	Sediment	10.5	0.07	15.3	6.2	0.01	8.9	8.9	35.8
ST21 210139-9	MAR01112.009	Sediment	33.1	0.10	13.8	7.0	<0.01	13.8	8.7	32.9
ST28 210139-10	MAR01112.010	Sediment	73.6	0.16	15.8	11.7	<0.01	27.8	7.7	38.0
ST31 210139-11	MAR01112.011	Sediment	58.1	0.24	22.6	9.5	0.03	23.3	8.3	47.1
ST32 210139-12	MAR01112.012	Sediment	23.2	0.06	5.6	3.7	<0.01	4.2	2.7	29.3
ST34 210139-13	MAR01112.013	Sediment	21.0	0.09	4.9	3.4	0.02	6.3	5.6	29.8
ST36 210139-14	MAR01112.014	Sediment	26.3	0.16	14.0	5.6	0.01	10.8	5.3	26.6
ST41 210139-15	MAR01112.015	Sediment	14.9	<0.04	4.4	2.4	<0.01	3.5	2.6	13.0
ST43 210139-16	MAR01112.016	Sediment	8.8	<0.04	4.2	2.5	<0.01	3.5	2.4	11.9
ST44 210139-17	MAR01112.017	Sediment	10.5	0.06	3.5	2.7	0.04	3.1	3.5	15.4
ST46 210139-18	MAR01112.018	Sediment	12.0	<0.04	3.7	2.4	0.02	3.4	2.9	20.5
ST49 210139-19	MAR01112.019	Sediment	4.7	<0.04	5.9	4.5	0.01	4.2	2.5	18.1
Certified Reference Material SETOC 774 (% Recovery)			104	103	86	100	98	99	97	100
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

*See Report Notes

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

		Units	mg/Kg (Dry Weight)		
		Method No	SOCOTEC Env Chem*		
		Limit of Detection	10	0.5	0.5
		Accreditation	N	N	N
Client Reference:	SOCOTEC Ref:	Matrix	Aluminium as Al	Barium as Ba	Tin as Sn
ST01 210139-1	MAR01112.001	Sediment	8370	66.5	0.8
ST03 210139-2	MAR01112.002	Sediment	6020	29.0	0.6
ST05 210139-3	MAR01112.003	Sediment	13200	109	1.2
ST07 210139-4	MAR01112.004	Sediment	2270	15.7	<0.5
ST11 210139-5	MAR01112.005	Sediment	1540	11.0	<0.5
ST15 210139-6	MAR01112.006	Sediment	1190	11.0	<0.5
ST17 210139-7	MAR01112.007	Sediment	4240	283	<0.5
ST19 210139-8	MAR01112.008	Sediment	6150	52.5	0.6
ST21 210139-9	MAR01112.009	Sediment	5900	146	0.5
ST28 210139-10	MAR01112.010	Sediment	7720	40.0	<0.5
ST31 210139-11	MAR01112.011	Sediment	12800	41.3	0.5
ST32 210139-12	MAR01112.012	Sediment	1150	10.0	<0.5
ST34 210139-13	MAR01112.013	Sediment	1430	14.1	<0.5
ST36 210139-14	MAR01112.014	Sediment	4960	51.5	<0.5
ST41 210139-15	MAR01112.015	Sediment	911	31.3	<0.5
ST43 210139-16	MAR01112.016	Sediment	1130	13.1	<0.5
ST44 210139-17	MAR01112.017	Sediment	756	21.4	<0.5
ST46 210139-18	MAR01112.018	Sediment	880	12.3	<0.5
ST49 210139-19	MAR01112.019	Sediment	1390	17.0	<0.5
Certified Reference Material SETOC 774 (% Recovery)			108	100	103
QC Blank			<10	<0.5	<0.5

* See Report Notes

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	ACENAPTH	ACENAPHY	ANTHRACN	BAA	BAP	BBF
ST01 210139-1	MAR01112.001	Sediment	2.33	2.94	5.01	16.9	21.2	30.5
ST03 210139-2	MAR01112.002	Sediment	4.77	4.17	10.1	26.5	33.8	45.8
ST05 210139-3	MAR01112.003	Sediment	1.41	1.28	2.58	8.19	10.7	16.5
ST07 210139-4	MAR01112.004	Sediment	<1	<1	<1	2.03	2.72	3.16
ST11 210139-5	MAR01112.005	Sediment	<1	<1	<1	1.66	1.65	1.38
ST15 210139-6	MAR01112.006	Sediment	<1	<1	<1	<1	<1	<1
ST17 210139-7	MAR01112.007	Sediment	<1	<1	<1	<1	1.01	1.30
ST19 210139-8	MAR01112.008	Sediment	1.54	1.21	2.97	8.43	11.1	14.2
ST21 210139-9	MAR01112.009	Sediment	<1	<1	1.93	5.32	6.80	9.25
ST28 210139-10	MAR01112.010	Sediment	<1	<1	<1	1.85	2.78	4.14
Certified Reference Material Quasimeme QPH103MS (% Recovery)			99	110	88	67	86	77
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	MMO	MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BEP**	**BKF**	**C1N**	**C1PHEN**	**C2N**
ST01 210139-1	MAR01112.001	Sediment	27.7	26.4	13.8	56.3	40.0	53.9
ST03 210139-2	MAR01112.002	Sediment	43.9	42.4	22.4	96.9	66.7	94.6
ST05 210139-3	MAR01112.003	Sediment	15.4	15.2	7.41	35.4	23.7	34.3
ST07 210139-4	MAR01112.004	Sediment	4.28	3.93	2.19	9.25	5.81	8.25
ST11 210139-5	MAR01112.005	Sediment	1.29	1.54	<1	2.07	3.70	1.73
ST15 210139-6	MAR01112.006	Sediment	<1	<1	<1	1.01	<1	<1
ST17 210139-7	MAR01112.007	Sediment	1.76	1.50	<1	2.78	1.99	2.92
ST19 210139-8	MAR01112.008	Sediment	13.4	13.3	6.29	25.7	17.6	26.3
ST21 210139-9	MAR01112.009	Sediment	9.03	8.69	5.18	11.3	9.33	11.7
ST28 210139-10	MAR01112.010	Sediment	4.02	3.53	2.17	6.20	4.38	6.84
Certified Reference Material Quasimeme QPH103MS (% Recovery)			86	87	90	100	72	93
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	C3N	CHRYSENE	DBENZAH	FLUORANT	FLUORENE	INDPYR
ST01 210139-1	MAR01112.001	Sediment	47.2	22.0	4.76	33.2	4.62	24.1
ST03 210139-2	MAR01112.002	Sediment	83.7	33.6	7.92	58.8	9.47	39.1
ST05 210139-3	MAR01112.003	Sediment	32.1	10.5	2.29	15.8	2.92	13.5
ST07 210139-4	MAR01112.004	Sediment	6.43	2.53	<1	4.38	<1	3.85
ST11 210139-5	MAR01112.005	Sediment	1.78	1.65	<1	2.13	<1	1.29
ST15 210139-6	MAR01112.006	Sediment	<1	<1	<1	<1	<1	<1
ST17 210139-7	MAR01112.007	Sediment	2.56	<1	<1	1.57	<1	1.55
ST19 210139-8	MAR01112.008	Sediment	21.2	10.5	2.35	18.4	2.50	12.6
ST21 210139-9	MAR01112.009	Sediment	9.84	6.00	1.56	12.4	1.22	8.33
ST28 210139-10	MAR01112.010	Sediment	5.33	2.20	<1	3.89	<1	3.85
Certified Reference Material Quasimeme QPH103MS (% Recovery)			70	83	74	78	86	78
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1
		Accreditation	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**
ST01 210139-1	MAR01112.001	Sediment	19.0	13.9	30.7	31.4
ST03 210139-2	MAR01112.002	Sediment	31.4	24.5	60.0	53.8
ST05 210139-3	MAR01112.003	Sediment	11.6	8.26	18.2	16.0
ST07 210139-4	MAR01112.004	Sediment	3.37	1.68	4.45	4.17
ST11 210139-5	MAR01112.005	Sediment	1.28	<1	1.10	3.24
ST15 210139-6	MAR01112.006	Sediment	1.01	<1	<1	<1
ST17 210139-7	MAR01112.007	Sediment	1.39	<1	1.56	1.67
ST19 210139-8	MAR01112.008	Sediment	9.13	6.75	15.8	16.8
ST21 210139-9	MAR01112.009	Sediment	4.99	4.16	8.76	11.7
ST28 210139-10	MAR01112.010	Sediment	2.52	1.73	3.58	3.78
Certified Reference Material Quasimeme QPH103MS (% Recovery)			95	83	87	84
QC Blank			<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	ACENAPTH	ACENAPHY	ANTHRACN	BAA	BAP	BBF
ST31 210139-11	MAR01112.011	Sediment	<1	<1	<1	<1	1.88	1.94
ST32 210139-12	MAR01112.012	Sediment	<1	<1	<1	<1	<1	<1
ST34 210139-13	MAR01112.013	Sediment	<1	<1	<1	<1	<1	<1
ST36 210139-14	MAR01112.014	Sediment	<1	<1	27.3	3.89	2.54	3.34
ST41 210139-15	MAR01112.015	Sediment	<1	<1	<1	<1	<1	<1
ST43 210139-16	MAR01112.016	Sediment	<1	<1	<1	<1	<1	<1
ST44 210139-17	MAR01112.017	Sediment	<1	<1	<1	<1	<1	<1
ST46 210139-18	MAR01112.018	Sediment	<1	<1	<1	<1	<1	<1
ST49 210139-19	MAR01112.019	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material Quasimeme QPH103MS (% Recovery)			133	118	108	96	97	85
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	MMO	MMO
Client Reference:	SOCOTEC Ref:	Matrix	BENZGHIP	BEP	BKF	C1N	C1PHEN	C2N
ST31 210139-11	MAR01112.011	Sediment	2.50	2.21	1.58	3.08	2.06	2.72
ST32 210139-12	MAR01112.012	Sediment	<1	<1	<1	<1	<1	<1
ST34 210139-13	MAR01112.013	Sediment	1.08	<1	<1	1.33	<1	1.47
ST36 210139-14	MAR01112.014	Sediment	2.54	2.90	1.90	4.53	5.03	3.16
ST41 210139-15	MAR01112.015	Sediment	<1	<1	<1	<1	<1	<1
ST43 210139-16	MAR01112.016	Sediment	<1	<1	<1	<1	<1	<1
ST44 210139-17	MAR01112.017	Sediment	<1	<1	<1	<1	<1	<1
ST46 210139-18	MAR01112.018	Sediment	<1	<1	<1	<1	<1	<1
ST49 210139-19	MAR01112.019	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material Quasimeme QPH103MS (% Recovery)			96	97	77	118	90	90
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**C3N**	**CHRYSENE**	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**
ST31 210139-11	MAR01112.011	Sediment	2.48	1.66	<1	2.31	<1	2.37
ST32 210139-12	MAR01112.012	Sediment	<1	<1	<1	<1	<1	<1
ST34 210139-13	MAR01112.013	Sediment	1.01	<1	<1	<1	<1	<1
ST36 210139-14	MAR01112.014	Sediment	2.42	5.22	<1	6.83	6.79	2.61
ST41 210139-15	MAR01112.015	Sediment	<1	<1	<1	<1	<1	<1
ST43 210139-16	MAR01112.016	Sediment	<1	<1	<1	<1	<1	<1
ST44 210139-17	MAR01112.017	Sediment	<1	<1	<1	<1	<1	<1
ST46 210139-18	MAR01112.018	Sediment	<1	<1	<1	<1	<1	<1
ST49 210139-19	MAR01112.019	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material Quasimeme QPH103MS (% Recovery)			83	107	91	106	105	91
QC Blank			<1	<1	<1	<1	<1	<1

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no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1
		Accreditation	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**
ST31 210139-11	MAR01112.011	Sediment	1.41	<1	1.84	2.33
ST32 210139-12	MAR01112.012	Sediment	<1	<1	<1	<1
ST34 210139-13	MAR01112.013	Sediment	<1	<1	<1	1.03
ST36 210139-14	MAR01112.014	Sediment	2.18	1.21	12.0	5.86
ST41 210139-15	MAR01112.015	Sediment	<1	<1	<1	<1
ST43 210139-16	MAR01112.016	Sediment	<1	<1	<1	<1
ST44 210139-17	MAR01112.017	Sediment	<1	<1	<1	<1
ST46 210139-18	MAR01112.018	Sediment	<1	<1	<1	<1
ST49 210139-19	MAR01112.019	Sediment	<1	<1	<1	<1
Certified Reference Material Quasimeme QPH103MS (% Recovery)			99	90	110	115
QC Blank			<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as
no Certified Reference Materials are avaliable.
For full analyte name see method summaries

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01112
Issue Version 1
Customer Reference 210139 - MMO PAH & Metal Analysis

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
SOCOTEC Env Chem*	MAR01112.001-019	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/303/304	MAR01112.001-.005, .008, .011, .014	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Handling Time Exceeded	N/A	N/A
D3	Sample Contaminated through Damaged Packaging	N/A	N/A
D4	Sample Contaminated through Sampling	N/A	N/A
D5	Inappropriate Container/Packaging	N/A	N/A
D6	Damaged in Transit	N/A	N/A
D7	Insufficient Quantity of Sample	N/A	N/A
D8	Inappropriate Headspace	N/A	N/A
D9	Retained at Incorrect Temperature	N/A	N/A
D10	Lack of Date & Time of Sampling	N/A	N/A
D11	Insufficient Sample Details	N/A	N/A
D12	Sample integrity compromised or not suitable for analysis	N/A	N/A

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01112
Issue Version	1
Customer Reference	210139 - MMO PAH & Metal Analysis

Method	Sample and Fraction Size	Method Summary
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.

Analyte Definitions					
Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCE	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Appendix F

Macrofaunal Analysis

F.1 Macrofaunal Abundance

F.1 Macrofaunal Abundance

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
CNIDARIA																							
Actiniaria		1360	Hertwig, 1882	12	17	4	-	-	9	1	2	-	6	-	-	-	2	-	-	-	4	2	-
PLATYHELMINTHES																							
Platyhelminthes		793	Minot, 1876	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEMERTEA																							
Nemertea		152391		9	2	6	-	-	2	-	1	-	-	-	1	-	2	5	1	2	3	7	1
CHAETOGNATHA																							
Spadella cephaloptera		105468	(Busch, 1851)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
SIPUNCULA																							
Golfingia elongata		175026	(Keferstein, 1862)	2	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Golfingia vulgaris		410724	(de Blainville, 1827)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Nephasoma minutum		136060	(Keferstein, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
ANNELIDA																							
Maxmuelleria lankesteri		110368	(Herdman, 1897)	-	2	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-
Pisione remota		130707	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphrodita aculeata		129840	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Gattyana cirrhosa		130749	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Harmothoe (not glabra)		129491	Kinberg, 1856	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	-
Harmothoe glabra		571832	(Malmgren, 1865)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
*Malmgrenia (*not ljungmani)		147006	McIntosh, 1874	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-
Malmgrenia ljungmani		152304	(Malmgren, 1867)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lepidonotus squamatus		130801	(Linnaeus, 1758)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Pholoe baltica (sensu Petersen)		130599	Örsted, 1843	1	-	-	-	-	-	-	-	-	-	-	-	-	7	4	-	-	4	-	-
Pholoe inornata (sensu Petersen)		130601	Johnston, 1839	2	-	-	-	-	1	-	-	-	-	-	-	-	2	1	-	-	-	-	-
Sthenelais boa		131074	(Johnston, 1833)	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Eteone longa	aggregate	130616	(Fabricius, 1780)	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
Hesionura elongata		130649	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phyllodoce longipes		130673	Kinberg, 1866	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eulalia mustela		130631	Pleijel, 1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eulalia ornata		130632	Saint-Joseph, 1888	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eumida bahusiensis		130641	Bergstrom, 1914	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paranaitis kosteriensis		130662	(Malmgren, 1867)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glycera alba		130116	(O.F. Müller, 1776)	-	-	2	-	-	2	-	1	-	-	2	-	-	2	2	-	-	2	-	-
Glycera lapidum	aggregate	130123	Quatrefages, 1866	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1
Glycera oxycephala		130126	Ehlers, 1887	-	-	-	-	-	-	-	-	-	2	1	-	2	-	-	-	-	-	-	-
Glycinde nordmanni		130136	(Malmgren, 1866)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-
Goniada maculata		130140	Örsted, 1843	-	-	1	-	-	4	-	1	-	-	-	-	-	1	1	-	-	1	2	-
Sphaerodorum gracilis		131100	(Rathke, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Podarkeopsis capensis		130195	(Day, 1963)	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllis variegata		131458	Grube, 1860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllis armillaris	aggregate	131415	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllis garciai		131431	(Campoy, 1982)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Syllis pontxioi		196003	San Martín & López, 2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllis gracilis		131435	Grube, 1840	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eusyllis blomstrandi		131290	Malmgren, 1867	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Odontosyllis ctenostoma		131325	Claparède, 1868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Streptodonta pterochaeta		238207	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parexogone hebes		757970	(Webster & Benedict, 1884)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exogone naidina		327985	Örsted, 1845	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Sphaerosyllis cf. *taylori*		131394	Perkins, 1981	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myrianida		129659	Milne Edwards, 1845	4	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Proceraea		129671	Ehlers, 1864	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eunereis longissima		130375	(Johnston, 1840)	-	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Nephtys caeca		130355	(Fabricius, 1780)	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-
Nephtys cirrosa		130357	Ehlers, 1868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys hombergii		130359	Savigny in Lamarck, 1818	-	-	-	8	2	-	-	1	-	-	-	-	-	-	-	13	-	-	-	-
Nephtys kersivalensis		130363	McIntosh, 1908	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paucibranchia totospinata		1305625	(Lu & Fauchald, 1998)	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	1	1	-
Lysidice unicornis		742232	(Grube, 1840)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lumbrineris cingulata	aggregate	130240	Ehlers, 1897	-	1	1	-	-	1	1	2	-	1	-	-	-	6	2	-	-	11	10	-
Lumbrineris latreilli	?	130248	Audouin & Milne Edwards, 1833	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drilonereis		129200	Claparède, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protodorvillea kefersteini		130041	(McIntosh, 1869)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1
Schistomeringos neglecta		130044	(Fauvel, 1923)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schistomeringos rudolphi		154127	(Delle Chiaje, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-
Scoloplos armiger		130537	(Müller, 1776)	-	-	-	-	-	2	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Paradoneis lyra		130585	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Poecilochaetus serpens		130711	Allen, 1904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Aonides oxycephala		131106	(Sars, 1862)	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	2	3	8	-
Aonides paucibranchiata		131107	Southern, 1914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Atherospio guillei		478336	(Laubier & Ramos, 1974)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laonice irinae		1518242	Sikorski, Radashevsky & Nygren in Sikorski et al, 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Dipolydora caulleryi		131116	(Mesnil, 1897)	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polydora species A		129619	Bosc, 1802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polydora cornuta		131143	Bosc, 1802	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Dipolydora flava		131118	(Claparède, 1870)	6	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudopolydora pulchra		131169	(Carazzi, 1893)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Pygospio elegans		131170	Claparède, 1863	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Scolelepis korsuni		131174	Sikorski, 1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spio symphyta		596189	Meißner, Bick & Bastrop, 2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Spiophanes bombyx		131187	(Claparède, 1870)	-	-	-	3	-	1	-	3	-	-	2	-	-	19	24	8	-	1	-	-
Magelona alleni		130266	Wilson, 1958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
Magelona johnstoni		130269	Fiege, Licher & Mackie, 2000	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chaetopterus		129229	Cuvier, 1830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphelochaeta species A		129240	Blake, 1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Aphelochaeta marioni (sensu MarLIN)		129938	(Saint-Joseph, 1894)	-	-	7	-	-	4	-	-	-	-	-	-	-	2	-	-	-	-	1	-
Caulleriella alata		129943	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	1	-
Chaetozone zetlandica		336485	McIntosh, 1911	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-
Dodecaceria		129246	Örsted, 1843	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Flabelligera		129291	Sars, 1829	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pherusa		129293	Oken, 1807	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capitella		129211	Blainville, 1828	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mediomastus fragilis		129892	Rasmussen, 1973	1	9	35	-	-	-	-	-	-	-	-	-	-	1	4	-	-	4	-	-
Notomastus/Pseudonotomastus				1	4	21	-	-	15	0	6	-	-	-	-	1	-	2	1	-	-	4	-
Leiochone		146991	Grube, 1868	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Euclymene oerstedii	aggregate	130294	(Claparède, 1863)	3	-	1	-	-	-	-	19	-	-	-	-	-	-	1	-	-	6	-	-
Heteroclymene robusta		146978	Arwidsson, 1906	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Praxillella affinis		130322	(M. Sars in G.O. Sars, 1872)	1	1	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Nicomache		129357	Malmgren, 1865	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Petaloproctus		129359	Quatrefages, 1866	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ophelia borealis		130491	Quatrefages, 1866	-	-	-	-	-	-	-	-	-	2	-	3	1	-	-	-	13	-	-	-
Travisia forbesii		130512	Johnston, 1840	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-
Asclerocheilus		129551	Ashworth, 1901	6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scalibregma inflatum		130980	Rathke, 1843	-	-	-	-	-	1	-	-	-	-	-	-	-	5	3	-	-	1	6	-
Scalibregma celticum		130979	Mackie, 1991	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Galathowenia oculata		146950	(Zachs, 1923)	-	-	5	-	-	-	-	1	-	-	-	-	-	-	3	-	-	7	-	-
Owenia		129427	Delle Chiaje, 1844	-	-	-	-	-	2	-	3	-	-	-	-	-	1	6	2	-	2	-	-
Lagis koreni		152367	Malmgren, 1866	-	-	5	32	-	43	-	54	-	-	2	1	1	122	721	35	-	15	-	-
Sabellaria spinulosa		130867	(Leuckart, 1849)	42	-	-	-	-	2	-	1	-	-	-	-	-	3	1	-	-	3	-	3
Melinna palmata		129808	Grube, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Ampharete cf. *acutifrons*		129775	(Grube, 1860)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ampharete lindstroemi		129781	Malmgren, 1867 sensu Hessle, 1917	-	-	3	-	-	1	-	-	-	-	-	-	-	1	-	-	-	9	1	-
Amphicteis midas		129785	(Gosse, 1855)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Terebellides		129717	Sars, 1835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Lanice conchilega		131495	(Pallas, 1766)	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	1	-
Loimia medusa		131499	(Savigny, 1822)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neoamphitrite edwardsii		131503	(Quatrefages, 1866)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nicolea venustula		131507	(Montagu, 1819)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amaeana trilobata		131471	(Sars, 1863)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lysilla nivea		131501	Langerhans, 1884	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycirrus		129710	Grube, 1850	-	-	-	-	-	-	-	-	-	1	-	3	9	1	-	-	-	-	-	-
Thelepus setosus		131544	(Quatrefages, 1866)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Spirobranchus lamarcki		560033	(Quatrefages, 1866)	1	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	5	1
Spirobranchus triqueter		555935	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Spirorbinae		989	Chamberlin, 1919	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Limnodriloides		137362	Pierantoni, 1903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Tubificoides amplivasatus		137570	(Erséus, 1975)	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grania		137349	Southern, 1913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARTHROPODA																							
Nymphon brevirostre		150520	Hodge, 1863	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Achelia echinata (agg)	aggregate	134599	Hodge, 1864	7	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammothella longipes (agg)	aggregate	134614	(Hodge, 1864)	-	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Callipallene		134581	Flynn, 1929	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anoplodactylus petiolatus		134723	(Krøyer, 1844)	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pycnogonum litorale		239867	(Strøm, 1762)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scalpellum scalpellum		106204	(Linnaeus, 1767)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Verruca stroemia		106257	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
Balanus crenatus		106215	Bruguière, 1789	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	5
Gastrosaccus spinifer		120020	(Goës, 1864)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Praunus inermis		120178	(Rathke, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Heteromysis microps		120037	(G.O. Sars, 1877)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontocrates altamarinus		102916	(Spence Bate & Westwood, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontocrates arenarius		102918	(Spence Bate, 1858)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apolochus neapolitanus		236495	(Della Valle, 1893)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leucothoe procera		102466	Spence Bate, 1857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stenothoe marina		103166	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Urothoe elegans		103228	Spence Bate, 1857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Urothoe marina		103233	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpinia pectinata		102972	Sars, 1891	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acidostoma obesum (sensu stoddart & Lowry)		102497	(Spence Bate, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Acidostoma neglectum		102495	Dahl, 1964	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Hippomedon denticulatus		102570	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nototropis falcatus		102139	(Metzger, 1871)	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
Nototropis swammerdamei		488966	(H. Milne Edwards, 1830)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nototropis vedlomensis		179538	(Spence Bate & Westwood, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Ampelisca diadema		101896	(Costa, 1853)	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ampelisca spinipes		101928	Boeck, 1861	2	-	21	-	-	-	-	-	-	-	-	-	-	3	1	-	-	8	12	-
Haploops		101447	Liljeborg, 1856	18	16	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
Bathyporeia elegans		103058	Watkin, 1938	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
Bathyporeia guilliamsoniana		103060	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haustorius arenarius		102317	(Slabber, 1769)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaluropus agilis		102783	Hoek, 1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abludomelita obtusata		102788	(Montagu, 1813)	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	1	-	-	-
Cheirocratus		101669	Norman, 1867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Othomaera othonis		534781	(H. Milne Edwards, 1830)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maerella tenuimana		102831	(Spence Bate, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gammaropsis maculata		102364	(Johnston, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Photis longicaudata		102383	(Spence Bate & Westwood, 1862)	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ericthonius punctatus		102408	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aoridae		101368	Stebbing, 1899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Leptocheirus hirsutimanus		102036	(Spence Bate, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crassicorophium crassicorne		397383	(Bruzelius, 1859)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unciola crenatipalma		102057	(Spence Bate, 1862)	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dyopedos monacanthus		489646	(Metzger, 1875)	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dyopedos porrectus		103044	Spence Bate, 1857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pariambus typicus		101857	(Krøyer, 1845)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Phtisica marina		101864	Slabber, 1769	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gnathia oxyuraea		118995	(Lilljeborg, 1855)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Tanaopsis graciloides		136458	(Lilljeborg, 1864)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bodotria scorpioides		110445	(Montagu, 1804)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-
Diastylis bradyi		110472	Norman, 1879	-	-	-	-	2	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Diastylis rathkei		110487	(Krøyer, 1841)	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Hippolyte varians		107518	Leach, 1814 [in Leach, 1813-1815]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pandalina brevirostris		107647	(Rathke, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Crangon allmanni		107551	Kinahan, 1860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Philocheras trispinosus		107562	(Hailstone in Hailstone & Westwood, 1835)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callianassa subterranea		107729	(Montagu, 1808)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Upogebia deltaura		107739	(Leach, 1816)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pagurus bernhardus		107232	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyas coarctatus		107323	Leach, 1815 [in Leach, 1815-1875]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thia scutellata		107281	(Fabricius, 1793)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOLLUSCA																							
Leptochiton		138117	Gray, 1847	-	-	1	-	-	-	-	-	-	-	-	-	-	4	-	-	-	1	4	-
Tricolia pullus		141700	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Steromphala cineraria		1039839	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Calliostoma zizyphinum		141767	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pusillina inconspicua		141334	(Alder, 1844)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tornus subcarinatus		141690	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Euspira nitida		151894	(Donovan, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epitonium clathrus		146905	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Epitonium clathratulum		139718	(Kanmacher, 1798)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melanella alba		139832	(da Costa, 1778)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ocenebra erinaceus		140405	(Linnaeus, 1758)	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Buccinum undatum		138878	Linnaeus, 1758	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritia reticulata		876821	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Propebela rufa		367570	(Montagu, 1803)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philine quadripartita		574582	Ascanius, 1772	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-
Retusa obtusa		141134	(Montagu, 1803)	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flabellinidae		190	Bergh, 1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cuthona		138543	Alder & Hancock, 1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Facelina		137997	Alder & Hancock, 1855	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Nucula hanleyi		140588	Winckworth, 1931	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nucula nitidosa		140589	Winckworth, 1930	-	-	-	190	333	11	-	16	-	-	-	-	-	-	-	7	-	-	-	-
Nucula nucleus		140590	(Linnaeus, 1758)	128	268	3	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mytilus edulis		140480	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-
Modiolus adriaticus		140462	Lamarck, 1819	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Musculus discors		140472	(Linnaeus, 1767)	980	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diplodonta rotundata		141883	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kurtiella bidentata		345281	(Montagu, 1803)	2	6	50	1	-	-	-	1	-	-	-	-	-	111	266	25	-	3	38	-
Goodallia triangularis		138831	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Laevicardium crassum		139004	(Gmelin, 1791)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spisula elliptica		140300	(T. Brown, 1827)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phaxas pellucidus		140737	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Fabulina fabula		146907	(Gmelin, 1791)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Moerella donacina		147021	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbjornsenia pygmaea		879714	(Lovén, 1846)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limecola balthica		880017	(Linnaeus, 1758)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abra alba		141433	(W. Wood, 1802)	15	34	112	25	6	1	-	3	-	-	-	-	-	1	20	17	-	6	2	-
Abra prismatica		141436	(Montagu, 1808)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Timoclea ovata		141929	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petricolaria pholadiformis		156961	(Lamarck, 1818)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenia binghami		140432	W. Turton, 1822	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Varicorbula gibba		378492	(Olivi, 1792)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
Rocellaria dubia		505249	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxicavella jeffreysi		140108	Winckworth, 1930	-	6	292	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	-
Barnea parva		140768	(Pennant, 1777)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia		138549	Blainville, 1824																				
PHORONIDA																							
Phoronis		128545	Wright, 1856	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-
ECHINODERMATA																							
Ophiothrix fragilis		125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphiura securigera		125195	(Düben & Koren, 1846)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipholis squamata		125064	(Delle Chiaje, 1828)	26	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-	1	-
Ophiocten affinis		124850	(Lütken, 1858)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ophiura albida		124913	Forbes, 1839	-	-	1	-	-	-	-	-	-	-	-	-	-	17	5	3	-	21	2	-
Ophiura ophiura		124929	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Psammechinus miliaris		124319	(P.L.S. Müller, 1771)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
Echinocyamus pusillus		124273	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thyone fusus		124670	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptosynapta inhaerens		124465	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEMICHORDATA																							
Enteropneusta		1820	Gegenbaur, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHORDATA																							
Polycarpa fibrosa		103902	(Stimpson, 1852)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Dendrodoa grossularia		103882	(Van Beneden, 1846)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Molgula		103509	Forbes, 1848	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-
Ammodytes tobianus		126752	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			Number of taxa	41	29	43	10	7	23	6	22	2	12	8	5	6	43	33	15	9	45	46	11
			Abundance	1324	398	637	263	347	109	6	123	7	78	12	10	15	345	1092	118	23	141	226	17

The following taxa have been removed from the main data matrix to facilitate analysis

COLONIAL EPIFAUNA																							
CILIOPHORA																							
Ciliophora		11		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-
Folliculinidae		1692	Dons, 1914	P	-	-	-	-	-	-	-	P	-	-	P	P	-	-	-	P	-	P	-
PORIFERA																							
Porifera		558	Grant, 1836	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Clathrina		131729	Gray, 1867	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sycon		131723	Risso, 1827	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CNIDARIA																							
Tubulariidae		1603	Goldfuss, 1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calycella syringa		117402	(Linnaeus, 1767)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Halecium		117103	Oken, 1815	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrallmania falcata		117890	(Linnaeus, 1758)	P	-	-	-	-	-	-	-	-	-	-	P	-	P	-	-	-	P	-	-
Sertularella		117233	Gray, 1848	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sertularia		117234	Linnaeus, 1758	-	-	-	-	P	-	-	-	-	-	-	-	-	P	-	P	-	P	P	-
Kirchenpaueria halecioides		117673	(Alder, 1859)	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campanulariidae		1606	Johnston, 1836	-	-	-	-	-	-	-	-	-	-	-	-	P	P	-	-	-	-	-	-
Campanularia hincksii		117364	Alder, 1856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcyonium digitatum		125333	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Epizoanthus couchii		101025	(Johnston in Couch, 1844)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENTOPROCTA																							
Loxosomella phascolosomata		111839	(Vogt, 1876)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barentsia		111795	Hincks, 1880	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BRYOZOA																							
Crisia		111032	Lamouroux, 1812	-	P	P	P	-	-	P	P	-	P	-	-	-	-	-	-	-	-	-	-
Tubulipora		111054	Lamarck, 1816	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	P
Plagioecia patina		111719	(Lamarck, 1816)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disporella hispida		111730	(Fleming, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Alcyonidium diaphanum		111597	(Hudson, 1778)	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Alcyonidioides mytili		468026	(Dalyell, 1848)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Alcyonidium parasiticum		111604	(Fleming, 1828)	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nolella		111011	Gosse, 1855	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Anguinella palmata		111631	Van Beneden, 1845	P	P	-	-	-	P	-	-	-	P	-	-	-	-	-	-	-	-	-	-
Triticella flava		111653	Dalyell, 1848	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Penetrantiidae		110797	Silén, 1946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vesicularia spinosa		111669	(Linnaeus, 1758)	P	P	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-
Amathia		111022	Lamouroux, 1812	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conopeum reticulum		111351	(Linnaeus, 1767)	P	P	-	-	-	-	-	P	-	P	P	P	P	P	-	-	P	-	-	P
Electra monostachys		111354	(Busk, 1854)	P	-	-	-	-	P	P	P	-	-	-	-	-	-	-	-	-	-	-	P
Electra pilosa		111355	(Linnaeus, 1767)	P	-	-	-	-	-	P	-	-	-	P	P	-	P	-	-	P	-	-	P
Aspidelectra melolontha		111350	(Landsborough, 1852)	-	-	-	-	-	-	-	P	-	-	P	P	P	-	-	P	P	-	-	P
Flustra foliacea		111367	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	P
Chartella papyracea		111365	(Ellis & Solander, 1786)	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Securiflustra securifrons		111374	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-
Callopora dumerilii		111196	(Audouin, 1826)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Amphiblestrum auritum		111186	(Hincks, 1877)	-	-	-	-	-	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-
Bicellariella ciliata		111147	(Linnaeus, 1758)	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-
Scrupocellaria scruposa		111250	(Linnaeus, 1758)	P	P	-	-	-	P	P	P	-	-	-	-	-	-	-	-	-	-	-	P
Cribrilaria innominata		1317684	(Couch, 1844)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Puellina praecox		111337	Bishop & Household, 1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Hippothoa divaricata		111399	Lamouroux, 1821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Hippothoa flagellum		111400	Manzoni, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Chorizopora brongniartii		111304	(Audouin, 1826)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Escharoides bishopi	?	247908	De Blauwe, 2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Escharella immersa		111484	(Fleming, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	P	P	P
Escharella ventricosa		111496	(Hassall, 1842)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neolagenipora collaris		111509	(Norman, 1867)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Porella concinna		111125	(Busk, 1854)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phylactella labrosa		111579	(Busk, 1854)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Herentia hyndmanni		146821	(Johnston, 1847)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Escharina johnstoni		111518	(Quelch, 1884)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Schizomavella		110829	Canu & Bassler, 1917	-	P	-	P	-	-	-	-	-	-	-	-	-	P	P	-	-	-	P	-
Microporella ciliata		111421	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cellepora pumicosa		111268	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbicellepora avicularis		111285	(Hincks, 1860)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Hagiosynodos latus		111391	(Busk, 1856)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHORDATA																							
Didemnidae		103439	Giard, 1872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MERGED																							
Cheirocratus	-	101669	Norman, 1867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Cheirocratus female	-	101669	Norman, 1867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Cheirocratus assimilis	-	102794	(Lilljeborg, 1852)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aoridae		101368	Stebbing, 1899																	1			
Aoridae female	-	101368	Stebbing, 1899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aora gracilis	-	102012	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Gnathiidae		118278	Leach, 1814																	3			
Nemertea	9	152391		2	6	-	-	2	-	1	-	-	-	1	-	2	5	1	2	3	7	1	4
Nemertea	9	152391		2	3	-	-	2	-	1	-	-	-	1	-	1	4	-	2	2	3	1	2
Tubulanus polymorphus	-	122637	Renier, 1804	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Cerebratulus	-	122348	Renier, 1804	-	3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	4	-	2
Thracia	-	138549	Blainville, 1824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia	-	138549	Blainville, 1824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia distorta	-	141647	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUVENILES																							
Aphroditidae	juvenile	938	Malmgren, 1867	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
Aphrodita aculeata	juvenile	129840	Linnaeus, 1758	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllidae	epitoke	948	Grube, 1850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys	juvenile	129370	Cuvier, 1817	-	-	-	1	1	-	-	-	-	2	-	-	-	-	5	-	-	-	1	-
Orbiniidae	juvenile	902	Hartman, 1942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Arenicolidae	juvenile	922	Johnston, 1835	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sessilia	juvenile	106033	Lamarck, 1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Gnathiidae	juvenile	118278	Leach, 1814	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paguridae	juvenile	106738	Latreille, 1802	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Ebalia	juvenile	106889	Leach, 1817 [in Leach, 1815-1875]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Macropodia	juvenile	205077	Leach, 1814 [in Leach, 1813-1815]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eurynome	juvenile	106901	Leach, 1814 [in Leach, 1813-1815]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liocarcinus	juvenile	106925	Stimpson, 1871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Buccinum undatum	juvenile	138878	Linnaeus, 1758	1	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Nuculidae	juvenile	204	Gray, 1824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Mytilus edulis	juvenile	140480	Linnaeus, 1758	-	1	-	1	1	16	-	-	-	65	1	-	-	2	1	-	-	-	-	-
Modiolus	juvenile	138223	Lamarck, 1799	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Modiolus adriaticus	juvenile	140462	Lamarck, 1819	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinidae	juvenile	213	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Anomiidae	juvenile	214	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Diplodonta rotundata	juvenile	141883	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerastoderma edule	juvenile	138998	(Linnaeus, 1758)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Mactra stultorum	juvenile	140299	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Spisula	juvenile	138159	Gray, 1837	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	2
Spisula elliptica	juvenile	140300	(T. Brown, 1827)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Ensis	juvenile	138333	Schumacher, 1817	-	-	-	34	-	3	-	132	1	1	-	-	-	3	5	-	-	-	-	-
Arenicolidae	juvenile	922	Johnston, 1835	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sessilia	juvenile	106033	Lamarck, 1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Ruditapes philippinarum	juvenile	231750	(A. Adams & Reeve, 1850)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mya truncata	juvenile	140431	Linnaeus, 1758	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barnea parva	juvenile	140768	(Pennant, 1777)	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia distorta	juvenile	141647	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Ophiothrix fragilis	juvenile	125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphiuridae	juvenile	123206	Ljungman, 1867	-	2	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Ophiuridae	juvenile	123200	Müller & Troschel, 1840	-	-	-	-	1	-	-	-	-	-	-	-	-	3	1	-	-	1	1	-
Ascidiacea	juvenile	1839	Blainville, 1824	4	6	5	-	-	3	-	4	-	266	-	-	-	1	-	-	-	-	4	1
Callionymus	juvenile	125930	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PELAGIC / MEIOFAUNA																							
Nematoda		799		15	8	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	5
Sphaerosyllis cf. *taylori*	epitoke	131394	Perkins, 1981	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decapoda	megalopa	1130	Latreille, 1802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephropidae	zoea	106741	Dana, 1852	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pisidia longicornis	zoea	107188	(Linnaeus, 1767)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EGGS																							
Animalia	eggs	2		P	-	-	-	-	-	-	-	-	-	P	-	-	P	-	P	-	-	-	-
Actinopterygii	eggs	10194		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARASITIC																							
Notodelphyidae		106421	Dana, 1853	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Herpyllobiidae		128574	Hansen, 1892	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Bopyridae		1195	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-
DAMAGED																							
Nemertea		152391		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerebratulus		122348	Renier, 1804	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-
Pisione remota		130707	(Southern, 1914)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harmothoe impar	aggregate	130770	(Johnston, 1839)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eteone longa	aggregate	130616	(Fabricius, 1780)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eulalia mustela		130631	Pleijel, 1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glycera alba		130116	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eunereis longissima		130375	(Johnston, 1840)	Frag.	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-
Aglaophamus agilis		130343	(Langerhans, 1880)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys cirrosa		130357	Ehlers, 1868	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-
Nephtys kersivalensis		130363	McIntosh, 1908	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paucibranchia totospinata		1305625	(Lu & Fauchald, 1998)	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-
Lumbrineris cingulata	aggregate	130240	Ehlers, 1897	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protodorvillea kefersteini		130041	(McIntosh, 1869)	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schistomeringos rudolphi		154127	(Delle Chiaje, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-
Paraonidae		903	Cerruti, 1909	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiophanes bombyx		131187	(Claparède, 1870)	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-
Chaetopterus		129229	Cuvier, 1830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST01_FA	ST02_FA	ST03_FA	ST04_FA	ST05_FA	ST06_FA	ST07_FA	ST10_FA	ST11_FA	ST12_FA	ST14_FA	ST15_FA	ST16_FA	ST17_FA	ST18_FA	ST19_FA	ST20_FA	ST21_FA	ST22_FA	ST25_FA
Aphelochaeta species A		129240	Blake, 1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphelochaeta marioni (sensu MarLIN)		129938	(Saint-Joseph, 1894)	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-
Notomastus		129220	M. Sars, 1851	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-
Euclymene oerstedii	aggregate	130294	(Claparède, 1863)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petaloproctus		129359	Quatrefages, 1866	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygordius		129472	Schneider, 1868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serpulidae		988	Rafinesque, 1815	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Serpulidae		988	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iphimedia obesa		102347	Rathke, 1843	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthura gracilis		118467	(Montagu, 1808)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-
Astacilla		118445	Cordiner, 1793	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callianassa subterranea		107729	(Montagu, 1808)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phoronis		128545	Wright, 1856	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	Frag.	-	-	-	Frag.	-	-
Ophiothrix fragilis		125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphiura securigera		125195	(Düben & Koren, 1846)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-
Amphipholis squamata		125064	(Delle Chiaje, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enteropneusta		1820	Gegenbaur, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didemnidae		103439	Giard, 1872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
CNIDARIA																						
Actiniaria		1360	Hertwig, 1882	-	1	2	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
PLATYHELMINTHES																						
Platyhelminthes		793	Minot, 1876	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
NEMERTEA																						
Nemertea		152391		4	1	2	-	5	1	-	3	9	3	-	-	-	2	1	4	-	10	2
CHAETOGNATHA																						
Spadella cephaloptera		105468	(Busch, 1851)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SIPUNCULA																						
Golfingia elongata		175026	(Keferstein, 1862)	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Golfingia vulgaris		410724	(de Blainville, 1827)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephasoma minutum		136060	(Keferstein, 1862)	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	2	-
ANNELIDA																						
Maxmuelleria lankesteri		110368	(Herdman, 1897)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pisione remota		130707	(Southern, 1914)	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-
Aphrodita aculeata		129840	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gattyana cirrhosa		130749	(Pallas, 1766)	-	3	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	-
Harmothoe (not glabra)		129491	Kinberg, 1856	-	2	1	-	-	-	2	3	-	1	-	-	-	-	-	-	-	1	-
Harmothoe glabra		571832	(Malmgren, 1865)	-	-	-	-	3	-	2	-	-	1	-	-	-	-	-	-	-	-	-
*Malmgrenia (*not ljungmani)		147006	McIntosh, 1874	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-
Malmgrenia ljungmani		152304	(Malmgren, 1867)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Lepidonotus squamatus		130801	(Linnaeus, 1758)	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pholoe baltica (sensu Petersen)		130599	Örsted, 1843	-	3	-	-	5	-	2	6	-	5	-	-	-	-	-	-	-	4	-
Pholoe inornata (sensu Petersen)		130601	Johnston, 1839	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Sthenelais boa		131074	(Johnston, 1833)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eteone longa	aggregate	130616	(Fabricius, 1780)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hesionura elongata		130649	(Southern, 1914)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Phyllodoce longipes		130673	Kinberg, 1866	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-
Eulalia mustela		130631	Pleijel, 1987	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Eulalia ornata		130632	Saint-Joseph, 1888	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eumida bahusiensis		130641	Bergstrom, 1914	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	-	-	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Paranaitis kosteriensis		130662	(Malmgren, 1867)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glycera alba		130116	(O.F. Müller, 1776)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glycera lapidum	aggregate	130123	Quatrefages, 1866	1	-	2	-	2	-	-	1	2	3	-	-	-	-	-	-	-	3	-
Glycera oxycephala		130126	Ehlers, 1887	1	-	-	-	-	2	-	-	4	-	-	-	-	1	-	-	-	-	1
Glycinde nordmanni		130136	(Malmgren, 1866)	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Goniada maculata		130140	Örsted, 1843	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaerodorum gracilis		131100	(Rathke, 1843)	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Podarkeopsis capensis		130195	(Day, 1963)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllis variegata		131458	Grube, 1860	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Syllis armillaris	aggregate	131415	(O.F. Müller, 1776)	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Syllis garciai		131431	(Campoy, 1982)	3	-	1	-	2	1	-	3	1	-	-	-	-	1	-	-	-	1	-
Syllis pontxioi		196003	San Martín & López, 2000	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	6	-
Syllis gracilis		131435	Grube, 1840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eusyllis blomstrandi		131290	Malmgren, 1867	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Odontosyllis ctenostoma		131325	Claparède, 1868	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Streptodonta pterochaeta		238207	(Southern, 1914)	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
Parexogone hebes		757970	(Webster & Benedict, 1884)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exogone naidina		327985	Örsted, 1845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Sphaerosyllis cf. *taylori*		131394	Perkins, 1981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myrianida		129659	Milne Edwards, 1845	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Proceraea		129671	Ehlers, 1864	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Eunereis longissima		130375	(Johnston, 1840)	-	1	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-
Nephtys caeca		130355	(Fabricius, 1780)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys cirrosa		130357	Ehlers, 1868	-	-	-	-	-	-	-	-	2	-	1	-	-	-	1	-	3	-	6
Nephtys hombergii		130359	Savigny in Lamarck, 1818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys kersivalensis		130363	McIntosh, 1908	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Paucibranchia totospinata		1305625	(Lu & Fauchald, 1998)	-	3	1	-	3	-	2	2	-	1	-	-	-	-	-	-	-	1	-
Lysidice unicornis		742232	(Grube, 1840)	-	-	1	-	2	-	-	1	-	3	-	-	-	-	-	-	-	3	-
Lumbrineris cingulata	aggregate	130240	Ehlers, 1897	4	16	6	-	9	2	11	10	-	7	-	-	-	-	-	1	-	19	-
Lumbrineris latreilli	?	130248	Audouin & Milne Edwards, 1833	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drilonereis		129200	Claparède, 1870	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protodorvillea kefersteini		130041	(McIntosh, 1869)	-	-	-	-	-	2	-	-	5	-	-	-	-	-	-	-	-	-	-
Schistomeringos neglecta		130044	(Fauvel, 1923)	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	2	-
Schistomeringos rudolphi		154127	(Delle Chiaje, 1828)	-	2	1	-	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Scoloplos armiger		130537	(Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paradoneis lyra		130585	(Southern, 1914)	-	2	3	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1	-
Poecilochaetus serpens		130711	Allen, 1904	-	-	1	-	1	1	4	3	-	4	-	-	-	-	-	-	-	-	-
Aonides oxycephala		131106	(Sars, 1862)	-	3	-	-	1	-	3	2	-	1	-	-	-	-	-	-	-	-	-
Aonides paucibranchiata		131107	Southern, 1914	6	-	2	-	5	-	-	2	7	5	-	-	-	2	-	-	-	1	-
Atherospio guillei		478336	(Laubier & Ramos, 1974)	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Laonice irinae		1518242	Sikorski, Radashevsky & Nygren in Sikorski et al, 2021	-	-	1	-	1	-	1	2	-	1	-	-	-	-	-	-	-	-	-
Dipolydora caulleryi		131116	(Mesnil, 1897)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polydora species A		129619	Bosc, 1802	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polydora cornuta		131143	Bosc, 1802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dipolydora flava		131118	(Claparède, 1870)	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudopolydora pulchra		131169	(Carazzi, 1893)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pygospio elegans		131170	Claparède, 1863	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Scolelepis korsuni		131174	Sikorski, 1994	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spio symphyta		596189	Meißner, Bick & Bastrop, 2011	-	-	-	-	-	2	-	-	2	-	-	-	-	6	-	1	-	-	-
Spiophanes bombyx		131187	(Claparède, 1870)	-	-	-	-	1	-	1	-	-	1	-	-	-	-	-	2	-	3	1
Magelona alleni		130266	Wilson, 1958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magelona johnstoni		130269	Fiege, Licher & Mackie, 2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chaetopterus		129229	Cuvier, 1830	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphelochaeta species A		129240	Blake, 1991	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	-	2	-
Aphelochaeta marioni (sensu MarLIN)		129938	(Saint-Joseph, 1894)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caulleriella alata		129943	(Southern, 1914)	1	3	4	-	2	-	2	2	-	1	-	-	-	1	-	-	-	4	-
Chaetozone zetlandica		336485	McIntosh, 1911	1	-	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-	1	-
Dodecaceria		129246	Örsted, 1843	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flabelligera		129291	Sars, 1829	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pherusa		129293	Oken, 1807	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capitella		129211	Blainville, 1828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mediomastus fragilis		129892	Rasmussen, 1973	-	-	-	-	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Notomastus/Pseudonotomastus				-	-	4	-	5	1	3	4	2	6	-	-	-	1	-	3	-	2	-
Leiochone		146991	Grube, 1868	-	-	-	-	12	1	1	8	-	3	-	-	-	-	-	-	-	-	-
Euclymene oerstedii	aggregate	130294	(Claparède, 1863)	-	-	-	-	3	-	-	1	-	2	-	-	-	-	-	-	-	-	-
Heteroclymene robusta		146978	Arwidsson, 1906	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Praxillella affinis		130322	(M. Sars in G.O. Sars, 1872)	-	-	1	-	1	-	-	4	-	1	-	-	-	-	-	-	-	10	-
Nicomache		129357	Malmgren, 1865	-	-	4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Petaloproctus		129359	Quatrefages, 1866	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Ophelia borealis		130491	Quatrefages, 1866	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	4	-	-
Travisia forbesii		130512	Johnston, 1840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Asclerocheilus		129551	Ashworth, 1901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scalibregma inflatum		130980	Rathke, 1843	-	3	6	-	31	1	5	39	-	17	1	-	-	-	-	-	-	16	3
Scalibregma celticum		130979	Mackie, 1991	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Galathowenia oculata		146950	(Zachs, 1923)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Owenia		129427	Delle Chiaje, 1844	-	4	-	-	1	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Lagis koreni		152367	Malmgren, 1866	-	16	1	-	1	-	4	2	-	2	-	-	-	-	-	2	-	9	63
Sabellaria spinulosa		130867	(Leuckart, 1849)	-	-	1	-	2	-	-	2	-	-	-	-	-	-	-	-	-	34	-
Melinna palmata		129808	Grube, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ampharete cf. *acutifrons*		129775	(Grube, 1860)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ampharete lindstroemi		129781	Malmgren, 1867 sensu Hessle, 1917	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Amphicteis midas		129785	(Gosse, 1855)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Terebellides		129717	Sars, 1835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lanice conchilega		131495	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6
Loimia medusa		131499	(Savigny, 1822)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Neoamphitrite edwardsii		131503	(Quatrefages, 1866)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Nicolea venustula		131507	(Montagu, 1819)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amaeana trilobata		131471	(Sars, 1863)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Lysilla nivea		131501	Langerhans, 1884	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-
Polycirrus		129710	Grube, 1850	1	-	1	-	2	-	-	-	-	6	2	-	-	-	-	10	-	3	-
Thelepus setosus		131544	(Quatrefages, 1866)	-	3	-	-	5	-	1	-	-	-	-	-	-	-	-	-	-	1	-
Spirobranchus lamarcki		560033	(Quatrefages, 1866)	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Spirobranchus triqueter		555935	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spirorbinae		989	Chamberlin, 1919	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limnodriloides		137362	Pierantoni, 1903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubificoides amplivasatus		137570	(Erséus, 1975)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grania		137349	Southern, 1913	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
ARTHROPODA																						
Nymphon brevirostre		150520	Hodge, 1863	-	-	1	-	1	-	-	5	-	-	-	-	-	-	-	-	-	2	-
Achelia echinata (agg)	aggregate	134599	Hodge, 1864	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammothella longipes (agg)	aggregate	134614	(Hodge, 1864)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callipallene		134581	Flynn, 1929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anoplodactylus petiolatus		134723	(Krøyer, 1844)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pycnogonum litorale		239867	(Strøm, 1762)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scalpellum scalpellum		106204	(Linnaeus, 1767)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Verruca stroemia		106257	(O.F. Müller, 1776)	-	-	26	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Balanus crenatus		106215	Bruguière, 1789	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	P	-
Gastrosaccus spinifer		120020	(Goës, 1864)	-	-	-	-	-	-	-	1	1	-	4	7	1	-	45	33	5	-	-
Praunus inermis		120178	(Rathke, 1843)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heteromysis microps		120037	(G.O. Sars, 1877)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontocrates altamarinus		102916	(Spence Bate & Westwood, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Pontocrates arenarius		102918	(Spence Bate, 1858)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Apolochus neapolitanus		236495	(Della Valle, 1893)	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Leucothoe procera		102466	Spence Bate, 1857	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stenothoe marina		103166	(Spence Bate, 1857)	-	-	2	-	1	-	-	6	1	1	-	-	-	-	-	-	-	-	-
Urothoe elegans		103228	Spence Bate, 1857	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	4	-
Urothoe marina		103233	(Spence Bate, 1857)	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Harpinia pectinata		102972	Sars, 1891	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Acidostoma obesum (sensu stoddart & Lowry)		102497	(Spence Bate, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acidostoma neglectum		102495	Dahl, 1964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Hippomedon denticulatus		102570	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Nototropis falcatus		102139	(Metzger, 1871)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Nototropis swammerdamei		488966	(H. Milne Edwards, 1830)	-	-	-	-	-	-	-	-	-	1	-	-	-	16	-	-	-	-	-
Nototropis vedlomensis		179538	(Spence Bate & Westwood, 1862)	-	-	-	-	2	-	-	-	-	6	-	-	-	1	-	-	-	2	-
Ampelisca diadema		101896	(Costa, 1853)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ampelisca spinipes		101928	Boeck, 1861	4	8	2	-	4	-	5	2	-	7	-	-	-	-	-	-	-	23	-
Haploops		101447	Liljeborg, 1856	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bathyporeia elegans		103058	Watkin, 1938	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Bathyporeia guilliamsoniana		103060	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Haustorius arenarius		102317	(Slabber, 1769)	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Megaluropus agilis		102783	Hoek, 1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Abludomelita obtusata		102788	(Montagu, 1813)	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	1	-	-	4
Cheirocratus		101669	Norman, 1867	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Othomaera othonis		534781	(H. Milne Edwards, 1830)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Maerella tenuimana		102831	(Spence Bate, 1862)	-	-	-	-	1	-	-	-	-	1	-	-	-	2	-	3	-	-	-
Gammaropsis maculata		102364	(Johnston, 1828)	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Photis longicaudata		102383	(Spence Bate & Westwood, 1862)	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Ericthonius punctatus		102408	(Spence Bate, 1857)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aoridae		101368	Stebbing, 1899	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Leptocheirus hirsutimanus		102036	(Spence Bate, 1862)	-	-	-	-	1	-	1	2	-	3	-	-	-	-	-	-	-	-	-
Crassicorophium crassicorne		397383	(Bruzelius, 1859)	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2	-
Unciola crenatipalma		102057	(Spence Bate, 1862)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Dyopedos monacanthus		489646	(Metzger, 1875)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dyopedos porrectus		103044	Spence Bate, 1857	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pariambus typicus		101857	(Krøyer, 1845)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phtisica marina		101864	Slabber, 1769	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Gnathia oxyuraea		118995	(Lilljeborg, 1855)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	5	-
Tanaopsis graciloides		136458	(Lilljeborg, 1864)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Bodotria scorpioides		110445	(Montagu, 1804)	-	1	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Diastylis bradyi		110472	Norman, 1879	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diastylis rathkei		110487	(Krøyer, 1841)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hippolyte varians		107518	Leach, 1814 [in Leach, 1813-1815]	-	-	1	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Pandalina brevirostris		107647	(Rathke, 1843)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-
Crangon allmanni		107551	Kinahan, 1860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philocheras trispinosus		107562	(Hailstone in Hailstone & Westwood, 1835)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Callianassa subterranea		107729	(Montagu, 1808)	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Upogebia deltaura		107739	(Leach, 1816)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Pagurus bernhardus		107232	(Linnaeus, 1758)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyas coarctatus		107323	Leach, 1815 [in Leach, 1815-1875]	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thia scutellata		107281	(Fabricius, 1793)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
MOLLUSCA																						
Leptochiton		138117	Gray, 1847	-	8	2	-	1	-	7	3	-	8	-	-	-	-	-	-	-	2	-
Tricolia pullus		141700	(Linnaeus, 1758)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Steromphala cineraria		1039839	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calliostoma zizyphinum		141767	(Linnaeus, 1758)	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Pusillina inconspicua		141334	(Alder, 1844)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Tornus subcarinatus		141690	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Euspira nitida		151894	(Donovan, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Epitonium clathrus		146905	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epitonium clathratulum		139718	(Kanmacher, 1798)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melanella alba		139832	(da Costa, 1778)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Ocenebra erinaceus		140405	(Linnaeus, 1758)	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Buccinum undatum		138878	Linnaeus, 1758	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritia reticulata		876821	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propebela rufa		367570	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philine quadripartita		574582	Ascanius, 1772	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retusa obtusa		141134	(Montagu, 1803)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flabellinidae		190	Bergh, 1889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Cuthona		138543	Alder & Hancock, 1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Facelina		137997	Alder & Hancock, 1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nucula hanleyi		140588	Winckworth, 1931	1	-	-	-	3	-	-	1	1	2	-	-	-	-	-	-	-	1	-
Nucula nitidosa		140589	Winckworth, 1930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nucula nucleus		140590	(Linnaeus, 1758)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mytilus edulis		140480	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Modiolus adriaticus		140462	Lamarck, 1819	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Musculus discors		140472	(Linnaeus, 1767)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diplodonta rotundata		141883	(Montagu, 1803)	-	-	1	-	1	-	1	3	-	6	-	-	-	-	-	-	-	1	-
Kurtiella bidentata		345281	(Montagu, 1803)	-	10	-	-	6	-	6	10	-	3	-	-	-	1	-	1	-	9	-
Goodallia triangularis		138831	(Montagu, 1803)	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Laevicardium crassum		139004	(Gmelin, 1791)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Spisula elliptica		140300	(T. Brown, 1827)	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phaxas pellucidus		140737	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fabulina fabula		146907	(Gmelin, 1791)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moerella donacina		147021	(Linnaeus, 1758)	1	-	3	-	1	1	-	4	-	1	-	-	-	-	-	-	-	1	-
Asbjornsenia pygmaea		879714	(Lovén, 1846)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-
Limecola balthica		880017	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abra alba		141433	(W. Wood, 1802)	-	1	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
Abra prismatica		141436	(Montagu, 1808)	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1
Timoclea ovata		141929	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Petricolaria pholadiformis		156961	(Lamarck, 1818)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphenia binghami		140432	W. Turton, 1822	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Varicorbula gibba		378492	(Olivi, 1792)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rocellaria dubia		505249	(Pennant, 1777)	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saxicavella jeffreysi		140108	Winckworth, 1930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barnea parva		140768	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia		138549	Blainville, 1824			2						1										
PHORONIDA																						
Phoronis		128545	Wright, 1856	-	2	3	-	12	-	7	11	-	16	-	-	-	-	-	-	-	10	-
ECHINODERMATA																						
Ophiothrix fragilis		125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Amphiura securigera		125195	(Düben & Koren, 1846)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Amphipholis squamata		125064	(Delle Chiaje, 1828)	-	-	1	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-
Ophiocten affinis		124850	(Lütken, 1858)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
Ophiura albida		124913	Forbes, 1839	1	47	-	-	-	4	7	4	-	1	-	-	-	-	-	4	1	2	18
Ophiura ophiura		124929	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psammechinus miliaris		124319	(P.L.S. Müller, 1771)	1	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Echinocyamus pusillus		124273	(O.F. Müller, 1776)	4	1	-	-	4	-	5	9	-	11	-	-	-	-	-	-	-	6	-
Thyone fusus		124670	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Leptosynapta inhaerens		124465	(O.F. Müller, 1776)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEMICHORDATA																						
Enteropneusta		1820	Gegenbaur, 1870	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CHORDATA																						
Polycarpa fibrosa		103902	(Stimpson, 1852)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-
Dendrodoa grossularia		103882	(Van Beneden, 1846)	-	-	4	-	1	-	-	9	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Molgula		103509	Forbes, 1848	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammodytes tobianus		126752	Linnaeus, 1758	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-
			Number of taxa	19	43	62	1	63	17	38	63	19	64	9	4	1	17	4	23	6	52	11
			Abundance	38	178	132	1	177	24	102	221	47	178	13	12	1	59	48	85	15	229	106

The following taxa have been removed from the main data matrix to facilitate analysis

COLONIAL EPIFAUNA																						
CILIOPHORA																						
Ciliophora		11		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Folliculinidae		1692	Dons, 1914	P	-	P	-	-	P	-	P	P	-	P	-	-	P	P	P	-	P	P
PORIFERA																						
Porifera		558	Grant, 1836	-	-	P	-	P	-	-	P	-	P	-	-	-	-	-	-	-	-	-
Clathrina		131729	Gray, 1867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sycon		131723	Risso, 1827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CNIDARIA																						
Tubulariidae		1603	Goldfuss, 1818	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Calycella syringa		117402	(Linnaeus, 1767)	-	-	-	-	P	-	-	P	-	P	-	-	-	-	-	-	-	-	-
Halecium		117103	Oken, 1815	-	-	-	-	P	P	-	P	-	P	-	-	-	-	-	-	-	-	-
Hydrallmania falcata		117890	(Linnaeus, 1758)	-	-	-	-	P	-	P	P	-	P	-	-	-	-	-	-	-	-	-
Sertularella		117233	Gray, 1848	-	-	-	-	P	-	-	P	-	-	-	-	-	-	-	-	-	-	-
Sertularia		117234	Linnaeus, 1758	P	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Kirchenpaueria halecioides		117673	(Alder, 1859)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Campanulariidae		1606	Johnston, 1836	-	-	-	-	P	-	-	P	-	-	-	-	-	-	-	-	-	P	-
Campanularia hincksii		117364	Alder, 1856	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcyonium digitatum		125333	Linnaeus, 1758	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epizoanthus couchii		101025	(Johnston in Couch, 1844)	-	-	P	-	-	-	P	P	-	P	-	-	-	-	-	-	-	-	-
ENTOPROCTA																						
Loxosomella phascolosomata		111839	(Vogt, 1876)	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barentsia		111795	Hincks, 1880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BRYOZOA																						
Crisia		111032	Lamouroux, 1812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubulipora		111054	Lamarck, 1816	-	-	-	-	-	-	-	P	-	-	-	-	-	P	-	-	-	-	-
Plagioecia patina		111719	(Lamarck, 1816)	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disporella hispida		111730	(Fleming, 1828)	P	P	P	-	-	P	-	P	-	P	-	-	-	-	-	-	-	-	-
Alcyonidium diaphanum		111597	(Hudson, 1778)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcyonidioides mytili		468026	(Dalyell, 1848)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcyonidium parasiticum		111604	(Fleming, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Nolella		111011	Gosse, 1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anguinella palmata		111631	Van Beneden, 1845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triticella flava		111653	Dalyell, 1848	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Penetrantiidae		110797	Silén, 1946	-	-	-	-	-	-	-	P	-	-	-	-	-	-	P	-	-	-	-
Vesicularia spinosa		111669	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amathia		111022	Lamouroux, 1812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conopeum reticulum		111351	(Linnaeus, 1767)	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	P
Electra monostachys		111354	(Busk, 1854)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electra pilosa		111355	(Linnaeus, 1767)	-	P	P	-	P	-	-	P	-	-	-	-	-	-	-	-	-	-	-
Aspidelectra melolontha		111350	(Landsborough, 1852)	-	-	-	-	-	P	P	-	-	-	-	-	-	P	-	-	-	-	P
Flustra foliacea		111367	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chartella papyracea		111365	(Ellis & Solander, 1786)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Securiflustra securifrons		111374	(Pallas, 1766)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callopora dumerilii		111196	(Audouin, 1826)	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Amphiblestrum auritum		111186	(Hincks, 1877)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicellariella ciliata		111147	(Linnaeus, 1758)	-	-	-	-	P	-	-	P	-	-	-	-	-	-	-	-	-	P	-
Scrupocellaria scruposa		111250	(Linnaeus, 1758)	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-
Cribrilaria innominata		1317684	(Couch, 1844)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Puellina praecox		111337	Bishop & Household, 1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hippothoa divaricata		111399	Lamouroux, 1821	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hippothoa flagellum		111400	Manzoni, 1870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chorizopora brongniartii		111304	(Audouin, 1826)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Escharoides bishopi	?	247908	De Blauwe, 2006	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Escharella immersa		111484	(Fleming, 1828)	P	-	P	-	-	P	P	-	-	P	-	-	-	-	-	-	-	-	-
Escharella ventricosa		111496	(Hassall, 1842)	-	-	P	-	P	P	P	P	-	-	-	-	-	-	-	-	-	-	-
Neolagenipora collaris		111509	(Norman, 1867)	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Porella concinna		111125	(Busk, 1854)	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phylactella labrosa		111579	(Busk, 1854)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Herentia hyndmanni		146821	(Johnston, 1847)	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Escharina johnstoni		111518	(Quelch, 1884)	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Schizomavella		110829	Canu & Bassler, 1917	-	P	P	-	P	P	P	P	-	P	-	-	-	P	-	-	-	P	-
Microporella ciliata		111421	(Pallas, 1766)	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-
Cellepora pumicosa		111268	(Pallas, 1766)	-	-	P	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbicellepora avicularis		111285	(Hincks, 1860)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hagiosynodos latus		111391	(Busk, 1856)	-	-	-	-	-	-	-	P	-	-	-	-	-	P	-	-	-	-	-
CHORDATA																						
Didemnidae		103439	Giard, 1872	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-
MERGED																						
Cheirocratus	-	101669	Norman, 1867	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cheirocratus female	-	101669	Norman, 1867	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cheirocratus assimilis	-	102794	(Lilljeborg, 1852)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aoridae		101368	Stebbing, 1899							2												
Aoridae female	-	101368	Stebbing, 1899	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Aora gracilis	-	102012	(Spence Bate, 1857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gnathiidae		118278	Leach, 1814									1								5		
Nemertea	9	152391		1	2	-	5	1	-	3	9	3	-	-	-	2	1	4	-	10	2	2
Nemertea	9	152391		1	2	-	4	1	-	3	9	3	-	-	-	-	-	3	-	9	1	1
Tubulanus polymorphus	-	122637	Renier, 1804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cerebratulus	-	122348	Renier, 1804	-	-	-	1	-	-	-	-	-	-	-	-	2	1	1	-	1	1	1
Thracia	-	138549	Blainville, 1824	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Thracia	-	138549	Blainville, 1824	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Thracia distorta	-	141647	(Montagu, 1803)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUVENILES																						
Aphroditidae	juvenile	938	Malmgren, 1867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphrodita aculeata	juvenile	129840	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syllidae	epitoke	948	Grube, 1850	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Nephtys	juvenile	129370	Cuvier, 1817	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	2	-	-	-
Orbiniidae	juvenile	902	Hartman, 1942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arenicolidae	juvenile	922	Johnston, 1835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sessilia	juvenile	106033	Lamarck, 1818	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gnathiidae	juvenile	118278	Leach, 1814	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Paguridae	juvenile	106738	Latreille, 1802	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1	2
Ebalia	juvenile	106889	Leach, 1817 [in Leach, 1815-1875]	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Macropodia	juvenile	205077	Leach, 1814 [in Leach, 1813-1815]	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Eurynome	juvenile	106901	Leach, 1814 [in Leach, 1813-1815]	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liocarcinus	juvenile	106925	Stimpson, 1871	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2	-
Buccinum undatum	juvenile	138878	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuculidae	juvenile	204	Gray, 1824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mytilus edulis	juvenile	140480	Linnaeus, 1758	-	-	-	-	-	1	-	2	2	-	-	-	-	-	-	-	-	-	-
Modiolus	juvenile	138223	Lamarck, 1799	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Modiolus adriaticus	juvenile	140462	Lamarck, 1819	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	3	-
Pectinidae	juvenile	213	Rafinesque, 1815	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	1	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Anomiidae	juvenile	214	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diplodonta rotundata	juvenile	141883	(Montagu, 1803)	-	1	-	-	4	-	1	1	-	1	-	-	-	-	-	-	-	-	-
Cerastoderma edule	juvenile	138998	(Linnaeus, 1758)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mactra stultorum	juvenile	140299	(Linnaeus, 1758)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Spisula	juvenile	138159	Gray, 1837	8	-	6	-	2	9	2	-	5	3	10	-	3	7	-	-	-	3	1
Spisula elliptica	juvenile	140300	(T. Brown, 1827)	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-
Ensis	juvenile	138333	Schumacher, 1817	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Arenicolidae	juvenile	922	Johnston, 1835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sessilia	juvenile	106033	Lamarck, 1818	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ruditapes philippinarum	juvenile	231750	(A. Adams & Reeve, 1850)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mya truncata	juvenile	140431	Linnaeus, 1758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barnea parva	juvenile	140768	(Pennant, 1777)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thracia distorta	juvenile	141647	(Montagu, 1803)	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Ophiothrix fragilis	juvenile	125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Amphiuridae	juvenile	123206	Ljungman, 1867	1	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	1	-
Ophiuridae	juvenile	123200	Müller & Troschel, 1840	-	4	-	-	1	-	4	1	-	1	3	-	-	-	-	-	-	-	-
Ascidiacea	juvenile	1839	Blainville, 1824	2	1	1	-	-	-	1	-	-	5	-	-	-	-	-	-	-	-	-
Callionymus	juvenile	125930	Linnaeus, 1758	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
PELAGIC / MEIOFAUNA																						
Nematoda		799		1	-	1	-	-	4	-	-	4	3	-	-	-	1	-	-	-	-	-
Sphaerosyllis cf. *taylori*	epitoke	131394	Perkins, 1981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decapoda	megalopa	1130	Latreille, 1802	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-
Nephropidae	zoea	106741	Dana, 1852	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Pisidia longicornis	zoea	107188	(Linnaeus, 1767)	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-
EGGS																						
Animalia	eggs	2		-	-	-	P	-	-	-	-	-	-	P	P	-	-	P	-	-	-	-
Actinopterygii	eggs	10194		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
PARASITIC																						
Notodelphyidae		106421	Dana, 1853	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Herpyllobiidae		128574	Hansen, 1892	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bopyridae		1195	Rafinesque, 1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DAMAGED																						
Nemertea		152391		-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-
Cerebratulus		122348	Renier, 1804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pisione remota		130707	(Southern, 1914)	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-
Harmothoe impar	aggregate	130770	(Johnston, 1839)	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-
Eteone longa	aggregate	130616	(Fabricius, 1780)	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eulalia mustela		130631	Pleijel, 1987	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	Frag.	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glycera alba		130116	(O.F. Müller, 1776)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eumida sanguinea	aggregate	130644	(Örsted, 1843)	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eunereis longissima		130375	(Johnston, 1840)	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aglaophamus agilis		130343	(Langerhans, 1880)	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-
Nephtys cirrosa		130357	Ehlers, 1868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephtys kersivalensis		130363	McIntosh, 1908	-	-	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-
Paucibranchia totospinata		1305625	(Lu & Fauchald, 1998)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lumbrineris cingulata	aggregate	130240	Ehlers, 1897	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Frag.
Protodorvillea kefersteini		130041	(McIntosh, 1869)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schistomeringos rudolphi		154127	(Delle Chiaje, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paraonidae		903	Cerruti, 1909	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-
Spiophanes bombyx		131187	(Claparède, 1870)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chaetopterus		129229	Cuvier, 1830	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-

Taxa	Qualifier	AphiaID	Authority	ST27_FA	ST28_FA	ST31_FA	ST32_FA	ST33_FA	ST34_FA	ST35_FA	ST36_FA	ST38_FA	ST40_FA	ST41_FA	ST42_FA	ST43_FA	ST44_FA	ST45_FA	ST46_FA	ST47_FA	ST48_FA	ST49_FA
Aphelochaeta species A		129240	Blake, 1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphelochaeta marioni (sensu MarLIN)		129938	(Saint-Joseph, 1894)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Notomastus		129220	M. Sars, 1851	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Euclymene oerstedii	aggregate	130294	(Claparède, 1863)	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petaloproctus		129359	Quatrefages, 1866	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygordius		129472	Schneider, 1868	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-	-
Serpulidae		988	Rafinesque, 1815	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Serpulidae		988	Rafinesque, 1815	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iphimedia obesa		102347	Rathke, 1843	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-
Anthura gracilis		118467	(Montagu, 1808)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Astacilla		118445	Cordiner, 1793	-	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Callianassa subterranea		107729	(Montagu, 1808)	-	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phoronis		128545	Wright, 1856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ophiothrix fragilis		125131	(Abildgaard in O.F. Müller, 1789)	-	-	-	-	-	-	-	-	-	Frag.	-	-	-	-	-	-	-	-	-
Amphiura securigera		125195	(Düben & Koren, 1846)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipholis squamata		125064	(Delle Chiaje, 1828)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enteropneusta		1820	Gegenbaur, 1870	Frag.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Didemnidae		103439	Giard, 1872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

F.2 Macrofaunal Biomass

Station	Raw Weight (g/0.1 m^2)				
	Annelida	Arthropoda	Mollusca	Echinodermata	Other Phyla
ST01	1.0400	0.0505	21.8699	0.0469	2.3211
ST02	0.1817	0.1084	23.4870	0.0015	3.1639
ST03	1.8498	0.1275	34.7501	0.2564	36.8796
ST04	0.8920	0.0009	3.4227	-	-
ST05	0.0825	0.0020	15.1004	0.0018	-
ST06	1.5597	0.0182	0.1479	0.0000	0.8520
ST07	0.0998	-	-	-	0.0147
ST10	8.8743	0.0188	1.9578	-	0.4142
ST11	0.2042	0.0078	0.0012	-	-
ST12	0.0630	0.0014	1.1558	-	0.1457
ST14	0.0776	0.0017	0.0812	0.0015	0.0001
ST15	0.1189	-	-	-	0.0005
ST16	0.0973	-	0.0287	-	-
ST17	24.8871	0.6254	0.6817	1.7180	3.1709
ST18	16.1190	2.8058	0.0019	4.0311	0.3831
ST19	2.5737	0.0023	2.7646	0.6563	0.4562
ST20	0.5066	0.0447	0.0007	-	0.0039
ST21	0.4940	0.0603	0.3390	14.9951	0.2760
ST22	2.5724	0.2246	0.5989	2.6544	27.9119
ST25	0.0132	0.0048	0.0147	0.0000	0.0017
ST27	0.1252	0.0164	0.1308	1.5523	0.1214
ST28	1.3068	0.6667	0.1675	3.8781	0.0351
ST31ALT	0.9494	0.0466	3.7328	0.0033	0.0564
ST32	-	0.0538	-	-	-
ST33	2.4046	0.6581	2.4866	0.1365	0.5296
ST34	0.0304	0.0002	0.0269	1.7976	0.0009
ST35	0.7616	0.3077	0.0558	1.7909	0.0758
ST36	1.0592	0.2676	2.9373	4.7411	0.0476
ST38	0.0800	0.0009	0.0687	0.0001	0.1043
ST40	2.3675	2.3420	22.7812	1.3314	0.1103
ST41	0.1788	0.0750	0.1470	0.0330	-
ST42	0.6848	0.4373	-	-	0.3764
ST43	0.0078	0.0124	0.0054	-	-
ST44	0.4029	0.0942	0.0739	-	0.2603
ST45ALT	0.0117	0.2276	0.0001	-	0.6984
ST46	0.0751	0.6963	1.9284	0.5810	0.0799
ST47	1.0458	0.0351	-	0.0029	-
ST48	0.8509	2.1855	1.8391	0.4983	0.1023
ST49	0.2893	0.0361	0.0508	1.6801	0.0629

NORTH FALLS

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HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

To contact please email contact@northfallsoffshore.com

North Falls Offshore Wind Farm Limited Registered Address: Windmill Hill Business Park, Whitehill Way, Swindon, Wiltshire, SN5 6PB, United Kingdom

Registered in England and Wales Company Number: 12435947