

Pentland floating offshore wind farm

Volume 3: Appendix A.9.1

Environmental Baseline Report



ENVIRONMENTAL BASELINE REPORT

103760-HWL-MMT-SUR-REP-ENVEBSRE
REVISION A | ISSUE FOR USE
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PENTLAND FLOATING OFFSHORE WIND FARM GEOPHYSICAL & ENVIRONMENTAL SURVEY

PENTLAND FIRTH
JUNE - JULY 2021



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ABBREVIATIONS AND DEFINITIONS

AL1	Action Level 1
AL2	Action Level 2
CCME	Canadian Council of Ministers of the Environment
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
DDV	Drop Down Video
DVV	Dual Van Veen
DPR	Daily Progress Report
EAC	Environmental Assessment Criteria
EC	European Commission
ECC	Export Cable Route Corridor
ECR	Export Cable Route
EEA	European Environment Agency
EMODnet	European Marine Observation and Data Network
EQS	Environmental Quality Standards
ERL	Effect range-low
EUNIS	European Union Nature Identification System
FAO	Food and Agriculture Organization of the United Nations
FLiDAR	Floating Light Detection and Ranging
FOC	Fractioned Organic Carbon
FOWF	Floating Offshore Wind Farm
GC/ECD	Gas Chromatography – Electron Capture Detector
GC-FID	Gas Chromatography-Flame Ionisation
GC-MS	Gas Chromatography-Mass Spectrometry
GI	Geotechnical Investigation
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
HD	High Definition
HG	Hamon Grab
IAEA	International Atomic Energy Agency
ISQG	Interim Sediment Quality Guidelines
JNCC	Joint Nature Conservation Committee
KP	Kilometre Post
LAT	Lowest Astronomical Tide
LED	Light-Emitting Diode
LOI	Loss of Ignition
M/V	Motor Vessel

MAC	Mobilisation and Calibration
MAG	Magnetometer
MBES	Multibeam Echo Sounder
MDS	Multi-Dimensional Scaling
MPA	Marine Protected Area
NEA	Norwegian Environmental Agency
NMBAQC	North-East Atlantic Marine Biological Analytical Quality Control Scheme
OSPAR	The Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic
OWF	Offshore Wind Farm
PAH	Polycyclic Aromatic Hydrocarbons
PAM	Passive Acoustic Monitoring
PCA	Principal Component Analysis
PCB	Polychlorinated Biphenyls
PEL	Probable Effect Level
PMF	Priority Marine Feature
PFOWF	Pentland Floating Offshore Wind Farm
PPS	Pulse Per Second
PRIMER	Plymouth Routines in Multivariate Ecological Research
R _{aeq}	Radium equivalent index
RIVM	Rijksinstituut voor Volksgezondheid en Milieu
SAC	Special Area of Conservation
SBET	Smoothed Best Estimated Trajectory
SBL	Scottish Biodiversity List
SBP	Sub Bottom Profiler
SIMPER	Similarity Percentage
SIMPROF	Similarity profiling algorithm
SSS	Side Scan Sonar
THC	Total Hydrocarbons
TOC	Total Organic Carbon
UHRS	Ultra High Resolution Seismic
UK	United Kingdom
UKAS	United Kingdom Accreditation Service
USBL	Ultra-Short Base Line
UTC	Coordinated Universal Time
UTM	Universal Transverse Mercator
WHO	World Health Organization

EXECUTIVE SUMMARY

This report details the results of the Environmental Survey performed 6 km off the coast of Dounreay, Scotland, for Highland Wind Limited.

Geophysical data were acquired to determine water depths, surficial geology, seabed features, shallow geology, and objects present within the survey area. Instruments used during the geophysical survey were a multibeam echo sounder, side scan sonar and sub-bottom profiler. The environmental data acquisition included sediment sampling and imagery to establish a baseline for the habitats and faunal communities within the survey area. The offshore survey was performed using a SeaSpyder HD Drop Down Video System, Dual Van Veen and Hamon grab for sediment sampling, all deployed from the survey vessel EGS Ventus. The Nearshore survey was performed using a MOD4 Drop Down Video System from the survey vessel M/V pulsar.

The geophysical interpretation combined with the environmental data was used as the basis for the EUNIS habitat classifications, assessments of potential areas and species of conservation importance, and for the associated GIS charts.

A total of seven video transects and 21 grab sample sites, were selected for sampling. At each of the grab sample sites, prior to collection of samples, imagery was acquired and four still images were selected for further analysis. Three samples were collected at each grab sample site, two for the faunal analysis and one sample for the physio-chemical and radioactivity analyses.

Faunal samples were not retrieved at grab sample site S004, and the faunal samples retrieved at sites S003 and S021 had insufficient sample volume. No sample for PSA analysis was retrieved at grab sample site S001. Samples for chemical analyses were not retrieved at grab sample sites S001 and S003. No grab sampling was performed at grab sample site S013 due to the presence of a rocky reef.

The environmental survey commenced 07 July 2021 and was completed 21 July 2021.

A total of 14 EUNIS habitats/habitat complexes were identified within the survey area. Three habitats of conservation importance were identified within the survey area, **Annex I habitat 1170** Reefs (subtype "Stony reef" and "Bedrock Reefs") as well as Kelp beds and Subtidal sands and gravels.

A total of six different taxa of conservation importance were identified within the survey area. These were ocean quahog *Arctica islandica*, sand eel *Ammodytes* sp., ling *Molva molva*, skate *Dipturus* sp complex, European plaice *Pleuronectes platessa* and Octocorallia.

The result of the Particle Size Analysis showed limited variation in sediment composition across the survey areas. Sand was the dominating sediment fraction at all grab sample sites, except for S015 where gravel dominated. The concentration of metals, hydrocarbons and Polychlorinated Biphenyls was generally low, however, several sites (S002, S004, S005, S009, S010, S015 and S021) exceeded threshold values for metals and one site (S006) for Polycyclic Aromatic Hydrocarbons. Organic content, phosphorus and radioactivity in the sediment, exhibited an overall minor variation across the survey areas.

The faunal analyses showed that the phyletic composition, in regards to both total number of taxa and abundance, was dominated by annelids, whereas the biomass was dominated by molluscs.

Species richness, evenness and dominance varied across the grab sample sites and the multivariate analyses identified six benthic communities.

Data and observations made during the survey suggest the presence of six potential ecosystem services within and/or in close proximity to the survey area.

1 | INTRODUCTION

1.1 | PROJECT INFORMATION

Highland Wind Limited (HWL) is intending to develop the Pentland Floating Offshore Wind Farm (PFOWF) situated approximately 6 km off the coast of Dounreay Caithness, close to existing and planned transmission level grid infrastructure and with good access to suitable port facilities nearby.

This survey was conducted for the wider array PFOWF project. The geophysical and environmental survey covered the Offshore Wind Farm (OWF) and Export Cable Route Corridor (ECC). The export cable will lead from the project OWF area to an onshore grid connection west of and close to the former Dounreay Nuclear Power Station.

The project aims to test and demonstrate a technology solution for floating offshore wind in Scotland.

An overview of the project area is shown in Figure 1.

This report presents the environmental baseline assessments based on environmental grab sample, video and photo analysis combined with geophysical data and interpretations from the geophysical survey. Baseline assessments are provided for the ECC (including nearshore) and OWF areas.

The project details are summarised in Table 1.

Table 1 Project details.

CLIENT:	Highland Wind Limited
PROJECT:	Pentland FOWF
MMT SWEDEN AB (MMT) PROJECT NUMBER:	103760
SURVEY TYPE:	Geophysical & Environmental
AREA:	Scottish Continental Shelf of the Atlantic Ocean
SURVEY PERIOD:	June – July 2021
SURVEY VESSELS:	EGS Ventus (offshore) and M/V Pulsar (nearshore)
MMT PROJECT MANAGER:	Martin Godfrey
CLIENT SURVEY MANAGER:	Paul Gibbs

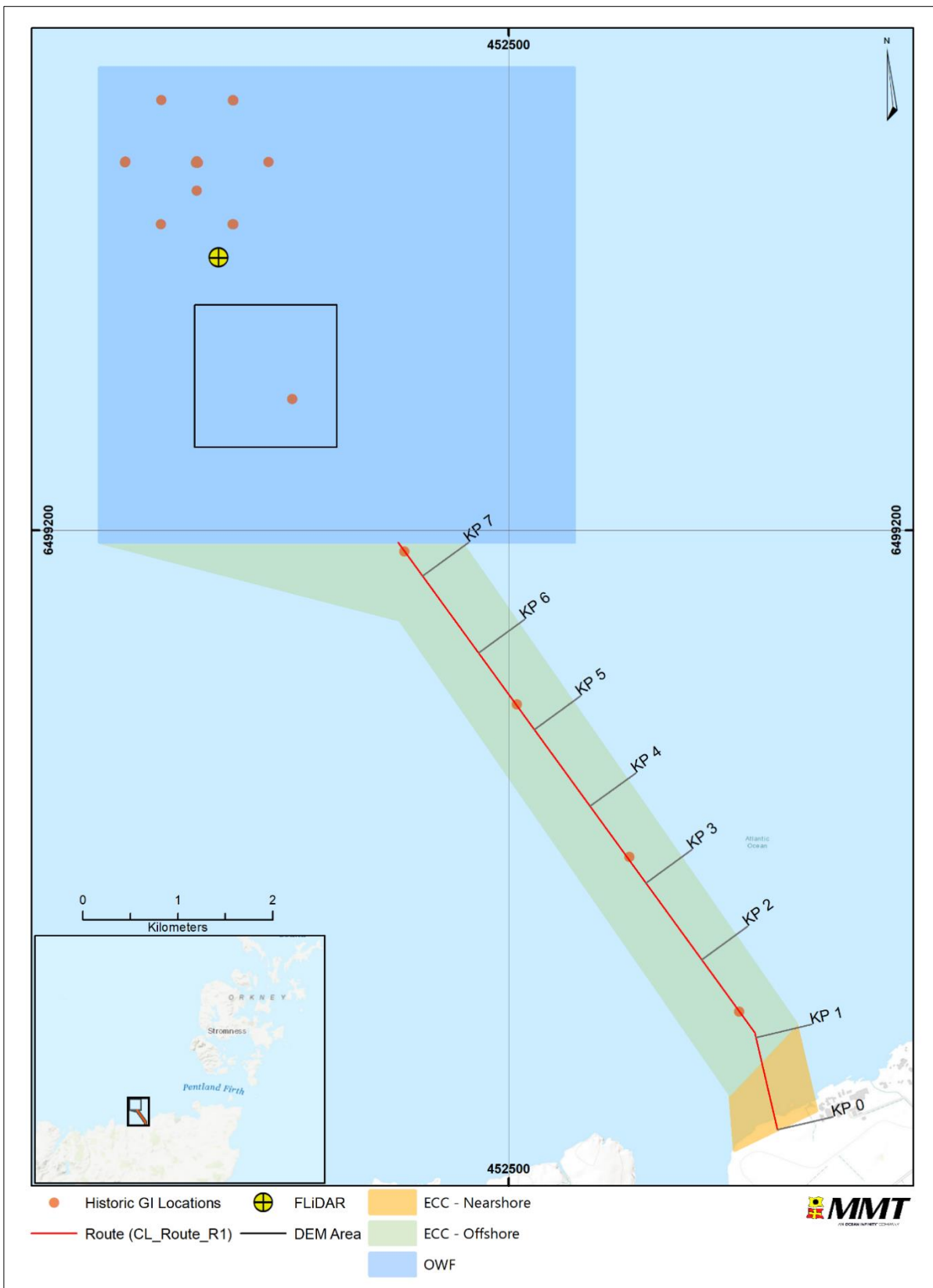


Figure 1 PFOWF Survey areas including DEM area, historic GI and FLiDAR locations. ETRS89 UTM zone 30.

1.2 | SCOPE OF WORK

The following geophysical survey activities were carried out on all lines for the main survey scope:

- Multi-Beam Echo Sounder (MBES);
- Side Scan Sonar (SSS);
- Parametric Sub-Bottom Profiler (SBP);
- Offshore: 2D Multi-Channel Sparker (2D-UHRS) Nearshore: Single Channel Boomer;
- Single magnetometer (MAG);

Additional magnetometer survey lines were added within the OWF site to provide improved coverage for future geotechnical sample locations. The extra lines were conducted within a 1.5 km x 1.5 km Demo (DEM) area (Figure 1). The additional magnetometer survey lines were conducted as a Variation Order (VO).

An environmental survey was also conducted over the site and export cable corridor (ECC) consisting of sediment sampling and drop-down camera photography. The environmental survey was using the following:

- Drop Down Video System (DDV)
- Sediment Grab sampling, Dual Van Veen (DVV) and Hamon Grab (HG)

1.3 | PURPOSE OF DOCUMENT

This report, together with a GIS database, presents detailed information on the survey operations, instrumentation and processing stages of the work together with the results from the environmental survey within the Pentland FOWF.

The objective is to provide information, on the environmental conditions, which are based on interpretations of all obtained data.

For this purpose, a pan-European classification system (EEA, 2019) and assessment criteria for habitats and species of conservation importance (EUR 28, 2013), are consulted. All obtained species data from this survey is correlated to and compared with, official European Marine Observation and Data Network (EMODnet, 2021), to strengthen the accuracy of the interpretations.

1.4 | REFERENCE DOCUMENTS

The reference documents for the project are presented in Table 2.

Table 2 Reference documents.

DOCUMENT NUMBER	TITLE	AUTHOR
103760-HWL-MMT-QAC-PRO-PROJMANU	Offshore Project Manual	MMT
103760-HWL-MMT-HSE-PRO-HAZOP	Hazard and Operability Study	MMT
103760-HWL-MMT-HSE-PRO-HSEPLAN	HSE Plan	MMT
103760-HWL-MMT-HSE-PRO-ENFVENTUS	Emergency Notification Flowchart - Offshore	MMT
103760-HWL-MMT-HSE-PRO-ENFPULSA	Emergency Notification Flowchart - Nearshore	MMT
103760-HWL-MMT-MAC-PRO-VENTUS	Mobilisation and Calibration Procedure - Offshore	MMT
103760-HWL-MMT-MAC-REP-VENTUS	Mobilisation and Calibration Report - Nearshore	MMT
SEPH-2021-012 Project Execution Plan	Nearshore Project Manual	SEP
103760-HWL-MMT-MAC-REP-EGSVENTU	Mobilisation and Calibration Report - Offshore	MMT
SEPH-2020-012 Mobilisation Report_R01	Mobilisation and Calibration Report - Nearshore	SEP
103760-HWL-MMT-SUR-MEM-DQUALOFF	Geophysical Data Quality Memo - Offshore	MMT
103760-HWL-SEP-SUR-MEM-DQUALNEA	Geophysical Data Quality Memo - Nearshore	SEP
103760-HWL-MMT-SUR-MEM-ENVSAMPL	Environmental Sampling Plan (Offshore and Nearshore)	MMT
103760-HWL-MMT-SUR-REP-OPSOFFRE	Geophysical Field and Operations Report - Offshore	MMT
103760-HWL-SEP-SUR-REP-OPSNEARE	Geophysical Field and Operations Report - Nearshore	SEP
103760-HWL-MMT-SUR-REP-ENVOFFRE	Environmental Field and Operations Report - Offshore	MMT
103760-HWL-SEP-SUR-REP-ENVNEARE	Environmental Field and Operations Report - Nearshore	SEP
103760-HWL-MMT-SUR-REP-MMOOFFRE	Geophysical MMO and Mitigation Report - Offshore	MMT
103760-HWL-SEP-SUR-REP-MMONEARE	Geophysical MMO and Mitigation Report - Nearshore	SEP
103760-HWL-MMT-SUR-REP-SURREOWFS	Geophysical Factual Survey Report - Offshore Windfarm Site	MMT
103760-HWL-MMT-SUR-REP-SURREOCR	Geophysical Factual Survey Report - Export Cable Route (including Nearshore)	MMT and SEP
103760-HWL-MMT-SUR-REP-SURRENEARE	Geophysical Factual Survey Report – Export Cable Route Nearshore	MMT and SEP
103760-HWL-MMT-SUR-REP-ENVHASRE	Habitat Assessment Report (Full survey area)	MMT
103760-HWL-MMT-SUR-REP-ENVEBSRE	Environmental Baseline Report (Full survey area)	MMT
QUA_W-QUA-QASSURAN-MAN	MMT Quality Assurance Manual	MMT
Hexicon Reports and Data	Historical material/ Background geology	HWL
Appendix 2 - Scope of Service, Geophysical and Environmental Survey Campaign (version 7 dated 2021-05-20)	SOS	HWL
Appendix 10 – GIS Requirement Specification	GIS spec	HWL

2 | SURVEY PARAMETERS

2.1 | GEODETIC DATUM

2.1.1 | ACQUISITION

The geodetic datum used for MAG, SSS, SBP, raw MBES and 2D-UHRS during acquisition is presented in Table 3.

The geodetic datum used for magnetometer and environmental data during acquisition is presented in Table 4. For the magnetometer and environmental data, QINSy software had the transformation parameters (Table 6) entered to transform the online positions from ITRF2014 to ETRS89 datum and projection parameters (Table 8) applied.

Table 3 Geodetic parameters used during acquisition for SSS, SBP, MBES and 2D-UHRS.

HORIZONTAL DATUM: ITRF2014	
Datum	ITRF2014
EPS Datum Code	1165
Spheroid	GRS80
Semi-major axis	6 378 137.000 m
Semi-minor axis	6 356 752.3141 m
Inverse Flattening (1/f)	298.257222101
Unit	International metre

Table 4 Geodetic parameters used during acquisition for MAG and Environmental data.

HORIZONTAL DATUM: ETRS89	
Datum	ETRS89
EPSG Datum Code	25830
Spheroid	GRS80
Semi-major axis	6 378 137.000 m
Semi-minor axis	6 356 752.3141 m
Inverse Flattening (1/f)	298.257222101
Unit	International metre

2.1.2 | PROCESSING

The geodetic datum used during processing and reporting is presented in Table 5.

Table 5 Geodetic parameters used during processing.

HORIZONTAL DATUM: ETRS89	
Datum	ETRS89
EPS Datum Code	4258
Spheroid	GRS80
Semi-major axis	6 378 137.000 m
Semi-minor axis	6 356 752.3141 m
Inverse Flattening (1/f)	298.257222101
Unit	International metre

2.2 | TRANSFORMATION PARAMETERS

The transformation parameters used during the project are presented in Table 6. The transformation was used in the QINSy online software, although raw outputs from QINSy were in the WGS84 (ITRF2014) datum. The test coordinates for the transformation are presented in Table 7.

Table 6 Transformation parameters.

DATUM SHIFT FROM ITRF2014 TO ETRS89	
PARAMETERS	EPOCH 2021.5
Shift dX (m)	0.106650
Shift dY (m)	0.066130
Shift dZ (m)	-0.128730
Rotation rX (")	-0.003409
Rotation rY (")	-0.014065
Rotation rZ (")	0.025207
Scale Factor (ppm)	0.003200

Table 7 Client Test coordinate for datum shift.

UTM ZONE	DATUM	EASTING (M)	NORTHING (M)	LATITUDE	LONGITUDE
30	ITRF2014	-	-	58° 36' 40.0000" N	3° 32' 52.0000" W
	ETRS89	468174.59	6496879.61	58° 36' 39.9808" N	3° 32' 52.0248" W

2.3 | PROJECTION PARAMETERS

The projection parameters used for processing and reporting are presented in Table 8.

Table 8 Projection parameters.

DATUM PARAMETERS	
Geodetic Datum	ETRS89
EPSG Code	25830
Zone	UTM30N
Central Meridian	3°W
Latitude origin	0°
False Northing	0m
Central Scale Factor	0.9996
Units	Metres
Time Datum	UTC

2.4 | VERTICAL REFERENCE PARAMETERS

The vertical reference parameters used for processing and reporting are presented in Table 9.

Table 9 Vertical reference parameters.

VERTICAL REFERENCE PARAMETERS	
Vertical reference	LAT
Height model	VORF

Global Navigation Satellite System (GNSS) tide was used to vertically align the bathymetry data to VORF LAT, which was the defined vertical reference level for the Pentland project (Figure 2).

During nearshore acquisition, an Applanix PosMV OceanMaster GNSS-Aided Inertial Navigation System with RTK Corrections was used to reduce the data to the required Vertical Datum (LAT, defined by the UKHO VORF Model). The height values were used in real-time to correct bathymetric data to LAT, as well as logged for post-processing against the VORF model for the region.

For the offshore survey, the GNSS tide was obtained by post-processing GNSS data collected by an Applanix POSMV 320 system. The GNSS data was post-processed in the software POSPac MMS. The output from POSPac is a Smoothed Best Estimated Trajectory (SBET) file that references the chosen lever arm with ellipsoidal heights. For the EGS Ventus the reference point is the Tx of the Kongsberg em2040C sonar.

Once the SBET file has been created it is imported into the processing software Caris HIPS where it is used to overwrite the real-time navigation and heights associated with the MBES data. HIPS incorporates the VORF model into its GPS tide calculation which means the multibeam data is then directly referenced to the vertical datum. By incorporating the full VORF model into the process, all heights used the same vertical reference which is valid at the location of the actual measurement, independent of the size of the survey area, instead of choosing a single mean value.

Comparisons with predicted tides from Scrabster were undertaken at the start of the project to ensure that the GNSS tide followed the same tidal curve as the predicted station. Figure 3 shows an excel graph comparing the GNSS tide collected by EGS Ventus and the tide from the Port of Scrabster.

This tidal reduction methodology encompasses all vertical movement of the vessel, including tidal effect and vessel movement due to waves and currents. The short variations in height are identified as heave and the long variations as tide.

This methodology is very robust since it is not limited by the filter settings defined online, and provides very good results in complicated mixed wave and swell patterns.

The methodology has proven to be very accurate as it accounts for any changes in height caused by changes in atmospheric pressure, storm surge, squat, loading or any other effect not accounted for in a tidal prediction.

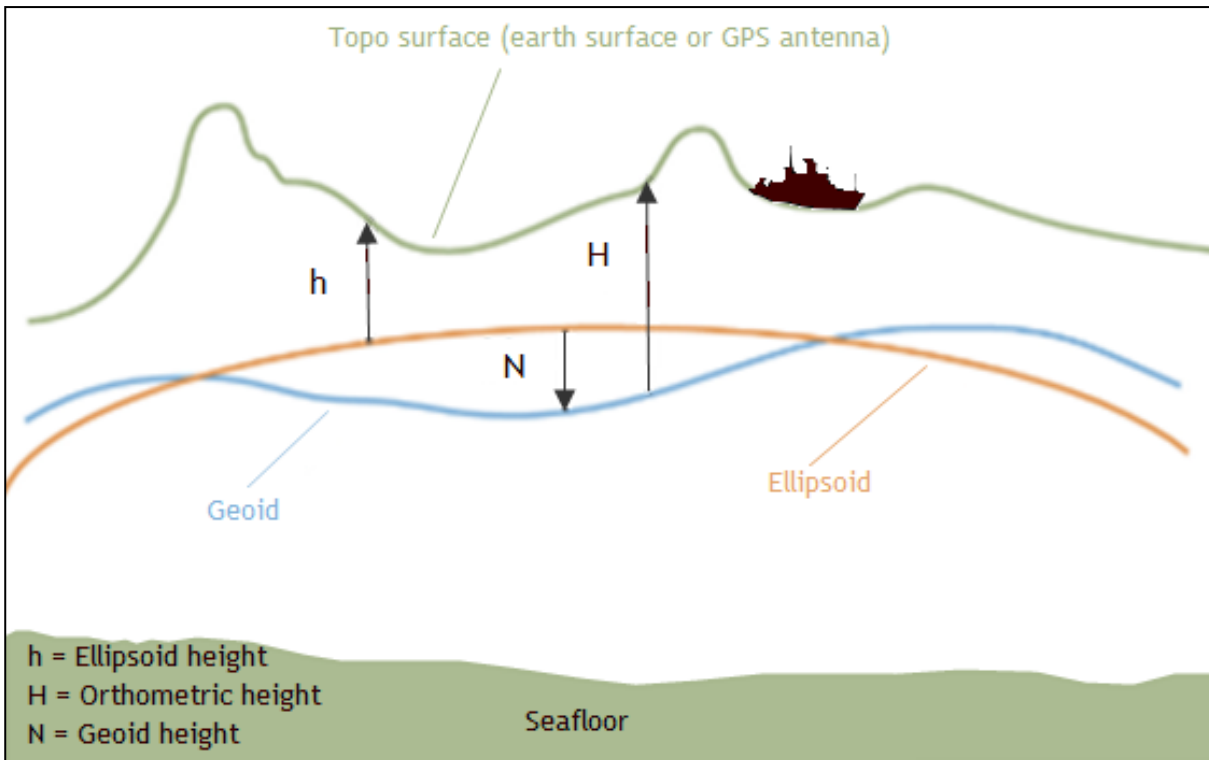


Figure 2 Overview of the relation between different vertical references.

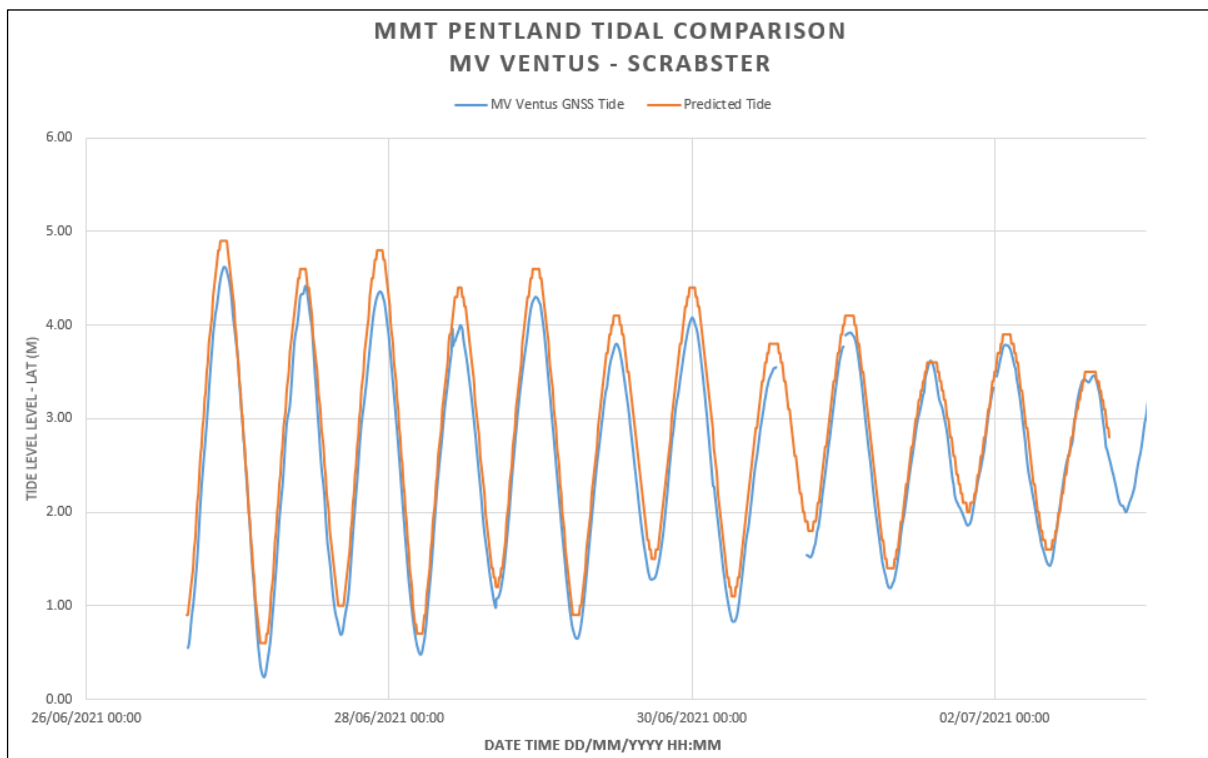


Figure 3 GNSS tide compared to predicted tide gauge data taken from the start of the Pentland project.

2.5 | TIME DATUM

Coordinated Universal Time (UTC) was used on all survey systems on board the vessel. The synchronisation of the vessel’s onboard system was governed by the Pulse Per Second (PPS) issued by the primary positioning system. All displays, overlays and logbooks were annotated in UTC. The Daily Progress Report (DPR) refers to UTC.

2.6 | KP PROTOCOL AND SURVEY ROUTE

An engineered Export Cable Route (ECR) for the ECC was not provided by the Client. In replacement, a route was generated that best follows the historical Geotechnical Investigation (GI) sample locations within the offshore survey area and runs approximately through the centre of the nearshore survey area, Figure 4.

The route ID is “CL_Route_R1” and is used for KP referencing. The route was approved for use by the Client.

Reporting KPs are grid distance. KP 0 is located at the landfall.

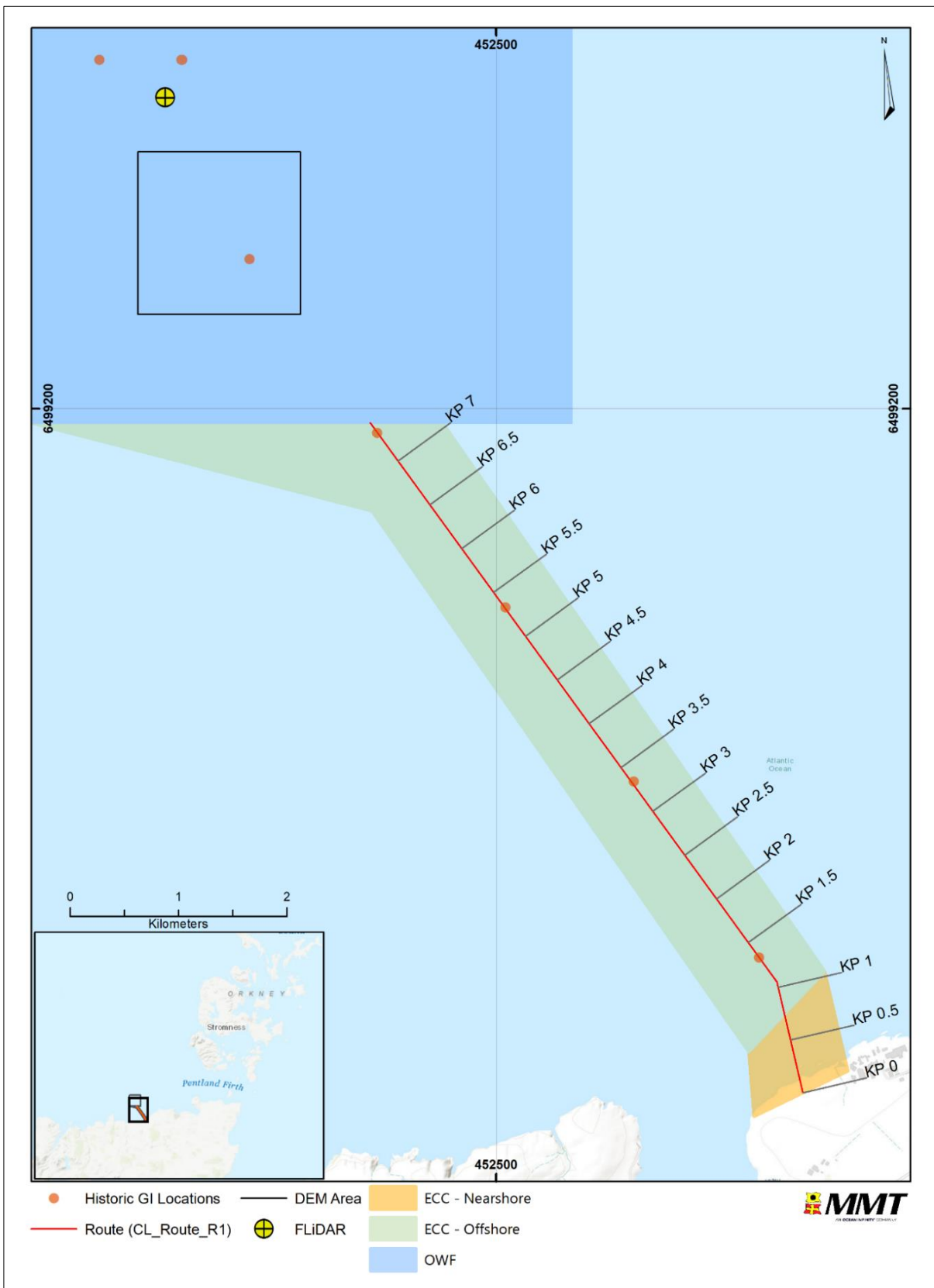


Figure 4 Route overview ECC, ETRS89 UTM zone N30.

3 | SURVEY OPERATIONS

The below sections provide a summary of the survey tasks performed, the vessels and the equipment used.

3.1 | SURVEY TASKS

A summary of the offshore and nearshore survey tasks performed are presented in Table 10 and Table 11 respectively, and key tasks are described in the following sections.

Offshore environmental survey operations were carried out between 07 July and 12 July 2021.

Nearshore environmental survey operations were carried out between 20 July and 21 July 2021.

Table 10 Survey tasks – Offshore – EGS Ventus.

TASK	DATE	DESCRIPTION
Mobilisation and Calibration	2021-06-26 to 2021-06-28	Alongside Mobilisation and Offshore Calibrations
Geophysical Survey	2021-06-28 to 2021-07-08	Geophysical Survey
Magnetometer VO Survey	2021-07-08 to 2021-07-09	Additional Magnetometer Survey
Environmental Survey	2021-07-09 to 2021-07-12	Drop Camera and Benthic Sampling
Demobilisation	2021-07-12	Demobilisation

Table 11 Survey tasks – Nearshore – M/V Pulsar.

TASK	DATE	DESCRIPTION
Mobilisation and Calibration	2021-06-20 to 2021-06-22	Alongside Mobilisation and Offshore Calibrations
Geophysical Survey	2021-06-23 to 2021-07-01	Geophysical Survey
Demobilisation	2021-07-02	Demobilisation of geophysical equipment
Mobilisation and Calibration	2021-06-19	Alongside Mobilisation of drop-down camera
Environmental Survey	2021-07-20 to 2021-07-21	Drop Down Camera
Demobilisation	2021-07-21	Demobilisation of drop-down camera

3.1.1 | MOBILISATION AND CALIBRATION

3.1.2 | OFFSHORE

The Mobilisation started prior to the arrival in Scrabster, Scotland, during the transit to the project. All alongside tests were completed in Scrabster.

Offshore (wet) calibrations were completed at a chosen location northeast of Scrabster and subsequently completed in the actual survey area. The first calibration site turned out to be less advantageous due to the prevailing current and less water depth.

Please refer to the Offshore Mobilisation and Calibrations report for details (Table 2).

3.1.3 | NEARSHORE

The Mobilisation, calibration and alongside tests were completed in Scrabster. Offshore (wet) calibrations were completed in Thurso Bay and subsequently completed within the actual survey area due to EPS licensing requirements.

Please refer to the Nearshore Mobilisation and Calibrations report for details (Table 2).

A second mobilisation was performed when returning for the environmental survey in Scrabster.

3.1.4 | ENVIRONMENTAL SURVEY

Drop down visual survey work and Grab Sampling was performed at 28 different sites within the survey areas. Due to the lack of a valid SEPA permit, sampling was limited to be outside the 2 km exclusion zone of Dounreay.

Visibility conditions were good, and the majority of the sites could be completed with the Dual Van Veen grab. At three sites: S015, S016 & S021, the Hamon grab was used for fauna, physio-chemical and radioactivity sampling due to the presence of coarser sediment. Please refer to section 4.1.3| for details regarding grab sampling methodology and sample preservation.

Four video transects were completed within the nearshore ECC survey area the remaining 24 sample sites were completed by the offshore survey vessel within the ECC and OWF areas.

3.1.5 | DEMOBILISATION

Offshore project equipment and personnel were demobilised alongside in Scrabster 12 July 2021.

Nearshore geophysical project equipment and personnel were demobilised alongside Scrabster on 02 July 2021. A second demobilisation following the completion of the environmental survey work was conducted 21 July 2021.

3.2 | SURVEY VESSEL

3.2.1 | OFFSHORE

The survey vessel EGS Ventus (Figure 5) was used for the offshore geophysical and environmental survey. Vessel specifications are detailed within Table 12.



Figure 5 EGS Ventus.

Table 12 Vessel Summary - EGS Ventus.

ITEM	DATA
Vessel length	49.8 m
Beam	9.6 m
Draft	5.6 m
Operational time	24 h
Dynamic Positioning	DP+1
Capability	Geophysical, Environmental, Geotechnical
Class	RINA
Year of built	1976
Year upgraded	2008, 2013
Owner	EGS (International) Ltd
Endurance (max)	14 days
Call sign	V7II9
IMO No	7504237
Fuel cons (survey)	3 m3/day
Speed (service/max)	10 knots

3.2.2 | NEARSHORE

The survey vessel M/V Pulsar (Figure 6) was used for the nearshore geophysical and environmental survey. Vessel specifications are detailed within Table 13.



Figure 6 M/V Pulsar.

Table 13 Vessel summary – M/V Pulsar.

ITEM	DATA
Vessel length	7.2 m
Beam	2.7 m
Draft	0.3 m
Operational time	12 h
Capability	Geophysical, Environmental
Class	MCA Cat 3
Year of built	2006
Year upgraded	2018
Owner	SEP Hydrographic
Speed (service/max)	16 knts

3.3 | SURVEY EQUIPMENT

3.3.1 | OFFSHORE

The geophysical survey equipment on EGS Ventus consisted of hull-mounted MBES and pole-mounted Innomar SBP deployed from the port side. A SSS tow fish with a piggyback magnetometer was deployed from the centre of the stern, and a 2D UHRS spread deployed from a boom arm on the port side. The SVP and Passive Acoustic Monitoring (PAM) system were deployed from a boom arm on the starboard side. A complete list of EGS Ventus survey equipment is provided in Table 14.

Table 14 Equipment summary – EGS Ventus.

INSTRUMENT	NAME
Primary Positioning System	Applanix POS MV 320 with Marinestar GNSS G2
Secondary Positioning System	CNAV 3050 with C2-SF2 corrections
Heading / Motion Sensor	Applanix POS MV 320
USBL	IXSEA GAPS USBL
Sound Velocity Probe	Valeport miniSVS
Sound Velocity Profiler	AML Oceanographic MVP
Sound Velocity Profiler	Valeport Swift SVP
Multibeam Echo Sounder	Kongsberg EM2040 (EM2040C)
Sub Bottom Profiler	Innomar SES-2000 standard
Single channel UHRS	GeoMarine Geo Spark 6 kW (400 tip)
Single Channel Streamer	Geo Sense 9E Ultra Slim streamer
Side Scan Sonar	Edgetech 4200 (300/600 kHz) Edgetech 4205 (300/600/900 kHz)
Magnetometer	Digital Geometrics G882
PAM	Towed PAM system with PAMGuard
Environmental Grab	Dual Van Veen and Hamon Grab
Environmental DDV Camera	STR SeaSpyder HD

3.3.2 | NEARSHORE

The geophysical survey equipment on Pulsar was acquired in two phases. During the first phase magnetometer and SSS were towed from the vessel using soft tow cables. The magnetometer was towed from the vessel’s starboard aft bollard, the SSS was towed from the vessel’s port aft bollard. Data were positioned using a pole-mounted USBL system deployed from the port side. A pole-mounted MBES was deployed from the starboard side.

During the second phase, a boomer and hydrophone were towed from the vessel. The boomer was surfaced towed from the vessel’s starboard aft bollard. The hydrophone was towed from an extension pole anchored to the vessel’s port aft bollard to extend the distance between boomer and hydrophone to 4 m. A pole-mounted Innomar SBP was also deployed from the port side.

A complete list of Pulsar survey equipment is provided within Table 15.

Table 15 Equipment summary – M/V Pulsar.

INSTRUMENT	NAME
Positioning System	Applanix POS MV OceanMaster GNSS-Aided Inertial Navigation System with RTK Corrections
USBL	Sonardyne Scout Plus
Sound Velocity Profiler	Valeport Swift SVP
Multibeam Echo Sounder	Norbit WBMS Bathy
Sub Bottom Profiler	Innomar SES-2000 Compact
Single channel UHRS	Geometrics AA200 Boomer
Side Scan Sonar	Edgetech 4125 (400/900kHz)
Magnetometer	Digital Geometrics G882
Environmental DDV Camera	BSL MOD4

3.4 | DEVIATION FROM THE SCOPE OF WORK

The Scope of Work included two faunal replicates to be acquired at each grab sample site which was conducted in compliance with the Scope of Work. Following demobilisation and transfer of samples to the taxonomic laboratory a communication error led to the assumption that the grab sample sites required single faunal analysis (no replicates). This error resulted in a pooling of replicate material at each of the grab sample sites.

Each grab sample site is now effectively represented by an abundance per 0.2 m² with biomass expressed as faunal group weight per 0.2 m².

No grab sampling was performed in the nearshore areas as HWL were unable to obtain a valid SEPA permit to acquire grab samples within 2 km of Dounreay. The nearshore environmental survey consisted only of drop-down camera operations.

4 | METHODOLOGY

4.1 | FIELD METHODS

4.1.1 | SURVEY DESIGN

The final number and location of grab sample sites and video transects were decided based on depth, sediment variations as well as topography, as delineated during the geophysical survey, to provide data of all geological units and potential areas of interest interpreted across the survey area.

A total of 21 grab sampling sites as well as seven video transects, four of which were located nearshore, were selected for sampling. A total of four stills were acquired at each grab sample site to connect epifaunal and infaunal assemblage.

4.1.2 | PHOTO AND VIDEO SAMPLING

At each site, prior to grab sampling, a minimum of four good quality, random still photographs were collected. In addition, approximately 5 minutes of video was recorded at each site and used to provide further information on the habitats and the extent of any features identified.

In areas with hard bottom substrates or sensitive areas that could not be sampled with grab samplers, an extended video transect was performed in agreement with the Client, to identify epifauna and habitat transitions, and to aid the ground-truthing of the predictive habitat model.

A SeaSpyder HD system (Figure 7 and Figure 8) from STR was used for image acquisition at each grab sampling site prior to grab sampling and along offshore video transects. A MOD4 DDV system from Benthic Solutions Ltd was used for photo and video acquisition along the nearshore video transects

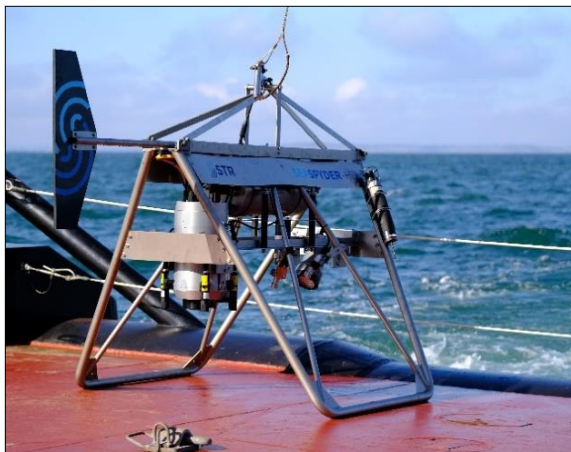


Figure 7 Offshore SeaSpyder DDV system.



Figure 8 Example image from the survey.

The stills were analysed to identify species and density. The different European Union Nature Identification System (EUNIS) habitat criteria were compared to the results of the stills analysis. Particular attention was paid to habitats above the elevated seabed level, together with their spatial extent, percentage biogenic cover and patchiness, as these are key criteria for evaluating areas of conservation interest and reef structures (Irving, 2009).

A log was maintained of the stills acquired for habitat assessments, at each grab sample site and photo transect. The field notes are detailed in Appendix B| and Appendix C|. As a minimum, this included the

drop number, start and end position, duration, and a summary of the sediment type and main species observed. A list of the photos, including their position, along with a clear indication of those taken at random for future assessment, and those taken to show particular features of interest, was also maintained.

OFFSHORE DDV SYSTEM

The SeaSpyder HD system uses a Canon EOS 100D Digital Still Camera (18 megapixels) with dedicated strobes and an integrated video system capable of performing HD recordings. Lighting for the video was provided by a set of four LED lamps, each with adjustable intensity. Scaling was provided by a set of four green laser units which produced a 21 x 21 cm pattern of dots on the seabed.

Prior to sampling, the stills of the seabed and geophysical data, acquired at each grab sample site, were reviewed by experienced marine biologists on board to confirm the presence/absence of any potentially sensitive habitats or features of conservation interest.

A log was maintained of the stills acquired, along each transect, for the habitat assessment and at each grab sample site and associated video. A total of four (4) still photos were acquired at each grab sample sites with continuous video recordings.

Standalone video transects were performed in areas identified to potentially comprise habitats and/or features of conservation value. The video transects had a minimum length of 50 m with photos taken at the start of the transect and every 10 m, with video being recorded continuously. The length of the transect was dependant of the size & character of the features being investigated.

NEARSHORE DDV SYSTEM

The BSL MOD4 system used an integrated video system capable of acquiring still photos (24 megapixels) and HD recordings. Lighting for the video was provided by pair LED lamps. Scaling was provided by a pair of parallel lasers units which were placed 9.5 cm apart.

Standalone video transects were performed in areas identified to potentially comprise habitats and/or features of conservation value. The video transects had a minimum length of 50 m with photos taken at the start of the transect and every 10 m, with video being recorded continuously. The length of the transect was dependant of the size & character of the features being investigated.

No grab sampling was performed in the nearshore survey area. For further details see the Environmental Field and Operations Report - Nearshore (103760-HWL-SEP-SUR-REP-ENVNEARE, Table 2).

4.1.3 | FAUNAL GRAB SAMPLING AND SAMPLE PRESERVATION

At each grab sampling site, three (3) samples were retrieved. Two (2) samples were dedicated for taxonomic analysis and one (1) for physio-chemical and radioactivity analyses.

The primary grab sampler utilized was a Dual Van Veen (2 x 0.1 m²) and the secondary grab sampler was a Hamon grab (0.1 m²).

The Dual Van Veen (DVV) comprises two 0.1 m² bucket sections mounted within a stainless-steel frame with the capacity to collect 15 litres of sediment per bucket (Figure 9). Dual tensioned bridges retain and trigger bars holding these buckets in the open position on deployment. On contact with the seabed, the trigger bar releases the buckets allowing them to close under and retrieve two replicate samples. On recovery, the grab is landed onto a rectangular base from where the samples can be inspected and then be emptied into sampling containers.

The Hamon grab (HG) sampler covers 0.1 m² of the seabed surface, with a maximum volume of 15 litres. The Hamon grab sampler (Figure 10) is mounted on a frame and loaded with a tensioned wire

and trigger bar that holds the scoop arm open in suspension. When loaded, the scoop arm is in a horizontal position. Contact with the seabed then releases the tension, the wire becomes slack, allowing the scoop to push sediment into the sampling bucket. As it scoops the sediment, the open end of the bucket comes against a rubber sealed steel plate that encloses the sediment. On recovery, the grab is landed onto a rectangular base from where the sample can then be emptied into a sampling container.

Due to the potential of radioactive particles in the survey area, NUVIA RPS examined each collected grab sample for radioactivity prior to any processing.



Figure 9 Dual Van Veen grab sampler.



Figure 10 Hamon grab sampler.

The planned grab sample site positions were used as targets to guide the vessel as close as possible to each proposed sample site. The actual position of each sample was recorded each time the grab landed on the seabed using an attached Ultra-Short Base Line (USBL). This was conducted by taking a manual fix in online navigation software QINSy.

Upon retrieval, samples were checked for adequate sample volume and samples covering less than 0.1 m² of bottom surface sediment were deemed unacceptable. A minimum penetration depth of 5 cm in sands (7 cm in fine sediments/mud) measured in the DVV was considered acceptable. For the HG a volume of 7 litres was considered to be an acceptable sample. The acceptable volume for Particle Size Analysis (PSA) samples is considered 2.7 litres (Davies, et al., 2001) (Worsfold & Hall, 2010).

If an acceptable sample volume was not achieved within three (3) attempts at the grab sample site (this occurred in areas of coarse sediment) then this was recorded, and the survey continued with the next grab sample site. If the first attempt using the Dual Van Veen grab recovered an inadequate sample volume and it was deemed to be more appropriately sampled with the HG, then the number of failed attempts was reset, and sampling was conducted using the HG.

A field log of sample positions including time, sediment type, and water depth was kept for later reference. All samples were photo-documented in situ.

Acquired samples were carefully sieved using seawater in a 5 mm mesh sieve over a 1 mm mesh sieve using gentle hose pressure. Faunal samples were preserved on board in 96 % ethanol directly after the sieving was completed. The 5 mm and 1 mm fractions were kept in separate jars, that were labelled with a unique label containing grab sample site ID and replicate number. For further information regarding sample volume and number of attempts, see Appendix B|.

4.1.4 | PARTICLE SIZE ANALYSIS AND CHEMICAL SAMPLING

Sediment was sampled for PSA and chemical analyses at each benthic grab sample site. The PSA and chemical samples were acquired from a separate attempt, with the DVV or HG, to the infaunal sample.

Samples for metals, hydrocarbons (Total Hydrocarbons, THC, and Polycyclic Aromatic Hydrocarbons, PAH), organics (Loss of Ignition, LOI, Total Organic Carbon, TOC, Fractioned Organic Carbon, FOC), Polychlorinated Biphenyls (PCB), as well as Gamma Spectrometry, were primarily sampled from an undisturbed sediment surface using the DVV.

The sediment was collected with a plastic spoon for metals, and a metal spoon for hydrocarbon, organics, PCB and Gamma Spectrometry. This was to ensure minimal contamination risk. The grab sampler was cleaned between samples and sample sites.

For the chemical analyses of hydrocarbons and organics samples, 250 ml tin jars were used. One litre plastic container was used for the metal samples. One litre plastic container was used for Gamma Spectrometry samples. The difference in containers ensured that there was no outside contamination to the samples.

The sample containers were labelled with a unique sample site ID. All samples were stored frozen or refrigerated according to the analysing lab's recommendations, before and during shipment for analysis.

4.2 | LABORATORY METHODS

4.2.1 | PARTICLE SIZE ANALYSIS

Sediment from each grab sample site was analysed to detail the different particle fractions. This was achieved using a combination of sieving and sedimentation methods. Up to one litre of sediment from each sample site was analysed to detail the different particle fraction components.

In line with the British standard 1377 Part 2 1990 (British Standard, 2010), wet sieving was applied in essentially cohesion-less sediments while dry sieving was only used for sediments that did not contain significant amounts of silt and clay, i.e., almost entirely granular sand and/or gravel.

To analyse the finer fractions such as silt and clay (<0.063 mm), sedimentation by the hydrometer method was applied. This analysis is carried out when a certain percentage of material passing through the 0.0063 mm wet/dry sieve is reached. This is usually 10 or 15 % due to that, at this level, the ratio of silt and/or clay can have a substantial effect on the physical or engineering properties of soil.

The particle sizes are grouped into the five large textural groups for descriptions purposes Table 16. The samples are described according to British standard 1377 (British Standard, 2010) and Folk (Folk, 1954).

Table 16 British standard (2010) sieve sizes.

CLASSIFICATION	PARTICLE SIZE INTERVALS (DIAMETER MM)	GROUPED CLASSIFICATION
Boulder	>75	Boulders/cobbles
Cobble	75-63	
Coarse Gravel	63-20	Gravel
Medium Gravel	20-6	
Fine Gravel	6-2	
Coarse Sand	2-0.6	Sand
Medium Sand	0.6-0.2	
Fine Sand	0.2-0.063	

CLASSIFICATION	PARTICLE SIZE INTERVALS (DIAMETER MM)	GROUPED CLASSIFICATION
Coarse Silt	0.063-0.02	Silt
Medium Silt	0.02-0.006	
Fine Silt	0.006-0.002	
Clay	<0.002	Clay

4.2.2 | CHEMICAL ANALYSIS

The different compounds that were analysed along with detection limits are stated in Table 17 to Table 21. Analyses included concentration analysis of metals, hydrocarbons (THC and PAH), organics (LOI and TOC, FOC), PCB and Gamma Spectrometry for radioactive particles.

Table 17 Metal analysis and minimum limits of detection.

METALS	DETECTION LIMITS (µg/g)	Method of analysis
Fe*, P	45	Microwave assisted HF/Boric digestion & ICPOES
Al*	10	Microwave assisted HF/Boric digestion & ICPOES
Mn, Sr	5	Microwave assisted HF/Boric digestion & ICPOES
Cr*, Cu*, Ni, Zn,	2	Microwave assisted HF/Boric digestion & ICPOES
Ba*, Be, V,	1	Microwave assisted HF/Boric digestion & ICPOES
As*, Cr*, Cu*, Pb*, Ni	0.5	Aqua regia digestion & ICPMS
Cd	0.04	Aqua regia digestion & ICPMS
Hg	0.01	Aqua regia digestion & ICPMS

*indicates United Kingdom Accreditation Service (UKAS) accreditation.

Total Hydro Carbon was analysed using Gas Chromatography-Flame Ionisation (GC-FID). Polycyclic Aromatic Hydrocarbons was analysed using Gas Chromatography-Mass Spectrometry (GC-MS). Polycyclic Aromatic Hydrocarbons (16 USEPA + Dibenzthiophene & Benzo(e)pyrene) are accredited by United Kingdom Accreditation Service (UKAS 17025).

Table 18 Hydrocarbon analysis and minimum limits of detection.

HYDROCARBONS	DETECTION LIMITS (µg/Kg)	METHOD OF ANALYSIS
Total THC	100 (Total) 1 (Individual alkanes)	Solvent extraction & GC-FID
PAH*	1	Solvent extraction & GC-MS

* indicates United Kingdom Accreditation Service (UKAS) accreditation (16 USEPA + Dibenzthiophene & Benzo(e)pyrene only)

Loss On Ignition was analysed by heating a ground sample at 450 °C for 4 hours and the lost mass was calculated. Total Organic Carbon was analysed by adding sulphurous acid to an air-dried ground sample. The sample was then dried at 100 °C and analysed using an Eltra induction furnace fitted with an NDRI cell.

Table 19 Organics analyses and minimum limits of detection.

ORGANICS	DETECTION LIMITS
LOI	0.02%
TOC	0.02%
FOC (Calculation from TOC)	-

The PCBs were analysed using Gas Chromatography – Electron Capture Detector (GC/ECD).

Table 20 ICES-7 PCB analyses and minimum limits of detection.

PCB CONGENERS	DETECTION LIMITS (µg/Kg)	METHOD OF ANALYSIS
PCB: 28, 52, 101, 118, 138, 153, 180	0.08	Solvent extraction & GC Triple Quad

Table 21 Gamma Spectrometry and minimum limits of detection.

GAMMA SPECTROMETRY	DETECTION LIMITS (µg/KG)	METHOD OF ANALYSIS
Gamma Spectrometry incl. Gross alpha and Gross beta	Sample dependant	High resolution gamma spectrometry

4.2.3 | FAUNAL ANALYSIS

The taxonomic analysis was conducted by the UK based company APEM Ltd. Analysis was conducted following the NMBAQC scheme (Worsfold & Hall, 2010) and all of the samples were quality controlled.

The faunal samples were sorted from sediment residue, and the fauna was identified to the most detailed level possible, mainly species, counted and weighted. When the species could not be identified, the specimen was grouped into the nearest identifiable taxon of a higher rank, i.e., genus, or family, or order etc.

If the species remained unknown but clearly separated from any other found specimen within the same genus, it was assigned a “Type” denomination, i.e., Type A or Type B. Juveniles were marked with the qualifier “juvenile”, and later excluded from further statistical analyses. For a more detailed description view Appendix D].

4.2.4 | BIOMASS

Biomass analysis was conducted on the infauna from grab samples following identification and enumeration. Biomass was measured for each taxon for each sample replicate, using the wet blot method, to the nearest 0.1 mg. No conversion factors were applied. All faunal analyses followed the NMBAQC scheme.

4.3 | DATA ANALYSES

4.3.1 | VISUAL DATA ANALYSIS

The stills were analysed to identify species and species densities, including seabed substrate. The video recordings were used to aid in the assessment of features and extent of habitats. Particular attention was paid to the elevation of habitats above ambient seabed level, together with their spatial extent, percentage biogenic cover and patchiness, as these are key criteria for evaluating areas of conservation importance and reef structures (Irving, 2009).

Quantitative methods were used for the identification of biota in grab samples and still photographs, with all the data presented as individuals per square metre and percentage cover of colonial species. Stills were analysed in AutoCAD Map 3D 2018, where visual epibenthic fauna was counted and results summarised in a log, containing scientific name, position, date, time, and stills ID.

For a more detailed description of species view Appendix D| and Appendix E|.

4.3.2 | PARTICLE SIZE DISTRIBUTION

Sediment particle size distribution statistics for each sample were calculated from the raw data by the In Situ Site Investigation laboratory. The distribution curves of sediment composition along with uniformity coefficient (Cu) and coefficient of curvature (Cc) is provided in Appendix F|.

4.3.3 | CHEMICAL ANALYSIS

Environmental Quality Standards (EQS) for metals and hydrocarbons in sediments are not yet developed for UK waters.

Assessment criteria developed by the Canadian Council of Ministers of the Environment (CCME) together with the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) guideline action levels for disposal of dredged material have been considered common practice to use.

OSPAR Environmental Assessment Criteria (EAC) have also been used as guidelines for metal, PAH and PCB concentrations, when applicable, within this report. OSPAR EACs are under development and OSPAR uses “Effect range-low” (ERL) values for sediment assessment of metals and PAH, where EACs are not available. The ERL value indicates a concentration below which adverse effects on organisms are rarely observed (OSPAR, 2011).

The Canadian sediment quality guidelines include two values as assessment criteria, the Interim Sediment Quality Guidelines (ISQG) and Probable Effect Level (PEL). The ISQG are threshold levels that are set to protect all aquatic life during an indefinite period of exposure, and for values above PEL adverse effects are expected to occur frequently (Environment C. C., 1995; Environment C. C., 2001). For concentrations between the ISQG and PEL, adverse effects occur occasionally.

CEFAS Action Levels are used as a part of assessing the contamination status in dredged material, where material below Action Level 1 (AL1) generally indicates that contaminant levels are of no concern, while contaminant levels above Action Level 2 (AL2) generally are considered unsuitable for disposal in the sea (MMO, 2015).

Condition classes established by the Norwegian Environmental Agency (NEA) for contamination in coastal sediments (NEA, 2016, revised 2020) for metals, PAH and other organic compounds were also used. This system uses five classes, class 1 - Background levels, class 2 - Good, with no known toxic effects, class 3 - Moderate, with chronic effects at long term exposure, class 4 - Poor, with acute toxic effects at short term exposure and class 5 - Very Poor, with extensive toxic effects.

For marine sediments, there are no OSPAR or UK contamination threshold values regarding THC. In the absence of such guidelines, the Dutch National Institute for Public Health and the Environment's (Rijksinstituut voor Volksgezondheid en Milieu, RIVM) intervention levels for aquatic sediments can offer a useful comparison. Concentrations above the Dutch RIVM intervention values represent a serious level of contamination, where functional properties of the sediment are seriously impaired or threatened (Hin, 2010). Detailed chemical results are presented in Appendix G|.

For marine sediments, there are no OSPAR or UK contamination threshold values with regards to radionuclides. In the absence of such guidelines, the guidelines adapted by the joint Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO) Codex Alimentarius Commission for food (FAO/WHO, 2004), as well as the clearance levels for radionuclides in solid material developed by the International Atomic Energy Agency (IAEA) (IAEA, 1996) were consulted.

Further, the radium equivalent index (Ra_{eq}) (Beretka & Mathew, 1985) was calculated using the following formula $Ra_{eq} = A_{Ra} + 1.43A_{Th} + 0.077A_K$ where A_{Ra} , A_{Th} , and A_K are radionuclide activity concentrations (Bq/kg) for ^{226}Ra , ^{234}Th , and ^{40}K , respectively, if the radionuclide activity is below detection level it is counted as being at the detection level. Ra_{eq} is a commonly used radiological risk assessment tool, used in several studies on beach sand and marine sediments (González-Fernández, Garrido-Pérez, Casas-Ruiz, Barbero, & Nebot-Sanz, 2012).

4.3.4 | UNIVARIATE STATISTICAL ANALYSES

Univariate analysis was undertaken using the Plymouth Routines in Multivariate Ecological Research (PRIMER) v7.0 statistical package (Clarke, K.R, Gorley, R.N., 2015).

Univariate analyses included the primary variables, i.e. number of taxa (S) and abundance (N) together with the Margalef's index of Richness (d), Pielou's index of Evenness (J), Shannon- Wiener index of Diversity (H') and the Simpson's index of Dominance ($1-\lambda$) and are summarised in Table 22. Abundances are expressed as the number of individuals per grab sample (0.2 m²).

Table 22 Univariate statistical analyses.

ANALYSES	PARAMETERS	FORMULA	DESCRIPTION
No. of Taxa (S)	Species richness	S	Number of species (taxa) in each sample.
No. of individuals (N)	Abundance	N	Number of individuals in each sample.
Margalef's index of Richness (d)	Richness	$d = (S-1) / \ln(N)$	A measure of the number of species present for a given number of individuals.
Shannon-Wiener index of Diversity (H')	Diversity	$H' = \sum_i P_i \ln(P_i)$	Diversity index incorporating both species richness and equitability where P_i is the proportion of the total count arising from the i^{th} species. A lower value equals a high chance that all abundance is concentrated to one species.
Pielou's index of Evenness (J)	Evenness	$J = H' / \ln (s)$	Measures how evenly individuals are distributed between species. Gives a value between 0 to 1 where a higher value equals a more even community.
Simpson's index of Dominance ($1-\lambda$)	Dominance	$\lambda = (\sum p_i^2)$	Dominance index between 0 - 1 where 0 corresponds to assemblages whose total abundance is dominated by one or very few of the species present and 1 represents a more evenly species distribution.

4.3.5 | MULTIVARIATE STATISTICAL ANALYSES

Multivariate analysis was undertaken using the Plymouth Routines in Multivariate Ecological Research (PRIMER) v7.0 statistical package (Clarke, K.R, Gorley, R.N., 2015). The statistical analyses were based on macrofaunal data derived from the taxonomic analysis from each grab sample site.

Grab samples with insufficient sample penetration/volume were excluded from the statistical analyses. Abundances are expressed as the number of individuals per square metre.

The macrofaunal organisms were separated into non-colonial and sessile colonial fauna. Colonial fauna was not quantified in the laboratory analysis and was treated separately in the statistical analyses.

All colonial fauna was also considered being epifauna. Juvenile (JUV) taxa, fragments of an animal and foraminiferans were excluded from the datasets. The faunal composition was linked to physical variables such as depth and sediment composition.

Square root transformation was applied to the non-colonial enumerated fauna datasets before calculating the Bray-Curtis similarity measures. This transformation was made to prevent abundant species from influencing the Bray Curtis similarity index measures excessively and also to take the rarer species into account (Clarke & Warwick, 2001).

The faunal laboratory results were compared for faunal composition between sampling sites. Site-related differences in community structure were examined in a clustering analysis using Euclidean distance and the Bray-Curtis similarity coefficient. This method is common when measuring ecological distance in biological sample data.

Multi-Dimensional Scaling (MDS) analysis was undertaken in conjunction with the cluster analysis. The MDS analysis is based on the same similarity matrix as that of the cluster analysis and produces a multidimensional ordination of samples. The number of restarts was set to 100 with minimum stress of 0.1. The MDS plot visualises the relative (dis)similarities between samples; the closer they are the more similar the species composition between the samples.

The degree to which these relations can be satisfactorily represented is expressed as the stress coefficient statistic, low values (<0.1) indicate a good ordination with low probabilities of misleading interpretation. Generally, the higher the stress, the greater the likelihood of non-optimal solutions (Clarke & Warwick, 2001).

A Similarity profiling algorithm (SIMPROF) test was run in conjunction with the cluster analysis, which was used to identify significantly different natural occurring groups among grab samples. The results are presented in the cluster dendrogram as black lines indicating significant statistical differences. Red lines represent samples that are not statistically different. The SIMPROF is based on taxa, and the abundance of each taxon in each sample, thus different SIMPROF groups may host similar fauna which differs in abundance.

A Similarity Percentage (SIMPER) analysis was performed on transformed data to obtain dissimilarities between groups and to identify the most important percentage contribution seen in the Bray-Curtis similarities.

Particle Size Analysis data were analysed in PRIMER, and normalised before being included in any statistical analysis. Data for the percentage composition was analysed in a cluster analysis using the Euclidean distance. A Principal Component Analysis (PCA) was undertaken on the sediment data set in order to identify spatial patterns and relationships between variables.

4.4 | HABITAT CLASSIFICATION

Habitats were classified to the lowest hierarchic level possible and based on interpretations that combine biotope descriptions of species abundance, diversity, depth and seabed features from grab samples, video and photos acquired at each sample site.

The classification of the communities of the different habitat types is based on physical characteristics such as benthic geology, wave exposure, tidal currents, temperature and salinity together with key species present in the area.

The EUNIS classification (EEA, 2019) is divided into six hierarchic levels (Figure 11). At Level 1, the habitats are divided into marine, coastal and terrestrial habitats.

At Level 2, the biological zone and presence/ absence of rock is a classification criterion, and at Level 3, the softer substrata are divided into different sediment types. Hence, these three levels of classification are based on physical characters.

Level 4 gives references to specific taxa, for rocky substrates the major epifauna is used, and for softer substrates, the classification relies on both zonation and physical attributes. Further, at Level 5, the classification is based on both the physical and biological characters of the habitats. Classes are defined with both infauna and epifauna on different substrates. At the highest level, level 6, the different characterising taxa are associated with different environmental characteristics of the habitat.

Where applicable a combination/matrix of habitat codes was assigned. This approach was applied where substrate and depth varied between two sites, but the faunal assemblage was similar.

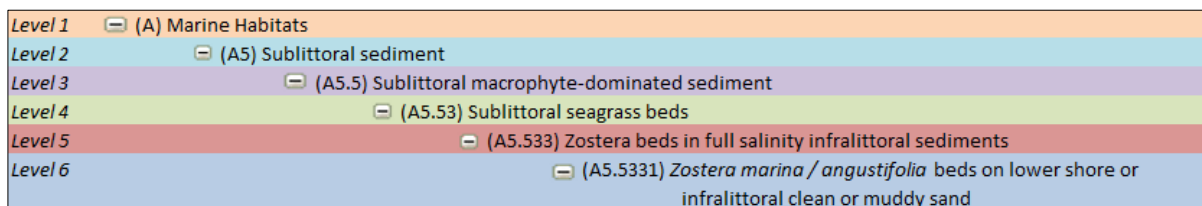


Figure 11 Example of EUNIS Hierarchy.

4.5 | PROTECTED HABITAT AND SPECIES ASSESSMENTS

For assessment and classification of potential areas and/or species of conservation importance, the following legislation and guidelines have been applied when relevant.

The European Commission (EC) Habitat Directive specifies the European nature conservation policy. Species and habitats of special interest for conservation are specified in the different annexes to the directive. Annex I state the habitats of special conservation interest and Annex II states the species of special conservation interest. Among the habitats specified in Annex I are the "Reefs" (code 1170). Reefs can be of biogenic, e.g., mussel beds or corals, or geogenic origin, e.g., stony areas with epifauna.

The JNCC's lists of UK BAP (Biodiversity Action Plan) was also consulted (Brig, 2008 (Updated Dec 2011)).

The UK BAP species and habitats are defined nationally by the UK. Threatened species and habitats are listed to aid in the survival of species in accordance with the Convention of Biological Diversity (UN, 5 June 1992).

The Marine Protected Area (MPA) network is a term describing areas in the ocean which are protected in part or closed off completely by strict regulations. One example of MPAs is the Special Areas of Conservation (SAC), which are defined in the EC Habitats Directive.

The Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic (OSPAR), lists protected species and habitats, as well as sensitive habitats and species in need of protection in the North-East Atlantic. This serves also as a complement to the EC Habitats Directive.

In the Habitat Directive’s interpretation manual (EUR 28, 2013) reefs are explained as follows:

“Reefs can be either biogenic concretions or of geogenic origin. They are hard compact substrata on solid and soft bottoms, which arise from the seafloor in the sublittoral and littoral zone. Reefs may support a zonation of benthic communities of algae and animal species as well as concretions and corallogenic concretions.”

The distinction between what is to be considered a “reef” is not yet precise. This is particularly the case in relation to colonies of the tube-building polychaete, *Sabellaria spinulosa* and stony reefs.

If for example *S. spinulosa* or horse mussel (*Modiolus modiolus*) is found in an area, it does not automatically make the area a potential Annex I habitat. Therefore a scoring system based on a series of physical, biological and spatial characteristic reef features is used to assess the degree of “reefiness”.

The reefiness is weighted according to the perceived importance of each feature. Furthermore, the reefiness is increased with a score indicating confidence in the feature score. Threshold ranges proposed for the reef characteristics elevation, spatial extent and patchiness for Stony Reefs are provided in Table 23 (Irving, 2009).

The general definition of biogenic reefs is made by (Holt, 1998) as;

“Solid, massive structures which are created by accumulations of organisms, usually arising from the seabed or at least clearly forming a substantial, discrete community or habitat which is very different from the surrounding seabed. The structure of the reef may be composed almost entirely of the reef-building organism and its tubes or shells or it may to some degree be composed of sediments, stones and shells bound together by the organism.”

Table 23 Guidelines used to categorise ‘reefiness’ for stony reefs (Irving, 2009).

MEASURE OF ‘REEFINESS’	NOT A STONY REEF	LOW	MEDIUM	HIGH
Composition	<10 %	10-40 % Matrix supported	40-95 %	>95 % Clast supported
<i>Notes: Diameter of cobbles/boulders being greater than 64 mm. Percentage cover relates to a minimum area of 25 m². This ‘composition’ characteristic also includes ‘patchiness’.</i>				
Elevation	Flat Seabed	<0.064 m	0.064 m-5 m	>5 m
<i>Notes: Minimum height (64 mm) relates to a minimum size of constituent cobbles. This characteristic could also include ‘distinctness’ from the surrounding seabed.</i>				
Extent	<25 m ²	>25 m ²		
Biota	Dominated by infaunal species			>80 % of species present composed of epifaunal species.

This scoring system indicates that stony reefs should be elevated by at least 0.064 m and with a composition of at least 10 % stones, covering an area of at least 25 m² and have an associated community of largely epifaunal species.

The species and habitats found in this survey were compared to the list of Scottish PMFs (Tyler-Walters, 2016) that further defines the habitats and species which are considered to be marine nature conservation priorities in Scottish waters.

For “Bedrock Reefs” no similar scoring system exists. In areas where the geophysical data cannot provide information on the degree of exposure, on bedrock, these areas will be delineated as “Potential Bedrock Reefs”. The qualifying criteria for the classification “Bedrock Reefs” is the presence of bedrock that could support an epifaunal community.

In addition to the above-mentioned policies and guidelines, the Scottish Biodiversity List (SBL) (Scottish Biodiversity Forum, 2009) identifying the species and habitats which are the highest priority for biodiversity conservation in Scotland was also consulted.

5 | RESULTS

A total of 21 sampling sites were chosen for photo documentation and grab sampling. All the sampling sites were successfully photographed with good quality photos acquired. Seven (7) standalone video transects were successfully performed with good quality video acquired (Table 24).

Grab sample sites S003 and S021 comprised insufficient sample volume for faunal analysis and were excluded from further statistical analyses. No fauna samples were retrieved at grab sites S004 due to coarse sediments. Grab sample site S013 was not sampled due to the presence of a rocky reef. Grab sampling was successfully performed at the remaining sites.

See Appendix A| for sample positions of grab samples and video transects.

Table 24 Number of sample sites.

NUMBER OF SAMPLE SITES	PHOTO GRAB SAMPLE SITES	GRAB SAMPLE SITES	VIDEO TRANSECTS
	21	20	7

5.1 | SUMMARY OF IDENTIFIED HABITATS


A total of 14 EUNIS classified habitats, including 2 habitat complexes, are interpreted to be present within the survey areas. Three habitats of conservation importance were identified within the survey area, **Annex I habitat 1170** Reefs (subtype “Stony reef” and “Bedrock Reefs”) as well as Kelp beds and Subtidal sands and gravels.

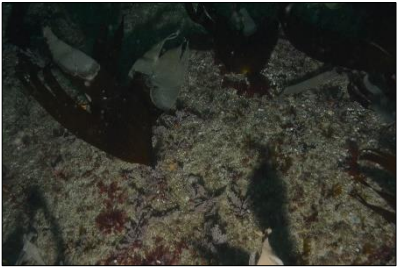
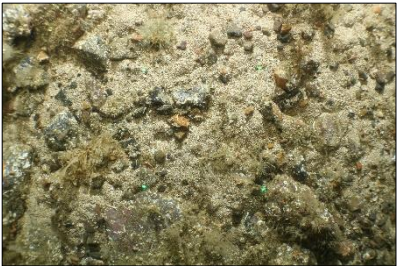



An overview of the distribution of habitats is presented in Table 25 and the distribution of sampled sites is presented in Figure 12. The ID column defines the colour in the GIS charts for the specific habitat type.






Potential areas and/ or species of conservations interest are assessed and presented in Section 4.3|.

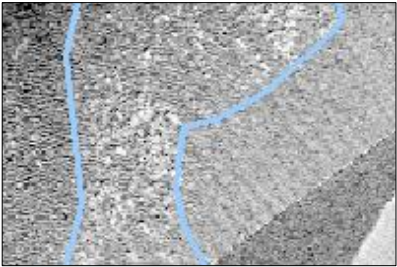
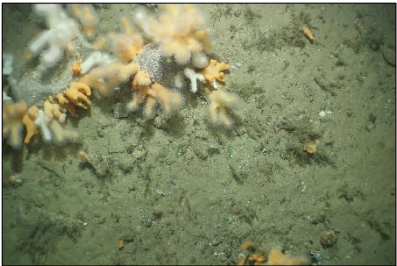



The transects T001A - T003A & T004B are located in the nearshore ECC. Grab sample sites S011, S013 to S016, S018 & S019 and transect T007 are located in the offshore ECC. Grab sample sites S001 to S010, S012, S017, S020 & S021 and transects T005 & T006 are located in the OWF area (Figure 12).


Table 25. Habitat description.

Habitat image	ID	Habitat classification	Habitat code	Site ID
		<i>Laminaria hyperborea</i> with dense foliose red seaweeds on exposed infralittoral rock	A3.115	T003A & T004B

Habitat image	ID	Habitat classification	Habitat code	Site ID
		<p><i>Laminaria hyperborea</i> with dense foliose red seaweeds on exposed infralittoral rock</p> <p>Mixed kelps with scour tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock</p>	A3.115/ A3.125	T001A & T002A
		Mixed faunal turf communities on circalittoral rock	A4.13	S013, T005, T007 & T006
		<p>Mixed faunal turf communities on circalittoral rock</p> <p><i>Pomatoceros triqueter</i> with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles</p>	A4.13/ A5.141	T007
		Circalittoral coarse sediment	A5.14	KP 1.32 – KP 2.00
		<p><i>Mediomastus fragilis</i>, <i>Lumbrineris</i> spp. and venerid bivalves in circalittoral coarse sand or gravel</p>	A5.142	S015

Habitat image	ID	Habitat classification	Habitat code	Site ID
		Deep circalittoral coarse sediment	A5.15	OWF
		Infralittoral fine sand	A5.23	T001A & T002A
		Circalittoral fine sand	A5.25	S005, S006, S012, KP 0.68 – KP 1.32, KP 2.19 – KP 2.28
		<i>Abra prismatica</i> , <i>Bathyporeia elegans</i> and polychaetes in circalittoral fine sand	A5.252	S011, S014, S018, S019
		Deep circalittoral sand	A5.27	S001, S002, S003, S008, S017, S020

Habitat image	ID	Habitat classification	Habitat code	Site ID
		Circalittoral mixed sediments	A5.44	KP 1.37 – KP 1.44
		Deep circalittoral mixed sediments	A5.45	S004, S007, S009, S021 & T005
	x	Polychaete-rich deep Venus community in offshore mixed sediments	A5.451	S010, S016
		Annex I 1170 Stony Reefs, Medium Grade	N/A	S013, T005 & T007
		Annex I 1170 Stony Reefs, High Grade Constructed, industrial and other artificial habitats	N/A J	T006

Habitat image	ID	Habitat classification	Habitat code	Site ID
		Annex I 1170 Bedrock Reefs	N/A	T001A, T002A, T003A & T004B

5.2 | DETAILED AREA DESCRIPTIONS

The seabed classifications within the survey areas were derived based on the interpreted geophysical data in combination with environmental sample sites and transects (Figure 12).

The habitat interpretations at the environmental sample sites and transects were extrapolated to similar areas, where similarity was based on geophysical interpretations of substrate, texture, topography and depth.

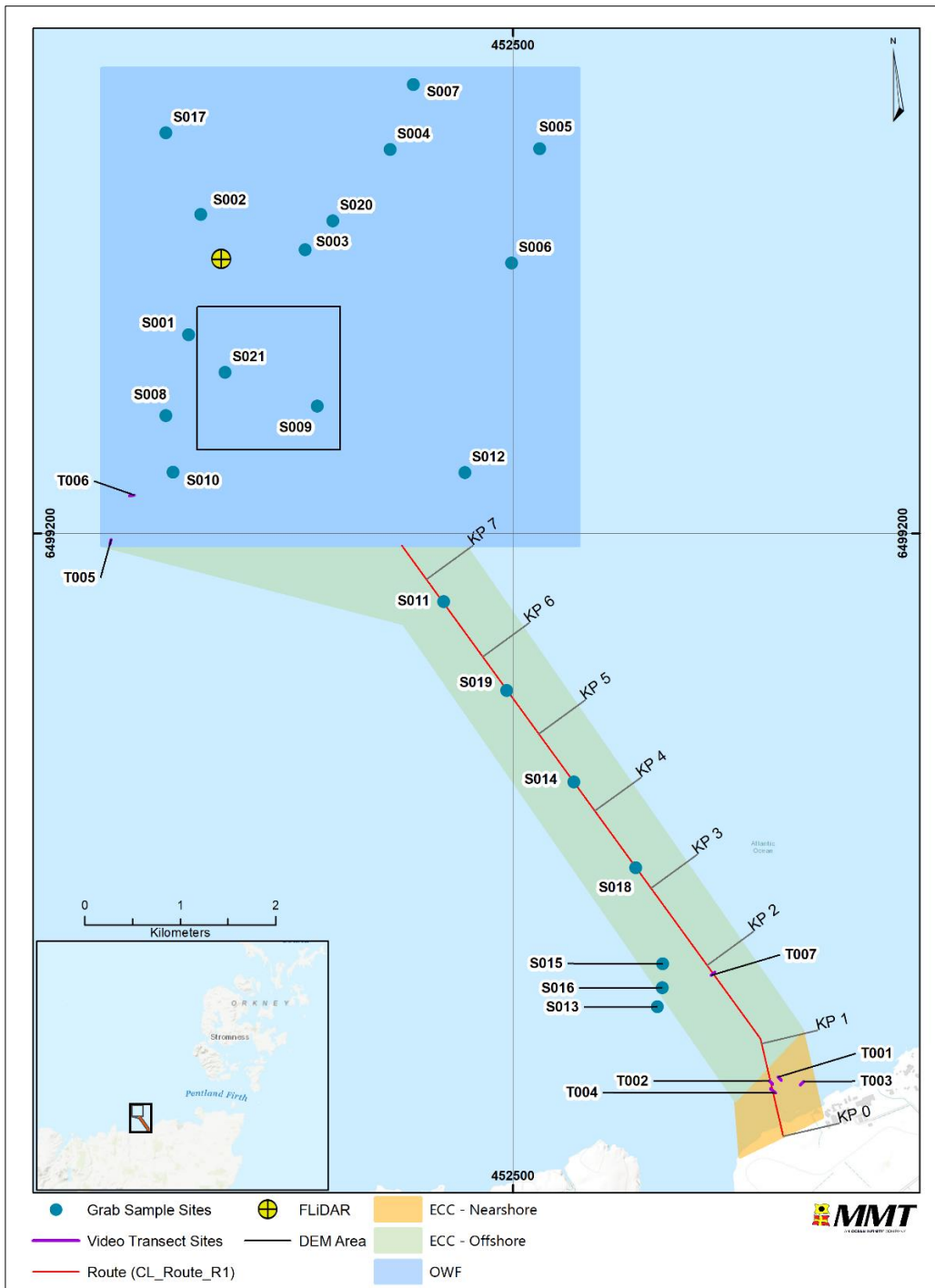


Figure 12 Overview of sampled sites.

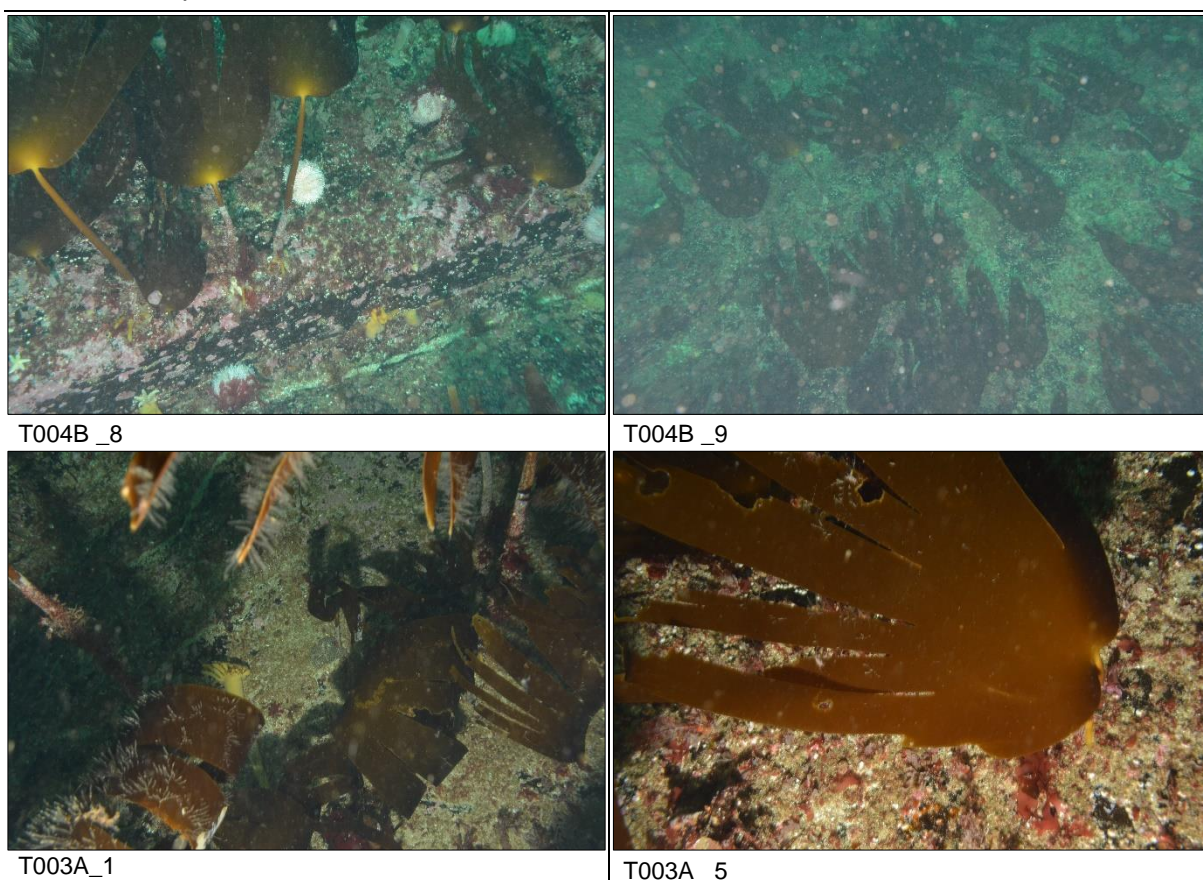
5.2.1 | EXPORT CABLE CORRIDOR - NEARSHORE

The nearshore survey corridor, closest to Dounreay, comprised transects T001A – T003A and T004B. Within the survey corridor, the seabed consisted predominantly of sand and high energy outcropping bedrock.

The bedrock at transects T004B, KP 0.49, and T003A, 300 m east of KP 0.49, was characterised by dense occurrences of *Laminaria hyperborea* with foliose red algae and grazing echinoderms (Table 26, Figure 13). Encrusting coralline algae are also noted to cover the bedrock surface below the *L. hyperborea*.

The bedrock feature that extends across the width of the survey corridor between KP 0.34 and KP 0.54 is classified as **A3.115** - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock and the habitat is assessed to meet the criteria for **Annex I (1170)** – Bedrock Reefs.

Table 26 Example stills from transects T003A and T004B.

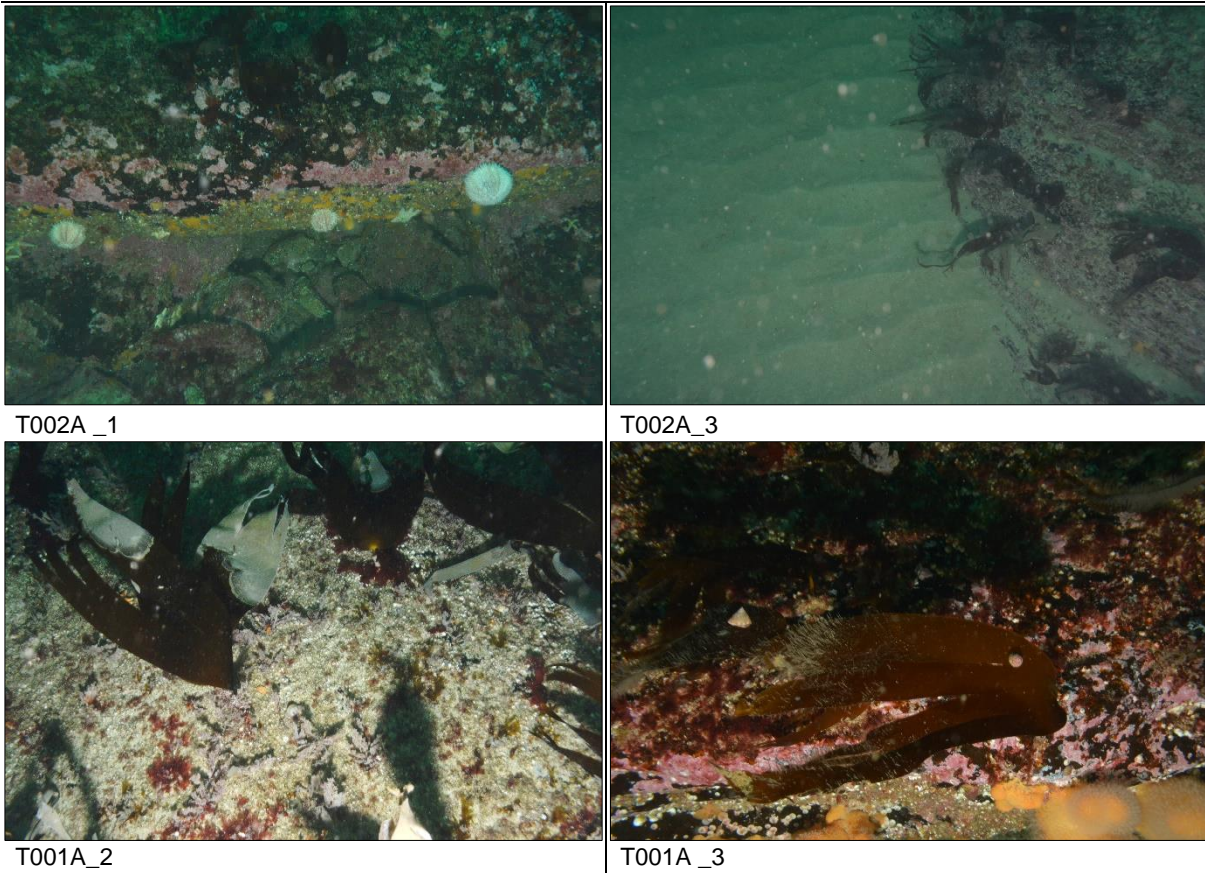


The faunal composition at transects T001A, 100 m east of KP 0.58, and T002A, KP 0.58, was similar to that of T004B and T003A. The bedrock, occasionally covered with a veneer of sand, comprised *L. hyperborea* with foliose red algae, grazing echinoderms and occasional occurrences of *Alcyonium digitatum* (Table 27, Figure 13).

The bedrock feature that extends across the width of the survey corridor between KP 0.54 and KP 0.58 is classified as a habitat complex of **A3.115** - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock and **A3.125** - Mixed kelps with scour-tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock. Habitat **A3.125** often occurs below **A3.115**.

Habitat complex **A3.115/ A3.125** is assessed to meet the criteria for **Annex I (1170)** – Bedrock Reefs.

Table 27 Example stills from transects T001A and T002A.



From KP 0.58 to KP 0.68 the seabed comprises clean rippled sands classified as **A5.23** - Infralittoral fine sand with no notable fauna in the imagery. To accentuate the boundary between the infralittoral and circalittoral habitats a depth dependent boundary is drawn at KP 0.68, reflecting a transition between these at a depth of 20 m.

The seabed from KP 0.68 to KP 0.75 is classified as **A5.25** - Circalittoral fine sand (Figure 13).

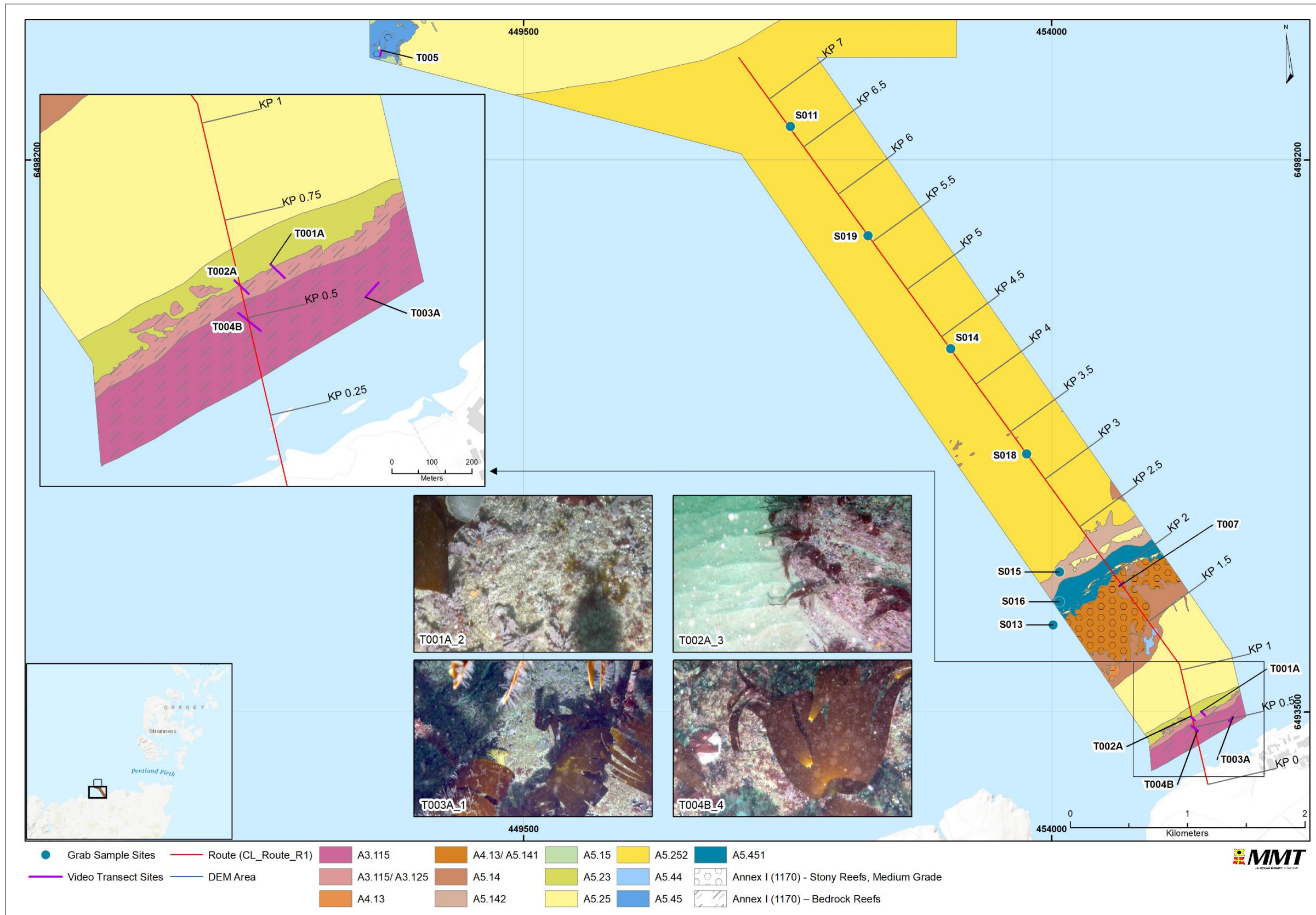


Figure 13 Overview of classified habitats between KP 0.35 and KP 0.75.

5.2.2 | EXPORT CABLE CORRIDOR

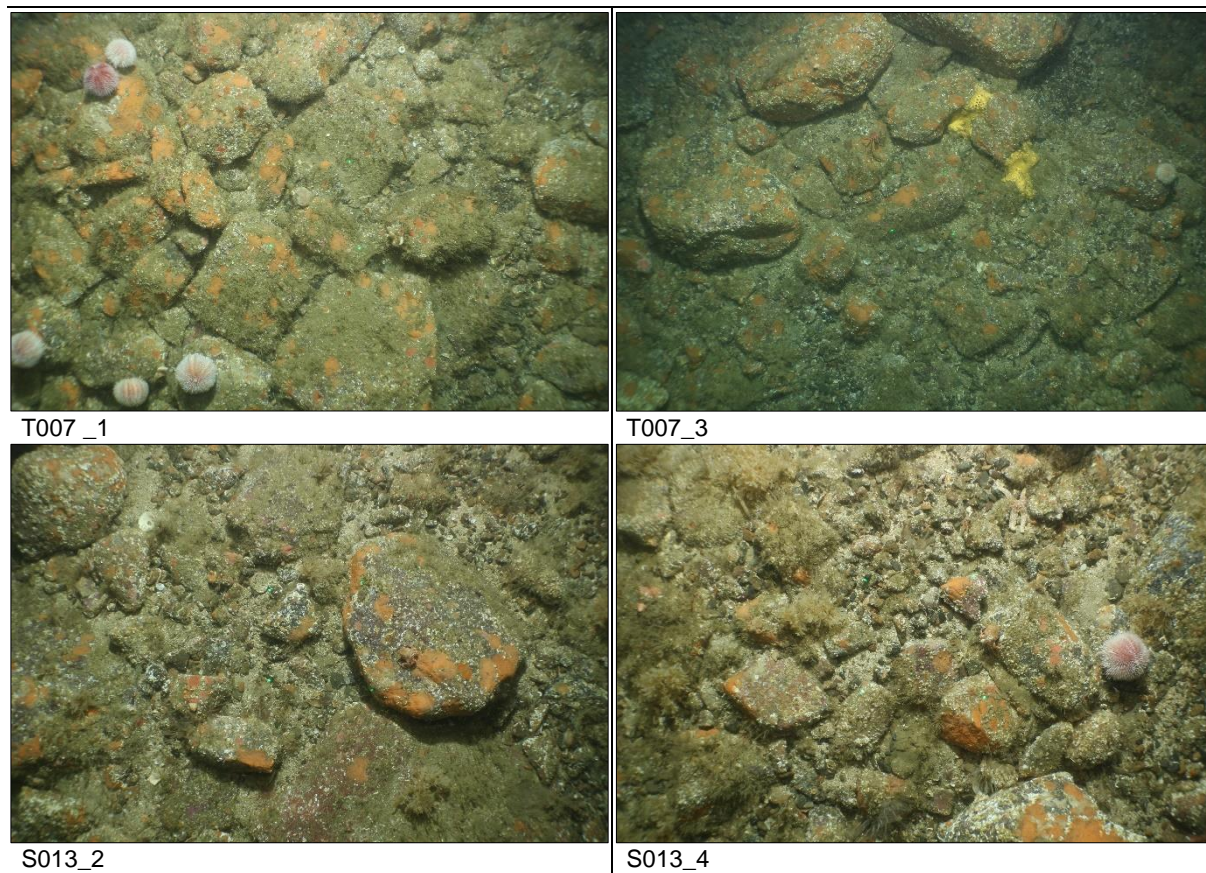
The beginning of the offshore export cable corridor, from KP 0.75 to KP 1.32 is classified as **A5.25** – Circalittoral fine sand followed by an area classified as **A5.14** – Circalittoral coarse sediment area between KP 1.32 and KP 2.40. An isolated patch at KP 1.40 is classified as **A5.44** – Circalittoral mixed sediments.

The bedrock feature that extends across the width of the survey corridor between KP 1.52 to KP 2.00 is classified as **A4.13** – Mixed faunal turf communities on circalittoral rock and is assessed to meet the criteria for **Annex I (1170)** – Stony Reefs, Medium Grade.

Transect T007, at KP 1.89 is classified as habitat complex **A4.13** – Mixed faunal turf communities on circalittoral rock and **A5.141** – *Pomatoceros triqueter* with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles and was characterised with boulders and cobbles with encrusting polychaetes. The habitat complex was assigned to the features on the basis of the observed faunal turfs on boulders, characteristic of **A4.13**, but also on the basis of the dense coverage of *Spirobranchus* sp. (previously named *Pomatoceros* sp.) as well as a lot of cobbles, both characteristics of **A5.141**.

Grab sample site S013, 700 m west of KP 1.89 and outside of the export cable corridor showed similar features and faunal composition as transect T007 (Table 28, Figure 14). Grab sample site S013 is classified as **A4.13** – Mixed faunal turf communities on circalittoral rock and assessed to meet the criteria for **Annex I (1170)** – Stony Reefs, Medium Grade. The epifauna consisted of different species of cnidarians, bryozoans, arthropods, molluscs, echinoderms and tunicates.

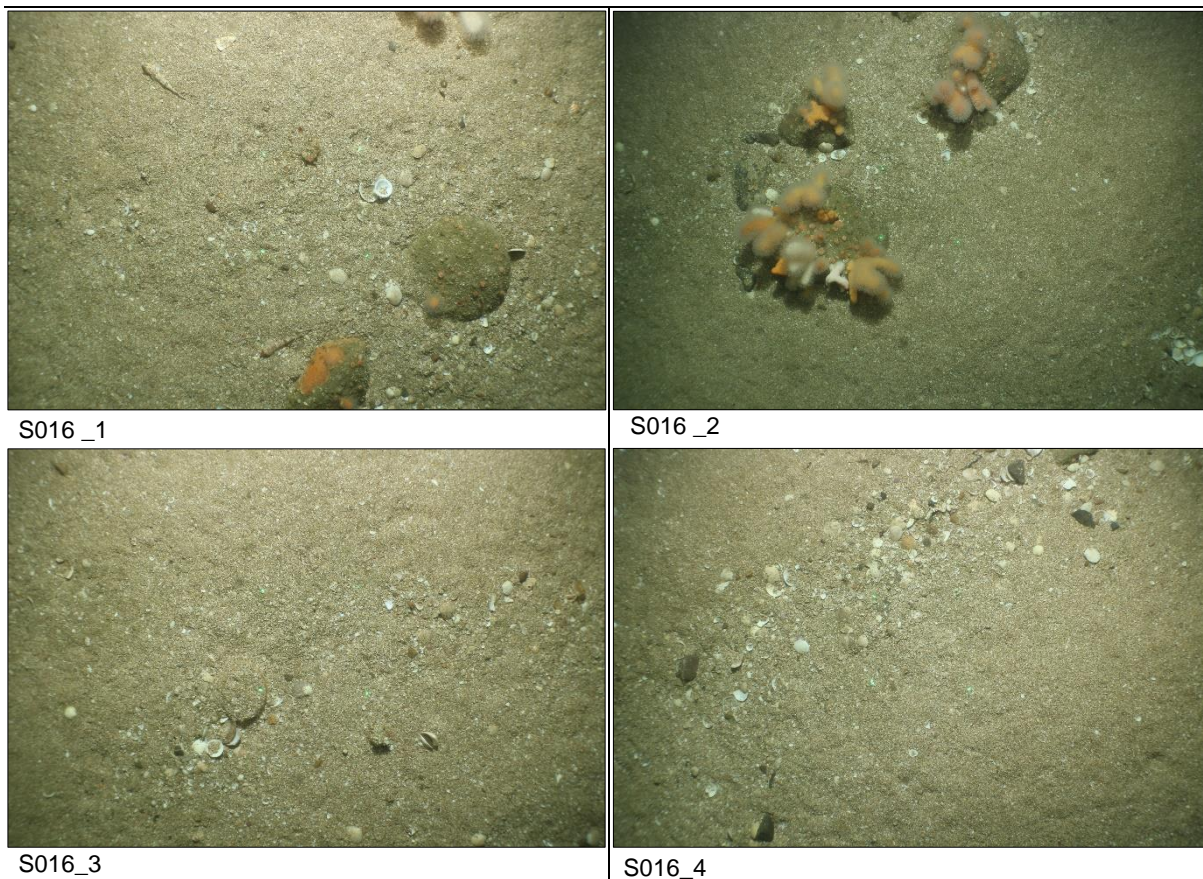
Table 28 Example stills from transect T007 and grab sample site S013.



Grab sample site S016, 500 m west of KP 2.05, is classified as **A5.451** – Polychaete-rich deep *Venus* community in offshore mixed sediments. The seabed comprised sand, gravel, shell gravel and boulders, and is classified as sandy gravel based on the PSA results (Table 29, Figure 14).

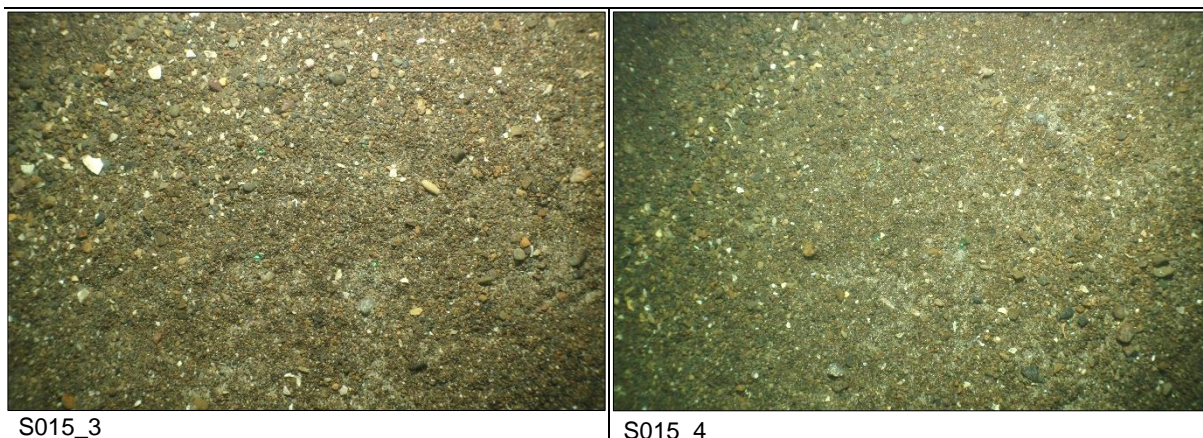
Epifauna consisted of *Caryophyllia (Caryophyllia) smithii*, *A. digitatum* and encrusting bryozoans. Occasional hermit crabs and the mollusc *Pecten maximus* was also noted. Bivalve *Goodallia triangularis* dominated the sample with the polychaete *Polygordius* sp. The habitat at this site may be a transitional habitat between **A5.451** and **A5.142**. However, based on the faunal composition at the site, it is classified as **A5.451**.

Table 29 Example stills from grab sample site S016.



Grab sample site S015, 350 m west of KP 2.29, is classified as **A5.142** – *Mediomastus fragilis*, *Lumbrineris* spp. and venerid bivalves in circalittoral coarse sand or gravel. The seabed comprised sand and gravel and is classified as sandy gravel based on the PSA results (Table 30, Figure 14). Occasional hermit crabs and gastropods were the only fauna noted in the imagery. Polychaetes *Capitella* sp., *Mediomastus fragilis*, *Aonides paucibranchiata*, and bivalve *Goodallia triangularis* as well as crustacean *Balanus crenatus* were abundant in the sample.

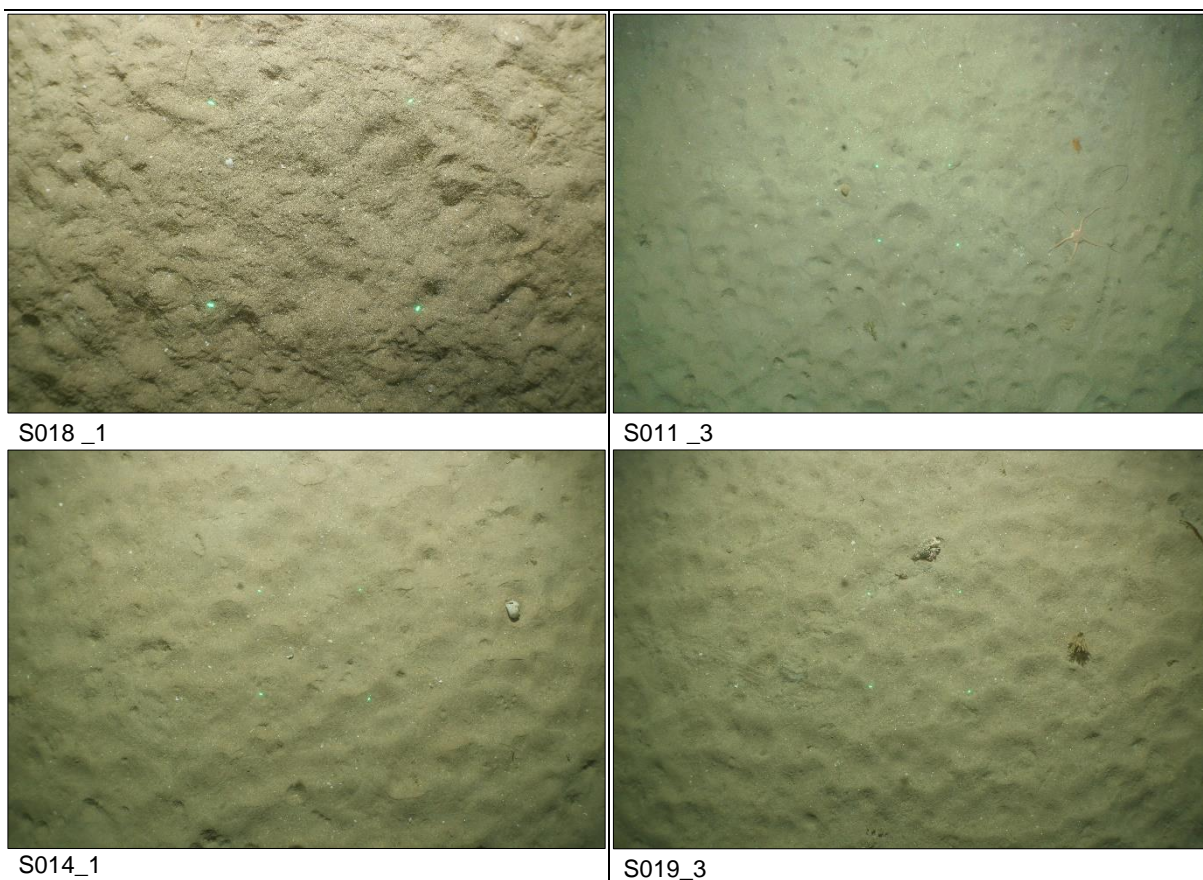
Table 30 Example stills from grab sample site S015.



From KP 2.40 the seabed is classified as **A5.252** – *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand and comprises grab sample sites S018 (KP 3.27), S014 (KP 4.37), S019 (KP 5.56), and S011 (6.71). The seabed was characterised by clean sand with sparse fauna (Table 31, Figure 14) including hermit crabs, sea stars and brittle stars. Scattered patches of **A5.14** – Circalittoral coarse sediment were identified between KP 3.15 and KP 3.70.

In the faunal sample from S018, the bivalve *Abra prismatica* and the polychaetes *Owenia sp.* and *Magelona filiformis* dominated the sample with occurrences of the crustacean *Bathyporeia elegans*. A similar faunal composition was identified at sites S014, S011 and S019 within minor variations.

Table 31 Example stills from grab sample sites S014, S018, S019 and S011.



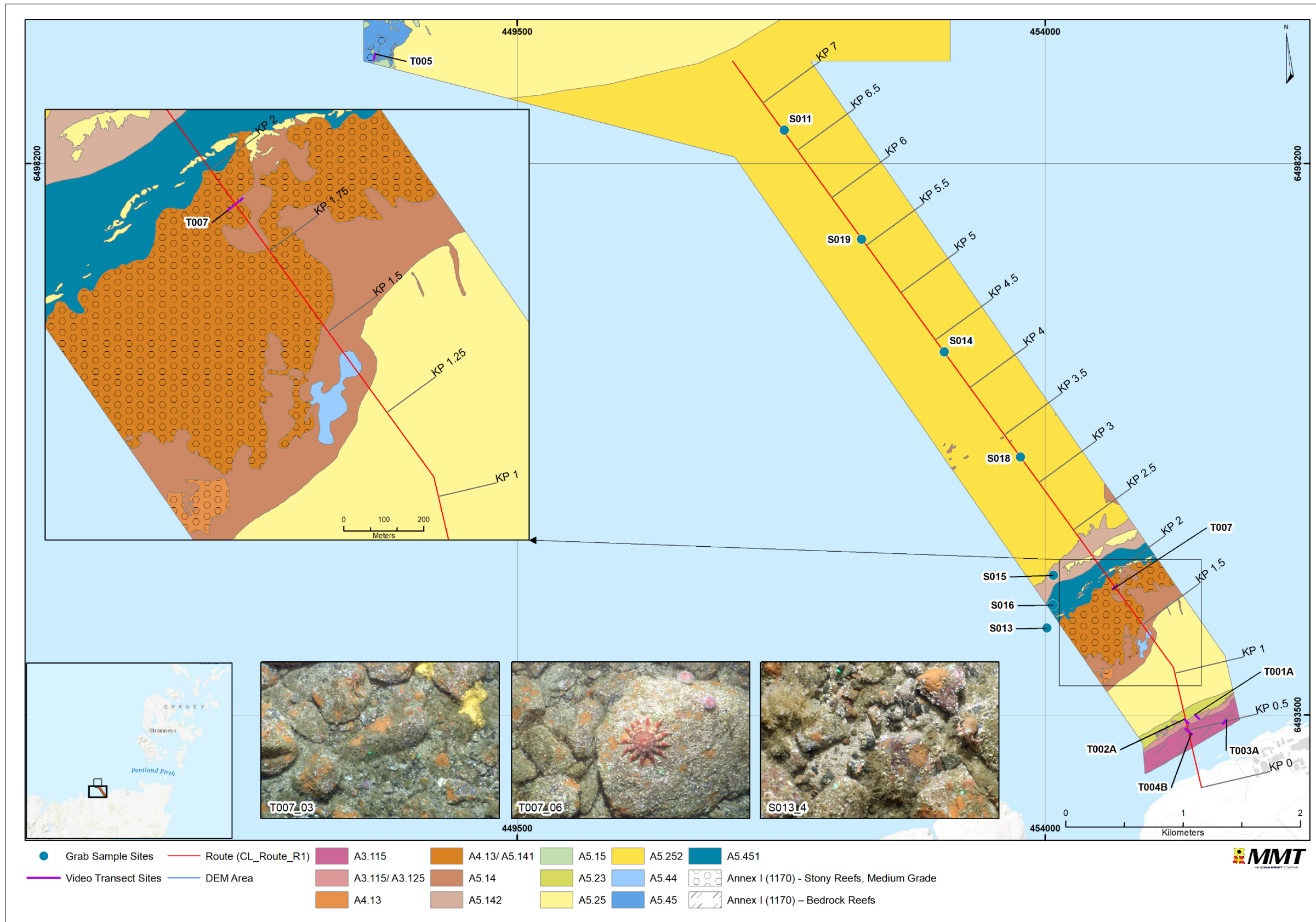


Figure 14 Overview of classified habitats between KP 0.35. and KP 7.4.

5.2.3 | OWF

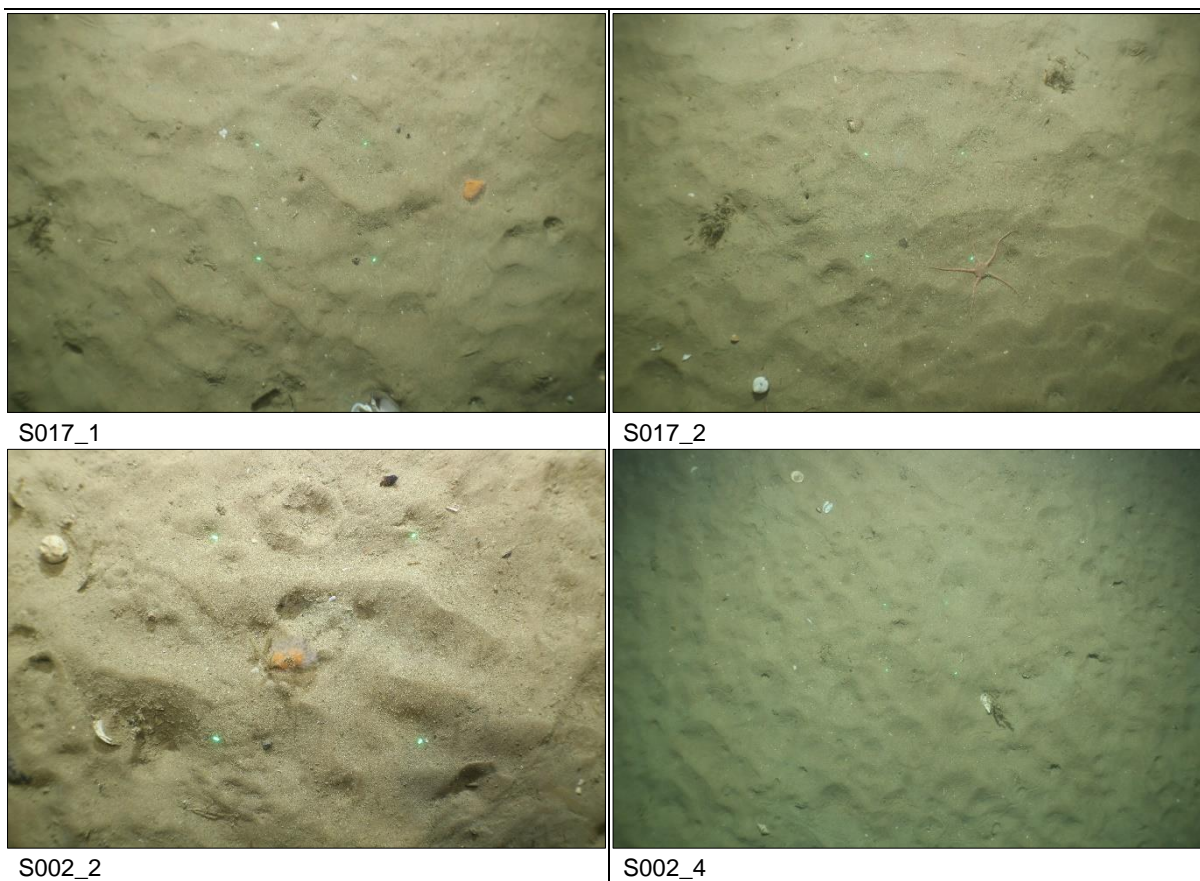
The main habitats classified within the OWF are **A5.25** – Circalittoral fine sand and **A5.27** – Deep circalittoral sand and the seabed comprised mostly clean sand with sparse visible fauna. Grab sample sites S001, S002, S003, S008, S017 and S020 were all located within the central to northwestern area classified as **A5.27**, and grab sample sites S005, S006 and S012 were located within the southwest to northeastern area classified as **A5.25**.

Grab sample sites S017 and S002 in the Northwest corner of the OWF comprised slightly silty and fine sand with occasional shell debris (Table 32). Based on the PSA results the sediment is classified as sand at these two sites. Epifauna was sparse, but the soft coral *A. digitatum* and hydroids were observed occasionally, as well as hermit crabs and the brittle star *Ophiura ophiura*.

In the sample from S002, bivalve *Abra prismatica* dominated with occurrences of echinoderms *Echinocyamus pusillus* and *Amphiura filiformis*, the crustacean *Bathyporeia elegans* and the ocean quahog *Arctica islandica*. Grab sample site S002 is classified **A5.27** - Deep circalittoral sand.

The sample analyses at S017 showed similar faunal composition to S002, where the bivalve *Abra prismatica* and the brittle star *A. filiformis* dominated, with occurrences of the polychaete *Owenia sp.* and crustacean *Bathyporeia elegans*. Grab sample site S017 is classified as **A5.27**.

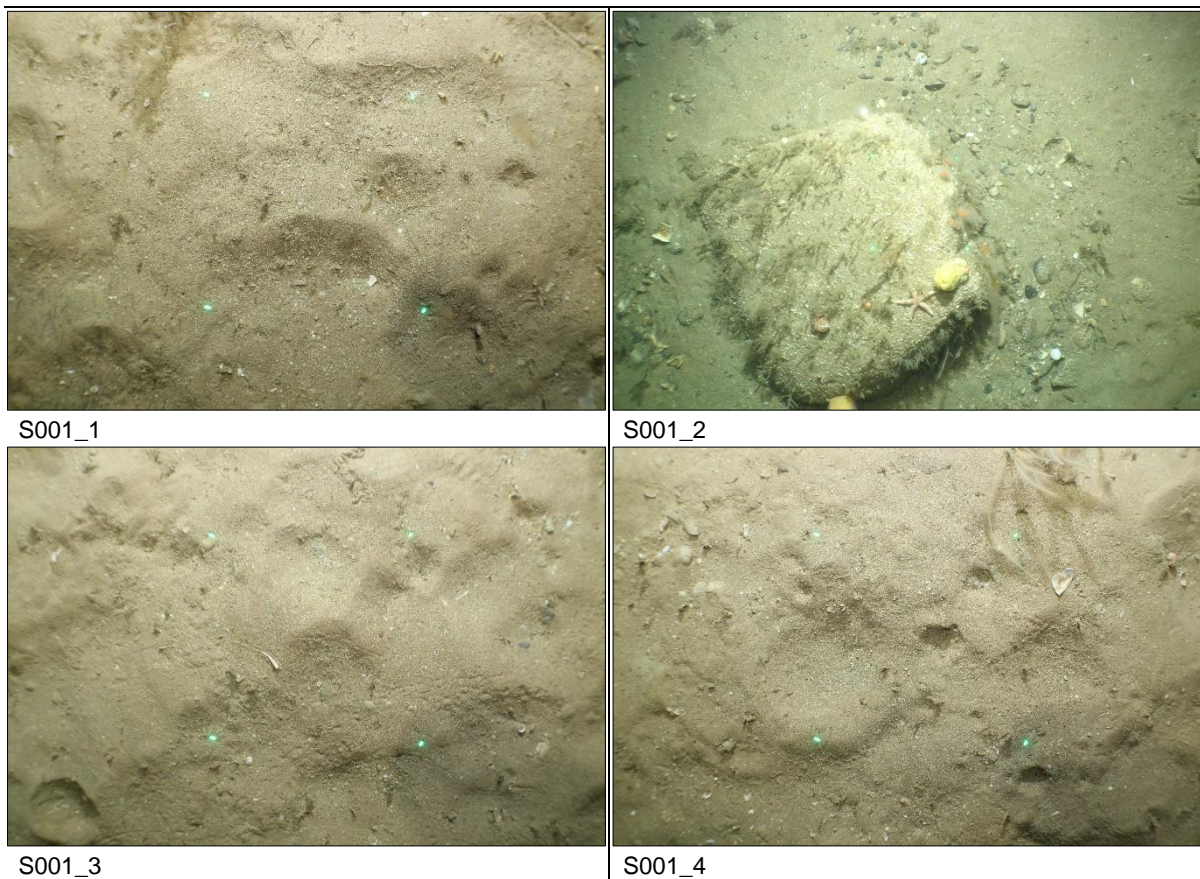
Table 32 Example stills from grab sample sites S017 and S002.



Further south, grab sample site S001 comprised of sand and gravel with occasional boulders (Table 33, Figure 15). In the faunal sample at the site, bivalves *Abra prismatica* and *Kurtiella bidentata*, polychaete *Urothoe elegans* and brittle star *A. filiformis* were the most abundant taxa. The ocean quahog *A. islandica* was also present. The dominating epifauna were hydroids. Sea stars, arthropods (hermit crabs, squat lobsters and shrimps) and molluscs were also noted.

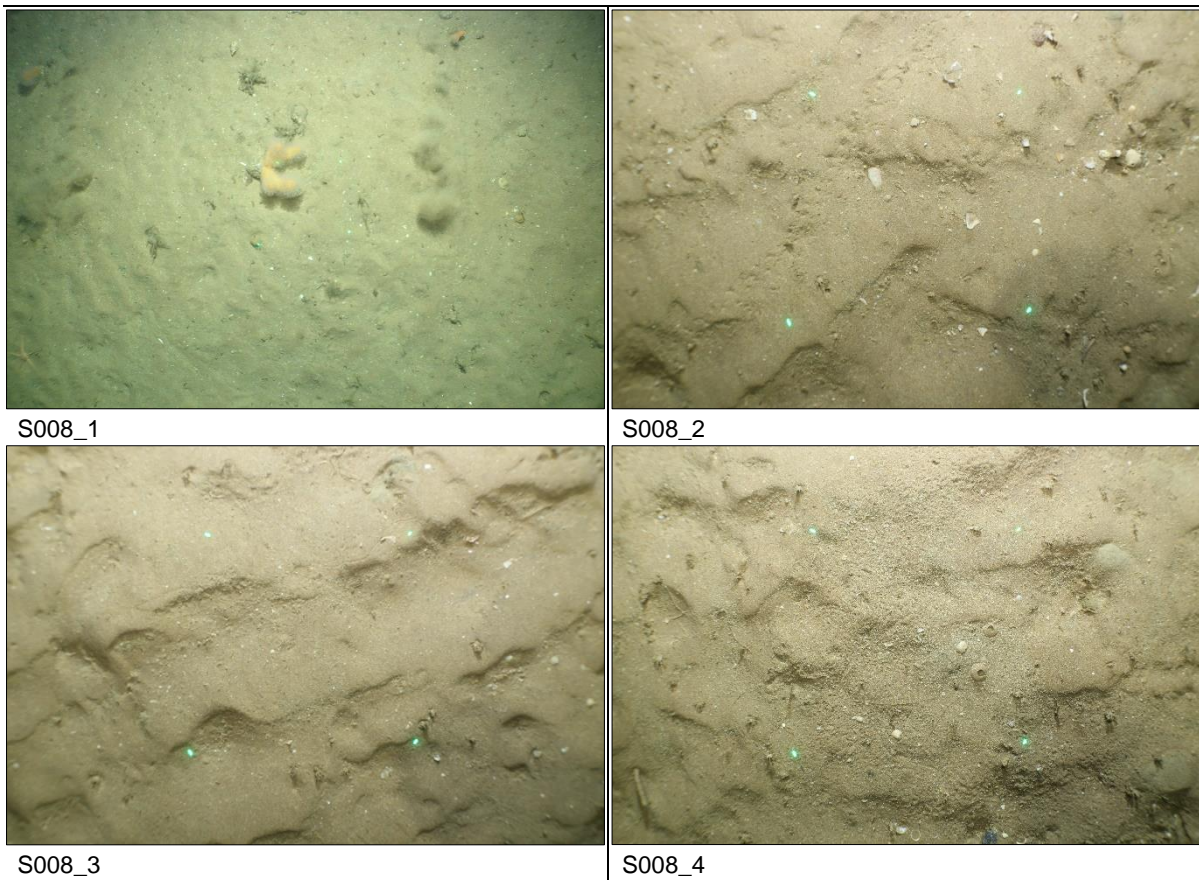
The boulders comprised the soft coral *A. digitatum*, hydroids, *Alcyonidium diaphanum* and the cup coral *C. smithii*. Grab sample site S001 is classified as **A5.27**.

Table 33 Example stills from grab sample site S001.



Grab sample site S008, located in the south-western area of the OWF, comprised fine sand with shell gravel and occasional cobbles (Table 34, Figure 15). Based on the PSA results the sediment is classified as sand. Visible fauna was sparse in the imagery, but *A. digitatum* and hydroids were noted throughout the site, together with hermit crabs and brittle stars *Ophiura sp.* In the faunal sample, the bivalves *A. prismatica* and *Kurtiella bidentata*, polychaetes *Scoloplos armiger* and crustacean *B. elegans* were the most abundant. Grab sample site S008 is classified as **A5.27**.

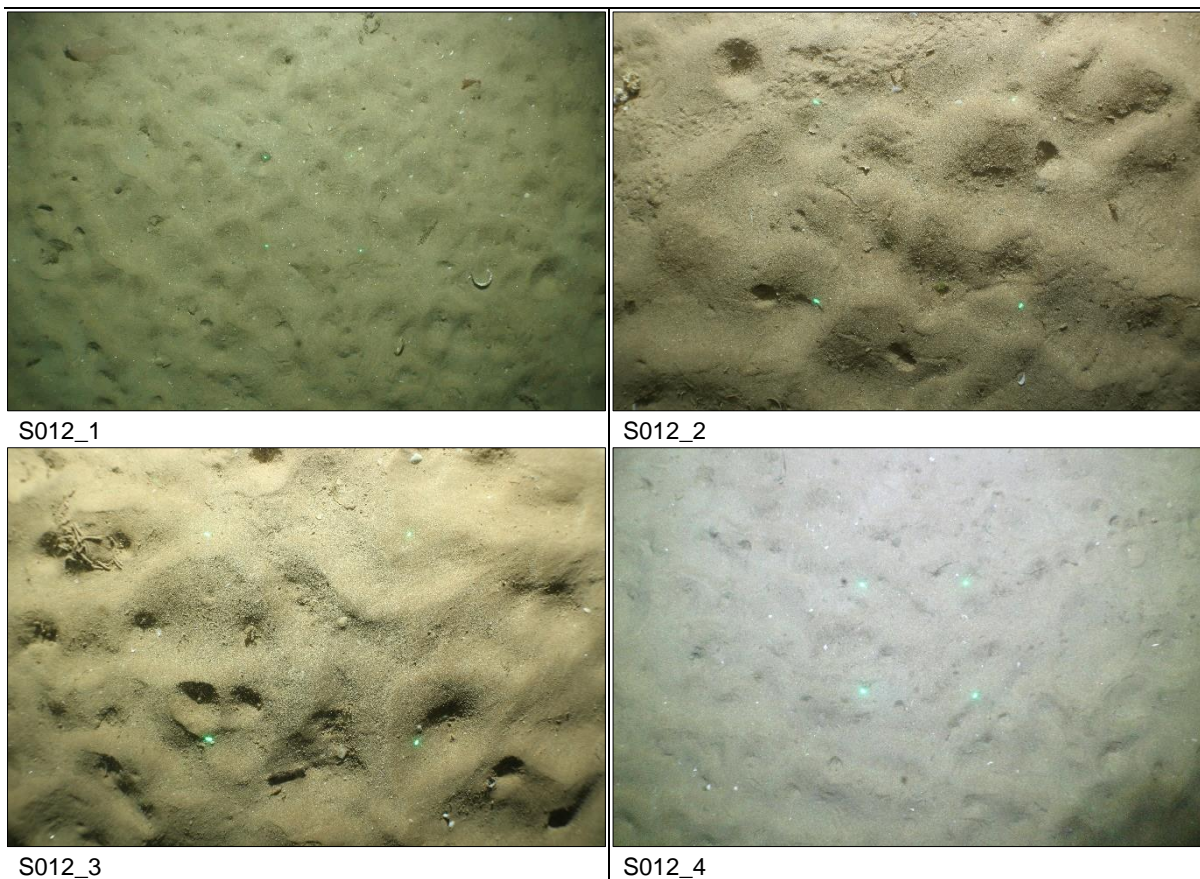
Table 34 Example stills from grab sample site S008.



In the southeast area of the OWF, grab sample site S012 comprised fine sand (Table 35, Figure 15). Based on the PSA results the sediment is classified as sand. Epifauna was sparse, but hydroids were noted occasionally.

The presence of polychaete sandworm *Arenicola marina* and sand mason worm *Lanice conchilega* was indicated by the presence of characteristic tubes on and protruding from the seabed. In the faunal sample the bivalve *A. prismatica* polychaete *Owenia sp.* and borrowing anemone Edwardsiidae were the most abundant taxa, also the ocean quahog *A. islandica*, as well as the polychaete *L. conchilega*, were identified in the faunal sample. Grab sample site S012 is classified as **A5.25**.

Table 35 Example stills from grab sample site S012.



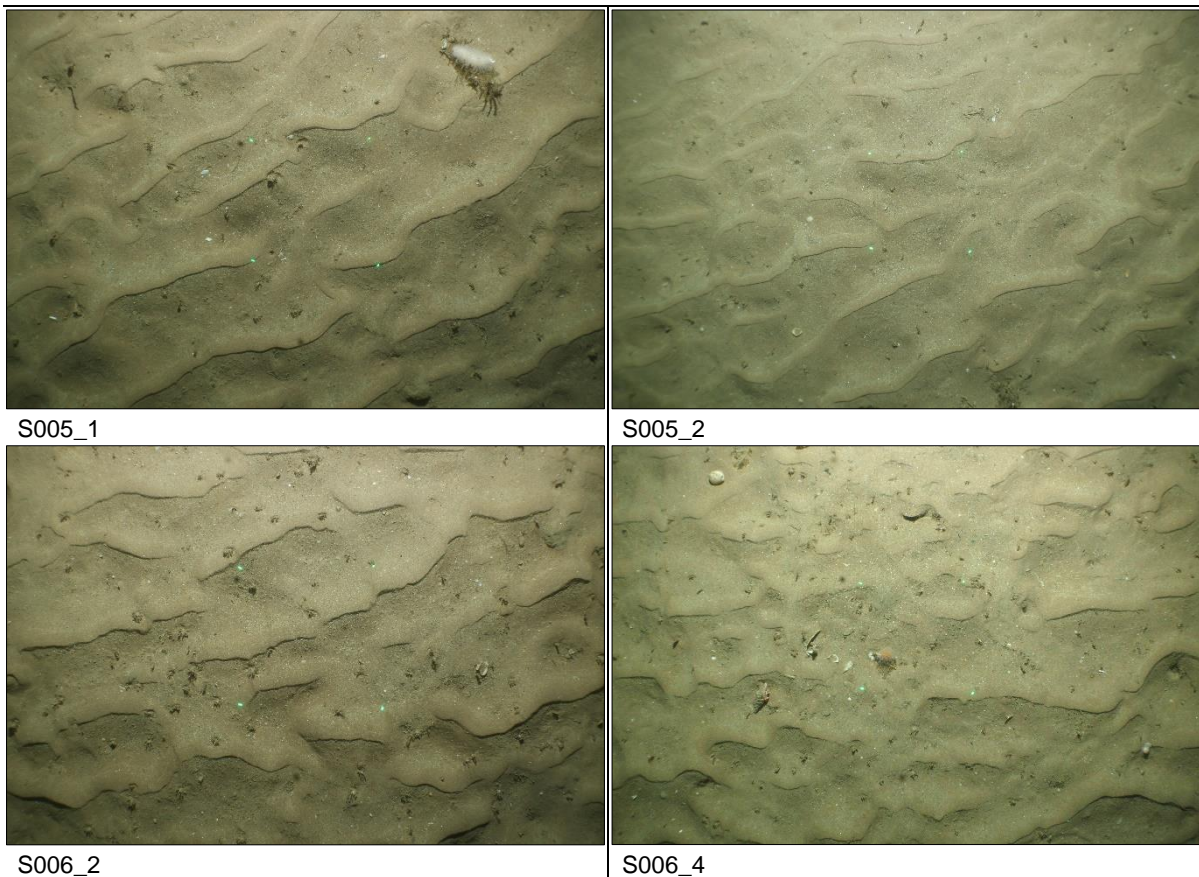
Grab sample sites S005 and S006, in the northeast corner, comprised rippled sand (Table 36, Figure 15). The sediment at both these sites is, based on the PSA result, composed of predominantly sand.

Epifauna was sparse, but the soft coral *A. digitatum* and hydroids were found occasionally at both of these sites. Hermit crabs and ocean quahog *A. islandica* were found in the faunal samples. The presence of polychaete sandworm *A. marina* and sand mason worm *L. conchilega* was indicated by the presence of characteristic tubes on and protruding from the seabed.

At S005, the faunal assemblage comprised predominantly of bivalve *A. prismatica* but also the sea urchin *E. pusillus* and *B. elegans*. Grab sample site is classified as a mixture of **A5.25**.

At S006, the faunal assemblage comprised of bivalves *Kurtiella bidentata* and *A. prismatica* and the brittle star *A. filiformis* with polychaete *Scoloplos armiger*. Grab sample site is classified as **A5.25**.

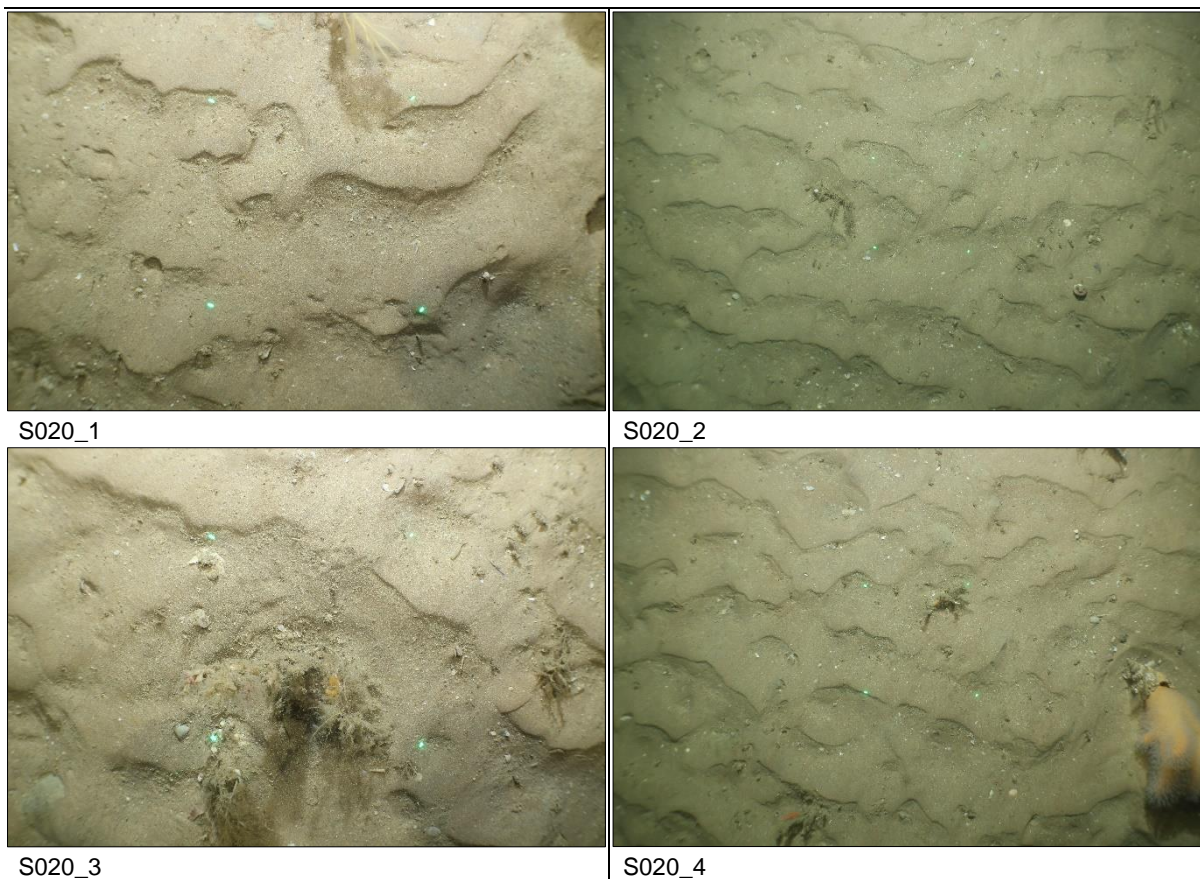
Table 36 Example stills from grab sample sites S005 and S006.



Grab sample site S020 was located between areas of coarser sediments and comprised rippled sand, gravel and shell gravel (Table 37, Figure 15), based on the PSA results the sediment comprised gravelly sand. Fauna noted was the soft coral *A. digitatum* with a frequent presence of tubes from the sand mason worm *L. conchilega* protruding from the seabed. Molluscs from the family Pectinidae and hydroids were also noted.

In the faunal sample at S020, the barnacle *Verruca stroemia* was the dominating species, with occurrences of the bivalve *A. prismatica*, crustaceans *B. elegans* and *Urothoe elegans*. Grab sample site S020 is classified as **A5.252**.

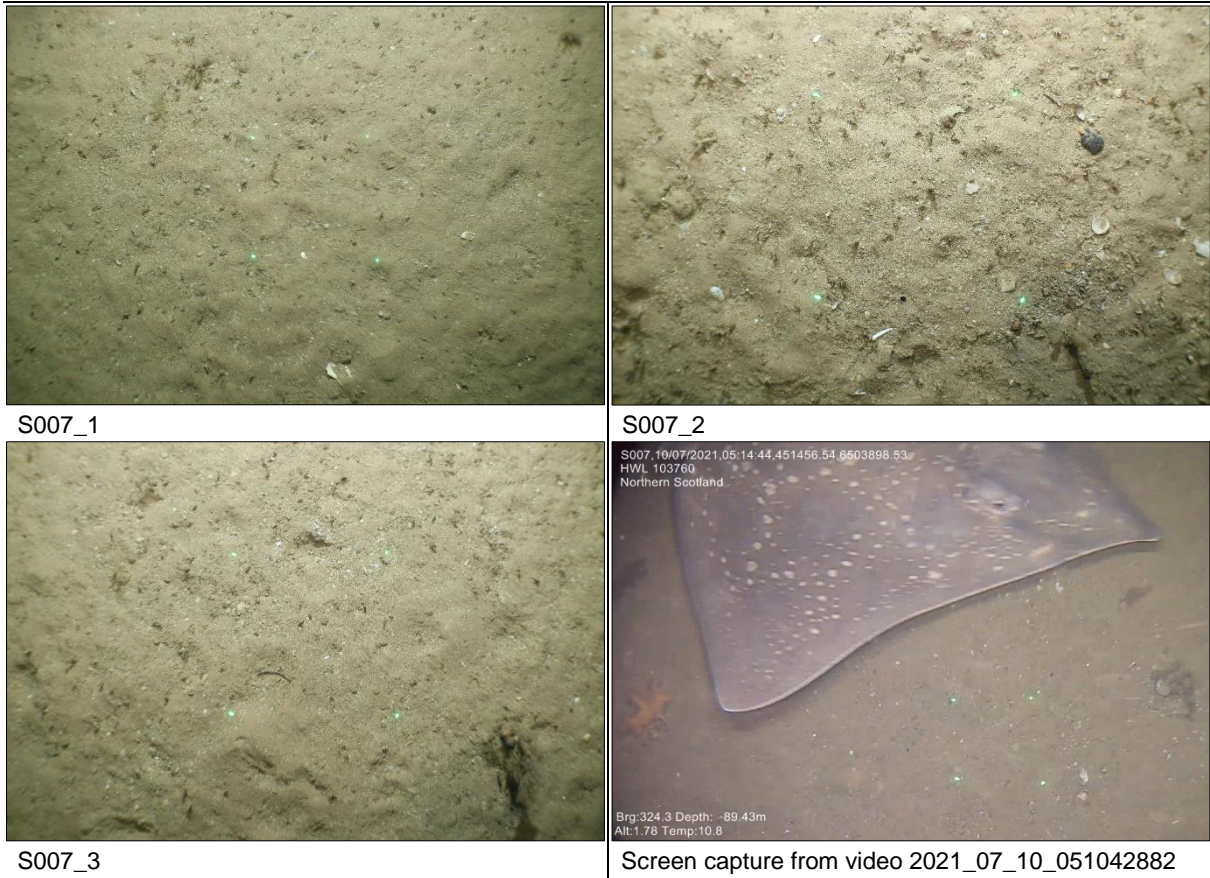
Table 37 Example stills from grab sample site S020.



Grab sample site S007, the northernmost site within the OWF, is classified as **A5.45** - - Deep circalittoral mixed sediments. The area comprised coarse sand with shell gravel (Table 38, Figure 15). Based on the PSA results the sediment is classified as sand and is located at the outer edges of a distinct feature as interpreted from the geophysical data. The sample is likely acquired in a transitional area between **A5.45** and **A5.27**.

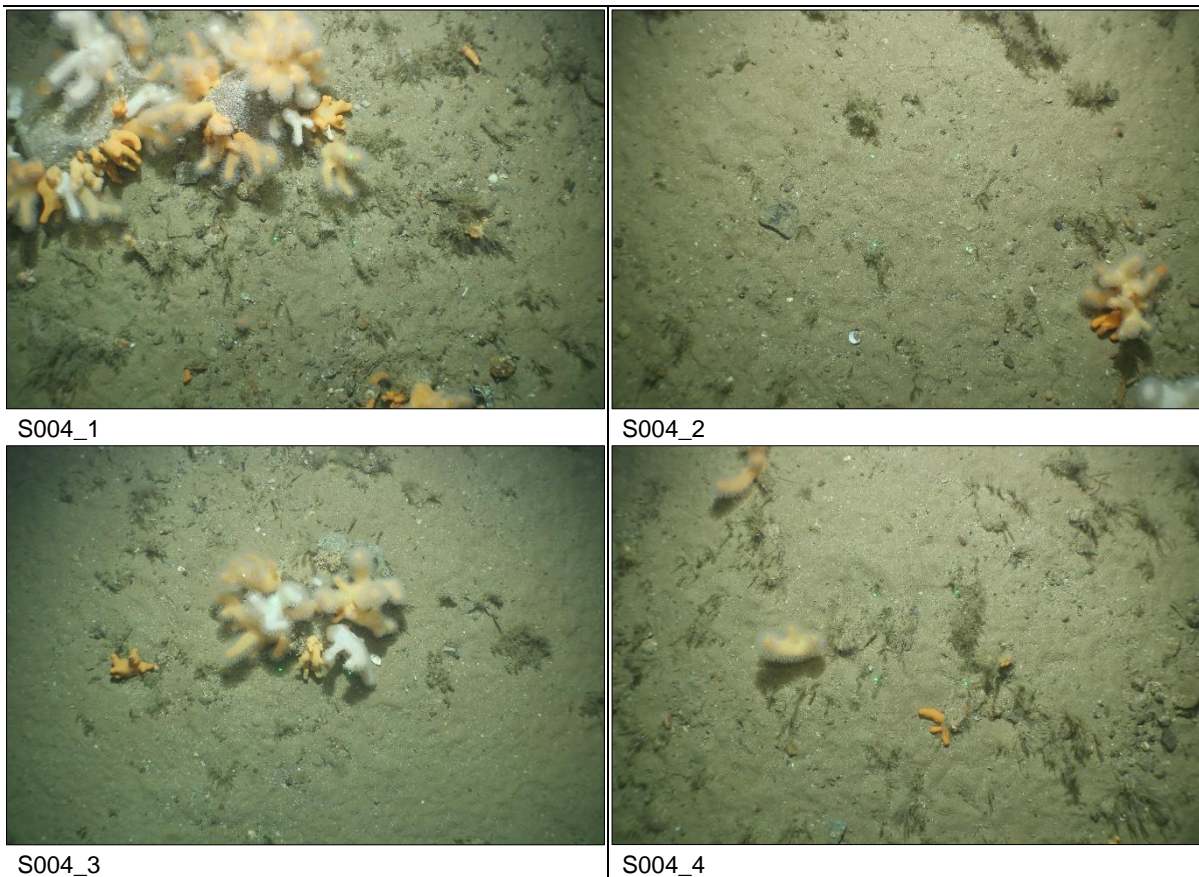
Epifauna was sparse and comprised *A. diaphanum*, *A. digitatum* and hydroids. One specimen of a skate belonging to the genus *Dipturus* was identified in the imagery. The species is most likely the common skate *Dipturus batis*. In the faunal sample at S007 the polychaetes, *S. armiger*, *Peresiella clymenoides*, *Myriochele danielsseni* and sea urchin *E. pusillus* are the most abundant taxa.

Table 38 Example stills from grab sample site S007 and *Dipturus* sp.



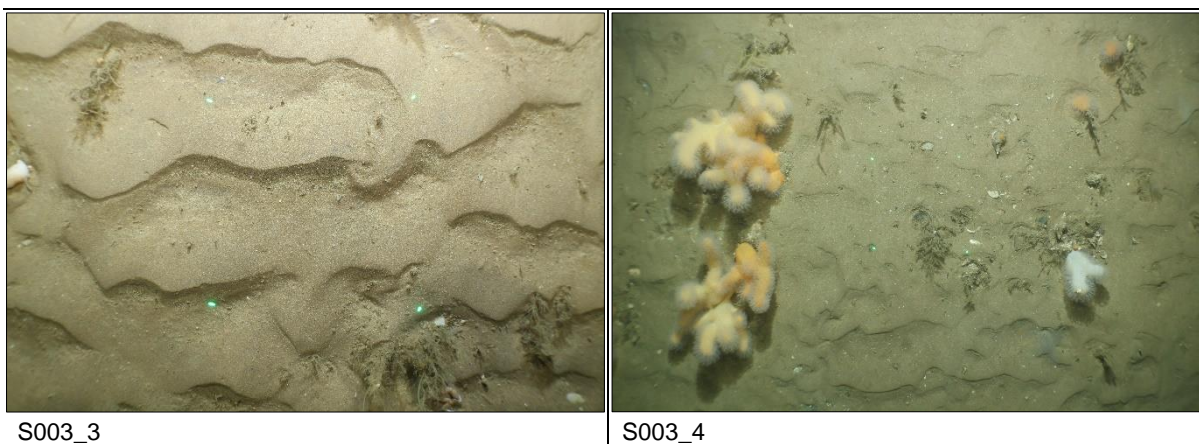
Grab sample site S004, located in the north-eastern parts of the OWF, is classified as **A5.45** - Deep circalittoral mixed sediments and the seabed comprised coarse sand, gravel, cobbles and occasional boulders (Table 39, Figure 15). Based on the PSA results the sediment is classified as gravelly sand. Dominating epifauna was the soft coral *A. digitatum* and hydroids. Sea stars and arthropods (spider crabs and shrimps) were also noted.

Table 39 Example stills from grab sample site S004.



Grab sample site S003, located in the central parts of the OWF, is classified as **A5.27** (Table 40, Figure 15). The area comprised fine rippled sand with patches of coarser material consisting of shell gravel and cobbles. Based on the PSA results the sediment is classified as sand. Epifauna was dominated by *A. digitatum* and different hydroids with hermit crabs and whelks from the family Buccinidae were also noted. In the faunal sample the bivalve *A. prismatica*, the crustacean *Bathyporeia gracilis*, the polychaete *Owenia sp.* and juvenile brittle stars Amphiuridae were the most abundant taxa.

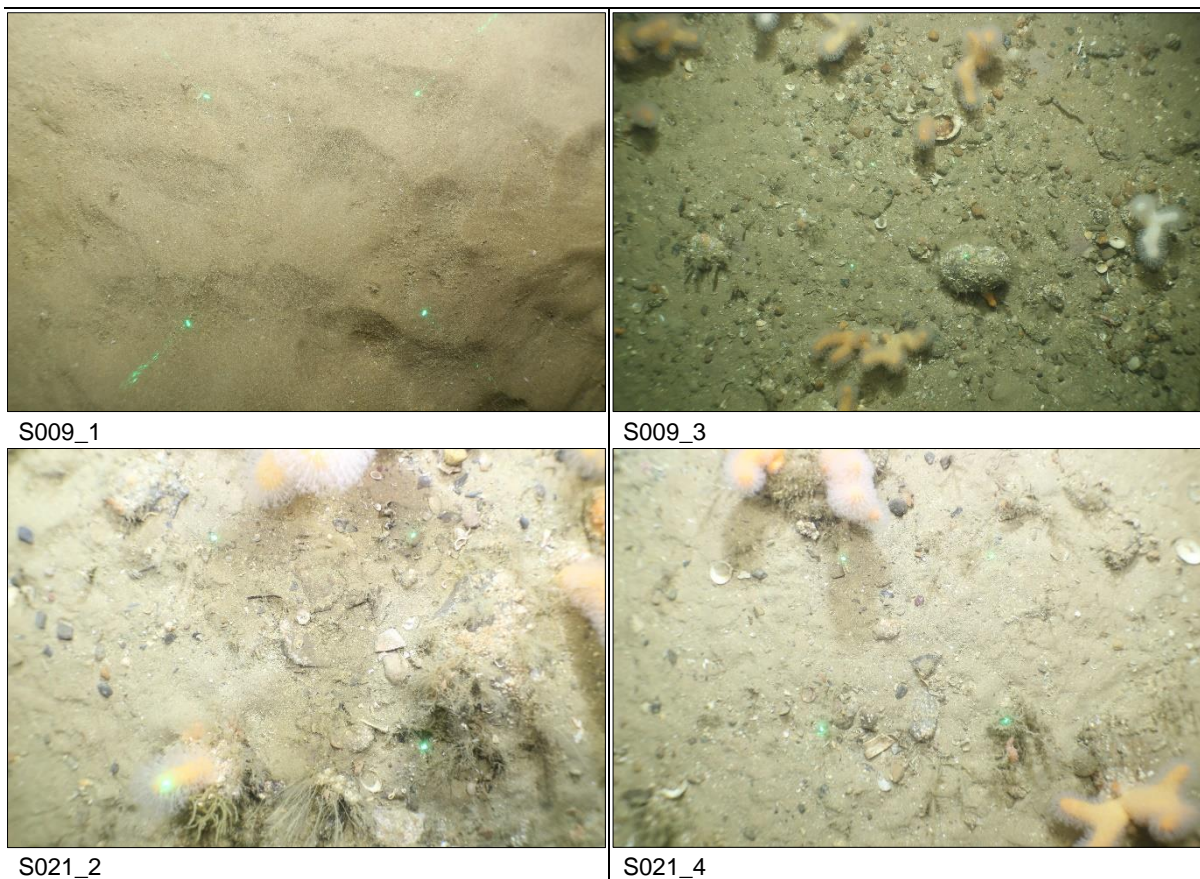
Table 40 Example stills from grab sample site S003.



Grab sample sites S009 and S021 were both located in isolated areas classified as **A5.45** – Deep circalittoral mixed sediments and comprised coarser sediments with shell gravel, gravel and small boulders (Table 41, Figure 15). Grab sample site S009 also comprised patches of rippled sand. Based on the PSA results the sediment at S009 is classified as sand and the sediment at S021 as sandy gravel. The epifauna at the two sites encompassed the soft coral *A. digitatum* and different hydroids. Sea stars, sea urchins and hermit crabs were also noted.

The faunal sample at S009 identified the bivalve *A. prismatica* and sea urchin *E. pusillus* as the most characterising taxa with regards to abundance, while at S021 the most characterising taxa were the barnacles *Verruca stroemia* and *Balanus crenatus*.

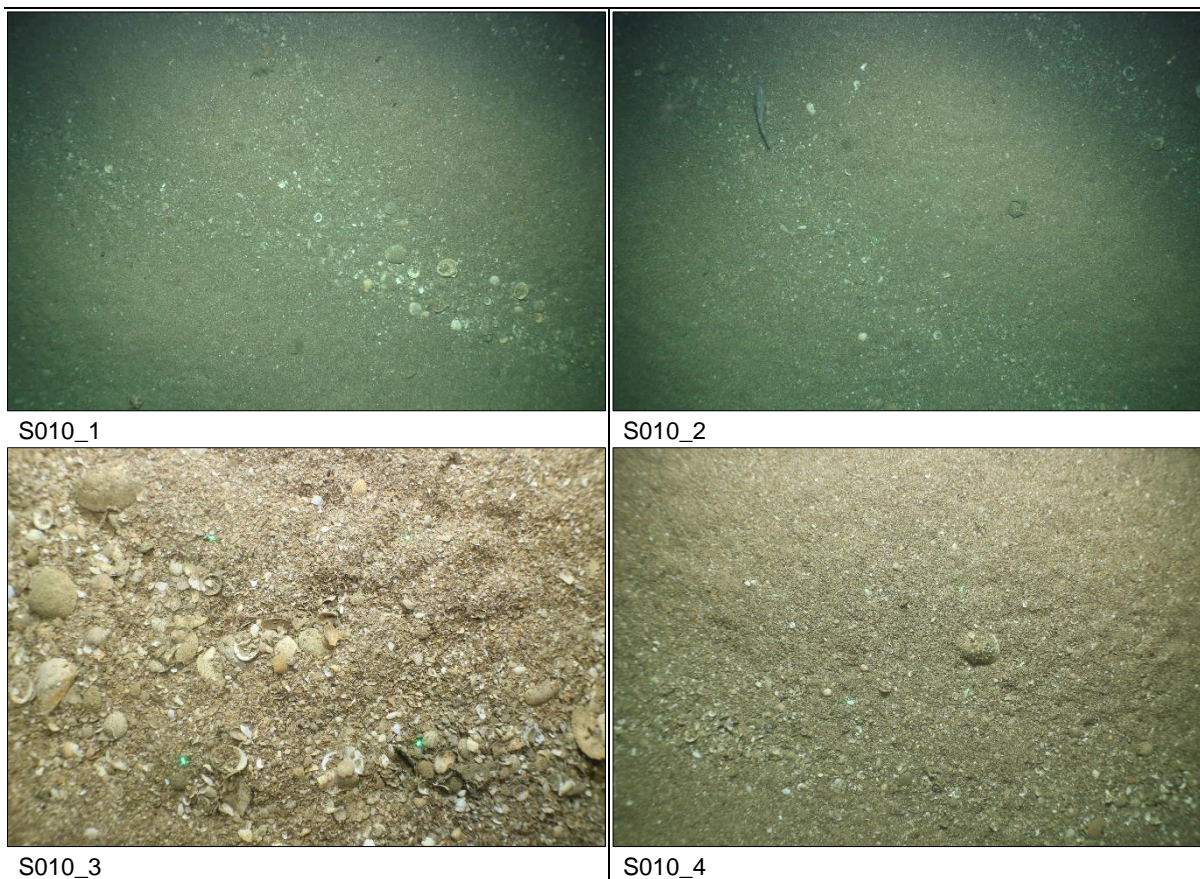
Table 41 Example stills from grab sample sites S009 and S021.



Grab sample site S010, located in the south-western parts of the OWF, is classified as **A5.451** - Polychaete-rich deep *Venus* community in offshore mixed sediments and comprised clean sands with shell gravel (Table 42, Figure 15).

Based on the PSA results the sediment is classified as gravelly sand. No fauna was noted in the imagery except for an occasional hermit crab. In the faunal sample nematodes Nematoda, the bivalves *Goodallia triangularis*, *Montacuta substriata*, the polychaetes *Polygordius sp.* and *Glycera lapidum* and the sea urchins *E. pusillus* were the most abundant taxa.

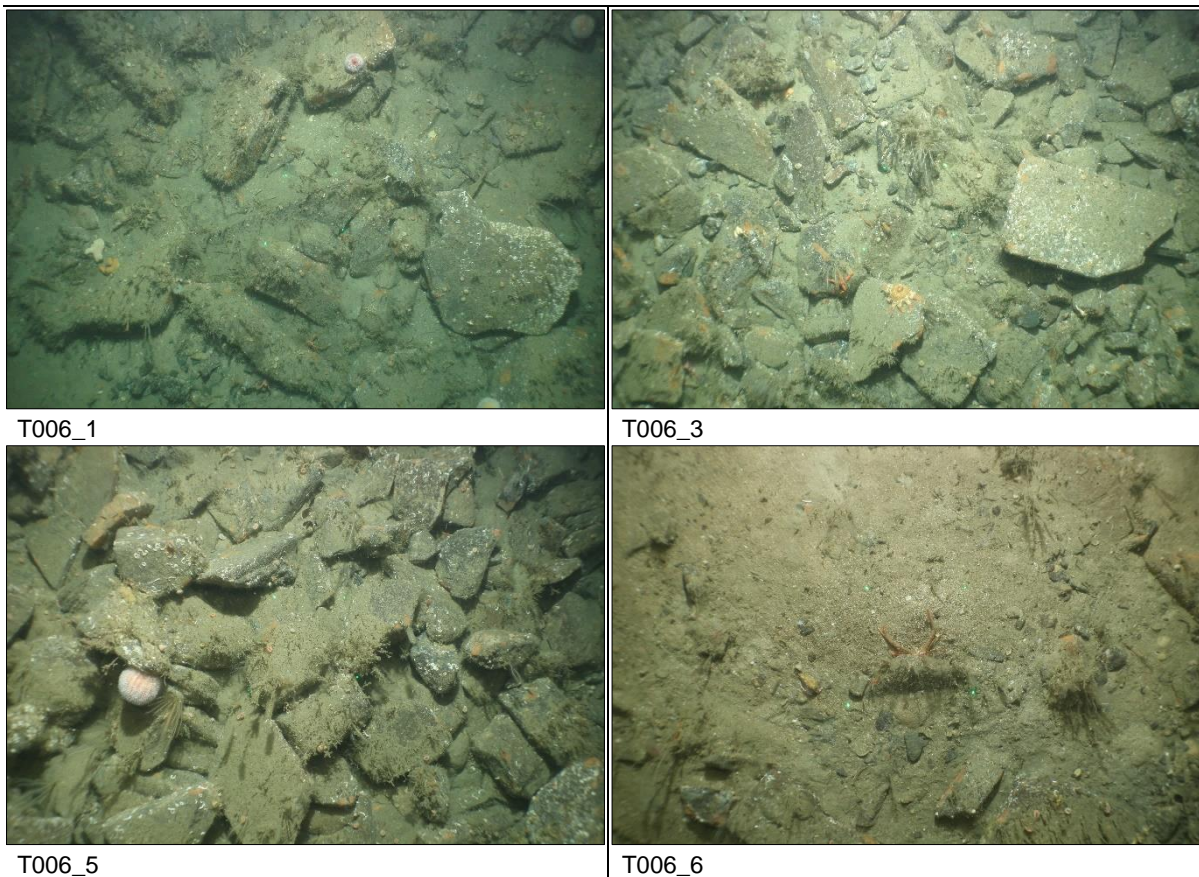
Table 42 Example stills from grab sample site S010.



Transect T006, located in the south-western parts of the OWF, is classified as a habitat complex with **A4.13** - Mixed faunal turf communities on circalittoral rock overlaying the **J** - Constructed, industrial and other artificial habitats. The seabed comprised rock dumps and boulders with intrusions of silty sediment and is assessed to meet the criteria for **Annex I (1170)** - Stony Reefs, High Grade (Table 43, Figure 15).

The epifauna consisted of cup coral *C. smithii*, *A. digitatum* and hydroids, bryozoans, both branched and encrusting, and poriferans. Mobile fauna such as *Cancer pagurus*, Galatheoidea and hermit crabs, as well as Ophiuroidea, *Echinus/Gracilechinus* sp. and different species of sea stars were also observed.

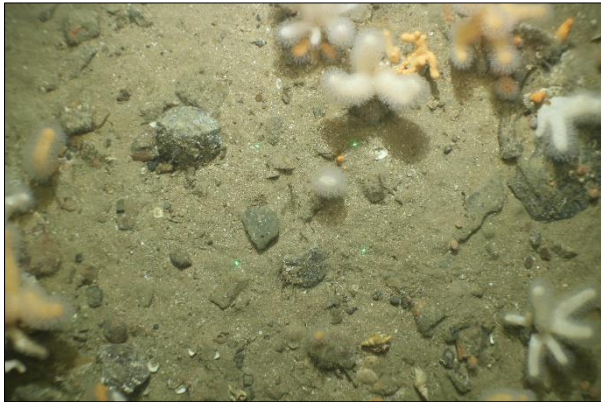
Table 43 Example stills from transect T006.



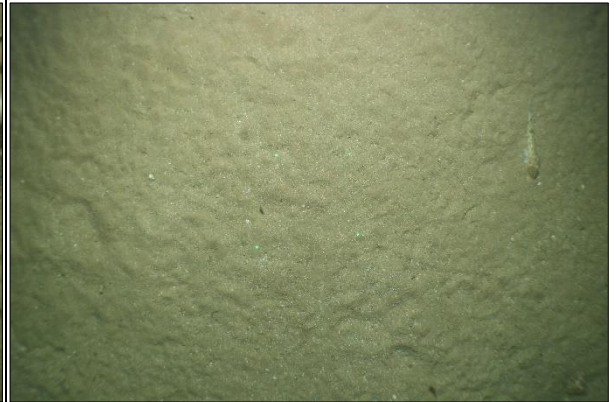
Transect T005, located in the south-western parts of the OWF, is classified as the habitat complex **A4.13** – Mixed faunal turf communities on the circalittoral rock with intermixed **A5.45** - Deep circalittoral mixed sediments. The seabed comprised patches of areas with boulders and cobbles and sand (Table 44, Figure 15) and is assessed to meet the criteria for **Annex I (1170)** - Stony Reefs, Medium Grade in the areas comprising cobbles and boulders.

The epifauna consisted of different species of cnidarians such as *C. smithii*, *A. digitatum*, hydroids and *Urticina* sp., bryozoan *A. diaphanum*, *Flustra foliacea* and *Securiflustra securifrons*. Molluscs presented included *Gibbula* sp., *P. maximus* and top shells snails from the family Trochidae. Mobile fauna such as squat lobsters, shrimps and hermit crabs as well as sea urchin *Echinus/Gracilechinus* sp. were also noted.

Table 44 Example stills from transect T005.



T005_1



T005_3



T005_5



T005_7

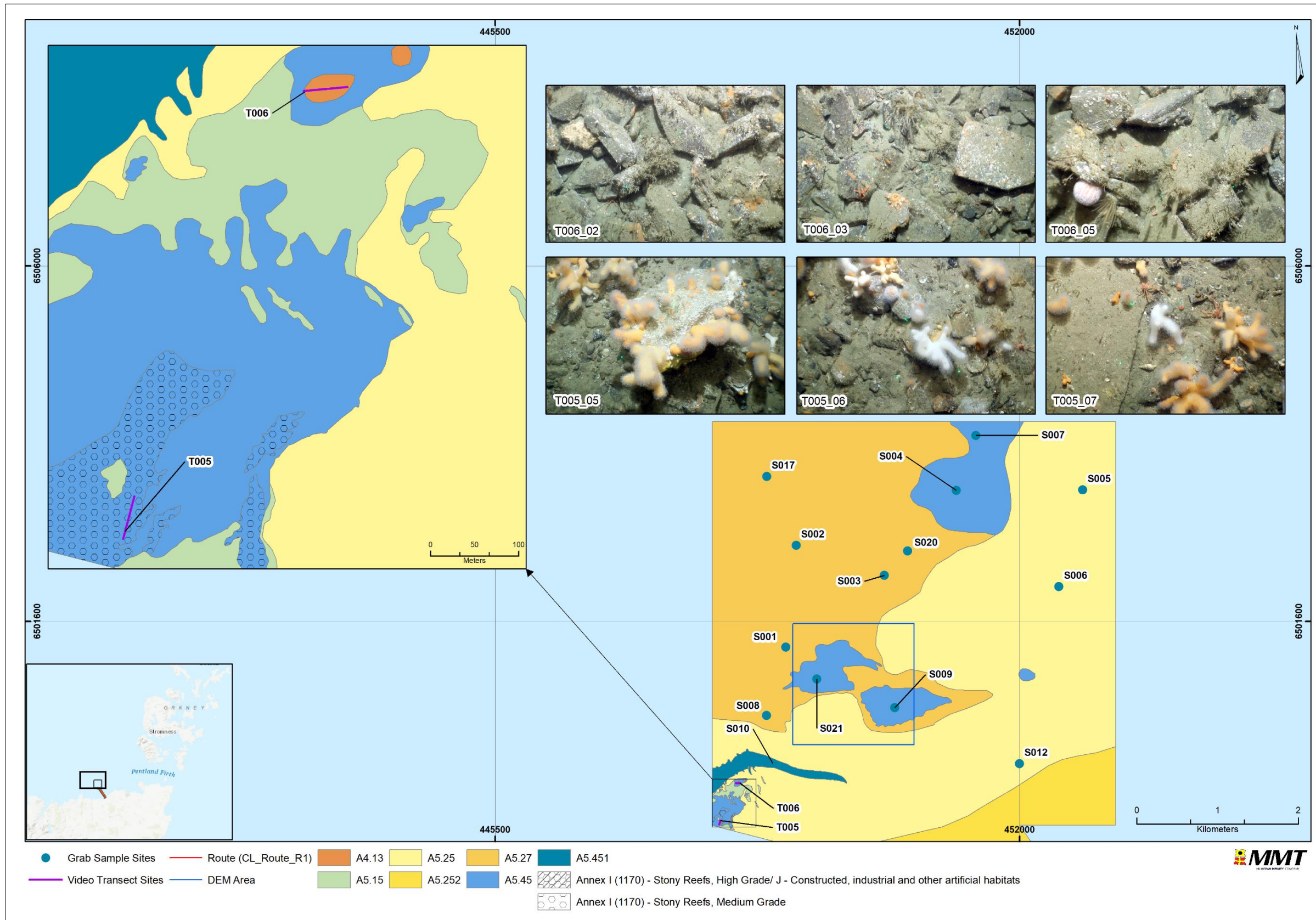

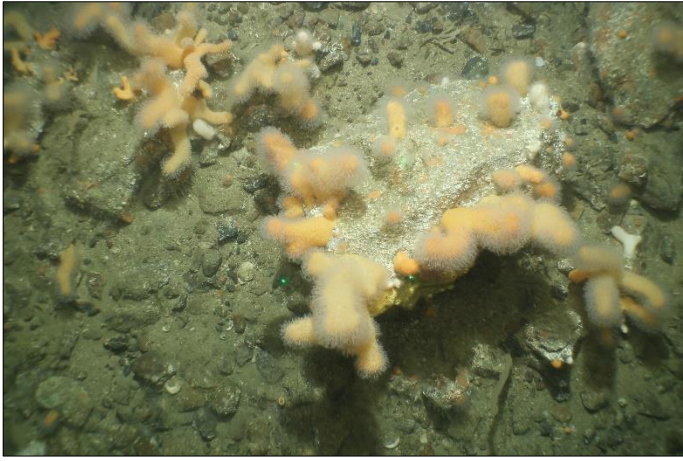





Figure 15 Overview of classified habitats within the OWF.



5.3 | POTENTIAL AREAS AND SPECIES OF CONSERVATION



The habitats and species corresponding to those defined in the EC’s Habitats Directive (EUR 28, 2013), Scottish Priority Marine Features (PMF) (Tyler-Walters, 2016), the OSPAR List of Threatened and/or Declining Species and Habitats (OSPAR, 2008), and Scottish biodiversity List (SBL) (Scottish Biodiversity Forum, 2012) are listed in Table 45.

Table 45 Species and habitats of conservation value.

HABITAT/ TAXA IMAGE	ANNEX I	PMF/OSPAR/SBL	SITE ID
	Annex I (1170) Stony Reefs High Grade	-	T006
	Annex I (1170) Stony Reefs Medium Grade	-	S013, T005 & T007

HABITAT/ TAXA IMAGE	ANNEX I	PMF/OSPAR/SBL	SITE ID
	<p>Annex I (1170) Bedrock Reefs</p>	<p>PMF - Kelp beds</p>	<p>T001A, T002A, T003A & T004B</p>
	<p>-</p>	<p>SBL Subtidal sands and gravels</p>	<p>S001, S002, S003, S005, S006, S007, S008, S010, S011, S012, S014, S015, S016, S017, S018, S019 & S020</p>
	<p>-</p>	<p>PMF & OSPAR <i>Arctica islandica</i></p>	<p>S001, S002, S005, S006, S010, S011, S012, S017, S018 & S19</p>

HABITAT/ TAXA IMAGE	ANNEX I	PMF/OSPAR/SBL	SITE ID
	-	PMF & SBL <i>Ammodytes sp.</i>	S016
	-	PMF & SBL <i>Molva molva</i>	T007
	-	PMF & SBL <i>Dipturus sp.</i>	S007

HABITAT/ TAXA IMAGE	ANNEX I	PMF/OSPAR/SBL	SITE ID
	-	SBL <i>Pleuronectes platessa</i>	T001A & T006
	-	SBL Octocorallia	S001, S002, S003, S004, S005, S006, S007, S008, S009, S016, S017, S020, S021, T001A, T002A, T004B, T005 & T006

5.3.1 | STONY REEFS

The stony areas within the survey corridor were assessed in accordance with the criteria outlined in JNCC Report No.432 (Irving, 2009).

A large area of boulders and cobbles, encompassing transect T007, was identified crossing the RPL between KP 1.50 and KP 2.00. The Imagery from transect T007 details an epifaunal dominated community on densely aggregated cobbles and boulders (Figure 16).

The habitat is classified as habitat complex **A4.13** – Mixed faunal turf communities on circalittoral rock and **A5.141** – *Pomatoceros triqueter* with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles. The feature is further assessed to meet the criteria of **Annex I (1170)** – Stony Reef, Medium Grade (Table 46).

The imagery from grab sample site S013, located west of the RPL at approximately KP 1.90, details an epifaunal dominated community and densely aggregated cobbles and boulders. The habitat is classified as **A4.13** – Mixed faunal turf communities on circalittoral rock. The site is further assessed to meet the criteria of **Annex I (1170)** – Stony Reef, Medium Grade (Table 47).

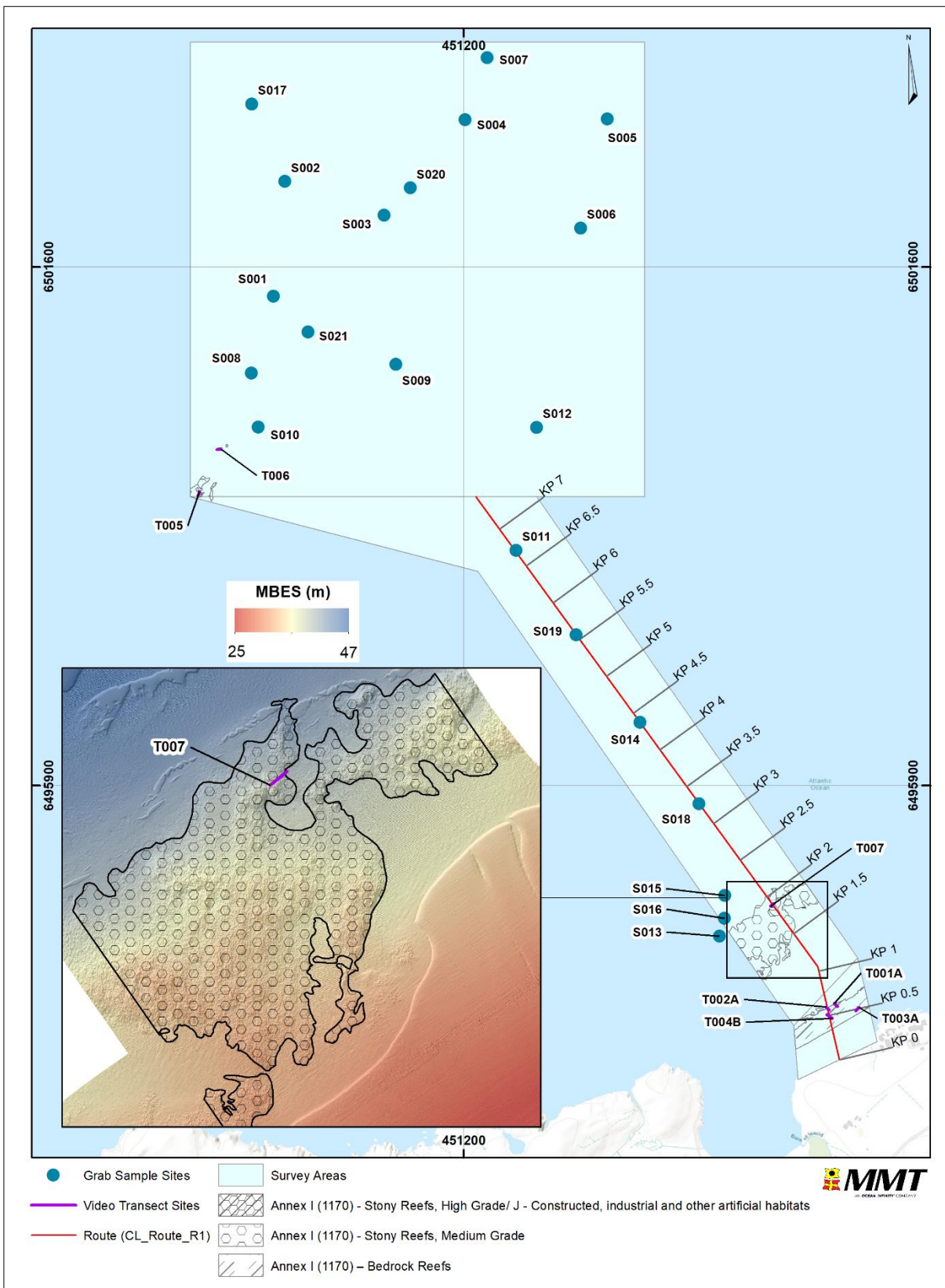


Figure 16 Geophysical data of Stony Reef at video transect T007, KP 1.50 to 2.00.

Table 46 Stony reef assessment at Transect T007.

CHARACTERISTIC	NOT A STONY REEF	'RESEMBLANCE' TO BEING A 'STONY REEF'		
		LOW	MEDIUM	HIGH
Composition			40-95 %	
Elevation			64 mm – 5 m	
Extent		>25 m ²		
Biota				>80 % of species present composed of epifaunal species
Final "Reefiness" Assessment	Annex I (1170) – Stony Reef Medium Grade			

Table 47 Stony reef assessment at grab sample site S013.

CHARACTERISTIC	NOT A STONY REEF	'RESEMBLANCE' TO BEING A 'STONY REEF'		
		LOW	MEDIUM	HIGH
Composition			40-95 %	
Elevation			64 mm – 5 m	
Extent		>25 m ²		
Biota				>80 % of species present composed of epifaunal species
Final "Reefiness" Assessment	Annex I (1170) – Stony Reef Medium Grade			

The imagery from transect T005, located in an area of mixed sediments in the south-western corner of the OWF details a mostly epifaunal dominated community and variable density of cobbles and boulders (Figure 17). The habitat is classified as **A5.45** - Deep circalittoral mixed sediments. The transect and parts of the habitat are further assessed to meet the criteria of **Annex I (1170) – Stony Reef, Medium Grade** (Table 48).

Table 48 Stony reef assessment of Transect T005.

CHARACTERISTIC	NOT A STONY REEF	'RESEMBLANCE' TO BEING A 'STONY REEF'		
		LOW	MEDIUM	HIGH
Composition			40-95 %	
Elevation			64 mm – 5 m	
Extent		>25 m ²		
Biota*		N/A	N/A	
Final "Reefiness" Assessment	Annex I (1170) – Stony Reef Medium Grade			

* Due to not fulfilling the criteria's, Biota was not applicable in the assessment of this reef.

Two manmade rock dumps are located in the southwestern corner of the OWF (Figure 17). Imagery from these features acquired along transect T006 detailed an epifaunal dominated community and densely stacked boulders. The habitat is classified as **A4.13** - Mixed faunal turf communities on circalittoral rock and **J** - Constructed, industrial and other artificial habitats. These two rock dumps are further assessed to meet the criteria of **Annex I (1170)** – Stony Reef, High Grade (Table 49).

Table 49 Stony reef assessment of Transect T006.

CHARACTERISTIC	NOT A STONY REEF	'RESEMBLANCE' TO BEING A 'STONY REEF'		
		LOW	MEDIUM	HIGH
Composition				>95 % Clast supported
Elevation			64 mm – 5 m	
Extent		>25 m ²		
Biota				>80 % of species present composed of epifaunal species
Final "Reefiness" Assessment	Annex I (1170) – Stony Reef High Grade			

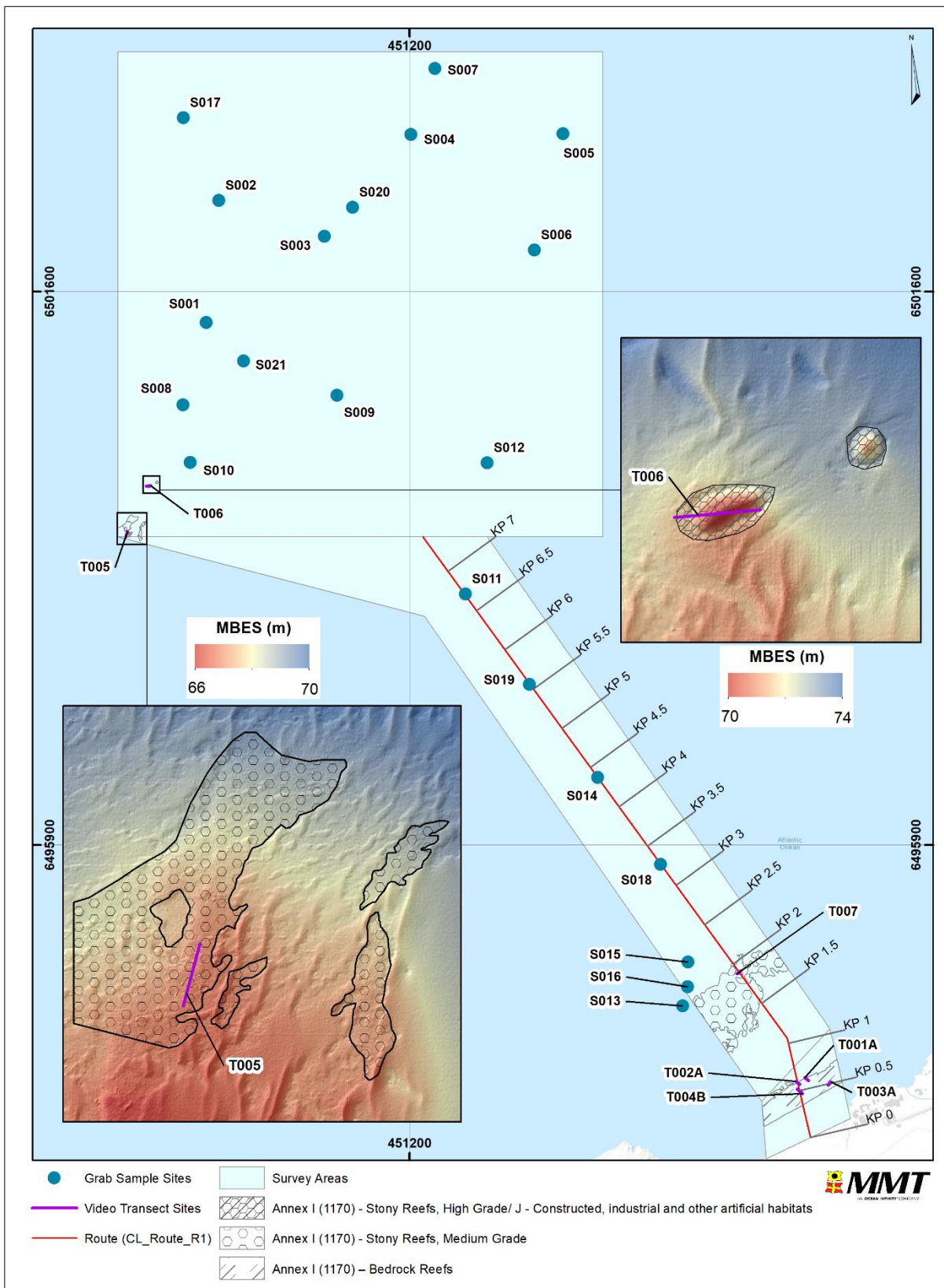


Figure 17 Geophysical data of Stony Reef at video transects T005 & T006, SW part of the OWF.

5.3.2 | PRIORITY MARINE FEATURES (PMFS) & SCOTTISH BIODIVERSITY LIST (SBL)

The PMF habitat Kelp beds, classified as **A3.115** - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock was identified on the exposed bedrock located in the nearshore area of the ECC.

The SBL habitat Subtidal sands and gravels, classified as **A5.14** - Circalittoral coarse sediment, **A5.15** - Deep circalittoral coarse sediment, **A5.23** - Infralittoral fine sand, **A5.25** - Circalittoral fine sand and **A5.27** - Deep circalittoral sand, was identified throughout the majority of the survey areas.

The ocean quahog *A. islandica* was identified in grab samples collected at sites S001, S002, S005, S006, S010, S011, S012, S017, S018 and S19. *A. islandica* is listed as a PMF and is also detailed in the OSPAR List of Threatened and/or Declining Species and Habitats (OSPAR, 2008).

A juvenile ling *Molva molva* was identified along transect T007. *M. molva* is listed as a PMF as well as in the SBL. The survey area is located within a previously known nursing area for *M. molva* (Ellis, Milligan, Readdy, & Brown, 2012).

Skate *Dipturus* sp., most likely common skate *D. batis* complex, was identified at grab sample site S007. *Dipturus batis* is listed as a PMF as well as in the SBL. Further, *D. batis* is also listed as CR (Critically Endangered) by the IUCN Red List of Threatened Species (IUCN, 2021). The survey area is located within a previously known nursing area for *D. batis* (Ellis, Milligan, Readdy, & Brown, 2012).

The European plaice *Pleuronectes platessa* was identified along transects T001A and T006. *Pleuronectes platessa* and is listed in the SBL.

Octocorallia were identified at grab sample sites S001 to S009, S016, S017, S020 and S021, as well as along transects T001A, T002A, T004B, T005 and T006. Octocorallia is listed in the SBL.

5.3.3 | SANDEEL AND HERRING SPAWNING GROUNDS

Sand eel *Ammodytes* sp., most likely lesser sand eel *A. tobianus*, was identified in a grab sample collected at site S016. *Ammodytes* sp. is listed as a PMF as well as in the SBL. Further, the lesser sand eel *A. tobianus* is also listed as DD (Data Deficient) by the IUCN Red List of Threatened Species (IUCN, 2021).

The survey area is located within a previously known spawning and nursing area for both sand eel *Ammodytes* sp. and herring *Clupea harengus* (Ellis, Milligan, Readdy, & Brown, 2012).

5.4 | NON-NATIVE MARINE SPECIES

The non-native polychaete *Goniadella gracilis* was recorded in the grab samples collected at sample sites S010 and S016. The species was described from eastern N. America, and the first British records are from 1970 in Liverpool Bay (Eno, Clark, & Sanderson, 1997).

5.5 | PARTICLE SIZE DISTRIBUTION

No sample for PSA analysis was retrieved at sample site S001 and no sampling was performed at site S013 due to the presence of a rocky reef.

The results of the PSA showed that the sediment across the survey area was mainly composed of sand and gravel (Table 50, Figure 18 - Figure 19). The mean sand content was 85 % (SD=18), followed by gravel with a mean content of 12% (SD=18).

Out of the 19 grab sample sites where PSA was analysed, 13 were classified as SAND according to the Folk classification, three as gravelly SAND and the remaining three as sandy GRAVEL.

Table 50 Summary of PSA results for grab sample sites.

GRAB SAMPLE ID	DEPTH (M)	SEDIMENT FRACTION (%)				MUD (%) (SILT + CLAY)	FOLK CLASSIFICATION
		GRAVEL	SAND	SILT	CLAY		
S002	95	2	96	1	1	2	SAND
S003	83	1	96	2	1	3	SAND
S004	78	26	70	3	1	4	gravelly SAND
S005	86	1	97	2	0	2	SAND
S006	82	2	95	2	1	3	SAND
S007	86	8	89	2	1	3	SAND
S008	75	2	95	3	0	3	SAND
S009	75	7	90	3	0	3	SAND
S010	75	20	78	2	0	2	gravelly SAND
S011	68	1	96	2	1	3	SAND
S012	81	0	98	1	1	2	SAND
S014	47	2	95	3	0	3	SAND
S015	46	64	33	2	1	3	sandy GRAVEL
S016	43	42	55	3	0	3	sandy GRAVEL
S017	98	0	97	2	1	3	SAND
S018	43	0	96	4	0	4	SAND
S019	55	0	97	2	1	3	SAND
S020	85	11	86	2	1	3	gravelly SAND
S021	75	38	57	4	1	5	sandy GRAVEL
Mean		12	85	2	1	3	-
SD		18	18	1	0	1	-
Min		0	33	1	0	2	-
Max		64	98	4	1	5	-
Median		2	95	2	1	3	-

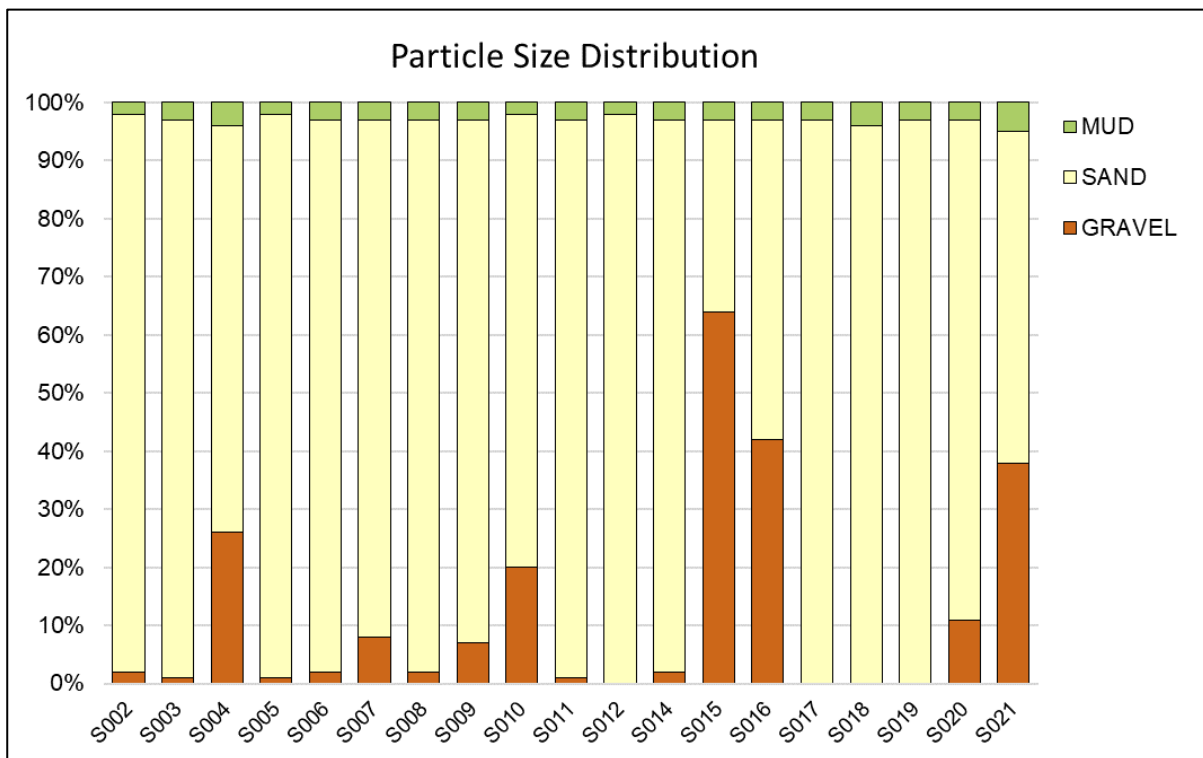


Figure 18 Particle size distribution across grab sample sites.

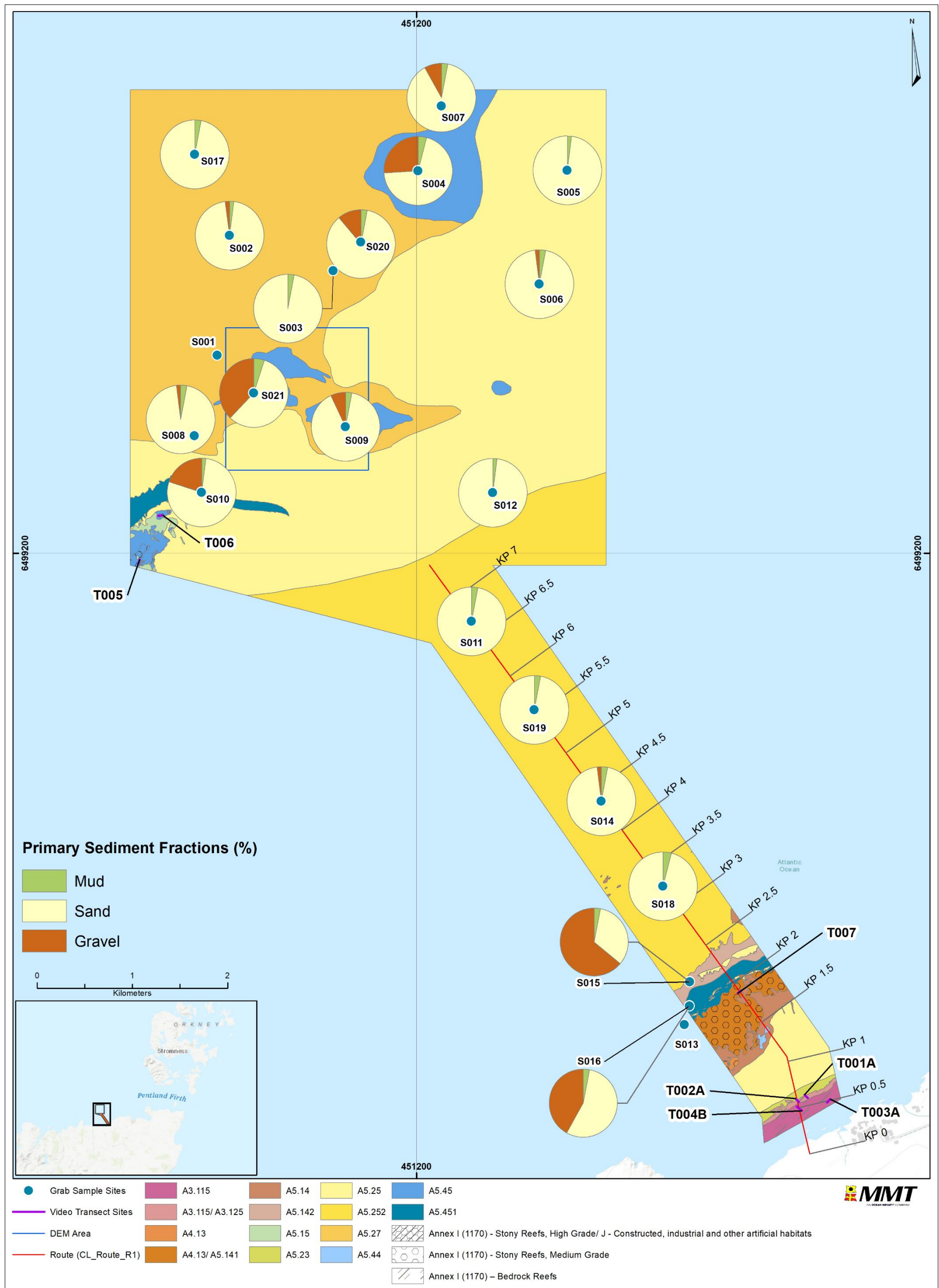


Figure 19 Overview of survey areas displaying sediment fractions from each grab sample site.

5.5.1 | PRINCIPAL COMPONENT ANALYSIS

Multivariate analyses were undertaken on the PSA data set, to identify spatial patterns in the sediment distribution. Analyses included hierarchical clustering employing the Euclidean distance resemblance matrix and the principal component analysis (PCA). The dataset was normalised prior to the analysis being undertaken.

The SIMPROF analysis on the sediment composition produced six distinct groups separating the 19 grab sample sites.

Principal component 1 (PC1), explaining 73.2 % of the variation, mainly separates sites based on the sand to gravel ratio and principal component 2 (PC2), explaining 26.8 % of the variation, mainly separates sites based on mud content.

Group A, only including site S018, is characterised by having no gravel and relatively high mud content while Group B, is characterised by having no gravel and relatively low mud content.

Group C is characterised by a very high sand to gravel ratio and moderate mud content and Group D is characterised by high sand to gravel ratio and moderate mud content.

Group E is characterised by a very high to high sand to gravel ratio and low mud content while Group F is characterised by having the lowest sand to gravel ratio (Figure 20).

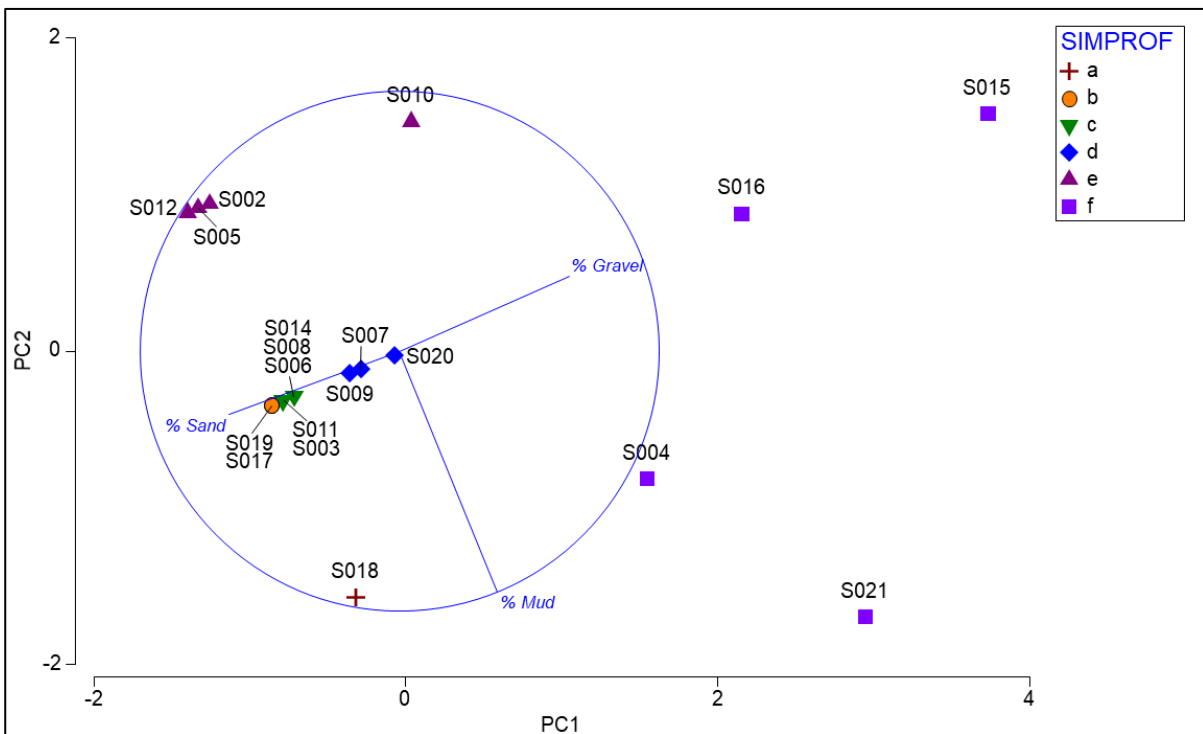


Figure 20 PCA plot of sediment data for each grab sample site with groups based on SIMPROF analysis.

5.6 | CHEMICAL ANALYSES

No samples for chemical analyses were retrieved at grab sample sites S001 and S003, and no sampling was performed at site S013 due to the presence of a rocky reef.

Two separate methodologies were used to analyse metals, to achieve required detection limits. These two metal analyses had some overlap, therefore the following metals have two values; chromium, copper, nickel and zinc.

5.6.1 | METALS

Metal concentrations were generally below threshold values throughout the survey area (Table 51). However, threshold values were exceeded at three sites for arsenic (As), one site for cadmium (Cd), two sites for copper (Cu), one site for mercury (Hg) and three sites for nickel (Ni).

The threshold value for arsenic is according to CEFAS' AL1 20 mg/Kg, which was exceeded at S010 measuring at 23.5 mg/Kg. Further, the threshold value for arsenic is according to CCME's ISQG 7.24 mg/Kg, which was exceeded at S005 and S015 measuring at 7.5 mg/Kg and 13.4 mg/Kg.

The threshold value for cadmium is according to OSPAR's ERL 1.2 mg/Kg, which was exceeded at site S002 which measured 1.39 mg/Kg.

The threshold value for copper is according to the NEA class 4 - Poor, 48 mg/Kg, which was exceeded at S002 which measured 51.9/ 50.5 mg/Kg. Further, the NEA's class 2 - Good, with a threshold value of 20 mg/Kg, was exceeded at S021, which measured 30.1/ 22.0 mg/Kg.

The threshold value for mercury is according to the NEA's class 2 - Good, 0.05 mg/Kg, which was exceeded at site S009, which measured 0.05 mg/Kg.

The threshold value for nickel is according to NEA's class 5 - Very Poor, 533 mg/Kg, which was exceeded at site S002, which measured 1284/ 1320 mg/Kg. Further, the NEA's class 3 - Moderate, with a threshold value of 42 mg/Kg, was exceeded at site S004, which measured 63.6/ 55.6 mg/Kg, and CEFAS' AL1, with a threshold value of 20 mg/Kg, was exceeded at site S010, which measured 23.2/ 20.6 mg/Kg.

Table 51 Summary of metal concentrations (mg/Kg dry weight) in sediment across grab sample sites, together with threshold values, concentrations exceeding thresholds are highlighted.

ANALYTE	ARSENIC	CADMIUM	CHROMIUM	CHROMIUM	COPPER	COPPER	LEAD	MERCURY	NICKEL	NICKEL	ZINC	ZINC	ALUMINIUM	BARIUM	BERYLLIUM	IRON	MANGANESE	STRONTIUM	VANADIUM
Method	ICPMSS	ICPMSS	ICPMSS	SEDOES	ICPMSS	SEDOES	ICPMSS	ICPMSS	ICPMSS	SEDOES	ICPMSS	SEDOES	SEDOES	SEDOES	SEDOES	SEDOES	SEDOES	SEDOES	SEDOES
Limit of Detection	0.5	0.04	0.5	2	0.5	2	0.5	0.01	0.5	2	2	2	10	1	0.1	45	5	5	1
NEA 1 Background	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
NEA 2 Good	15	0.2	60	60	20	20	25	0.05	30	30	90	90	-	-	-	-	-	-	-
NEA 3 Moderate	18	2.5	620	620	-	-	150	0.52	42	42	139	139	-	-	-	-	-	-	-
NEA 4 Poor	71	16	6000	6000	48	48	1480	0.75	271	271	750	750	-	-	-	-	-	-	-
NEA 5 Very Poor	580	147	15500	15500	147	147	2000	1.45	533	533	6690	6690	-	-	-	-	-	-	-
OSPAR, ERL	-	1.2	81	81	34	34	47	0.15	-	-	150	150	-	-	-	-	-	-	-
CEFAS AL1	20	0.4	40	40	40	40	50	0.3	20	20	130	130	-	-	-	-	-	-	-
CEFAS AL2	100	5	400	400	400	400	500	3	200	200	800	800	-	-	-	-	-	-	-
CCME PEL	41.6	4.2	160	160	108	108	112	0.7	-	-	271	271	-	-	-	-	-	-	-
CCME ISQG	7.24	0.7	52.3	52.3	18.7	18.7	30.2	0.13	-	-	124	124	-	-	-	-	-	-	-
Dutch RIVM	85	14	380	380	190	190	580	10	210	210	2000	2000	-	-	-	-	-	-	-
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S002	4.8	1.39	21.2	25.6	51.9	50.5	10.7	0.02	1284	1320	86.1	62.2	21000	291	0.5	8600	195	698	18.2
S004	4.5	0.11	10.4	17.5	7.9	5.0	5.3	0.02	63.6	55.6	37.5	16.8	18100	257	0.4	8770	217	621	18.5
S005	7.5	0.06	11.1	15.1	5.5	3.9	6.4	0.01	12.8	12.6	34.6	13.5	20500	282	0.4	8070	199	730	20.3
S006	4.9	0.06	9.9	13.9	4.9	2.5	5.1	0.01	9.4	8.2	51.4	10.1	20100	271	0.4	7190	194	639	16.7
S007	5.3	0.06	9.7	14.5	5.0	3.5	5.8	0.01	7.2	7.6	36.6	12.8	17400	241	0.4	7790	199	778	17.9
S008	5.7	<0.04*	11.5	19.1	5.2	2.9	5.4	0.01	6.3	8.1	33.1	11.9	24400	301	0.6	10300	221	682	23.7
S009	6.1	<0.04*	11.4	18.0	4.5	3.2	5.2	0.05	6.6	8.2	32.2	12.2	24400	321	0.6	9500	215	651	22.4
S010	23.5	0.10	8.4	9.9	5.5	2.6	13.8	0.03	23.2	20.6	40.2	14.1	8740	99.1	0.3	9580	1190	1550	36.5
S011	5	0.04	8.8	12.9	4.8	2.2	4.5	0.02	6.5	7.0	60.2	16.3	26200	323	0.6	7140	205	839	18.3
S012	5.3	0.05	10.7	15.9	5.4	2.1	5.6	0.01	6.1	5.9	44.6	12.5	23600	302	0.5	8330	189	910	21.3
S014	3.1	<0.04*	8.0	13.9	4.9	2.0	3.1	0.01	5.2	6.1	41.7	11.0	30800	356	0.8	7030	175	588	16.9
S015	13.4	0.08	18.3	30.7	9.4	5.8	6.3	0.01	15.3	14.4	45.5	20.6	45100	656	1.1	13800	790	418	34.3
S016	6.3	0.07	3.8	5.3	4.1	<2.0*	4.5	0.01	9.1	6.3	36.1	6.20	11800	151	0.3	3740	432	1750	12.2
S017	4.6	0.04	11.4	14.1	5.0	3.4	5.4	0.04	6.3	6.8	115	11.3	17900	270	0.4	7210	189	564	16.1
S018	3.4	<0.04*	9.9	17.0	5.6	3.0	3.5	0.02	5.8	7.0	47.5	12.4	29200	357	0.7	8500	210	590	20.0
S019	3.7	<0.04*	7.8	11.8	5.1	2.5	3.2	0.01	5.0	6.1	27.7	10.7	2950	363	0.7	6680	159	636	16.0
S020	5.1	0.07	11.1	17.0	6.9	5.2	7.2	0.02	6.0	7.5	50.0	15.2	19400	293	0.4	8460	240	713	19.1
S021	7.2	0.08	16.8	31.1	30.1	22.0	6.1	0.02	14.9	14.4	43.6	24.5	37600	354	0.7	14400	365	575	29.9
Mean	6.6	0.17	11.1	16.9	9.5	7.2	6.0	0.02	83.0	84.6	48.0	16.4	22177	305	0.5	8616	310	774	21.0
SD	4.8	0.37	4.0	6.6	12.1	12.1	2.6	0.01	300.1	308.5	21.3	12.2	9843	111	0.2	2452	265	338	6.4
Min	3.1	<0.04	3.8	5.3	4.1	<2.0	3.1	0.01	5.0	5.9	27.7	6.2	2950	99	0.3	3740	159	418	12.2
Max	23.5	1.39	21.2	31.1	51.9	50.5	13.8	0.05	1284.0	1320.0	115.0	62.2	45100	656	1.1	14400	1190	1750	36.5
Median	5.2	0.07	10.6	15.5	5.3	3.2	5.4	0.02	6.9	7.9	42.7	12.7	20750	297	0.5	8395	207	666	18.8

* Not included in statistical analysis of Mean, SD, Min, Max and Median.

5.6.2 | ORGANICS, NUTRIENTS AND MOISTURE

Organic and moisture content showed minor variation across the survey area, whereas phosphorus concentrations varied greatly.

Loss on ignition (LOI) was noticeably higher at grab sample site S010 compared to the other sites. At grab sample site S005 phosphorus concentration was 1630 mg/kg which is more than three times the concentration at any other site (Table 52).

Table 52 Summary of organics and moisture content as well as phosphorus concentrations in sediment across grab sample sites.

ANALYTE	TOC	FOC	LOI	MOISTURE	PHOSPHORUS
Limit of detection	0.02	0.0002	0.2	0.2	45
Units	%M/M	-	%	%	mg/Kg (Dry Weight)
S002	0.28	0.0028	2.0	33.7	81
S004	0.21	0.0021	1.4	30.0	<45.0*
S005	0.22	0.0022	1.6	33.0	1630
S006	0.28	0.0028	1.5	29.9	<45.0*
S007	0.21	0.0021	1.5	31.9	<45.0*
S008	0.17	0.0017	1.4	33.4	<45.0*
S009	0.17	0.0017	1.4	31.8	<45.0*
S010	0.35	0.0035	3.0	22.9	<45.0*
S011	0.23	0.0023	1.6	31.9	389
S012	0.23	0.0023	1.9	33.8	456
S014	0.14	0.0014	1.1	31.5	366
S015	0.13	0.0013	1.0	18.7	519
S016	0.19	0.0019	2.2	31.5	368
S017	0.23	0.0023	1.8	34.8	359
S018	0.16	0.0016	1.2	29.4	466
S019	0.15	0.0015	1.1	28.3	344
S020	0.24	0.0024	1.7	30.1	419
S021	0.24	0.0024	1.7	29.1	523
Mean	0.21	0.0021	1.6	30.3	493
SD	0.06	0.0006	0.5	4.0	376
Min	0.13	0.0013	1.0	18.7	<45.0
Max	0.35	0.0035	3.0	34.8	1630
Median	0.22	0.0022	1.6	31.5	404

* Not included in statistical analysis of Mean, SD, Min, Max and Median.

5.6.3 | THC AND PAH

Concentrations of THC varied across the survey area and did not exceed the Dutch RIVM intervention values at any of the grab sample sites (Table 53).

Table 53 Summary of THC concentrations ($\mu\text{g}/\text{Kg}$ dry weight) across grab sample sites together with threshold values for THC.

ANALYTE	THC	TOTAL N ALKANES	CARBON PREFERENC E INDEX	PRISTANE	PHYTANE	PRISTANE / PHYTANE RATIO
Limit of Detection	100	28	1	1	1	1
Dutch RIVM	5 000 000	-	-	-	-	-
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
S002	4 640	119	1.77	15.80	<1*	-*
S004	5 330	210	1.06	32.90	1.50	21.90
S005	5 210	136	1.34	12.40	<1*	-*
S006	3 850	90	1.13	6.70	6.42	1.04
S007	5 020	152	1.15	20.50	1.46	14.00
S008	4 340	111	1.35	10.20	<1*	-*
S009	4 660	121	1.20	13.60	<1*	-*
S010	3 540	101	1.15	4.64	1.54	3.01
S011	8 350	116	1.02	11.80	<1*	-*
S012	7 460	229	1.25	19.70	1.65	12.00
S014	6 640	216	1.00	16.10	<1*	-*
S015	4 810	411	1.04	31.70	24.80	1.28
S016	2 820	101	0.93	3.93	2.07	1.90
S017	3 980	87	0.97	6.24	1.00	6.23
S018	5 470	174	1.14	22.10	<1*	-*
S019	4 050	126	1.04	6.38	<1*	-*
S020	4 820	113	1.14	13.20	1.06	12.40
S021	7 230	250	1.27	21.20	1.81	11.70
Mean	5123	159	1.16	14.9	4.33	8.55
SD	1454	81	0.19	8.5	7.36	6.95
Min	2820	87	0.93	3.9	0.00	0.00
Max	8350	411	1.77	32.9	24.80	21.90
Median	4815	124	1.14	13.4	1.60	8.97

*Not included in statistical analysis of Mean, SD, Min, Max and Median.

The majority of PAHs were in line with background levels according to NEA. Several were under the limit of detection ($1 \mu\text{g}/\text{Kg}$ dry weight). At grab sample site S006, several PAHs exceeded NEA's class 2, Good (Table 54).

Table 54 Summary of PAH concentrations (µg/Kg dry weight) across grab sample sites together with threshold values.

ANALYTE	NAPHTHALENE	ACENAPHTHYLENE	ACENAPHTHENE	FLUORENE	PHENANTHRENE	DIBENZO-THIOPHENE	ANTHRACENE	FLUORANTHENE	PYRENE	BENZO-[A]ANTHRACENE	CHRYSENE	BENZO[B]-FLUORANTHENE	BENZO[K]-FLUORANTHENE	BENZO[E]---PYRENE	BENZO[A]PYRENE	PERYLENE	INDENO[1,23,CD]-PYRENE	DIBENZO[A,H]-ANTHRACENE	BENZO[GHI]-PERYLENE	SUM OF ALL	
Limit of Detection	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	
Norwegian 1 Background	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	-	-	0	0	-	
Norwegian 2 Good	2	1.6	2.4	6.8	6.8	-	1.2	8	5.2	3.6	4.4	90	90	-	6	-	-	12	18	-	
Norwegian 3 Moderate	27	33	96	150	780	-	4.8	-	84	60	-	-	-	-	183	-	-	27	-	-	
Norwegian 4 Poor	1754	85	195	694	2500	-	30	400	840	501	280	140	135	-	230	-	-	273	84	-	
Norwegian 5 Very Poor	8769	8500	19500	34700	25000	-	295	2000	8400	50100	2800	10600	7400	-	13100	-	-	2730	1400	-	
OSPAR, ERL	160	-	-	-	240	190	85	600	665	-	384	-	-	-	430	-	240	-	85	-	
CEFAS AL1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-
CCME PEL	391	128	88.9	144	544	-	245	1494	1398	693	846	-	-	-	763	-	-	135	-	-	
CCME ISQG	34.6	5.87	6.71	21.2	86.7	-	46.9	113	153	74.8	108	-	-	-	88.8	-	-	6.22	-	-	
Units	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	
S002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.58	<1	1.38	<1	<1	2.17	<1	1.92	7.05	
S004	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.56	<1	1.16	<1	<1	1.54	<1	1.39	5.65	
S005	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.58	<1	1.47	<1	<1	1.98	<1	1.74	6.77	
S006	<1	1.08	<1	1.05	10.10	<1	2.91	13.20	12.80	6.02	6.11	4.93	2.94	4.59	5.70	1.47	4.28	<1	4.03	81.21	
S007	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.63	<1	1.17	<1	<1	1.67	<1	1.34	5.81	
S008	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.19	<1	1.01	2.20	
S009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.20	<1	1.08	2.28	
S010	<1	<1	<1	<1	1.96	<1	<1	<1	<1	<1	1.10	1.53	<1	1.27	<1	<1	1.40	<1	1.26	8.52	
S011	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.04	<1	<1	1.04	
S012	<1	<1	<1	<1	1.71	<1	<1	<1	<1	<1	1.00	2.05	1.03	1.64	<1	<1	2.11	<1	1.83	11.37	
S014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.50	<1	<1	<1	<1	1.06	<1	<1	2.56	
S015	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.00	
S016	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.00	
S017	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.19	<1	1.02	2.21	
S018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.17	<1	<1	<1	<1	<1	<1	<1	1.17	
S019	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.00	
S020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.31	<1	<1	<1	<1	1.43	<1	1.31	4.05	
S021	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.72	<1	1.40	<1	<1	2.01	<1	1.70	6.83	

5.6.4 | PCB

The majority of the PCBs were below the detection limit at the majority of the grab sampling sites (Table 55).

Table 55 Summary of PCB concentrations ($\mu\text{g/Kg}$ dry weight) across grab sample sites.

ANALYTE	PCB28	PCB52	PCB101	PCB118	PCB138	PCB153	PCB180
Limit of Detection	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Units	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$	$\mu\text{g/Kg}$
S002	0.23	0.23	<0.08	<0.08	<0.08	<0.08	<0.08
S004	0.09	0.11	<0.08	<0.08	<0.08	<0.08	<0.08
S005	0.10	0.11	<0.08	<0.08	<0.08	<0.08	<0.08
S006	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S007	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S008	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S009	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S010	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S011	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S012	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S014	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S015	0.10	0.10	<0.08	<0.08	<0.08	<0.08	<0.08
S016	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S017	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S018	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S019	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S020	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S021	0.15	0.16	<0.08	<0.08	<0.08	<0.08	<0.08

5.6.5 | GAMMA SPECTROMETRY

The radioactivity of the sediment varied across the survey area (Table 56). Both gross Alpha (as Pu-242) and gross Beta (as Cs-137/ K-40) were highest at S015, with 186 ± 76 Bq/Kg and $1300 \pm 280/ 1240 \pm 260$ Bq/Kg respectively. The R_{seq} varied between 50.5 and 88.6 Bq/Kg well below the maximum recommended value of 370 Bq/Kg (Beretka & Mathew, 1985). No sample exceeded the FAO/WHO Guideline levels, nor the IAEA Clearance levels.

Table 56 Summary of radioactive particles (Bq/Kg) across grab sample sites. Limit of detection is sample specific and therefore not stated in the table.

ANALYTE	BE-7	K-40	TL-208	PB-210	BI-212	PB-212	BI-214	PB-214	RA-223	RA-224	RA-226*	AC-228	TH-234	U-235	GROSS ALPHA AS PU-242	GROSS BETA AS CS-137	GROSS BETA AS K-40	RAEQ
FAO/WHO Guideline levels	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	
IAEA Clearance levels	-	-	-	300	-	-	-	-	-	-	300	-	-	300	-	-	-	
Units	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
S002	<12	356 ± 49	3.6 ± 1.3	<38	<21	5.1 ± 1.9	6.4 ± 2.5	8.1 ± 2.4	<12	<33	<30	<5.9	<30	<1.9	<79	570 ± 140	450 ± 110	88.6
S004	<7.1	291 ± 35	2.73 ± 0.78	58 ± 11	<13	6.8 ± 1.6	7.3 ± 1.8	9.3 ± 1.5	<8.0	<22	<25	<4.2	<14	<1.1	80 ± 56	620 ± 140	590 ± 140	57.8
S005	<12	309 ± 44	<1.6	<32	<20	5.8 ± 1.8	8.0 ± 2.7	7.6 ± 2.2	<12	<29	<23	<6.7	<21	<1.4	<72	610 ± 140	740 ± 170	66.6
S006	<11	327 ± 47	<1.6	<23	<20	6.0 ± 1.6	6.3 ± 2.3	6.9 ± 1.9	<8.2	<18	<19	<6.7	<17	<1.2	126 ± 79	510 ± 130	520 ± 130	57.7
S007	<9.8	243 ± 35	2.9 ± 1.0	<39	<17	5.2 ± 1.6	<3.1	<4.5	<9.9	<30	<26	<5.3	<25	<1.6	130 ± 62	520 ± 130	400 ± 100	72.4
S008	<11	359 ± 46	4.1 ± 1.1	<38	<19	9.6 ± 2.1	6.5 ± 2.6	9.2 ± 2.0	<11	<37	<28	11.0 ± 4.3	<28	<1.8	103 ± 69	550 ± 130	440 ± 110	88.6
S009	<8.3	347 ± 41	2.23 ± 0.88	45 ± 11	<14	6.3 ± 1.5	7.9 ± 2.1	9.0 ± 1.6	<8.5	<23	<26	10.5 ± 3.4	<15	<1.2	73 ± 52	510 ± 120	530 ± 120	57.8
S010	<12	90 ± 26	3.6 ± 1.2	<37	<21	7.3 ± 2.0	8.0 ± 2.7	9.8 ± 2.4	<12	<32	<25	<7.4	<22	<1.6	139 ± 70	269 ± 85	231 ± 73	66.6
S011	<12	388 ± 54	<1.7	<23	<20	6.8 ± 1.6	<3.5	<4.6	<9.1	<25	<21	<7.6	<18	<1.3	77 ± 53	500 ± 130	394 ± 100	57.7
S012	<12	324 ± 48	<1.6	<39	<20	6.6 ± 2.0	6.8 ± 2.7	<5.2	<12	<36	<30	<6.2	<30	<1.9	<75	620 ± 150	610 ± 140	72.4
S014	<11	355 ± 50	3.7 ± 1.1	<29	<20	7.1 ± 1.8	7.5 ± 2.5	8.0 ± 2.1	<11	<30	<22	<6.6	<20	<1.4	<79	550 ± 140	430 ± 110	83.8
S015	<7.6	725 ± 76	5.6 ± 1.0	<24	<14	17.2 ± 2.0	18.8 ± 2.5	21.6 ± 2.2	<8.9	<24	<26	18.3 ± 3.0	<16	<1.2	186 ± 76	1300 ± 280	1240 ± 260	62.7
S016	<6.8	226 ± 28	2.59 ± 0.77	45.5 ± 8.7	<12	5.6 ± 1.3	5.8 ± 1.6	7.3 ± 1.3	<7.3	<19	<22	<3.9	<13	<1.0	<72	264 ± 95	320 ± 120	60.4
S017	<12	364 ± 51	<1.6	<23	<21	5.6 ± 1.6	<3.5	<4.7	<8.8	<24	<20	<7.2	<18	<1.2	<110	520 ± 130	530 ± 130	63.8
S018	<12	385 ± 50	3.2 ± 1.2	<36	<20	7.7 ± 2.1	7.6 ± 2.5	9.7 ± 2.0	<11	<35	<28	<6.1	<28	<1.8	93 ± 56	560 ± 130	580 ± 140	87.2
S019	<11	371 ± 52	<1.7	<22	<20	6.2 ± 1.6	7.0 ± 2.5	<4.5	<8.8	<24	<20	<7.2	<17	<1.3	83 ± 59	510 ± 130	440 ± 110	66.2
S020	<11	316 ± 43	3.1 ± 1.0	<32	<19	7.5 ± 1.9	8.8 ± 2.5	9.8 ± 2.0	<10	<30	<22	<6.4	<19	<1.4	<72	470 ± 120	370 ± 95	80.8
S021	<7.4	400 ± 45	3.63 ± 0.88	<22	<13	8.4 ± 1.5	10.5 ± 2.1	12.7 ± 1.6	<7.8	<23	<18	8.2 ± 3.1	<14	<1.1	91 ± 57	690 ± 160	670 ± 160	50.5

*Not covered by the laboratory's UKAS accreditation.

5.7 | NON-COLONIAL FAUNA FROM GRAB SAMPLES

Non-colonial fauna from the grab samples includes both infauna and sessile epifauna. Grab sample sites S003 and S021 comprised insufficient sample volume and were excluded from further statistical analyses. No grab samples were obtained at grab sample sites S004 and S013.

One individual of *A. islandica* was identified at grab sample site S001 during grab sampling and returned to the sea. During analyses, one individual was added to this site and the biomass was estimated by calculating the average weight of the other specimens found at the other sites.

5.7.1 | PHYLETIC COMPOSITION

The phyletic composition of non-colonial fauna identified from the grab samples is presented in Table 57. Annelida comprised both the highest number of taxa and the number of individuals.

Table 57 Phyletic composition of non-colonial fauna from grab samples. Abundance is expressed as individuals per m².

PHYLUM	NUMBER OF TAXA	ABUNDANCE
Annelida	116	1 121
Arthropoda	56	318
Cnidaria	2	41
Echinodermata	10	165
Mollusca	42	1 271
Other	13	197
TOTAL	239	3113

A list of the ten most abundant taxa across the survey area, with total and mean abundance per m², and frequency of occurrence is presented in Table 58. The most abundant species was the mollusc *Goodallia triangularis* with 2 970 individuals/ m² and occurred in 17 % of the sites.

Table 58 The ten most abundant taxa across the survey area, with total and mean abundance /m².

PHYLUM	TAXON	TOTAL ABUNDANCE	MEAN ABUNDANCE	SD	FREQUENCY OF OCCURRENCE (%)
Mollusca	<i>Goodallia triangularis</i>	2970	175	632	17%
Mollusca	<i>Abra prismatica</i>	1655	97	71	83%
Annelida	<i>Owenia</i> sp.	670	39	35	94%
Nematoda	Nematoda	575	34	94	33%
Annelida	<i>Polygordius</i> sp.	460	27	75	17%
Echinodermata	<i>Echinocyamus pusillus</i>	415	24	26	78%
Mollusca	<i>Kurtiella bidentata</i>	370	22	39	61%
Arthropoda	<i>Verruca stroemia</i>	330	19	59	78%
Annelida	<i>Scoloplos armiger</i>	325	19	23	28%
Annelida	<i>Capitella</i> sp.	300	18	62	28%

5.7.2 | BIOMASS

Biomass is expressed as blotted wet weight per square metre and is illustrated in Figure 21 and detailed in Table 59. The eight phyla Nematoda, Nemertea, Phoronida, Platyleminthes, Sipuncula, Hemichordata, Chordata and Chaetognatha were grouped as “Other”.

The biomass was dominated by molluscs with 82 % of the total biomass, followed by echinoderms with 16 %. Annelids comprised 2 % of the total biomass and arthropods, cnidarians and other combined comprised 0.11 % of the total biomass.

Total biomass per sample site varied from 8.964 g/m² to 1 171 g/m². The mean biomass across all grab sample sites was 234 g/m² (SD=293). The dominating species regarding biomass was *Arctica islandica*.

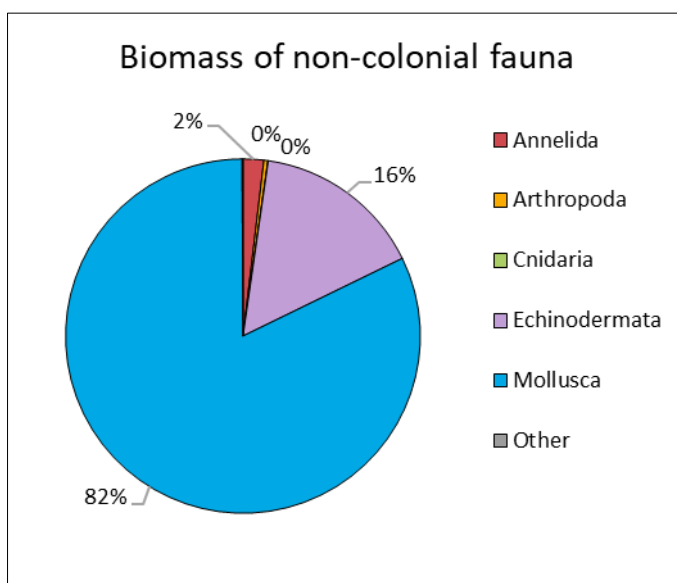


Figure 21 Total biomass (g/m² blotted wet weight) composition of major phyla

Table 59 Biomass (g/m² blotted wet weight) per site.

ID	ANNELIDA	ARTHROPODA	CNIDARIA	ECHINODERMATA	MOLLUSCA	OTHER	TOTAL
S001	2.909	0.072	0.000	5.493	408.444	0.107	417.025
S002	5.082	0.073	0.008	158.436	414.216	0.227	578.040
S005	2.319	0.143	0.000	1.169	16.711	0.001	20.343
S006	7.420	0.046	0.000	5.974	397.363	0.001	410.802
S007	16.063	0.156	0.015	3.288	0.765	0.204	20.491
S008	3.388	0.074	0.053	0.585	7.376	0.075	11.550
S009	5.597	0.033	0.041	0.198	71.881	0.007	77.755
S010	3.112	4.290	0.000	81.883	1 081.335	0.496	1 171.115
S011	3.792	0.165	0.321	80.421	9.163	0.890	94.751

ID	ANNELIDA	ARTHROPODA	CNIDARIA	ECHINODERMATA	MOLLUSCA	OTHER	TOTAL
S012	1.526	0.065	0.134	1.051	426.508	0.045	429.328
S014	3.314	0.039	0.083	79.507	13.446	0.129	96.517
S015	4.419	8.588	0.006	0.014	90.131	0.011	103.169
S016	1.034	0.118	0.000	0.597	63.789	0.162	65.698
S017	2.482	0.151	0.000	23.222	261.706	0.090	287.650
S018	6.985	0.086	0.109	2.523	0.952	0.372	11.025
S019	1.948	0.083	0.028	168.301	2.189	0.216	172.764
S020	3.672	0.208	0.256	3.646	0.895	0.289	8.964
Total	75.454	14.456	1.050	616.346	3 272.063	3.755	3 976.981
Mean	4.415	0.846	0.062	36.253	192.169	0.195	233.940
SD	3.381	2.172	0.092	54.888	277.187	0.220	292.586
Min	1.034	0.033	0.000	0.014	0.765	0.001	8.964
Max	16.063	8.588	0.321	168.301	1 081.335	0.890	1 171.115
Median	3.388	0.086	0.015	3.646	63.789	0.129	96.517

The distribution of biomass is further illustrated as per phyla and per grab sample site as well as total biomass per grab sample site, across the survey areas, in Figure 22 and Figure 23.

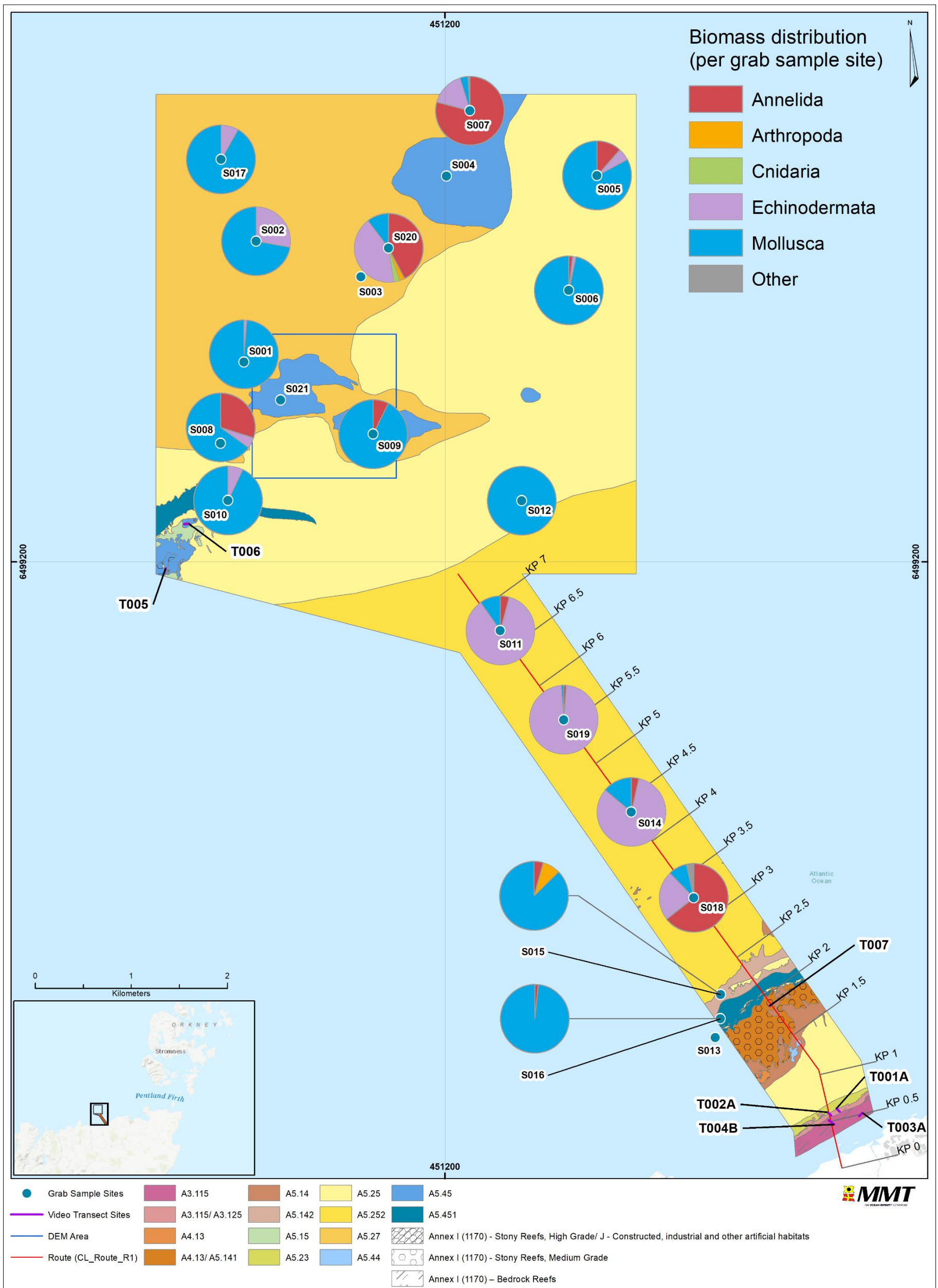


Figure 22 Composition of biomass for each phylum and per site across the survey area.

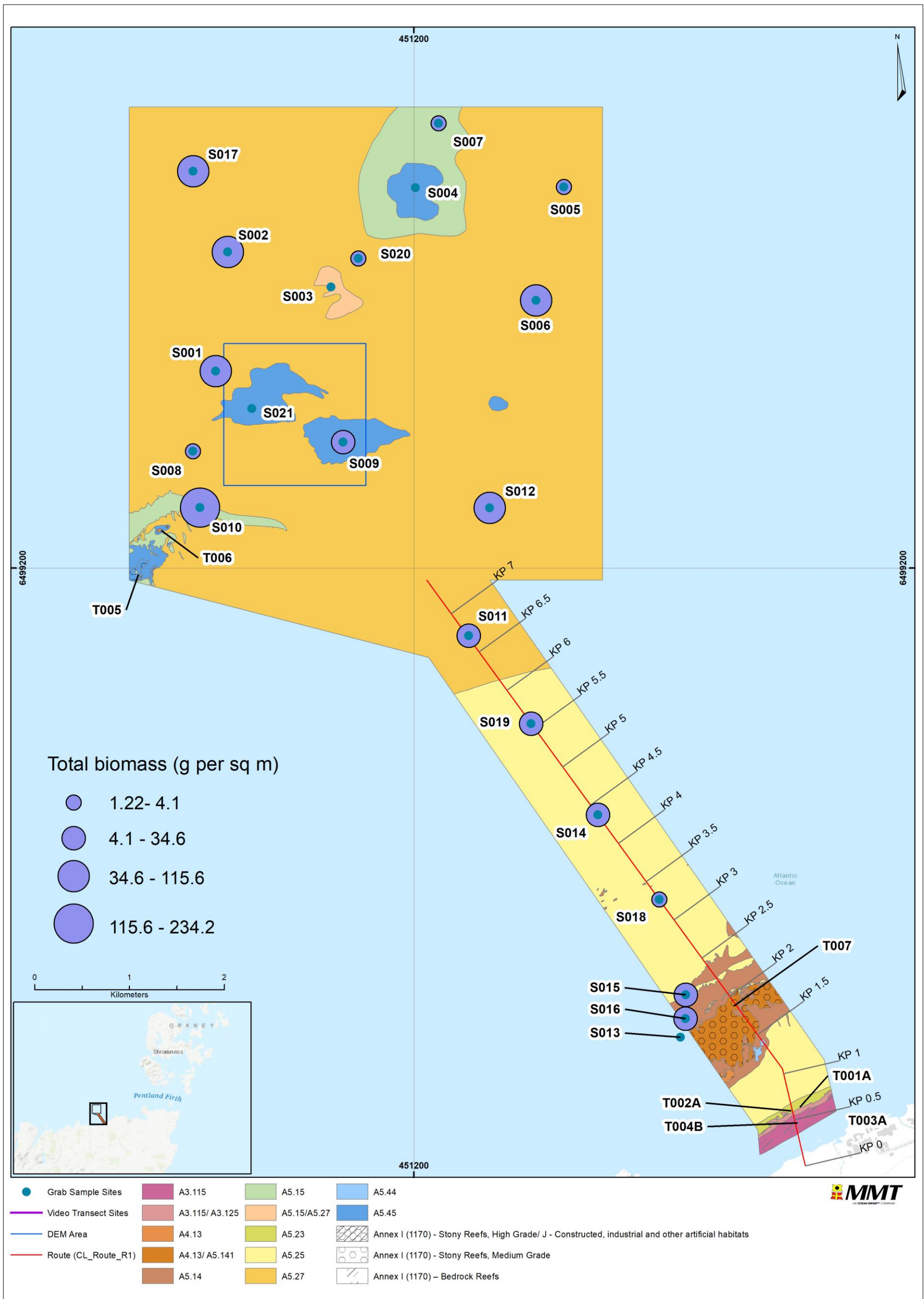


Figure 23 Composition of the total biomass per site across the survey area, expressed in grams.

5.7.3 | UNIVARIATE STATISTICAL ANALYSES

Univariate analyses were performed to assess the faunal richness, diversity, evenness and dominance in the sample and the results are presented in Table 60.

The number of taxa (S) per sample varied with a mean of 42.6 (SD = 12.8), where S007 comprised the highest number of taxa (82 different taxa) and S005 comprised the lowest (29 different taxa).

The number of individuals (N) per sample varied with a mean of 183 (SD = 158) where S016 comprised the highest (768 individuals) and S009 the lowest (70 individuals).

Table 60 Univariate indices of species richness, diversity and evenness for fauna in grab samples.

ID	NUMBER OF TAXA (S)	NUMBER OF INDIVIDUALS (N)	MARGALEF'S RICHNESS INDEX (D)	SHANNON-WIENER INDEX (H')	PIELOU'S EVENNESS INDEX (J')	SIMPSON'S INDEX OF DOMINANCE (1- λ)
S001	44	114	9.08	3.23	0.85	0.94
S002	39	109	8.10	2.84	0.77	0.85
S005	29	84	6.32	2.66	0.79	0.85
S006	39	130	7.81	2.87	0.78	0.90
S007	82	245	14.72	3.93	0.89	0.97
S008	45	141	8.89	3.29	0.86	0.94
S009	32	70	7.30	3.01	0.87	0.92
S010	60	307	10.30	3.14	0.77	0.90
S011	38	177	7.15	2.74	0.75	0.88
S012	37	121	7.51	2.88	0.80	0.88
S014	32	112	6.57	2.78	0.80	0.89
S015	41	213	7.46	2.95	0.79	0.91
S016	40	768	5.87	1.45	0.39	0.50
S017	43	103	9.06	3.32	0.88	0.94
S018	33	121	6.67	2.95	0.84	0.92
S019	32	108	6.62	2.81	0.81	0.90
S020	58	190	10.86	3.22	0.79	0.91
Mean	42.6	183.1	8.25	2.94	0.79	0.88
SD	12.8	158.0	2.11	0.48	0.11	0.10
Min	29	70	5.87	1.45	0.39	0.50
Max	82	768	14.72	3.93	0.89	0.97
Median	39	121	7.51	2.95	0.80	0.90

The distribution of the univariate analyses is further illustrated for S, N and the Shannon-Wiener Diversity Index (H') in Figure 24 to Figure 26.

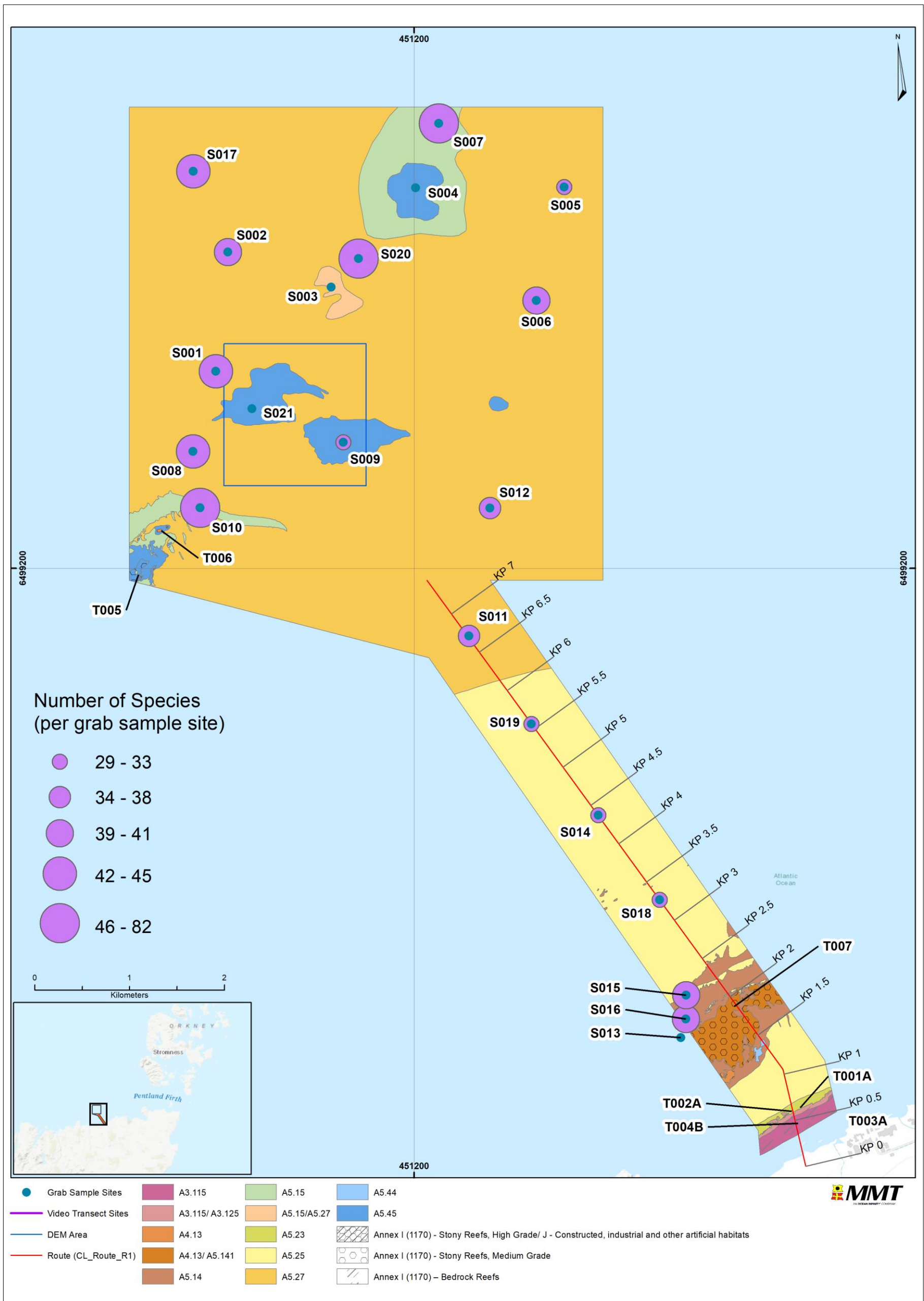


Figure 24 Overview of the survey areas displaying the number of species for each grab sample site.

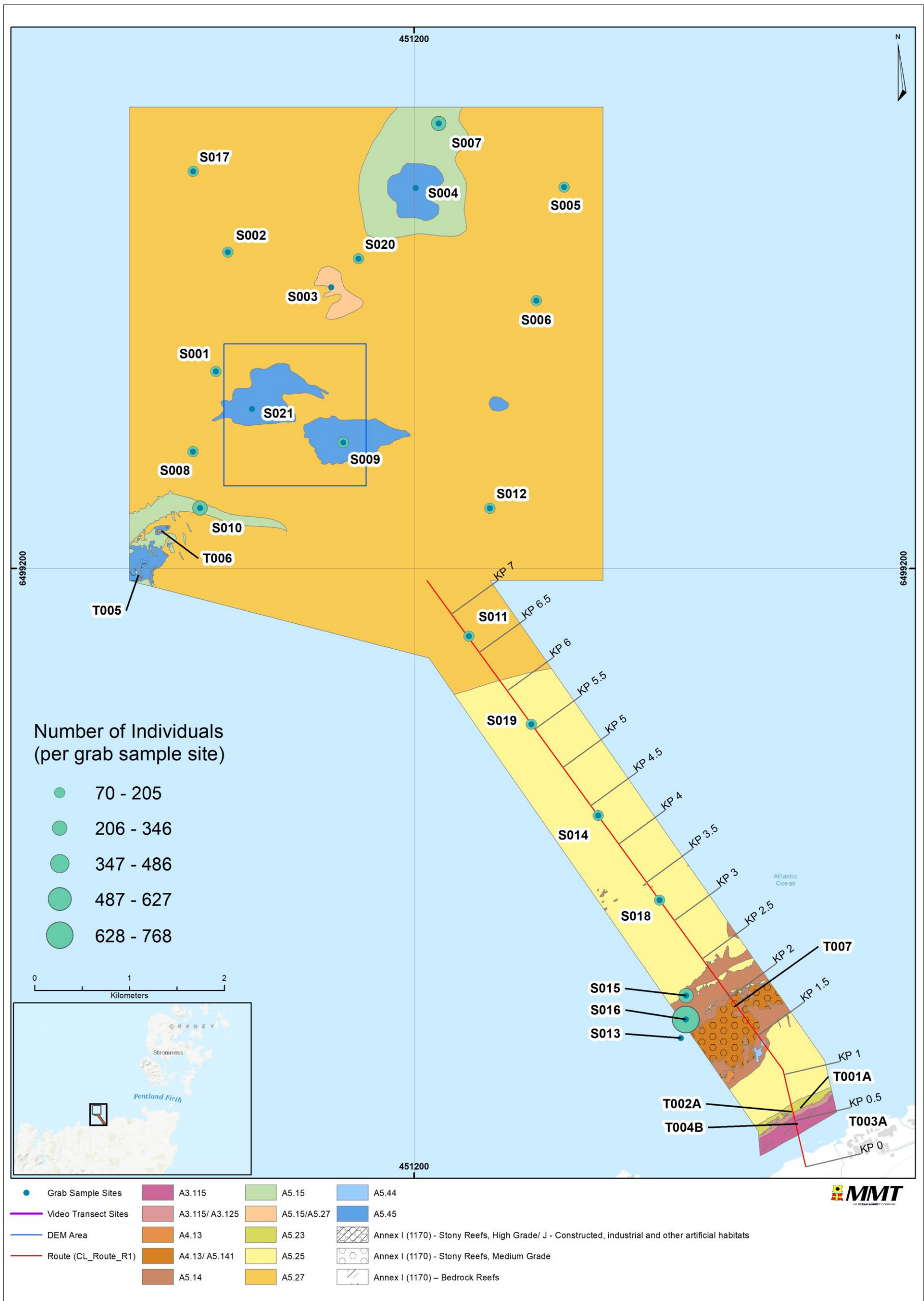


Figure 25 Overview of the survey areas displaying the number of individuals for each grab sample site.

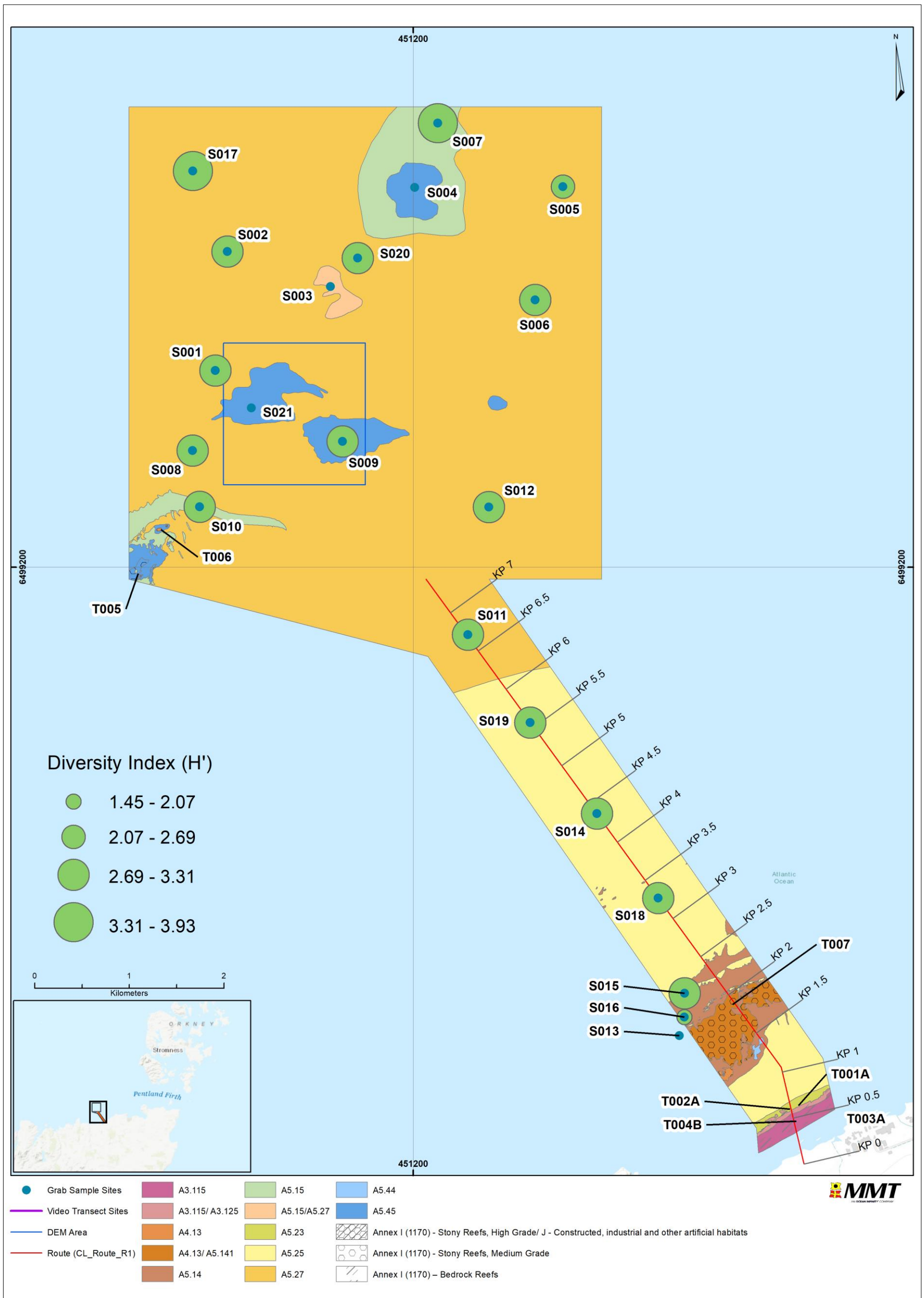


Figure 26 Overview of the survey areas displaying the Shannon-Wiener's diversity for each grab sample site.

5.7.4 | MULTIVARIATE STATISTICAL ANALYSES

The SIMPROF analysis of faunal composition produced six statistically distinct groups (black lines) and is presented in a hierarchical dendrogram (Figure 27). Sample similarity is further explored in an nMDS-plot presented in Figure 28 which reflects the dendrogram and displays the similarity between sample sites at 40 % to highlight heterogeneous species composition.

The percentage contribution, of the most important species for the clusters seen in the Bray-Curtis similarities, are presented in Table 61 with average species abundance and physical features for each cluster. The species *Abra prismatica* is characterising for clusters C to F and the species *Goodallia triangularis* and *Polygordius* sp. are characterising for both clusters A and B (Figure 29).

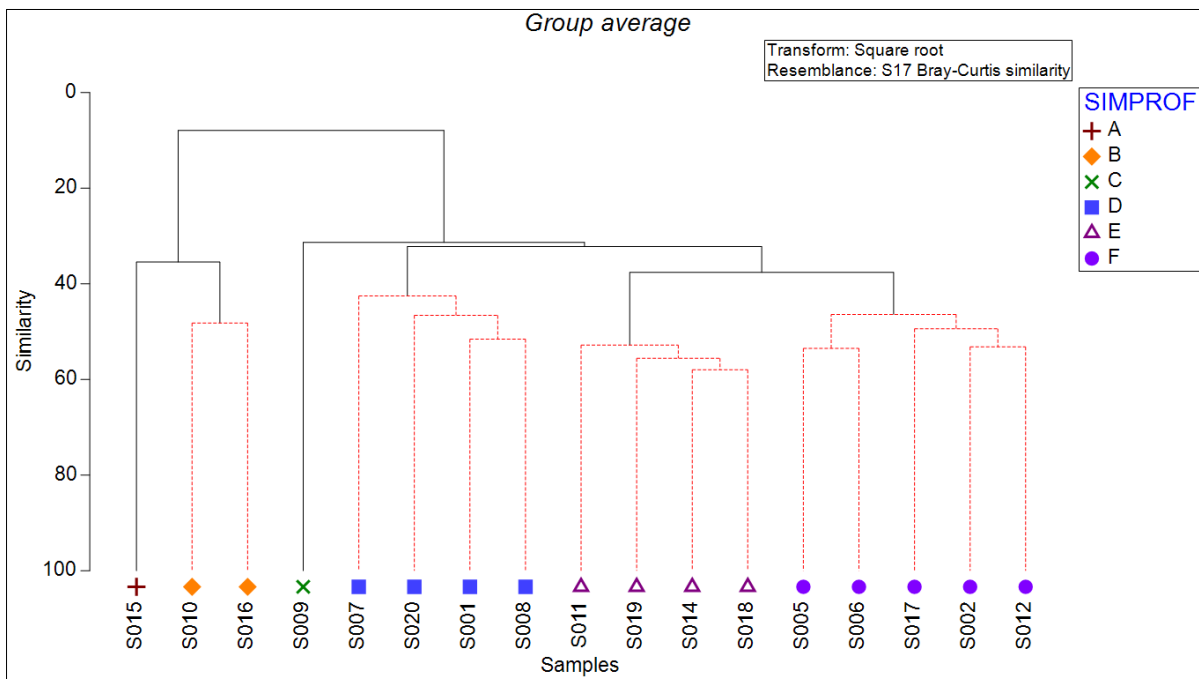


Figure 27 SIMPROF dendrogram based on faunal composition for each grab sample site and replicate.

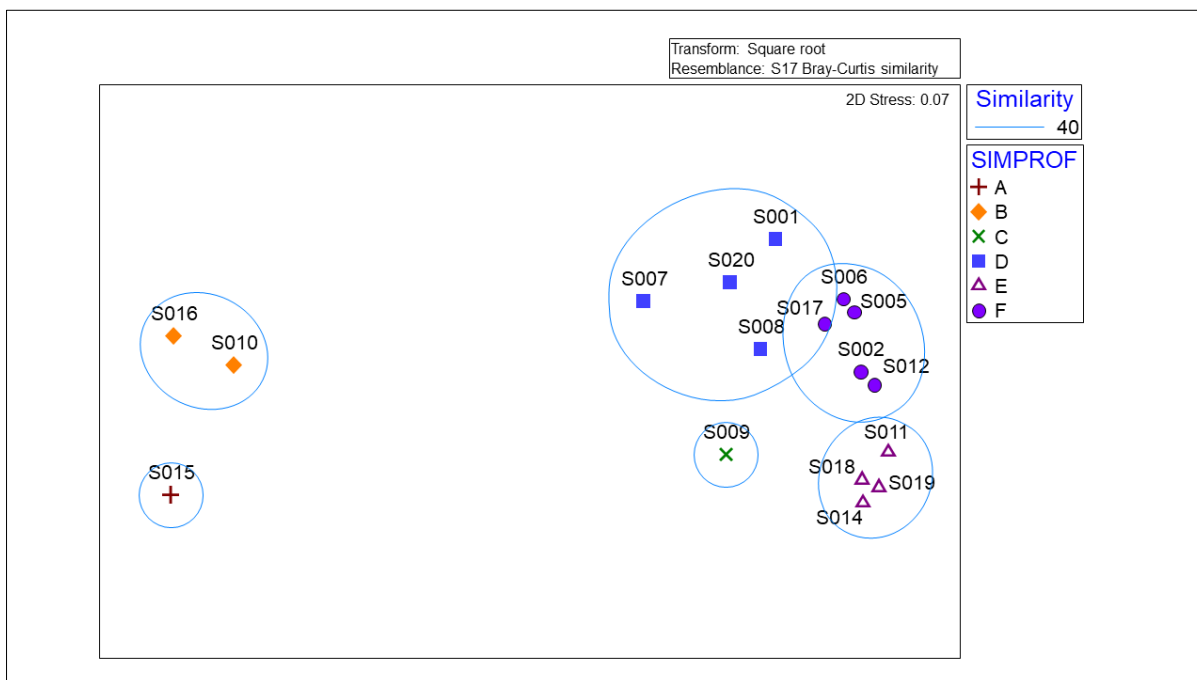


Figure 28 nMDS plot on faunal composition for each grab sample site and replicate with groups based on SIMPROF analysis.

Table 61 Summary of attributes of the faunal clusters derived from the SIMPER test.

GROUP	SAMPLES	PHYSICAL FEATURES*	SPECIES	AVERAGE ABUNDANCE**	CONTRIBUTION (%)
A	S015	Depth: 46 m	Less than two samples in group	-	-
B	S010 S016	Depth: 43 & 75 m	<i>Goodallia triangularis</i> Nematoda <i>Polygordius</i> sp. <i>Glycera lapidum</i> <i>Pisione remota</i>	1 432.50 255.00 207.50 70.00 47.50	11.62 9.56 9.13 6.61 5.64
C	S009	Depth: 75 m	Less than two samples in group	-	-
D	S001 S007 S008 S020	Depth: 75 – 86 m	<i>Abra prismatica</i> <i>Urothoe elegans</i> <i>Echinocyamus pusillus</i> <i>Amphiura filiformis</i> <i>Kurtiella bidentata</i>	67.50 55.00 35.00 31.25 41.25	8.22 5.49 5.47 5.03 5.01
E	S011 S014 S018 S019	Depth: 43 – 68 m	<i>Abra prismatica</i> <i>Owenia</i> sp. <i>Magelona filiformis</i> <i>Phoronis</i> sp. Edwardsiidae	148.75 95.00 57.50 22.50 27.50	14.81 13.59 8.67 6.75 5.65

GROUP	SAMPLES	PHYSICAL FEATURES*	SPECIES	AVERAGE ABUNDANCE**	CONTRIBUTION (%)
F Average similarity: 48.39 %	S002	Depth: 81 – 98 m	<i>Abra prismatica</i>	146.00	18.16
	S005		<i>Owenia sp.</i>	37.00	7.94
	S006		<i>Echinocyamus pusillus</i>	18.00	6.09
	S012		<i>Amphiura filiformis</i>	30.00	6.04
	S017		<i>Scoloplos armiger</i>	23.00	5.67
			<i>Kurtiella bidentata</i>	40.00	5.22

* Physical features were added manually after statistical analysis

** Average abundance refers to untransformed data and is expressed as the mean value per square metre within the multivariate groups.

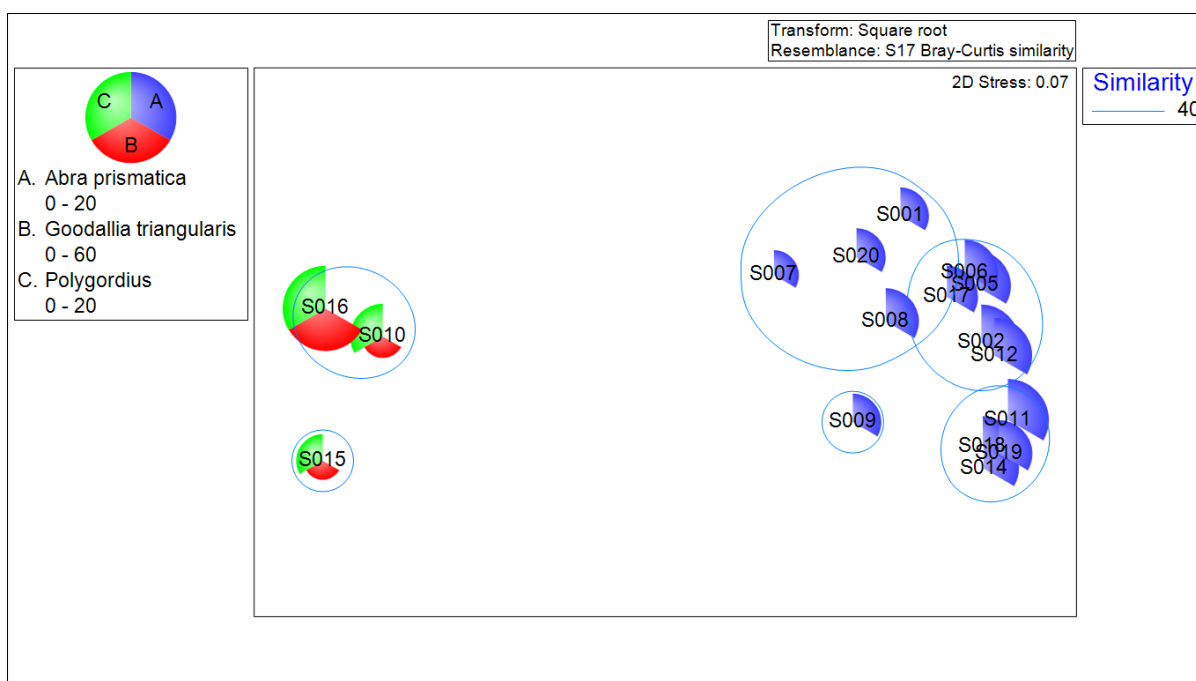


Figure 29 Distribution of *A. prismatica*, *G. triangularis* and *Polygordius sp.* between the sample sites.

The resulting EUNIS classifications for each site is presented in Figure 30. The results indicate that faunal composition is somewhat linked to habitat type.

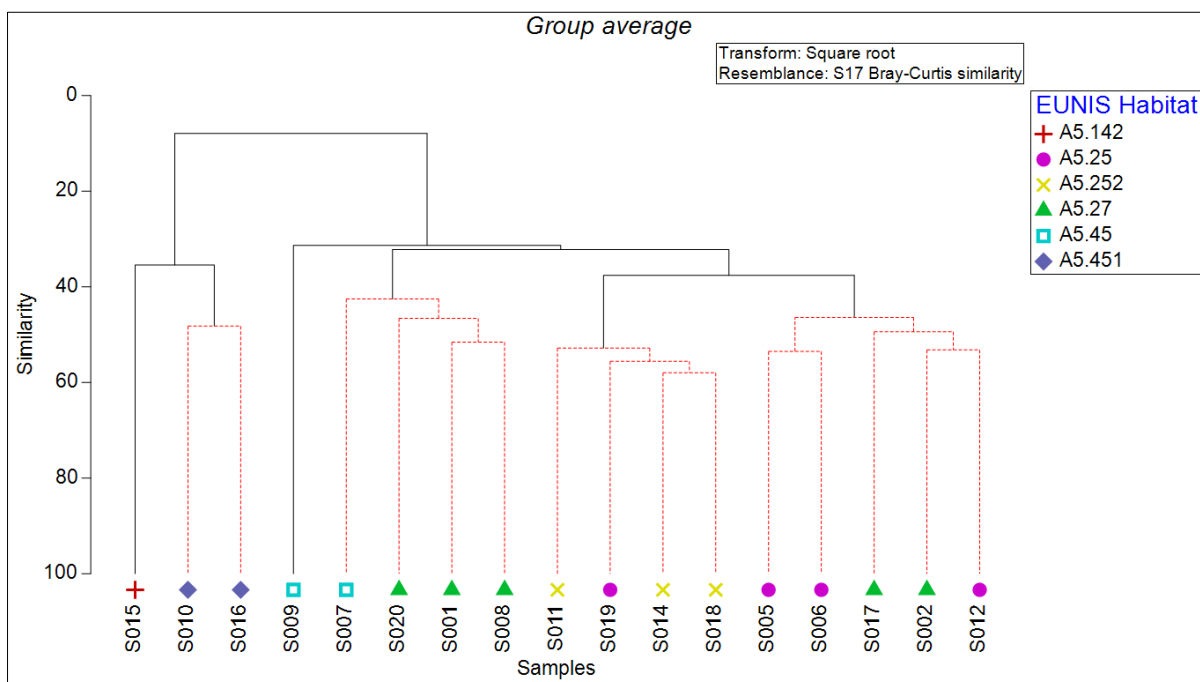


Figure 30 Dendrogram showing similarities in abundance in non-colonial fauna between sites, labelled with EUNIS habitat.

5.8 | SESSILE COLONIAL EPIFAUNA FROM GRAB SAMPLES

The phyletic composition of sessile colonial epibenthic fauna is presented in Table 62 and Table 63. A total of four phyla were identified in the survey area. Grab sample site S001 did not comprise any colonial epifauna.

The dominating phylum was Bryozoa which comprised 48 % of the total identified taxa. Cnidarians comprised the highest colony abundance with 52 % of the total abundance. The occurrence of colonial epifauna was not correlated to sediment composition, as illustrated in Figure 31.

Table 62 Phyletic composition of colonial epifauna from grab samples.

PHYLUM	NUMBER OF TAXA	ABUNDANCE OF COLONIES
Bryozoa	21	33
Cnidaria	19	43
Entoprocta	3	4
Porifera	1	2
Total	44	82

Table 63 Number of identified colonial epifaunal taxa in each grab sample.

ID	BRYOZOA	CNIDARIA	ENTOPROCTA	PORIFERA
S001				
S002	1	2		
S005	3	1		
S006		4		
S007	4	11	2	
S008		1		
S009	1	1		
S010	6		1	1
S011	1			
S012	1	2		
S014	3	1		
S015	4	1		
S016	3	3		1
S017	1	6	1	
S018	1	1		
S019	3	6		
S020	1	3		

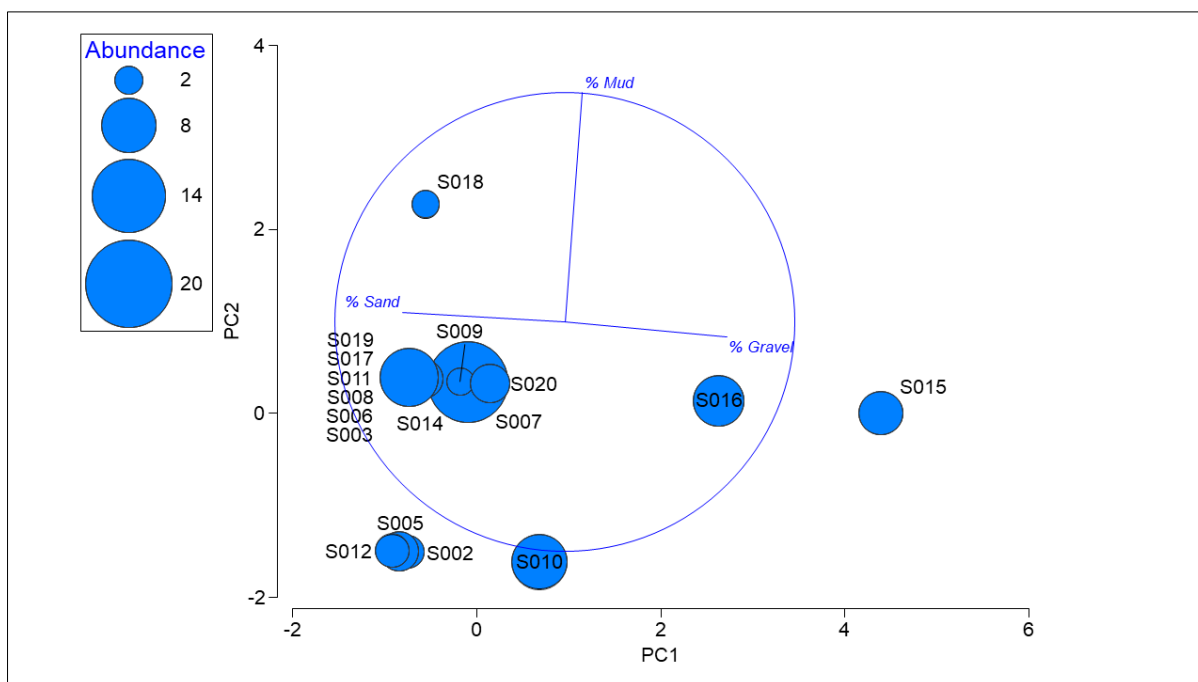


Figure 31 PCA plot on sediment data where bubble size represents the total number of colonial epifaunal taxa collected at each grab sample site.

5.9 | POTENTIAL ECOSYSTEM SERVICES

Data collected and observations during the survey identified six potential ecosystem services within and/or in close proximity to the survey area. Terminologies used are based on Scotland's Marine Assessment 2020 (Moffat, et al., 2021).

FISH & SHELLFISH STOCKS - PROVISIONING

Commercially important species such as European plaice *P. platessa*, great scallop *P. maximus*, sand eel *Ammodytes* sp. were observed during the environmental survey.

LARVAL/GAMETE SUPPLY - PROVISIONING

The survey area is located within a previously known nursing area for ling *M. molva*, common skate *D. batis*, sand eel *Ammodytes* sp. and herring *C. harengus* (Ellis, Milligan, Readdy, & Brown, 2012).

CARBON STORAGE - REGULATING

Kelp beds were identified in the nearshore survey area with habitats classified as **A3.115** - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock, as well as **A3.125** - Mixed kelps with scour tolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock.

ENERGY - PROVISIONING

A floating offshore wind farm is planned to be constructed within the survey area. For further details see the Offshore Project Manual (103760-HWL-MMT-QAC-PRO-PROJMANU, Table 2).

WILDLIFE WATCHING - CULTURAL

Several observations of marine mammals were recorded throughout the Geophysical and Environmental survey campaigns. For further details see the Geophysical MMO and Mitigation Report - Offshore (103760-HWL-MMT-SUR-REP-MMOOFFRE, Table 2).

TOURISM & RECREATIONAL - CULTURAL

The coast of Dounreay Caithness is a previously known surf location (McDowell, 2017). Both surfers and paddle-boarders were observed during the survey.

6 | CONCLUSIONS AND DISCUSSION

Habitats were classified following the pan-European classifications system EUNIS (EEA, 2019), and the interpretation is based on a combination of geophysical data, PSD, imagery and faunal samples.

A total of 14 EUNIS habitats/habitat complexes were identified within the survey area, as well as three habitats of conservation importance. The **Annex I** habitats found were classified as **Annex I (1170)** – Stony Reefs, located in the southern part of the ECC and south-western corner of the OWF, as well as **Annex I (1170)** – Bedrock Reefs together with the PMF habitat Kelp beds, located in the southernmost part of the ECC where it approaches the landfall. The SBL habitat Subtidal sands and gravels was identified throughout the majority of the survey area.

Six different taxa of conservation importance were identified within the survey area.

Previous herring larval surveys have stated the areas around Orkney and Buchan (off Scotland) as important spawning grounds. Gravel and coarse sediments, with a low proportion of fine sediments, are a requirement for herring spawning grounds. Previous surveys regarding spawning and nursery grounds for sand eel have estimated the region in and around the current survey area to be of low intensity (Ellis, Milligan, Readdy, & Brown, 2012).

One non-native taxon, the polychaete *Goniadella gracilis*, was identified in the grab samples acquired at sites S010 and S016.

Two grab sample sites, S010 and S016, are classified as **A5.451** - Polychaete-rich deep *Venus* community in offshore mixed sediments. This habitat is generally found at larger depths but is also found in shallower areas e.g., around Shetland and Orkney. The habitat at S016 may be a variant of **A5.142** - *Mediomastus fragilis*, *Lumbrineris spp.* and venerid bivalves in circalittoral coarse sand or gravel, or a transition between **A5.142** and **A5.451**. These two habitats form a deep *Venus* community and are closely associated. The main differences between them are that **A5.451** are found on the less exposed seabed, and usually with a small mud component, the species composition is largely overlapping. However, based on the observed dominating fauna S016 is classified as **A5.451**, due to the large abundance of the bivalve *Goodallia triangularis*, and polychaetes as *Polygordius sp.* and *Glycera lapidum*.

The grab sample sites classified as **A5.25** – Circalittoral fine sand (S005, S006 and S012) or **A5.27** – Deep circalittoral sand (S001, S002, S003, S008, S017 and S020) show affinity to several other communities as described within the EUNIS classifications. These are primarily **A5.451** - *Echinocyamus pusillus*, *Ophelia borealis* and *Abra prismatica* in circalittoral fine sand, **A5.252** - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand and **A5.272** - *Owenia fusiformis* and *Amphiura filiformis* in deep circalittoral sand or muddy sand.

However, as these sites share elements from more than one of these habitats to a varying degree, and occur across the OWFs rather featureless areas, a full delineation of habitat boundaries proved challenging. There is minor variation in the sediment composition at the respective sites, and the species composition is overlapping, with some variation in abundances between the sites. Thus these areas have been classified to the higher class of **A5.25 and A5.27**.

The sediment composition had limited variation across the survey area. Sand was the dominant sediment fraction at all grab sample sites, except for S015 where gravel was the dominant sediment fraction. The PCA mainly grouped the sites based on sand to gravel ratio and to a lesser extent on mud content.

The chemical analyses resulted in generally low metal concentrations. However, sites S002, S004, S005, S009, S010, S015 and S021 all exceeded one or multiple threshold values and nickel concentrations were noticeably higher at site S002 which exceeds the NEA's class 5 –Very Poor threshold level.

Organic content and phosphorus concentration had overall minor variation across the survey area, with the exception of S005 which had noticeably higher phosphorus concentrations compared to the other sites.

Hydrocarbon concentrations were generally low across the survey area with one site (S006) exceeding the NEA's class 2 – Good threshold levels for six of the analysed PAH's.

Concentrations of PCB's were low across the survey area and were below the detection level for most of the sample sites.

The radioactivity of the sediment varied across the survey area with noticeably higher levels at site S015. Both the gross alpha and gross beta are low compared to what has been measured from marine sediments in the Firth of Forth and the Outer Clyde Estuary 2019 (Cefas, 2020). In the current survey, the gross Alpha varies between <72 and 186 ± 76 Bq/Kg whereas in the Firth of Forth it varied between 190 and 230 Bq/Kg and in the Outer Clyde Estuary it varied between 160 and 290 Bq/Kg, gross Beta (as Cs-137) varied between 264 ± 95 and 1300 ± 280 Bq/Kg, whereas in the Firth of Forth gross Beta varied between 1700 and 1800 Bq/Kg and in the Outer Clyde Estuary it varied between 1400 and 1900 Bq/Kg. Further, the R_{seq} was well below the maximum recommended value of 370 Bq/Kg (Beretka & Mathew, 1985), and the variation within the current survey was between 50.5 and 88.6 Bq/Kg.

The phyletic composition, regarding both the total number of taxa and abundance, was dominated by annelids. However, the two most abundant taxa were the bivalves *Goodallia triangularis* and *Abra prismatica*. *Goodallia triangularis* was identified at three sample sites (S010, S015 and S016). 539 individuals (2695 ind./m^2) were counted at grab sample site S016.

Biomass was dominated by molluscs that comprised 82 % of the total blotted wet weight across the survey area. Large specimens of the bivalve *Arctica islandica* was identified at five grab sample sites. and five individuals of the larger bivalve *Glycymeris glycymeris* was identified at grab sample site S010. These contributed to the high biomass weight in molluscs.

Species richness, evenness and dominance varied across the grab sample sites. The abundance varied from between 70 to 768 individuals per grab sample site (350 to 3840 individuals per square metre). The number of species and abundance were not connected to habitat type.

Six benthic communities were identified by the multivariate analyses. Two major groupings with low similarity were identified by the SIMPROF analyses displaying high faunal differences. This difference is due to the presence or absence of the three species *Goodallia triangularis*, *A. prismatica* and *Polygordius* sp. Grab sample sites S010, S015 and S016 comprised *G. triangularis* and *Polygordius* sp., but was missing *A. prismatica*. The pattern was the other way around for the other grab sample sites.

There was a small difference in sediment composition separating the two groupings apart, with S010, S015 and S016 comprising coarser materials, and the other grab sample sites were dominated by sand.

The phyletic composition of sessile colonial epifauna was dominated by bryozoans with regards to the number of taxa and cnidarians with regards to the abundance of colonies. Grab sample site S001 did not comprise any sessile colonial epifauna and S007 comprised almost twice the number of taxa than the rest of the grab sample sites.

The abundance of colonial epifauna identified in the grab samples was fairly evenly distributed across the survey area, potentially due to the low difference in sediment composition.

Six potential ecosystem services are suggested to exist within and/or in close proximity to the survey area.

7 | RESERVATIONS AND RECOMMENDATIONS

The results in this report are based on grab, video, and photo together with PSA and chemical analysis from each sample site obtained within this survey, together with interpretations of geophysical data obtained during the geophysical survey conducted in conjunction with the benthic survey. It should be taken into account that there is a natural limitation in the accuracy of interpretation. Where considered applicable the sampling results have been extrapolated to constitute a base for verifications also in the surroundings.

The definition of a “Reef” is not defined within the EC Habitats Directive. Areas interpreted as potential stony reefs in this report are based on methods defined in the JNCC report No. 432 “The identification of the main characteristics of stony reef habitats under the Habitats Directive” (Irving, 2009). All areas interpreted as bedrock were considered to be reefs, as there is no grading system of “reefiness” of bedrock reefs.

It should be noted that the accepted name for *Pomatoceros triqueter* has changed to *Spirobranchus triqueter* but the EUNIS habitat class A5.141 - *Pomatoceros triqueter* with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles, still holds the unaccepted name.

The PSA sample acquired at grab sample site S003 consisted of lower volume than considered acceptable volume but has been included in the PCA to give a better understanding of the similarities and dissimilarities between grab sample sites

To understand how generalized an area is and to reduce the impact of random variation it is recommended to acquire replicate samples. The error which occurred from the pooling of faunal replicate samples, before the taxonomic analyses, will only directly impact the alfa diversity i.e. the local diversity within each sample site which based on previous surveys can be considered to be minor.

The beta, between sites, and gamma, the entire geographical area, diversity will not be impacted.

Future surveys should acquire standardised samples, i.e. 0.1 m², as well as replicate samples. These should be treated and analysed separately. This will allow for the alpha diversity to be measured in the future. The pooling of the results after faunal processing would allow for beta and gamma diversity to be statistically comparable between any future datasets to the current 2021 survey dataset. A comparison of the univariate indices could further be used for each separate site as an indicator of changes in diversity within each individual site.

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APPENDIX A 	SAMPLE POSITION LIST
APPENDIX B 	GRAB FIELD PROTOCOLS
APPENDIX C 	TRANSECT FIELD PROTOCOLS
APPENDIX D 	GRAB IDENTIFICATION RESULTS
APPENDIX E 	TRANSECT IDENTIFICATION RESULTS
APPENDIX F 	PARTICLE SIZE ANALYSIS RESULTS
APPENDIX G 	CHEMICAL ANALYSIS RESULTS

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	COMMENTS
		ETRS89 UTM30					
Offshore	760_HWL_VE_DVV_S001_F1	449105.45	6501281.33	81	7/11/2021	14:24	
Offshore	760_HWL_VE_DVV_S001_F2	449105.45	6501281.33	81	7/11/2021	14:24	
Offshore	760_HWL_VE_DVV_S001_CHEM	449105.50	6501283.96	81	7/11/2021	14:40	No physico-chemical sample retrieved
Offshore	760_HWL_VE_DVV_S002_F1	449233.09	6502541.81	95	7/11/2021	19:34	
Offshore	760_HWL_VE_DVV_S002_F2	449232.07	6502543.68	95	7/11/2021	20:28	
Offshore	760_HWL_VE_DVV_S002_CHEM	449232.93	6502542.36	95	7/11/2021	19:47	
Offshore	760_HWL_VE_DVV_S003_F1	450324.05	6502170.58	83	7/11/2021	15:19	Not acceptable sample penetration depth.
Offshore	760_HWL_VE_DVV_S003_F2	450324.05	6502170.58	83	7/11/2021	15:19	Not acceptable sample penetration depth.
Offshore	760_HWL_VE_DVV_S003_CHEM	450326.06	6502167.63	83	7/11/2021	16:24	Only PSA sample retrieved
Offshore	760_HWL_VE_DVV_S004_F1	451216.18	6503220.53	78	7/11/2021	23:51	No fauna sample retrieved
Offshore	760_HWL_VE_DVV_S004_F2	451214.07	6503223.75	78	7/12/2021	00:43	No fauna sample retrieved
Offshore	760_HWL_VE_DVV_S004_CHEM	451214.99	6503223.29	78	7/11/2021	23:59	
Offshore	760_HWL_VE_DVV_S005_F1	452782.22	6503227.20	86	7/12/2021	03:51	
Offshore	760_HWL_VE_DVV_S005_F2	452779.31	6503229.03	86	7/12/2021	03:03	
Offshore	760_HWL_VE_DVV_S005_CHEM	452779.31	6503229.03	86	7/12/2021	03:03	
Offshore	760_HWL_VE_DVV_S006_F1	452488.74	6502030.18	82	7/12/2021	04:41	
Offshore	760_HWL_VE_DVV_S006_F2	452488.28	6502027.93	82	7/12/2021	05:21	
Offshore	760_HWL_VE_DVV_S006_CHEM	452488.74	6502030.18	82	7/12/2021	04:41	
Offshore	760_HWL_VE_DVV_S007_F1	451460.14	6503901.93	86	7/12/2021	01:48	
Offshore	760_HWL_VE_DVV_S007_F2	451459.24	6503899.64	86	7/12/2021	02:14	
Offshore	760_HWL_VE_DVV_S007_CHEM	451460.14	6503901.93	86	7/12/2021	01:48	
Offshore	760_HWL_VE_DVV_S008_F1	448864.13	6500434.73	75	7/11/2021	12:05	
Offshore	760_HWL_VE_DVV_S008_F2	448864.13	6500434.73	75	7/11/2021	12:05	
Offshore	760_HWL_VE_DVV_S008_CHEM	448863.07	6500435.18	75	7/11/2021	12:20	Hydrocarbons and metal suite obtained from separate grab sample to PSD and radioactivity samples, due to low volumes of sample.
Offshore	760_HWL_VE_DVV_S009_F1	450452.88	6500531.35	75	7/11/2021	08:45	
Offshore	760_HWL_VE_DVV_S009_F2	450445.51	6500531.11	75	7/11/2021	09:13	
Offshore	760_HWL_VE_DVV_S009_CHEM	450452.88	6500531.35	75	7/11/2021	08:45	
Offshore	760_HWL_VE_DVV_S010_F1	448940.23	6499839.91	75	7/11/2021	10:03	
Offshore	760_HWL_VE_DVV_S010_F2	448937.00	6499838.49	75	7/11/2021	10:34	
Offshore	760_HWL_VE_DVV_S010_CHEM	448940.23	6499839.91	75	7/11/2021	10:03	
Offshore	760_HWL_VE_DVV_S011_F1	451776.67	6498485.20	68	7/11/2021	05:56	
Offshore	760_HWL_VE_DVV_S011_F2	451778.95	6498484.04	68	7/11/2021	06:09	
Offshore	760_HWL_VE_DVV_S011_CHEM	451776.67	6498485.20	68	7/11/2021	05:56	
Offshore	760_HWL_VE_DVV_S012_F1	452000.30	6499837.41	81	7/11/2021	07:44	
Offshore	760_HWL_VE_DVV_S012_F2	451997.35	6499838.73	81	7/11/2021	07:19	

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	COMMENTS
		ETRS89 UTM30					
Offshore	760_HWL_VE_DVV_S012_CHEM	452000.30	6499837.41	81	7/11/2021	07:44	
Offshore	760_HWL_VE_DVV_S013	454015.45	6494242.19	40	N/A	N/A	No grab sampling was attempted as it was located on top a stony reef.
Offshore	760_HWL_VE_DVV_S014_F1	453141.20	6496593.92	47	7/11/2021	03:58	
Offshore	760_HWL_VE_DVV_S014_F2	453141.39	6496594.54	47	7/11/2021	04:13	
Offshore	760_HWL_VE_DVV_S014_CHEM	453141.20	6496593.92	47	7/11/2021	03:58	
Offshore	760_HWL_VE_HG_S015_F1	454071.27	6494691.99	46	7/12/2021	09:00	
Offshore	760_HWL_VE_HG_S015_F2	454071.23	6494691.71	46	7/12/2021	09:35	
Offshore	760_HWL_VE_HG_S015_CHEM	454070.82	6494691.19	46	7/12/2021	08:27	
Offshore	760_HWL_VE_HG_S016_F1	454067.21	6494439.15	43	7/12/2021	10:20	
Offshore	760_HWL_VE_HG_S016_F2	454066.54	6494438.74	43	7/12/2021	10:31	
Offshore	760_HWL_VE_HG_S016_CHEM	454067.28	6494439.74	43	7/12/2021	10:15	
Offshore	760_HWL_VE_DVV_S017_F1	448867.35	6503394.15	98	7/11/2021	21:48	
Offshore	760_HWL_VE_DVV_S017_F2	448861.41	6503393.82	98	7/11/2021	22:04	
Offshore	760_HWL_VE_DVV_S017_CHEM	448867.35	6503394.15	98	7/11/2021	21:48	
Offshore	760_HWL_VE_DVV_S018_F1	453789.48	6495698.14	43	7/11/2021	01:48	
Offshore	760_HWL_VE_DVV_S018_F2	453785.59	6495698.57	43	7/11/2021	02:18	
Offshore	760_HWL_VE_DVV_S018_CHEM	453789.48	6495698.14	43	7/11/2021	01:48	
Offshore	760_HWL_VE_DVV_S019_F1	452437.13	6497554.94	55	7/11/2021	04:54	
Offshore	760_HWL_VE_DVV_S019_F2	452437.67	6497555.00	55	7/11/2021	05:07	
Offshore	760_HWL_VE_DVV_S019_CHEM	452437.13	6497554.94	55	7/11/2021	04:54	
Offshore	760_HWL_VE_DVV_S020_F1	450613.64	6502471.35	85	7/11/2021	18:29	
Offshore	760_HWL_VE_DVV_S020_F2	450611.32	6502465.61	84	7/11/2021	18:09	
Offshore	760_HWL_VE_DVV_S020_CHEM	450611.32	6502465.61	84	7/11/2021	18:09	
Offshore	760_HWL_VE_HG_S021_F1	449487.74	6500886.27	75	7/12/2021	06:37	Not acceptable sample volume.
Offshore	760_HWL_VE_HG_S021_F2	449486.65	6500885.18	75	7/12/2021	06:45	Not acceptable sample volume.
Offshore	760_HWL_VE_HG_S021_CHEM	449492.81	6500886.30	75	7/12/2021	07:07	

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Offshore	760_HWL_VE_DDV_S001_1	449107.63	6501280.80	81	2021/07/09	23:50	760_HWL_VE_DDV_S001_2021_07_09_0107	2021_07_09_234946732	
Offshore	760_HWL_VE_DDV_S001_2	449105.33	6501284.77	81	2021/07/09	23:54	760_HWL_VE_DDV_S001_2021_07_09_0109	2021_07_09_234946732	
Offshore	760_HWL_VE_DDV_S001_3	449099.80	6501278.68	81	2021/07/09	23:58	760_HWL_VE_DDV_S001_2021_07_09_0111	2021_07_09_234946732	
Offshore	760_HWL_VE_DDV_S001_4	449107.46	6501272.16	80	2021/07/10	00:03	760_HWL_VE_DDV_S001_2021_07_10_0114	2021_07_09_234946732	
Offshore	760_HWL_VE_DDV_S002_1	449235.91	6502545.53	95	2021/07/09	22:35	760_HWL_VE_DDV_S002_2021_07_09_0093	2021_07_09_223521975	
Offshore	760_HWL_VE_DDV_S002_2	449230.70	6502546.07	95	2021/07/09	22:38	760_HWL_VE_DDV_S002_2021_07_09_0095	2021_07_09_223521975	
Offshore	760_HWL_VE_DDV_S002_3	449228.77	6502548.01	95	2021/07/09	22:41	760_HWL_VE_DDV_S002_2021_07_09_0097	2021_07_09_223521975	
Offshore	760_HWL_VE_DDV_S002_4	449223.15	6502547.18	95	2021/07/09	22:43	760_HWL_VE_DDV_S002_2021_07_09_0099	2021_07_09_223521975	
Offshore	760_HWL_VE_DDV_S003_1	450313.40	6502169.05	83	2021/07/10	02:01	760_HWL_VE_DDV_S003_2021_07_10_0117	2021_07_10_020107995	
Offshore	760_HWL_VE_DDV_S003_2	450326.26	6502170.47	83	2021/07/10	02:05	760_HWL_VE_DDV_S003_2021_07_10_0119	2021_07_10_020107995	
Offshore	760_HWL_VE_DDV_S003_3	450322.10	6502176.99	83	2021/07/10	02:08	760_HWL_VE_DDV_S003_2021_07_10_0121	2021_07_10_020107995	
Offshore	760_HWL_VE_DDV_S003_4	450332.46	6502169.43	83	2021/07/10	02:13	760_HWL_VE_DDV_S003_2021_07_10_0124	2021_07_10_020107995	
Offshore	760_HWL_VE_DDV_S004_1	451211.01	6503222.46	78	2021/07/10	03:58	760_HWL_VE_DDV_S004_2021_07_10_0138	2021_07_10_035743183	
Offshore	760_HWL_VE_DDV_S004_2	451218.31	6503222.58	78	2021/07/10	04:00	760_HWL_VE_DDV_S004_2021_07_10_0140	2021_07_10_035743183	
Offshore	760_HWL_VE_DDV_S004_3	451215.59	6503229.90	78	2021/07/10	04:04	760_HWL_VE_DDV_S004_2021_07_10_0143	2021_07_10_035743183	
Offshore	760_HWL_VE_DDV_S004_4	451227.58	6503224.98	78	2021/07/10	04:08	760_HWL_VE_DDV_S004_2021_07_10_0146	2021_07_10_035743183	
Offshore	760_HWL_VE_DDV_S005_1	452791.94	6503226.43	86	2021/07/10	06:23	760_HWL_VE_DDV_S005_2021_07_10_0161	2021_07_10_062337069	
Offshore	760_HWL_VE_DDV_S005_2	452781.99	6503219.98	86	2021/07/10	06:31	760_HWL_VE_DDV_S005_2021_07_10_0163	2021_07_10_062337069	
Offshore	760_HWL_VE_DDV_S005_3	452775.29	6503227.70	86	2021/07/10	06:35	760_HWL_VE_DDV_S005_2021_07_10_0165	2021_07_10_062337069	
Offshore	760_HWL_VE_DDV_S005_4	452782.82	6503230.97	86	2021/07/10	06:39	760_HWL_VE_DDV_S005_2021_07_10_0167	2021_07_10_062337069	
Offshore	760_HWL_VE_DDV_S006_1	452487.34	6502027.39	82	2021/07/10	08:08	760_HWL_VE_DDV_S006_2021_07_10_0171	2021_07_10_080745690	

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Offshore	760_HWL_VE_DDV_S006_2	452492.59	6502022.02	82	2021/07/10	08:11	760_HWL_VE_DDV_S006_2021_07_10_0173	2021_07_10_080745690	
Offshore	760_HWL_VE_DDV_S006_3	452480.40	6502024.91	82	2021/07/10	08:15	760_HWL_VE_DDV_S006_2021_07_10_0175	2021_07_10_080745690	
Offshore	760_HWL_VE_DDV_S006_4	452489.48	6502036.81	82	2021/07/10	08:47	760_HWL_VE_DDV_S006_2021_07_10_0177	2021_07_10_084526935	
Offshore	760_HWL_VE_DDV_S007_1	451456.40	6503898.76	86	2021/07/10	05:18	760_HWL_VE_DDV_S007_2021_07_10_0153	2021_07_10_051042882	
Offshore	760_HWL_VE_DDV_S007_2	451464.35	6503907.61	86	2021/07/10	05:21	760_HWL_VE_DDV_S007_2021_07_10_0155	2021_07_10_051042882	
Offshore	760_HWL_VE_DDV_S007_3	451470.92	6503900.65	86	2021/07/10	05:26	760_HWL_VE_DDV_S007_2021_07_10_0157	2021_07_10_051042882	
Offshore	760_HWL_VE_DDV_S007_4	451461.95	6503892.74	86	2021/07/10	05:29	760_HWL_VE_DDV_S007_2021_07_10_0159	2021_07_10_051042882	
Offshore	760_HWL_VE_DDV_S008_1	448853.96	6500430.98	75	2021/07/09	16:19	760_HWL_VE_DDV_S008_2021_07_09_0020	2021_07_09_162108518	
Offshore	760_HWL_VE_DDV_S008_2	448859.55	6500435.54	75	2021/07/09	16:23	760_HWL_VE_DDV_S008_2021_07_09_0022	2021_07_09_162108518	
Offshore	760_HWL_VE_DDV_S008_3	448861.46	6500441.84	75	2021/07/09	16:25	760_HWL_VE_DDV_S008_2021_07_09_0024	2021_07_09_162108518	
Offshore	760_HWL_VE_DDV_S008_4	448860.52	6500424.72	75	2021/07/09	16:40	760_HWL_VE_DDV_S008_2021_07_09_0026	2021_07_09_162108518	
Offshore	760_HWL_VE_DDV_S009_1	450445.36	6500528.84	75	2021/07/09	15:17	760_HWL_VE_DDV_S009_2021_07_09_0011	2021_07_09_151637462	
Offshore	760_HWL_VE_DDV_S009_2	450448.16	6500531.49	75	2021/07/09	15:20	760_HWL_VE_DDV_S009_2021_07_09_0012	2021_07_09_151637462	
Offshore	760_HWL_VE_DDV_S009_3	450438.48	6500529.41	75	2021/07/09	15:27	760_HWL_VE_DDV_S009_2021_07_09_0015	2021_07_09_151637462	
Offshore	760_HWL_VE_DDV_S009_4	450442.58	6500524.56	75	2021/07/09	15:30	760_HWL_VE_DDV_S009_2021_07_09_0017	2021_07_09_151637462	
Offshore	760_HWL_VE_DDV_S010_1	448937.64	6499830.69	75	2021/07/07	17:40	760_HWL_VE_DDV_S010_2021_07_09_0029	2021_07_09_173940866	
Offshore	760_HWL_VE_DDV_S010_2	448933.85	6499836.02	75	2021/07/07	17:47	760_HWL_VE_DDV_S010_2021_07_09_0034	2021_07_09_173940866	
Offshore	760_HWL_VE_DDV_S010_3	448937.38	6499842.37	75	2021/07/07	17:51	760_HWL_VE_DDV_S010_2021_07_09_0037	2021_07_09_173940866	
Offshore	760_HWL_VE_DDV_S010_4	448943.21	6499835.95	75	2021/07/07	17:54	760_HWL_VE_DDV_S010_2021_07_09_0040	2021_07_09_173940866	
Offshore	760_HWL_VE_DDV_S011_1	451781.09	6498487.33	68	2021/07/10	11:22	760_HWL_VE_DDV_S011_2021_07_10_0199	2021_07_10_112226597	
Offshore	760_HWL_VE_DDV_S011_2	451780.87	6498492.89	68	2021/07/10	11:25	760_HWL_VE_DDV_S011_2021_07_10_0201	2021_07_10_112226597	

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Offshore	760_HWL_VE_DDV_S011_3	451772.27	6498485.47	68	2021/07/10	11:30	760_HWL_VE_DDV_S011_2021_07_10_0204	2021_07_10_112226597	
Offshore	760_HWL_VE_DDV_S011_4	451779.43	6498480.58	68	2021/07/10	11:31	760_HWL_VE_DDV_S011_2021_07_10_0205	2021_07_10_112226597	
Offshore	760_HWL_VE_DDV_S012_1	452003.82	6499842.50	81	2021/07/10	09:49	760_HWL_VE_DDV_S012_2021_07_10_0182	2021_07_10_094850567	
Offshore	760_HWL_VE_DDV_S012_2	451996.36	6499840.61	81	2021/07/10	10:00	760_HWL_VE_DDV_S012_2021_07_10_0190	2021_07_10_094850567	
Offshore	760_HWL_VE_DDV_S012_3	451991.37	6499840.35	81	2021/07/10	10:03	760_HWL_VE_DDV_S012_2021_07_10_0191	2021_07_10_094850567	
Offshore	760_HWL_VE_DDV_S012_4	451997.33	6499843.52	81	2021/07/10	10:07	760_HWL_VE_DDV_S012_2021_07_10_0194	2021_07_10_094850567	
Offshore	760_HWL_VE_DDV_S013_1	454014.54	6494237.39	40	2021/07/10	16:31	760_HWL_VE_DDV_S013_2021_07_10_0277	2021_07_10_163039660	
Offshore	760_HWL_VE_DDV_S013_2	454010.55	6494240.90	40	2021/07/10	16:33	760_HWL_VE_DDV_S013_2021_07_10_0281	2021_07_10_163039660	
Offshore	760_HWL_VE_DDV_S013_3	454018.31	6494242.98	40	2021/07/10	16:37	760_HWL_VE_DDV_S013_2021_07_10_0286	2021_07_10_163039660	
Offshore	760_HWL_VE_DDV_S013_4	454024.31	6494243.89	40	2021/07/10	16:39	760_HWL_VE_DDV_S013_2021_07_10_0289	2021_07_10_163039660	
Offshore	760_HWL_VE_DDV_S014_1	453138.47	6496594.36	47	2021/07/10	13:12	760_HWL_VE_DDV_S014_2021_07_10_0224	2021_07_10_131212266	
Offshore	760_HWL_VE_DDV_S014_2	453142.46	6496596.34	47	2021/07/10	13:14	760_HWL_VE_DDV_S014_2021_07_10_0226	2021_07_10_131212266	
Offshore	760_HWL_VE_DDV_S014_3	453139.49	6496601.99	47	2021/07/10	13:18	760_HWL_VE_DDV_S014_2021_07_10_0229	2021_07_10_131212266	
Offshore	760_HWL_VE_DDV_S014_4	453150.07	6496596.88	47	2021/07/10	16:42	760_HWL_VE_DDV_S014_2021_07_10_0233	2021_07_10_131212266	
Offshore	760_HWL_VE_DDV_S015_1	454069.93	6494676.53	46	2021/07/10	14:50	760_HWL_VE_DDV_S015_2021_07_10_0250	2021_07_10_144458710	
Offshore	760_HWL_VE_DDV_S015_2	454077.99	6494686.65	46	2021/07/10	15:00	760_HWL_VE_DDV_S015_2021_07_10_0255	2021_07_10_144458710	
Offshore	760_HWL_VE_DDV_S015_3	454071.85	6494691.10	46	2021/07/10	15:02	760_HWL_VE_DDV_S015_2021_07_10_0258	2021_07_10_144458710	
Offshore	760_HWL_VE_DDV_S015_4	454066.75	6494689.60	46	2021/07/10	15:05	760_HWL_VE_DDV_S015_2021_07_10_0260	2021_07_10_144458710	
Offshore	760_HWL_VE_DDV_S016_1	454064.96	6494431.27	43	2021/07/10	15:44	760_HWL_VE_DDV_S016_2021_07_10_0264	2021_07_10_153701377	
Offshore	760_HWL_VE_DDV_S016_2	454062.35	6494433.70	43	2021/07/10	15:47	760_HWL_VE_DDV_S016_2021_07_10_0266	2021_07_10_153701377	
Offshore	760_HWL_VE_DDV_S016_3	454055.50	6494437.18	43	2021/07/10	15:49	760_HWL_VE_DDV_S016_2021_07_10_0268	2021_07_10_153701377	

AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Offshore	760_HWL_VE_DDV_S016_4	454061.13	6494441.18	43	2021/07/10	15:52	760_HWL_VE_DDV_S016_2021_07_10_0271	2021_07_10_153701377	
Offshore	760_HWL_VE_DDV_S017_1	448871.77	6503398.39	98	2021/07/09	21:43	760_HWL_VE_DDV_S017_2021_07_09_0082	2021_07_09_214404653	
Offshore	760_HWL_VE_DDV_S017_2	448865.34	6503402.23	98	2021/07/09	21:46	760_HWL_VE_DDV_S017_2021_07_09_0084	2021_07_09_214404653	
Offshore	760_HWL_VE_DDV_S017_3	448862.59	6503398.08	98	2021/07/09	21:49	760_HWL_VE_DDV_S017_2021_07_09_0086	2021_07_09_214404653	
Offshore	760_HWL_VE_DDV_S017_4	448859.65	6503397.39	98	2021/07/09	21:52	760_HWL_VE_DDV_S017_2021_07_09_0089	2021_07_09_214404653	
Offshore	760_HWL_VE_DDV_S018_1	453781.71	6495698.64	43	2021/07/10	14:02	760_HWL_VE_DDV_S018_2021_07_10_0240	2021_07_10_140030013	
Offshore	760_HWL_VE_DDV_S018_2	453788.43	6495705.32	43	2021/07/10	14:03	760_HWL_VE_DDV_S018_2021_07_10_0242	2021_07_10_140030013	
Offshore	760_HWL_VE_DDV_S018_3	453794.46	6495699.36	43	2021/07/10	14:07	760_HWL_VE_DDV_S018_2021_07_10_0245	2021_07_10_140030013	
Offshore	760_HWL_VE_DDV_S018_4	453788.73	6495696.59	43	2021/07/10	14:09	760_HWL_VE_DDV_S018_2021_07_10_0247	2021_07_10_140030013	
Offshore	760_HWL_VE_DDV_S019_1	452437.83	6497560.68	55	2021/07/10	12:25	760_HWL_VE_DDV_S019_2021_07_10_0213	2021_07_10_122224239	
Offshore	760_HWL_VE_DDV_S019_2	452434.17	6497555.57	55	2021/07/10	12:25	760_HWL_VE_DDV_S019_2021_07_10_0214	2021_07_10_122224239	
Offshore	760_HWL_VE_DDV_S019_3	452437.50	6497556.03	55	2021/07/10	12:27	760_HWL_VE_DDV_S019_2021_07_10_0215	2021_07_10_122224239	
Offshore	760_HWL_VE_DDV_S019_4	452443.85	6497555.63	55	2021/07/10	12:35	760_HWL_VE_DDV_S019_2021_07_10_0223	2021_07_10_122224239	
Offshore	760_HWL_VE_DDV_S020_1	450605.70	6502470.16	85	2021/07/10	03:04	760_HWL_VE_DDV_S020_2021_07_10_0128	2021_07_10_030315645	
Offshore	760_HWL_VE_DDV_S020_2	450610.90	6502470.44	85	2021/07/10	03:06	760_HWL_VE_DDV_S020_2021_07_10_0130	2021_07_10_030315645	
Offshore	760_HWL_VE_DDV_S020_3	450611.37	6502476.06	85	2021/07/10	03:09	760_HWL_VE_DDV_S020_2021_07_10_0132	2021_07_10_030315645	
Offshore	760_HWL_VE_DDV_S020_4	450618.51	6502473.79	85	2021/07/10	03:13	760_HWL_VE_DDV_S020_2021_07_10_0134	2021_07_10_030315645	
Offshore	760_HWL_VE_DDV_S021_1	449489.34	6500889.14	75	2021/07/09	14:07	760_HWL_VE_DDV_S021_2021_07_09_0002	2021_07_09_140527304	
Offshore	760_HWL_VE_DDV_S021_2	449490.71	6500894.64	75	2021/07/09	14:11	760_HWL_VE_DDV_S021_2021_07_09_0003	2021_07_09_140527304	
Offshore	760_HWL_VE_DDV_S021_3	449485.13	6500888.39	75	2021/07/09	14:15	760_HWL_VE_DDV_S021_2021_07_09_0005	2021_07_09_140527304	
Offshore	760_HWL_VE_DDV_S021_4	449489.97	6500883.30	75	2021/07/09	14:20	760_HWL_VE_DDV_S021_2021_07_09_0007	2021_07_09_140527304	

Transect Position List



AREA	SAMPLE ID	EASTING START	NORTHING START	EASTING END	NORTHING END	LENGTH (m)	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME START (hh:mm)	TIME END (hh:mm)	RAW FILE	COMMENTS
		ETRS89 UTM30										
Nearshore	760_HWL_VE_DDV_T001A	455306.98	6493473.35	455274.01	6493512.99	52	16 - 18	7/21/2021	10:49	10:51	T001A	
Nearshore	760_HWL_VE_DDV_T002A	455224.69	6493427.85	455177.11	6493472.91	66	18	7/21/2021	11:31	11:34	T002A	
Nearshore	760_HWL_VE_DDV_T003A	455518.83	6493426.55	455555.51	6493465.90	54	14 - 15	7/21/2021	10:34	10:35	T003A	
Nearshore	760_HWL_VE_DDV_T004B	455251.08	6493338.13	455194.61	6493382.82	72	13 - 16	7/21/2021	11:50	11:53	T004B	
Offshore	760_HWL_VE_DDV_T005	448296.16	6499151.17	448274.07	6499078.43	76	67	7/9/2021	20:04	20:14	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T006	448528.89	6499598.23	448482.26	6499593.85	47	70 - 72	7/9/2021	18:52	19:00	2021_07_09_184729778	Due to strong currents, the video transect was not completely linear, leading to a misrepresentative length. The factual length was 53 m.
Offshore	760_HWL_VE_DDV_T007	454571.27	6494566.37	454619.46	6494605.76	62	39 - 40	7/10/2021	17:23	17:37	2021_07_10_172139469	

Transect Photo Position List








AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Nearshore	760_HWL_VE_DDV_T001A_1	455306.98	6493473.35	16	7/21/2021	10:49	T001A (1)	T001A	
Nearshore	760_HWL_VE_DDV_T001A_2	455293.84	6493489.92	17	7/21/2021	10:50	T001A (5)	T001A	
Nearshore	760_HWL_VE_DDV_T001A_3	455287.79	6493494.63	18	7/21/2021	10:50	T001A (7)	T001A	
Nearshore	760_HWL_VE_DDV_T001A_4	455285.06	6493497.31	17	7/21/2021	10:50	T001A (8)	T001A	
Nearshore	760_HWL_VE_DDV_T001A_5	455277.67	6493504.89	17	7/21/2021	10:51	T001A (10)	T001A	
Nearshore	760_HWL_VE_DDV_T001A_6	455274.01	6493512.99	18	7/21/2021	10:51	T001A (12)	T001A	
Nearshore	760_HWL_VE_DDV_T002A_1	455224.69	6493427.85	18	7/21/2021	11:31	T002A (12)	T002A	
Nearshore	760_HWL_VE_DDV_T002A_2	455219.45	6493434.06	18	7/21/2021	11:31	T002A (13)	T002A	
Nearshore	760_HWL_VE_DDV_T002A_3	455211.09	6493442.08	18	7/21/2021	11:32	T002A (14)	T002A	
Nearshore	760_HWL_VE_DDV_T002A_4	455206.91	6493445.48	18	7/21/2021	11:32	T002A (15)	T002A	
Nearshore	760_HWL_VE_DDV_T002A_5	455194.77	6493456.94	18	7/21/2021	11:33	T002A (16)	T002A	
Nearshore	760_HWL_VE_DDV_T002A_6	455177.11	6493472.91	18	7/21/2021	11:34	T002A (17)	T002A	
Nearshore	760_HWL_VE_DDV_T003A_1	455518.83	6493426.55	14	7/21/2021	10:34	T003A (2)	T003A	
Nearshore	760_HWL_VE_DDV_T003A_2	455526.46	6493434.33	15	7/21/2021	10:34	T003A (4)	T003A	
Nearshore	760_HWL_VE_DDV_T003A_3	455532.33	6493439.25	14	7/21/2021	10:34	T003A (5)	T003A	
Nearshore	760_HWL_VE_DDV_T003A_4	455540.94	6493449.10	15	7/21/2021	10:35	T003A (7)	T003A	
Nearshore	760_HWL_VE_DDV_T003A_5	455550.36	6493461.13	15	7/21/2021	10:35	T003A (9)	T003A	
Nearshore	760_HWL_VE_DDV_T003A_6	455555.51	6493465.90	14	7/21/2021	10:35	T003A (10)	T003A	
Nearshore	760_HWL_VE_DDV_T004B_1	455251.08	6493338.13	13	7/21/2021	11:50	T004B (2)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_2	455242.07	6493344.19	14	7/21/2021	11:51	T004B (3)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_3	455235.30	6493348.66	15	7/21/2021	11:51	T004B (4)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_4	455225.76	6493356.43	15	7/21/2021	11:51	T004B (6)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_5	455221.26	6493361.24	15	7/21/2021	11:52	T004B (7)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_6	455214.77	6493367.56	15	7/21/2021	11:52	T004B (10)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_7	455210.09	6493372.92	16	7/21/2021	11:52	T004B (11)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_8	455200.87	6493377.98	16	7/21/2021	11:53	T004B (13)	T004B	
Nearshore	760_HWL_VE_DDV_T004B_9	455194.61	6493382.82	16	7/21/2021	11:53	T004B (14)	T004B	
Offshore	760_HWL_VE_DDV_T005_1	448296.16	6499151.17	67	7/9/2021	20:04	760_HWL_VE_DDV_T005_2021_07_09_0062	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_2	448293.99	6499142.71	67	7/9/2021	20:05	760_HWL_VE_DDV_T005_2021_07_09_0064	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_3	448290.61	6499130.76	67	7/9/2021	20:07	760_HWL_VE_DDV_T005_2021_07_09_0067	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_4	448287.39	6499123.03	67	7/9/2021	20:08	760_HWL_VE_DDV_T005_2021_07_09_0069	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_5	448284.55	6499115.17	67	7/9/2021	20:08	760_HWL_VE_DDV_T005_2021_07_09_0071	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_6	448283.38	6499108.88	67	7/9/2021	20:09	760_HWL_VE_DDV_T005_2021_07_09_0073	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_7	448281.08	6499100.59	67	7/9/2021	20:10	760_HWL_VE_DDV_T005_2021_07_09_0075	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T005_8	448274.07	6499078.43	67	7/9/2021	20:14	760_HWL_VE_DDV_T005_2021_07_09_0081	2021_07_09_200304242	
Offshore	760_HWL_VE_DDV_T006_1	448528.89	6499598.23	72	7/9/2021	18:52	760_HWL_VE_DDV_T006_2021_07_09_0042	2021_07_09_184729778	


Transect Photo Position List


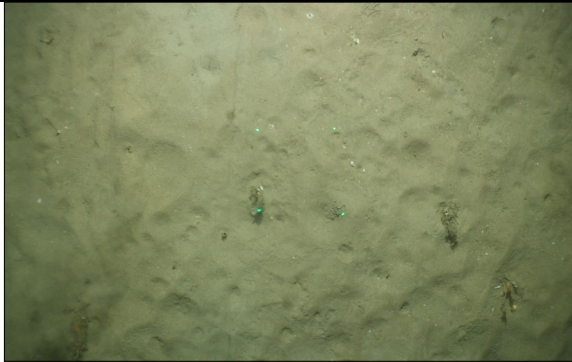





AREA	SAMPLE ID	EASTING	NORTHING	WATER DEPTH LAT (m)	DATE (yyyymmdd)	TIME (hh:mm)	RAW FILE	VIDEO REFERENCE	COMMENTS
		ETRS89 UTM30							
Offshore	760_HWL_VE_DDV_T006_2	448517.73	6499598.85	71	7/9/2021	18:52	760_HWL_VE_DDV_T006_2021_07_09_0044	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T006_3	448512.07	6499601.09	70	7/9/2021	18:53	760_HWL_VE_DDV_T006_2021_07_09_0047	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T006_4	448509.87	6499604.20	71	7/9/2021	18:56	760_HWL_VE_DDV_T006_2021_07_09_0050	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T006_5	448501.81	6499600.30	71	7/9/2021	18:57	760_HWL_VE_DDV_T006_2021_07_09_0053	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T006_6	448491.30	6499597.40	72	7/9/2021	18:58	760_HWL_VE_DDV_T006_2021_07_09_0055	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T006_7	448482.26	6499593.85	72	7/9/2021	19:00	760_HWL_VE_DDV_T006_2021_07_09_0060	2021_07_09_184729778	
Offshore	760_HWL_VE_DDV_T007_1	454571.27	6494566.37	39	7/10/2021	17:29	760_HWL_VE_DDV_T007_2021_07_10_0299	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_2	454578.60	6494571.81	39	7/10/2021	17:30	760_HWL_VE_DDV_T007_2021_07_10_0301	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_3	454584.83	6494575.93	39	7/10/2021	17:31	760_HWL_VE_DDV_T007_2021_07_10_0302	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_4	454591.89	6494581.21	40	7/10/2021	17:32	760_HWL_VE_DDV_T007_2021_07_10_0303	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_5	454598.28	6494588.87	40	7/10/2021	17:33	760_HWL_VE_DDV_T007_2021_07_10_0304	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_6	454607.11	6494594.90	40	7/10/2021	17:35	760_HWL_VE_DDV_T007_2021_07_10_0306	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_7	454613.47	6494599.90	40	7/10/2021	17:36	760_HWL_VE_DDV_T007_2021_07_10_0308	2021_07_10_172139469	
Offshore	760_HWL_VE_DDV_T007_8	454619.46	6494605.76	40	7/10/2021	17:37	760_HWL_VE_DDV_T007_2021_07_10_0310	2021_07_10_172139469	


GRAB SAMPLE ID	S001					 
DATE	2021-07-10 / 2021-07-11					
TIME (UTC)	22:50 / 14:19					
E/N	449105.4	6501281.33				
DEPTH	84 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Fine sand, Some shells, <i>Nemertesia</i> North: Fine sand with boulders, <i>Asterias rubens</i> , <i>Alcyonium digitatum</i> , encrusting sponge, <i>Pagurus</i> sp, polychaete tubes, faunal tracks. South: Fine sand, Shell debris, <i>Nemertesia</i> East: Fine sand, <i>Alcyonium digitatum</i> West: Fine sand, shell debris, <i>Pagurus</i> sp, Scaphopoda.					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	

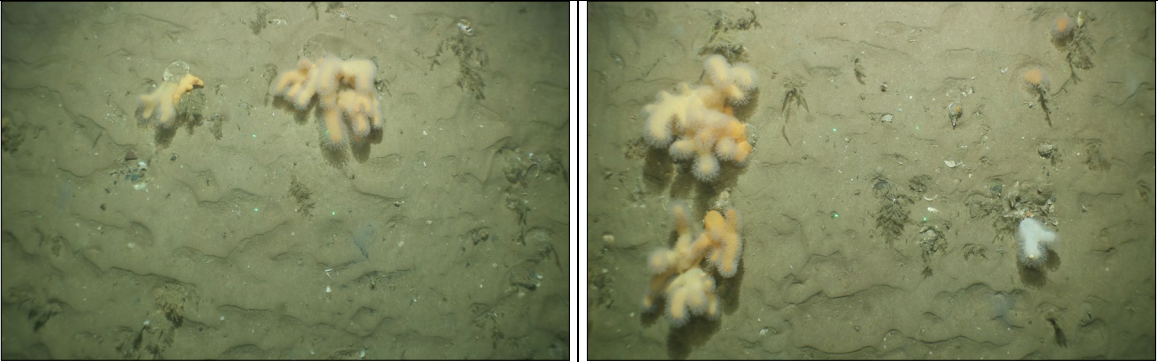



ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Slightly wash out. Fine sand. <i>Arctica islandica</i> returned in sea (size: 8 x 7 x 4 cm) 7 cm	5			X	X		Shell					Golden brown		N
F1 A	Rock stuck in between jaws. Discarded.														
F1 B	Rock stuck in between jaws. Discarded.														
F2	Slight wash out. 7 cm	5			X	X		Shell					Golden brown		N

CHE SAMPLE ID	S001					
DATE	2021-07-11					
TIME (UTC)	14:19					
E/N	449105.4	6501281.33				
DEPTH	84 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Rock stuck between jaws. Discarded.	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
PSA/CHE A	Rock stuck between jaws. Discarded.	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S002						
DATE	2021-07-09 / 2021-07-11						
TIME (UTC)	22:35 / 14:20						
E/N	449232.93	6502541.81					
DEPTH	102 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Fine sand North: Fine sand South: Fine sand, <i>Arctica islandica</i> shell, siphons Mollusca. East: Fine sand, Hydrozoan/ Bryozoan turf. West: Fine sand						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 1 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		

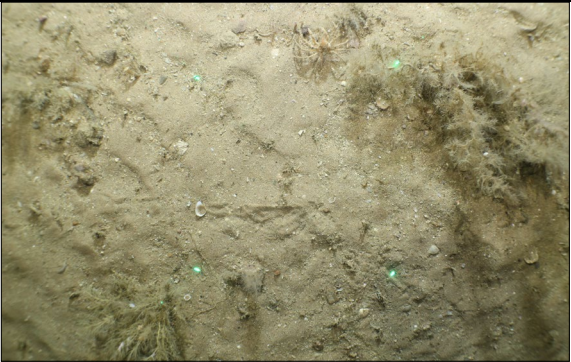


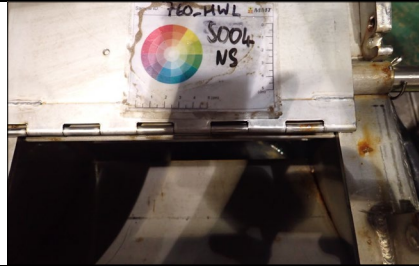
ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Fine sand 10 cm	7			X						X		Golden brown		N
F2	Fine sand, washout A. islandica stuck in jaws Discarded														
F2 A	Fine sand, slight washout Discarded														
F2 B	Washout Discarded														
F2 C	Fine sand 7 cm	5			X						X		Golden brown		Y

CHE SAMPLE ID	S002					
DATE	2021-07-11					
TIME (UTC)	14:20					
E/N	449232.93	6502541.81				
DEPTH	102 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S003					
DATE	2021-07-10 / 2021-07-11					
TIME (UTC)	02:02 / 15:24					
E/N	450324.0	6502170.5				
DEPTH	85 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	x	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Fine sand, Hydroids (<i>Nemertesia</i>) North: <i>Alcyonium digitatum</i> , <i>Flustra foliacea</i> , Scaphopoda South: Some boulders, <i>Alcyonium digitatum</i> , <i>Paguridae</i> East: Rippled sand with shell fragments, <i>Alcyonium digitatum</i> , hydrozoan/bryozoan turfs West: Fine sand with ripples, shell debris, <i>Ophiuroidea</i>					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 1 (5 + 1 mm)		F2: 1 (5 + 1 mm)		F3:	





ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Washed out. Fine sand. 4 cm	3			X			Shells					Golden brown		N
F1 A	Washed out. Discarded.														
F2	Washed out. 3 cm.	1.5			X	X		Shells					Golden brown		Y
F2 A	Washout. Discarded.														

CHE SAMPLE ID	S003					
DATE	2021-07-11					
TIME (UTC)	15:24					
E/N	450324.0	6502170.5				
DEPTH	50 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Washed out. Discarded.	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
PSA/CHE A	Washed out.	PSD	X			
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S004						
DATE	2021-07-10 / 2021-07-11						
TIME (UTC)	03:58 / 23:29						
E/N	451216	6503221					
DEPTH	82 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	x	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	<p>Centre: Coarse sand, gravel & occasional boulders, <i>Alcyonium digitatum</i>, Queen scallop, <i>Flustra foliacea</i>, <i>Spirobranchus triqueter</i>, Hydroids (Nemertesia), Geodia sponge, Encrusting sponge (<i>Hymedesmia paupertas</i>?)</p> <p>North: Cobbles & boulders. <i>Nemertesia</i>, <i>Pandalus</i>, <i>Alcyonium digitatum</i>, <i>Tunicates</i> (<i>Syndnum</i> sp?)</p> <p>South: Cobbles & boulders, Grey Gurnard, <i>Alcyonium digitatum</i>, hydrozoan turf, <i>Tubularian indivisia</i>.</p> <p>East: Cobbles & boulders, <i>Henrici</i> sp, <i>Alcyonium digitatum</i>, <i>Nemertesia</i>, Spider crab (<i>Majidae</i>).</p> <p>West: Coarse sand with gravel. Hydroids, <i>Alcyonium digitatum</i>, <i>Majidae</i>.</p>						
Sample Description							
Sample Stills							
No. containers of residual:	F1:	F2:	F3:				






ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	No sample due to cobbles in jaws.														
F1 A	No sample due to cobbles in jaws.														
F1 B	No sample due to cobble in jaws.														
F1 C	No sample due to cobble in jaws.														
F1 D	No sample due to cobble in jaws.														
F1 E	No sample due to cobble in jaws.														

CHE SAMPLE ID	S004					
DATE	2021-07-11					
TIME (UTC)	23:29					
E/N	451216	6503221				
DEPTH	50 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	x	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand with occasional cobbles.	PSD	X	X		
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S005					
DATE	2021-07-10 / 2021-07-12					
TIME (UTC)	06:23 / 02:23					
E/N	452779.31	6503229.03				
DEPTH	91 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Fine sand with ripples, <i>Arenicola marina</i> , <i>Lanice conchilega</i> North: Fine sand with ripples, <i>Alcyonium digitatum</i> , <i>Lanice conchilega</i> South: Fine sand with ripples East: <i>Arenicola marina</i> , <i>Nemertesia</i> , <i>Lanice conchilega</i> West: <i>Arenicola marina</i> , Polychaete tubes, <i>Lanice conchilega</i> ?					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	

ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Slight washout Fine sand. 10 cm	8			X						X		Golden brown		N
F2	Washout														
F2 A	Washout, shell stuck in jaws														
F2 B	Washout, shell stuck in jaws														
F2 C	Slight washout 7 cm	5			X						X		Golden brown		N

CHE SAMPLE ID	S005					
DATE	2021-07-12					
TIME (UTC)	02:23					
E/N	452779.31	6503229.03				
DEPTH	91 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	x	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine sand	PSD	X	X		
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S006						
DATE	2021-07-10 / 2021-07-12						
TIME (UTC)	08:07 / 03:58						
E/N	452488.28	6502027.93					
DEPTH	88 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Medium sand with ripples, <i>Lanice conchilega</i> North: Medium sand with ripples, <i>Pleuronectes platessa</i> South: Medium sand with ripples, Scaphopoda, <i>Lanice conchilega</i> East: Medium sand with ripples, Porifera West: Medium sand with ripples, <i>Arenicola marina</i> , <i>Lanice conchilega</i> , <i>Alcyonium digitatum</i> , <i>Pagurus</i> sp. Gastropoda, <i>Argopecten</i> .						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		

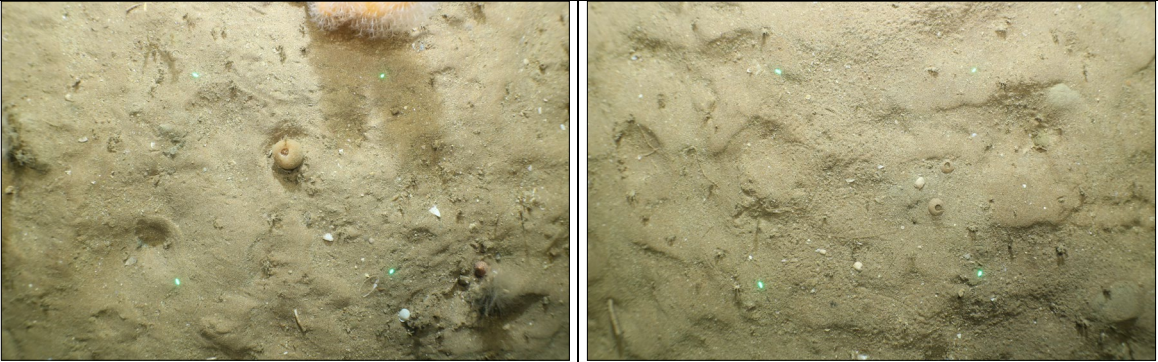



ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand 14 cm	12			X						X		Golden brown		N
F2	Washout Discarded														
F2 A	Washout Discarded														
F2 B	Washout Discarded														
F2 C	Sand, crushed, <i>Arctica islandica</i> . Slight washout 8 cm	6			X										

CHE SAMPLE ID	S006					
DATE	2021-07-12					
TIME (UTC)	03:58					
E/N	452488.28	6502027.93				
DEPTH	88 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S007						
DATE	2021-10-07 / 2021-07-12						
TIME (UTC)	05:10 / 01:13						
E/N	451460.14	6503901.93					
DEPTH	89 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Medium coarse sand, Hydroids, Scaphopoda, <i>Pagurus</i> sp. North: Medium coarse sand South: Medium coarse sand, <i>Nemertesia ramosa</i> , Gastropoda. East: Medium coarse sand, <i>Nemertesia ramosa</i> . West: <i>Raja Clavata</i> .						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1mm + 1 x 5 mm)		F3:		





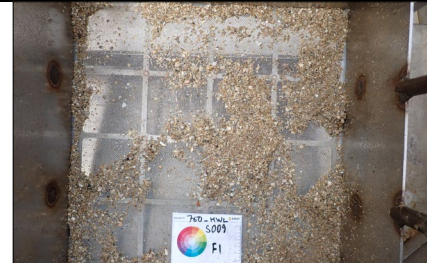
ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand with shells. 9 cm	7			X			Shells				X	Golden brown		N
F2	Sand with shells. 9 cm	7			X			Shells				X	Golden brown		N

CHE SAMPLE ID	S007					
DATE	2021-07-12					
TIME (UTC)	01:13					
E/N	451460.14	6503901.93				
DEPTH	89 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand with shells.	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S008					
DATE	2021-07-09 / 2021-07-11					
TIME (UTC)	16:19 / 11:48					
E/N	448864.34	6500435.65				
DEPTH	80 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Fine sand North: Fine sand, some gravel, <i>Alcyonium digitatum</i> East: Fine sand, <i>Paguridae</i> , <i>Ophiuroidea</i> , <i>Asterias rubens</i> South: Fine sand, few boulders, <i>Paguridae</i> , <i>Alcyonium digitatum</i> West: Fine sand					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	

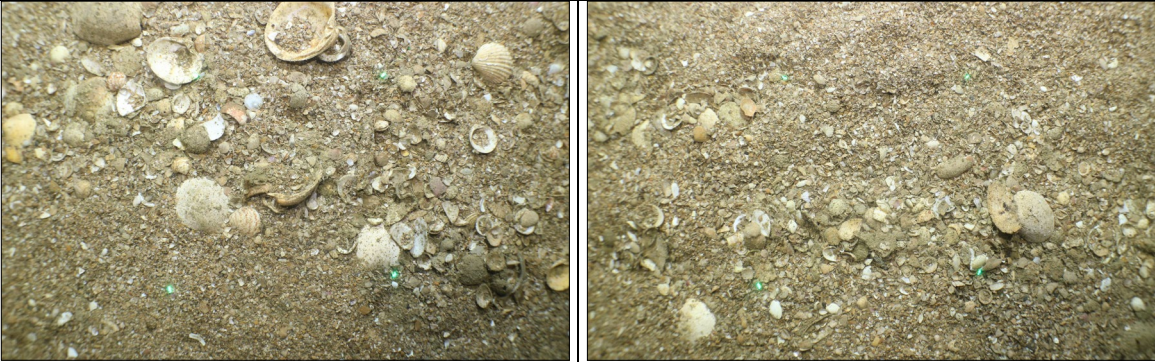

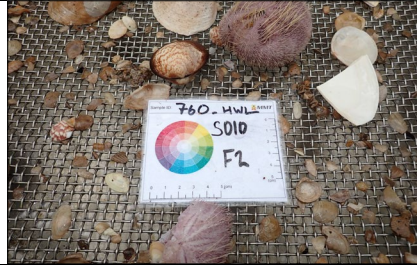

ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Washout Discarded														
F1 A	Fine sand, shell debris 5 cm	4			X			Shells			X		Golden brown		Y
F2	Fine sand, shell debris 6 cm First labelled as Chem A, then re-labelled as F2 and used for fauna.	6			X			Shells			X		Golden brown		Y

CHE SAMPLE ID	S008					
DATE	2021-07-11					
TIME (UTC)	11:48					
E/N	448864.34	6500435.65				
DEPTH	80 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Washout Discarded	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
PSA/CHE B	Fine sand	PSD				
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY				
PSA/CHE C	Fine sand	PSD	X			
		ORGANIC				
		METAL				
		RADIOACTIVITY	X			


GRAB SAMPLE ID	S009						
DATE	2021-07-09 / 2021-07-11						
TIME (UTC)	15:20 / 08:18						
E/N	450445.5	6500531.1					
DEPTH	77 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Fine sand with occasional boulders. <i>Alcyonium digitatum</i> . North: Fine sand, Octopus East: Fine Sand, <i>Alcyonium digitatum</i> , <i>Paguridae</i> . South: Mixed boulders. West: Mixed sediment.						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		

ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand 10 cm	7			X						X		Golden brown		N
F2	Sand, <i>Alcyonium digitatum</i> . 12 cm	10			X						X		Golden brown		N

CHE SAMPLE ID	S009					
DATE	2021-07-11					
TIME (UTC)	08:18					
E/N	450445.5	6500531.1				
DEPTH	77 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand with shell.	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S010					
DATE	2021-07-09 / 2021-07-11					
TIME (UTC)	09:24 / 10:03					
E/N	448938	6499839				
DEPTH	81 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Clean sand, with empty shells. North: Clean sand, with empty shells. East: Clean sand, with empty shells. South: Clean sand, with empty shells. West: Clean sand, with empty shells.					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 4 (3 x 1 mm + 1 x 5 mm)		F2: 6 (5 x 1 mm + 1 x 6 mm)		F3:	

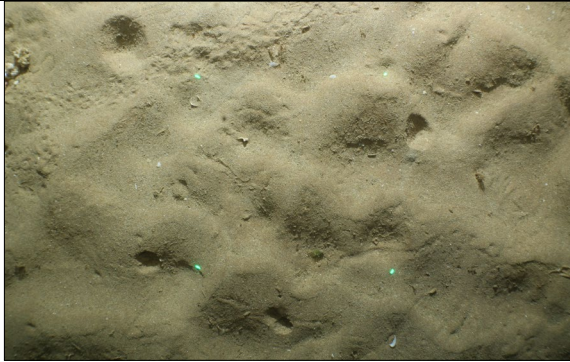


ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand with shells 10 cm	7			X			Shells			X		Variable		N
F2	Sand 12 cm	9			X			Shells			X		Variable		N

CHE SAMPLE ID	S010					
DATE	2021-07-11					
TIME (UTC)	10:03					
E/N	448938	6499839				
DEPTH	81 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Shell and small volume of sand.	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S011					
DATE	2021-07-10 / 2021-07-11					
TIME (UTC)	11:22 / 05:14					
E/N	451776.67				451776.67	
DEPTH	73 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Center: Sand, Haddock, <i>Gobbidea</i> , <i>Asterias rubens</i> North: Sand West: Sand, <i>Ophiura sarsii</i> South: Sand East: Sand					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	

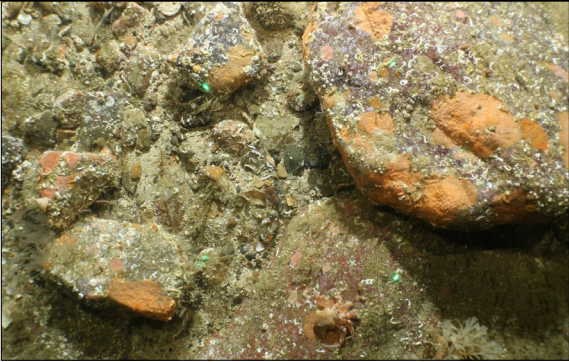

ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand Bivalvia, Annelida, Ophiuroidea. 10 cm	7			X						X		Golden brown		N
F2	Sand Bivalvia, Annelida, Ophiuroidea. 10 cm	7			X						X		Golden brown		N

CHE SAMPLE ID	S011					
DATE	2021-07-11					
TIME (UTC)	05:14					
E/N	451776.67	451776.67				
DEPTH	73 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				

GRAB SAMPLE ID	S012						
DATE	2021-07-10 / 2021-07-11						
TIME (UTC)	09:48 / 07:14						
E/N	451997.35	6499838.73					
DEPTH	86 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Medium fine sand, <i>Arenicola marina</i> , Polychete tubes, Scaphopoda. North: Medium fine sand, Hydroids, <i>Limanda Limanda?</i> South: Medium fine sand, <i>Ophiuroidea</i> , <i>Arenicola marina</i> , Hydroids, faunal tracks. East: Medium fine sand, <i>Lanice conchilega</i> , faunal tracks. West: Medium fine sand, <i>Flustra foliacea</i>						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		





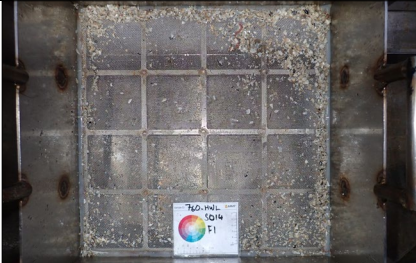
ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	No sample due to <i>Arctica Islandica</i> in between the jaws of the grab. Discarded														
F1 A	<i>Arctica islandica</i> crushed shell. 10 cm	7			X						X		Golden brown		N
F2	<i>Arctica islandica</i> crushed shell. 9 cm	6			X						X		Golden brown		N

CHE SAMPLE ID	S012					
DATE	2021-07-11					
TIME (UTC)	07:14					
E/N	451997.35	6499838.73				
DEPTH	86 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S013						
DATE	2021-07-10						
TIME (UTC)	16:30						
E/N	454014.54	6494237.39					
DEPTH	44 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV		HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	<p>Centre: Rocky reef and boulders, encrusting polychaetes, <i>Gibbula</i>, <i>Asterias rubens</i>, <i>Paguridae</i>, <i>Nemertesia</i>. North: Rocky reef and boulders, encrusting polychaetes, <i>Flustra foliacea</i>, Hydrozoan\ Bryozoan turf South: Rocky reef and boulders, encrusting polychaetes, <i>Flustra foliacea</i>, <i>Spirobranchus</i>, <i>Paguridae</i>, <i>Asterias rubens</i>, hydrozoan\ bryozoan turf, Echinoidea, <i>Acadians</i>, encrusting red algae, <i>Munida</i>. East: More sand, <i>Luidia</i>, <i>Ophiuroidea</i>, <i>Paguridae</i>. West: More sand, <i>Luidia</i>, <i>Ophiuroidea</i>, <i>Paguridae</i>.</p>						
Sample Description	No grab sampling attempted at the site.						
Sample Stills							
No. containers of residual:	F1:		F2:		F3:		





ENV SCIENTIST:		Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
	No grab sampling attempted at the site														

CHE SAMPLE ID						
DATE						
TIME (UTC)						
E/N						
DEPTH						
VESSEL						
SAMPLER						
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
	No grab sampling attempted at the site	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S014						
DATE	2021-07-10 / 2021-07-11						
TIME (UTC)	13:12 / 02:34						
E/N	453141.2	6496593.92					
DEPTH	48 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Sand, digging sea urchin? North: Sand, <i>Flustra foliacea</i> , Gurnard South: Sand East: Sand West: Sand, <i>Paguridae</i>						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		






ENV SCIENTIST:	ED + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Sand Ophiuroidea, Annelida. 11 cm	8			X						X		Golden brown		N
F2	Ophiuroidea, Annelida. 10 cm	8			X						X		Golden brown		N

CHE SAMPLE ID	S014					
DATE	2021-07-11					
TIME (UTC)	02:34					
E/N	453141.2	6496593.92				
DEPTH	48 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S015						
DATE	2021-07-10 / 2021-07-12						
TIME (UTC)	14:44 / 09:21						
E/N	454071.27			6494691.99			
DEPTH	48 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG	X	
MESH SIZE	5 mm over 1 mm						
DDV Description	<p>Centre: Gravel coarse sand, <i>Paguridae</i>. North: Gravel core sand, several Small spotted cat shark (<i>Scyliorhinus canicula</i>), <i>Paguridae</i>. South: Gravel located in troughs East: Gravel and cobbles, <i>Pleuronectiforms</i> West: Gravel, <i>Paguridae</i>.</p>						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 6 (2 x 5 mm + 3 x 1 mm)		F2: 6 (3 x 5 mm + 3 x 1 mm)		F3:		

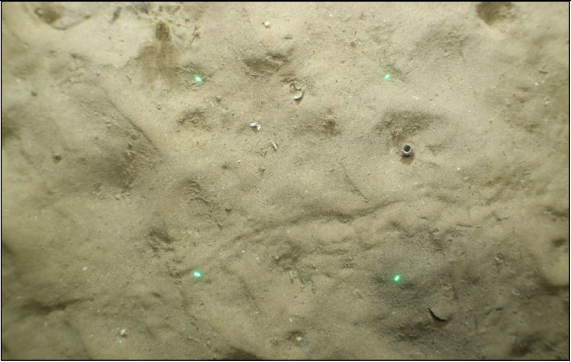




ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Dual Van Veen No sample due to rock in jaws.														
F1 A	Hamon grab Gravel, no conspicuous fauna.	8		X	X	X						X	Variable		N
F2	Hamon grab Gravel, no conspicuous fauna.	8		X	X	X						X	Variable		N

CHE SAMPLE ID	S015						
DATE	2021-07-12						
TIME (UTC)	09:21						
E/N	454071.27	6494691.99					
DEPTH	48 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG	X	
ATTEMPTS	PSA and CHEMICAL SAMPLES						
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS		
PSA/CHE	Dual Van Veen No sample due to rock in jaws.	PSD					
		ORGANIC					
		METAL					
		RADIOACTIVITY					
PSA/CHE A	Hamon grab Gravel, slightly sandy.	PSD	X				
		ORGANIC	X				
		METAL	X				
		RADIOACTIVITY	X				
		PSD					
		ORGANIC					
		METAL					
		RADIOACTIVITY					


GRAB SAMPLE ID	S016							
DATE	2021-07-10 / 2021-07-12							
TIME (UTC)	15:35 / 12:04							
E/N	454067.28		6494439.74					
DEPTH	45 m							
VESSEL	EGS Ventus							
SAMPLER	DG		DVV	X	HG	X		
MESH SIZE	5 mm over 1 mm							
DDV Description	<p>Centre: Boulders, <i>Alcyonium digitatum</i>, <i>Caryophyllia smithii</i> North: Sand, shell debris, occasional boulders, <i>Caryophyllia smithii</i> South: Coarse sand, some shells and debris, Gobiidae, <i>Spirobranchus</i>, <i>Flustra foliacea</i> East: Boulders, Echinoidea, <i>Paguridae</i>, <i>Alcyonium digitatum</i> West: Sand and shell debris with occasional boulders, <i>Alcyonium digitatum</i>.</p>							
Sample Description								
Sample Stills								
No. containers of residual:	F1: 5 (4 x 1 mm + 1 x 5 mm)		F2: 4 (1 x 5 mm + 3 x 1 mm)		F3:			

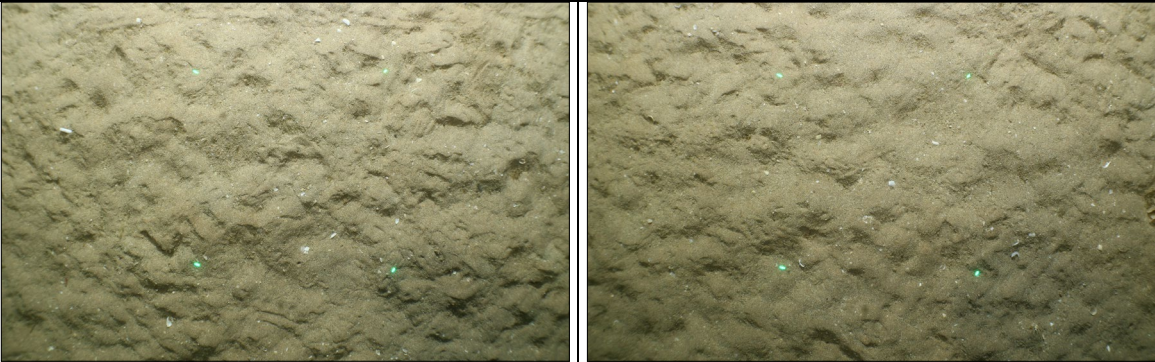

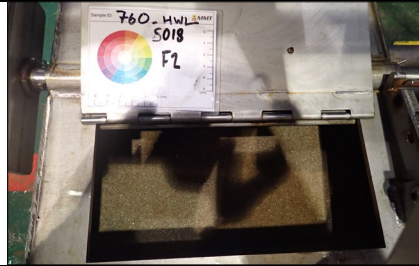

ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Dual Van Veen No sample due to rock in jaws.														
F1 A	Hamon grab Gravelly shell sand, some cobbles	9			X	X	X	Shells					Variable		N
F2	Hamon grab Shell sand, shells	8			X	X		Shells					Variable		N

CHE SAMPLE ID	S016						
DATE	2021-07-12						
TIME (UTC)	12:04						
E/N	454067.28	6494439.74					
DEPTH	45 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG	X	
ATTEMPTS	PSA and CHEMICAL SAMPLES						
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS		
PSA/CHE	Dual Van Veen No sample due to rock in jaws.	PSD					
		ORGANIC					
		METAL					
		RADIOACTIVITY					
PSA/CHE A	Hamon grab Gravelly shell sand, some cobbles	PSD	X				
		ORGANIC	X				
		METAL	X				
		RADIOACTIVITY	X				
		PSD					
		ORGANIC					
		METAL					
		RADIOACTIVITY					


GRAB SAMPLE ID	S017						
DATE	2021-07-09 / 2021-07-11						
TIME (UTC)	21:37 / 20:37						
E/N	448861.94	6503393.64					
DEPTH	105 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Silty sand, Hydrozoan/ Bryozoan turf, siphon Mollusca. North: Fine sand, <i>Ophiuroidea</i> , <i>Alcyonium digitatum</i> , siphon Mollusca East: Silty sand, empty shells, siphon Mollusca South: Silty sand, Hydrozoan/ Bryozoan turf West: Silty sand, <i>Arctica islandica</i> shell, Hydrozoan/ Bryozoan turf						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		






ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Fine muddy sand 10 cm	7		X	X						X		Grey brown		N
F2	Fine muddy sand 7 cm	5		X	X						X		Grey brown		N

CHE SAMPLE ID	S017					
DATE	2021-07-11					
TIME (UTC)	20:37					
E/N	448861.94	6503393.64				
DEPTH	105 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine muddy sand	PSD	X	X		
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X	X		
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S018					
DATE	2021-07-10 / 2021-07-11					
TIME (UTC)	13:59 / 01:14					
E/N	453789	6495698				
DEPTH	46 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Sand, <i>Paguridae</i> North: Sand, <i>Pleuronectiforms</i> , <i>Paguridae</i> , South: Sand, Bryozoan/ Hydrozoan turf, <i>Paguridae</i> . East: Sand, <i>Paguridae</i> . West: Sand, <i>Paguridae</i> several.					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	





ENV SCIENTIST:	ED + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Fine sand, small numbers of polychaetes and Annelida worms. 10 cm	7			X						X		Golden brown		N
F2	Fine sand, Ophiuroidea, Polychaetes, Annelida. 12 cm	9			X						X		Golden brown		N

CHE SAMPLE ID	S018					
DATE	2021-07-11					
TIME (UTC)	01:14					
E/N	453789	6495698				
DEPTH	46 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S019						
DATE	2021-07-10 / 2021-07-11						
TIME (UTC)	12:22 / 04:20						
E/N	452437.13	6497554.94					
DEPTH	59 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV	X	HG		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Sand, <i>Pleuronectiforms</i> (European plaice) North: Sand, Hydrozoan/Bryozoan turf South: Sand East: Sand, Scaphopoda West: Sand, Hydrozoan/Bryozoan turf, Welk eggs						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		


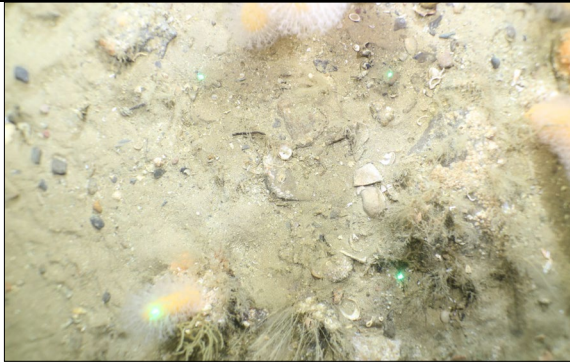



ENV SCIENTIST:	EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Ophiuroidea, Annelida, <i>Echinocardium cordatum</i> . 10 cm	7			X						X		Golden brown		N
F2	Ophiuroidea, Annelida, <i>Echinocardium cordatum</i> . 10 cm	7			X						X		Golden brown		N

CHE SAMPLE ID	S019					
DATE	2021-07-11					
TIME (UTC)	04:20					
E/N	452437.13	6497554.94				
DEPTH	59 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Fine sand	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S020					
DATE	2021-07-10 / 2021-07-11					
TIME (UTC)	03:05 / 16:47					
E/N	450611	6502466				
DEPTH	88 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
MESH SIZE	5 mm over 1 mm					
DDV Description	Centre: Fine rippled sand, Echiura, <i>Lanica conchilega</i> , <i>Aequipecten opercularis</i> ? North: Fine rippled sand, Scaphopoda, Hydroid (<i>Nemertesia</i>), encrusting sponge South: Fine rippled sand, shell fragments, Hydroids (<i>Nemertesia</i>) East: Fine sand rippled sand, <i>Alcyonium digitatum</i> , Hydroids West: Fine rippled sand, Hydroids (<i>Nemertesia</i>), <i>Alcyonium digitatum</i> , <i>Paguridae</i> , <i>Polychaete</i> tubes					
Sample Description						
Sample Stills						
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:	


ENV SCIENTIST:	RK + FF	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Slightly washed out. Sand and shells.														
F1 A	Fine sand and gravels, shells. 7 cm	6			X	X		Shells				X	Golden brown		Y
F2	Fine sand, shell gravel. 7 cm	6			X	X	X	Shells				X	Golden brown		N


CHE SAMPLE ID	S020					
DATE	2021-07-11					
TIME (UTC)	16:47					
E/N	450611	6502466				
DEPTH	88 m					
VESSEL	EGS Ventus					
SAMPLER	DG		DVV	X	HG	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Sand, some shells	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				


GRAB SAMPLE ID	S021						
DATE	2021-07-09 / 2021-07-12						
TIME (UTC)	14:06 / 12:04						
E/N	449487.74	6500886.27					
DEPTH	77 m						
VESSEL	EGS Ventus						
SAMPLER	DG		DVV		HG X		
MESH SIZE	5 mm over 1 mm						
DDV Description	Centre: Fine sand, Rocks encrusted by Polychaetes, <i>Paguridae</i> , shells of <i>Arctica Islandica</i> , <i>Pleuronectiforms</i> North: Fine sand, <i>Alcyonium digitatum</i> East: fine sand, <i>Alcyonium digitatum</i> South: Small spotted Catshark, <i>Cancer Pagurus</i> , cushion stars West: Less boulders, same fauna						
Sample Description							
Sample Stills							
No. containers of residual:	F1: 2 (1 x 1 mm + 1 x 5 mm)		F2: 2 (1 x 1 mm + 1 x 5 mm)		F3:		

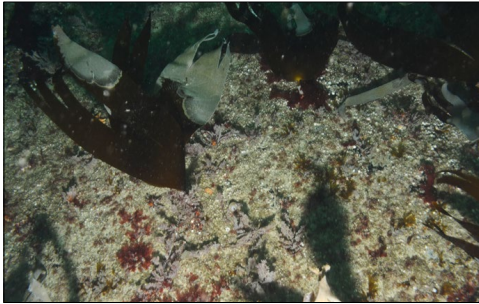
ENV SCIENTIST:	RK + FF / EL + AH	Volume (L)	CLAY	SILT	SAND	GRAVEL	BOULDERS	DEBRIS	SOFT	STIFF	WELL SORTED	UNSORTED	TOP LAYER COLOUR	SEDIMENT COLOUR	HYDROGEN-SULPHIDE
ATTEMPTS	Comments														
F1	Dual Van Veen Rock stuck in jaws, <i>Alcyonium digitatum</i> . Discarded.														
F1 A	Hamon grab Low volume Mixed sediment	5		X	X	X	X					X	Variable		N
F2	Hamon grab Low volume Mixed sediment	3		X	X	X	X					X	Variable		N

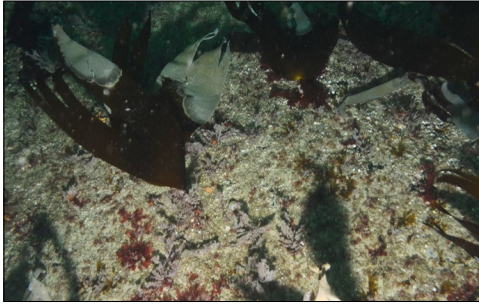
CHE SAMPLE ID	S021					
DATE	2021-07-12					
TIME (UTC)	12:04					
E/N	449487.74	6500886.27				
DEPTH	77 m					
VESSEL	M/V					
SAMPLER	DG		DVV		HG X	
ATTEMPTS	PSA and CHEMICAL SAMPLES					
	SAMPLE DESCRIPTION	TYPE	PRIMARY	BACKUP	COMMENTS	
PSA/CHE	Dual Van Veen Rock stuck in jaws, Discarded.	PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				
PSA/CHE A	Hamon grab Mixed sediments Low volume	PSD	X			
		ORGANIC	X			
		METAL	X			
		RADIOACTIVITY	X			
		PSD				
		ORGANIC				
		METAL				
		RADIOACTIVITY				

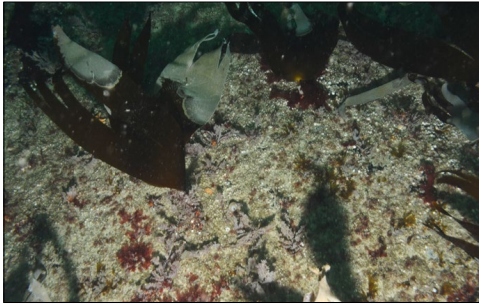
ENV SCIENTIST		RC + PC		SUBSTRATE						ANNEX I							
TRANSECT ID		T001			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455330															
N START		6493457															
E END		455274															
N END		6493514															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
16:06:00	15-17	0	Flat bedrock plateau and cobbles with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.				X	X								Potential Annex I (1170)	
16:06:40	15-17	10	Flat bedrock plateau and cobbles with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.				X	X								Potential Annex I (1170)	
16:07:20	15-17	20	Flat bedrock plateau and cobbles with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.				X	X								Potential Annex I (1170)	
16:08:00	15-17	30	Several parallel raised bedrock ridges and associated boulders running approximately perpendicular to the transect with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) were particularly prevalent on the inclined vertical faces of the bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>).		X		X	X								Potential Annex I (1170)	

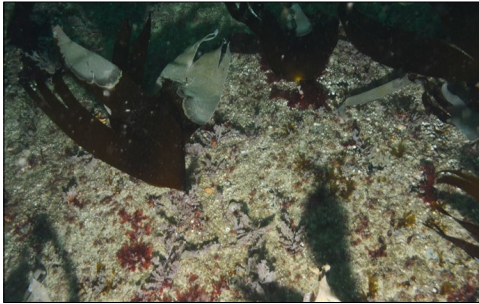
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I							
TRANSECT ID		T001			<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>	MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455330																
N START		6493457																
E END		455274																
N END		6493514																
VESSEL		SEP Pulsar																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION															
16:08:40	15-17	40	Several parallel raised bedrock ridges and associated boulders running approximately perpendicular to the transect with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) were particularly prevalent on the inclined vertical faces of the bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							
16:09:20	15-17	50	Several parallel raised bedrock ridges and associated boulders running approximately perpendicular to the transect with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) were particularly prevalent on the inclined vertical faces of the bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							
16:10:00	15-17	60	Several parallel raised bedrock ridges and associated boulders running approximately perpendicular to the transect with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) were particularly prevalent on the inclined vertical faces of the bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T001			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455330															
N START	6493457															
E END	455274															
N END	6493514															
VESSEL	SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION	MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
16:10:40	15-187	70	Several parallel raised bedrock ridges and associated boulders running approximately perpendicular to the transect with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) were particularly prevalent on the inclined vertical faces of the bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>).		X		X	X		Potential Annex I (1170)						
16:11:25	15-17	80	Rippled sand with no visible epifauna.		X											
16:12:00	15-17	90	Rippled sand with no visible epifauna.		X											


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T001A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455330															
N START		6493454															
E END		455274															
N END		6493517															
VESSEL		SEP Pulsar															
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
10:47:00	15-17	0	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.		X		X	X								Potential Annex I (1170)	
10:47:30	15-17	10	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.		X		X	X								Potential Annex I (1170)	
10:48:00	15-17	20	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.		X		X	X								Potential Annex I (1170)	
10:48:30	15-17	30	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.		X		X	X								Potential Annex I (1170)	


ENV SCIENTIST		RC + PC		SUBSTRATE						ANNEX I							
TRANSECT ID		T001A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455330															
N START		6493454															
E END		455274															
N END		6493517															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
10:49:00	15-17	40	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae.		X		X	X								Potential Annex I (1170)	
10:49:30	15-17	50	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) on more elevated areas of bedrock and inclined edges of bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>) common sea star (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma ziphyphinum</i>).		X		X	X								Potential Annex I (1170)	
10:50:00	15-17	60	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) on more elevated areas of bedrock and inclined edges of bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>) common sea star (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma ziphyphinum</i>).		X		X	X								Potential Annex I (1170)	


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T001A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455330															
N START		6493454															
E END		455274															
N END		6493517															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
10:50:30	15-17	70	Irregular bedrock overlain in places by patchy thin veneer of sand and sporadic small cobbles, with attached oarweed (<i>Laminaria</i> sp.), hydroids (Hydrozoa) and macroalgae. Dead man's fingers (<i>Alcyonium digitatum</i>) on more elevated areas of bedrock and inclined edges of bedrock ridges. Edible sea urchin (<i>Echinus esculentus</i>) common sea star (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
10:51:00	15-17	80	Rippled sand		X												
10:51:30	15-17	90	Rippled sand		X												


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T001A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455330															
N START	6493454															
E END	455274															
N END	6493517															
VESSEL	SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
10:52:00	15-17	100	Rippled sand and flatfish (Pleuronectiformes sp.)													


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T002			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455225															
N START	6493429															
E END	455183															
N END	6493469															
VESSEL	SEP Pulsar															
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
16:53:00	17-18	0	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa), barnacles (Cirripedia spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>) and sea stars (Asteroidea). One or more shoal of unidentified small juvenile fish.		X		X	X		Potential Annex I (1170)						
16:53:30	17-18	10	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa), barnacles (Cirripedia spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>) and sea stars (Asteroidea). One or more shoal of unidentified small juvenile fish.		X		X	X		Potential Annex I (1170)						
16:54:00	17-18	20	Rippled sand with no visible epifauna.		X											


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T002			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455225															
N START		6493429															
E END		455183															
N END		6493469															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
16:54:30	17-18	30	Rippled sand with no visible epifauna.		X												
16:55:00	17-18	40	Rippled sand with no visible epifauna.		X												
16:55:30	15-18	50	Rippled sand with no visible epifauna.		X												
16:56:00	17-18	60	Rippled sand with no visible epifauna.		X												

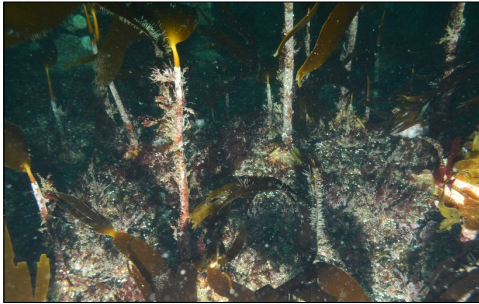
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I								
TRANSECT ID		T002A			MUD SAND GRAVEL COBBLES/BOULDERS BEDROCK SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180							
E START		455263																	
N START		6493393																	
E END		455178																	
N END		6493473																	
VESSEL		SEP Pulsar																	
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																			
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION																
11:29:00	17-18	0	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa incl. poss. <i>Obelia geniculata</i>), barnacles (Cirripedia spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X			Potential Annex I (1170)								
11:29:30	17-18	10	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa incl. poss. <i>Obelia geniculata</i>), barnacles (Cirripedia spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X			Potential Annex I (1170)								

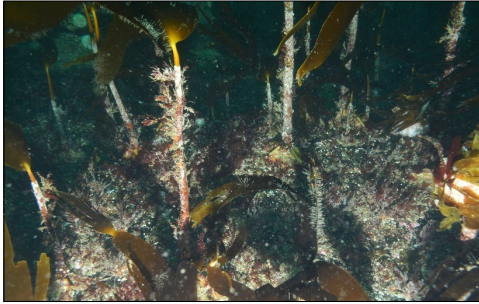
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I					
TRANSECT ID		T002A			MUD SAND GRAVEL COBBLES/BOULDERS BEDROCK SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180				
E START		455263														
N START		6493393														
E END		455178														
N END		6493473														
VESSEL		SEP Pulsar														
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
11:30:00	17-18	20	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa incl. poss. <i>Obelia geniculata</i>), barnacles (<i>Cirripedia</i> spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).								Potential Annex I (1170)					
11:30:30	17-18	30	Irregular bedrock and boulders with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and hydroids (Hydrozoa incl. poss. <i>Obelia geniculata</i>), barnacles (<i>Cirripedia</i> spp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).								Potential Annex I (1170)					
11:31:00	17-18	40	Boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of boulders. Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).								Potential Annex I (1170)					


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I					
TRANSECT ID		T002A			MUD SAND GRAVEL COBBLES/BOULDERS BEDROCK SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180				
E START		455263														
N START		6493393														
E END		455178														
N END		6493473														
VESSEL		SEP Pulsar														
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
11:31:30	17-18	50	Boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of boulders. Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).		X		X				Potential Annex I (1170)					
11:32:00	17-18	60	Boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of boulders. Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).		X		X				Potential Annex I (1170)					
11:32:30	17-18	70	Boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp.) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of boulders. Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).		X		X				Potential Annex I (1170)					
11:33:00	17-18	80	Rippled sand with no visible epifauna.		X											


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T002A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455263															
N START	6493393															
E END	455178															
N END	6493473															
VESSEL	SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
11:33:30	17-18	90	Rippled sand with no visible epifauna.													
11:34:00	17-18	100	Rippled sand with no visible epifauna.													


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T003			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455570															
N START		6493491															
E END		455504															
N END		6493416															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
15:48:00	14-15	0	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:48:30	14-15	10	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:49:00	14-15	20	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:49:30	14-15	30	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T003			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455570															
N START		6493491															
E END		455504															
N END		6493416															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
15:50:00	14-15	40	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:50:30	14-15	50	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:51:00	14-15	60	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									
15:51:30	14-15	70	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).				X	X									

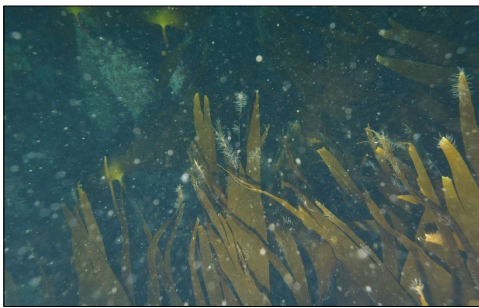
ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T003			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455570															
N START	6493491															
E END	455504															
N END	6493416															
VESSEL	SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
15:52:00	14-15	80	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).													
15:52:30	14-15	90	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa). Edible sea urchins (<i>Echinus esculentus</i>) and common sea stars (<i>Asterias rubens</i>).													

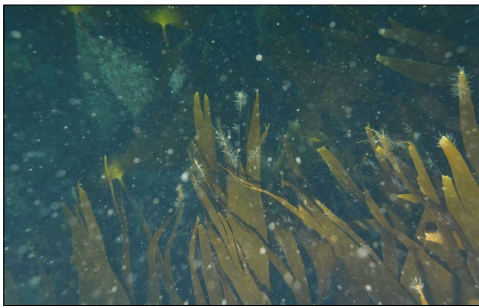
ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T003A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	454526															
N START	6493414															
E END	454594															
N END	6493484															
VESSEL	SEP Pulsar															
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
10:32:30	14-15	0	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>).													
10:33:00	14-15	10	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>).													
10:33:30	14-15	20	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>).													

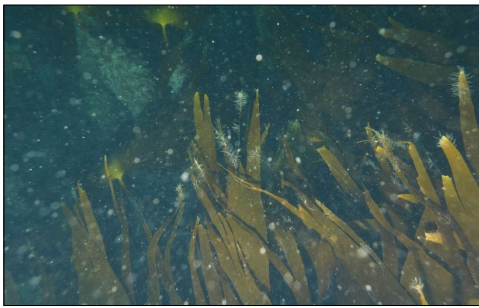
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T003A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		454526															
N START		6493414															
E END		454594															
N END		6493484															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
10:34:00	14-15	30	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).				X	X								Potential Annex I (1170)	
10:34:30	14-15	40	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).				X	X								Potential Annex I (1170)	
10:35:00	14-15	50	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).				X	X								Potential Annex I (1170)	

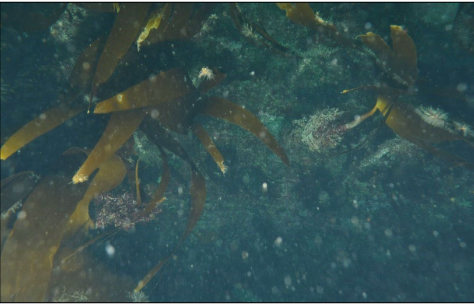
ENV SCIENTIST		RC + PC		SUBSTRATE						ANNEX I							
TRANSECT ID		T003A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		454526															
N START		6493414															
E END		454594															
N END		6493484															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
10:35:30	14-15	60	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>).				X	X								Potential Annex I (1170)	
10:36:00	14-15	70	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).				X	X								Potential Annex I (1170)	
10:36:30	14-15	80	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).				X	X								Potential Annex I (1170)	


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I								
TRANSECT ID	T003A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180		
E START	454526																	
N START	6493414																	
E END	454594																	
N END	6493484																	
VESSEL	SEP Pulsar																	
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																		
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION															
10:37:00	14-15	90	Irregular bedrock and cobbles, with attached oarweed (<i>Laminaria</i> sp.), macroalgae (including distinctive Rhodophyta sp.) and hydroids (Hydrozoa, incl. poss. <i>Obelia geniculata</i>). Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>), common sun star (<i>Crossaster papposus</i>), painted top shell (<i>Calliostoma zizyphinum</i>) and velvet swimming crab (<i>Necora puber</i>).															
						X	X		Potential Annex I (1170)									


ENV SCIENTIST	RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID	T004			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	455211															
N START	6493308															
E END	455262															
N END	6493359															
VESSEL	SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
17:10:00	8-14	0	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa).													
17:10:20	8-14	10	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa).													
17:10:40	8-14	20	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).													

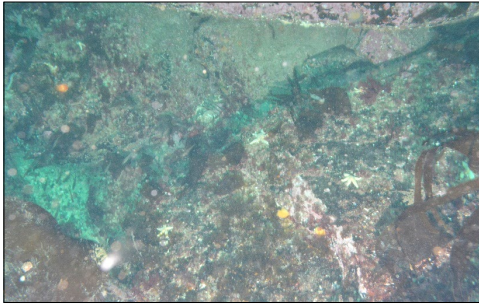
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I					
TRANSECT ID		T004			MUD SAND GRAVEL COBBLES/BOULDERS BEDROCK SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180				
E START		455211														
N START		6493308														
E END		455262														
N END		6493359														
VESSEL		SEP Pulsar														
1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
17:11:00	8-14	30	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X			Potential Annex I (1170)					
17:11:20	8-14	40	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X			Potential Annex I (1170)					
17:11:40	8-14	50	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X			Potential Annex I (1170)					

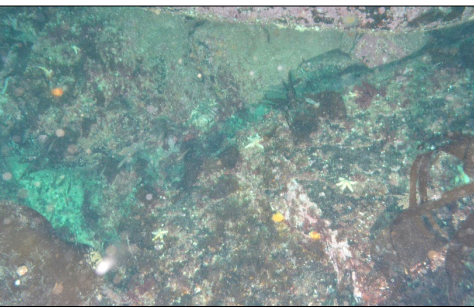
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455211															
N START		6493308															
E END		455262															
N END		6493359															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
17:12:00	8-14	60	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:12:20	8-14	70	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:12:40	8-14	80	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	

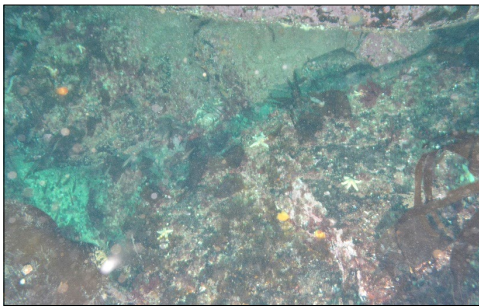
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455249															
N START		6493355															
E END		455202															
N END		6493307															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
17:15:00	8-14	0	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa).				X	X								Potential Annex I (1170)	
17:15:20	8-14	10	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa).				X	X								Potential Annex I (1170)	
17:15:40	8-14	20	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	

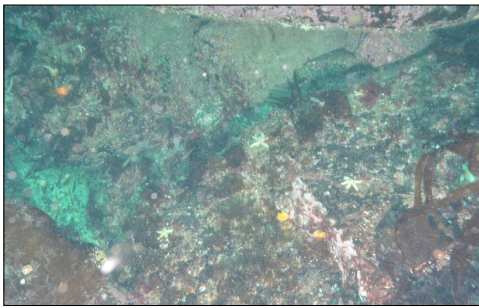
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455249															
N START		6493355															
E END		455202															
N END		6493307															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
17:16:00	8-14	30	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:16:20	8-14	40	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:16:40	8-14	50	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	

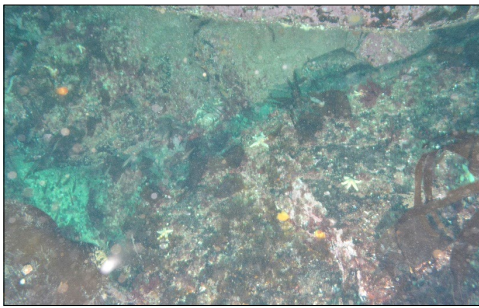
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004A			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455249															
N START		6493355															
E END		455202															
N END		6493307															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
17:17:00	8-14	60	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:17:20	8-14	70	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	
17:17:40	8-14	80	Irregular bedrock and boulders with attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae), hydroids (Hydrozoa) and macroalgae, with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).				X	X								Potential Annex I (1170)	

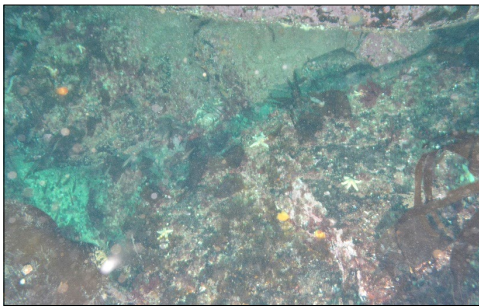
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I							
TRANSECT ID		T004B			<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>	MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293																
N START		6493309																
E END		455186																
N END		6493391																
VESSEL		SEP Pulsar																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION															
11:48:00	8-14	0	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta). Edible sea urchins (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							
11:48:30	8-14	10	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							
11:49:00	8-14	20	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>).		X		X	X			Potential Annex I (1170)							

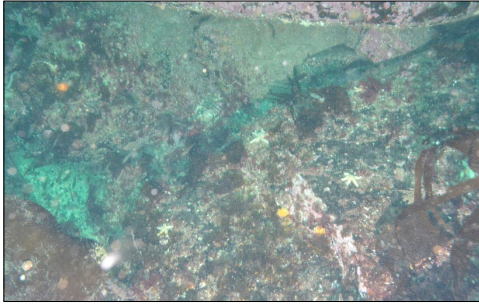
ENV SCIENTIST		RC + PC		SUBSTRATE						ANNEX I						
TRANSECT ID		T004B														
E START		455293														
N START		6493309														
E END		455186														
N END		6493391														
VESSEL		SEP Pulsar														
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																MUD
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
11:49:30	8-14	30	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>).		X		X	X		Potential Annex I (1170)						
11:50:00	8-14	40	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>).		X		X	X		Potential Annex I (1170)						

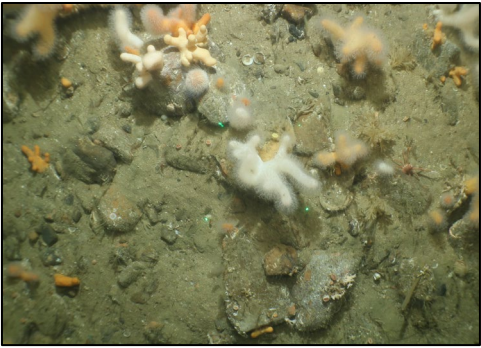
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004B			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293															
N START		6493309															
E END		455186															
N END		6493391															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
11:50:30	8-14	50	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
11:51:00	8-14	60	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	

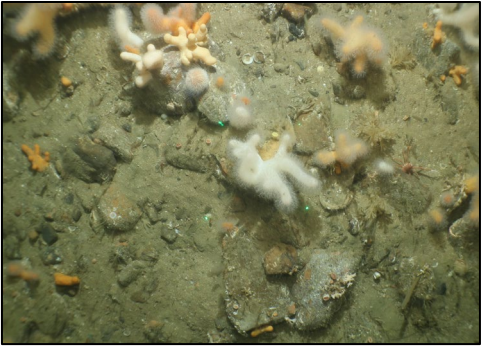
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004B			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293															
N START		6493309															
E END		455186															
N END		6493391															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
11:51:30	8-14	70	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
11:52:00	8-14	80	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	

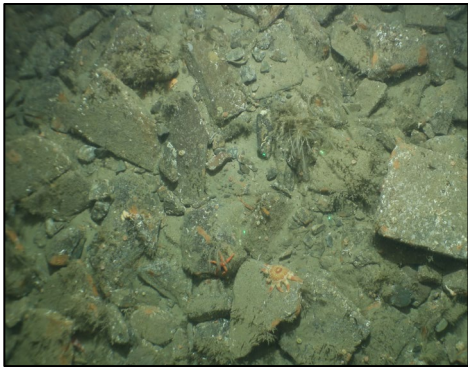
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004B			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293															
N START		6493309															
E END		455186															
N END		6493391															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
11:52:30	8-14	90	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
11:53:00	8-14	100	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	

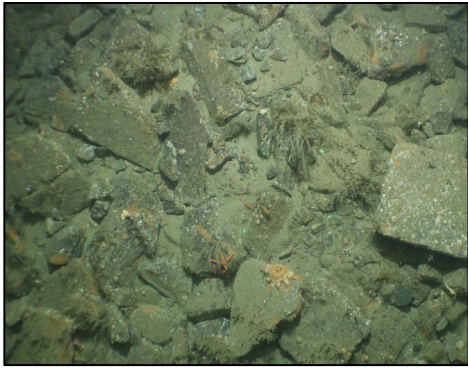
ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004B			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293															
N START		6493309															
E END		455186															
N END		6493391															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
11:53:30	8-14	110	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
11:54:00	8-14	120	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	


ENV SCIENTIST		RC + PC			SUBSTRATE						ANNEX I						
TRANSECT ID		T004B			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		455293															
N START		6493309															
E END		455186															
N END		6493391															
VESSEL		SEP Pulsar															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
11:54:30	8-14	130	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	
11:55:00	8-14	140	Irregular bedrock, boulders and cobbles with sporadic patches of sand. Attached oarweed (<i>Laminaria</i> sp. heavily fouled with epiphytic macroalgae and, on one stipe an unidentified yellow/orange sponge), hydroids (Hydrozoa), macroalgae (including various Rhodophyta) and unidentified grey sponge (Porifera), with dead man's fingers (<i>Alcyonium digitatum</i>) on the inclined edges of bedrock ridges. Edible sea urchins (<i>Echinus esculentus</i>), common sea stars (<i>Asterias rubens</i>) and painted top shell (<i>Calliostoma zizyphinum</i>).		X		X	X								Potential Annex I (1170)	


ENV SCIENTIST		RK + FF			SUBSTRATE						ANNEX I						
TRANSECT ID		T005			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		448292															
N START		649914															
E END		448274															
N END		64990															
VESSEL		EGS Ventus															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
20:02	73	0	Sand and boulders/ cobbles, <i>Alcyonium digitatum</i> , <i>Caryophyllidia smithii</i> , Hydrozoan/Bryozoan turf, <i>Paguridae</i> , <i>Munida</i> .		×		×									Potential Annex I (1170) – Stony Reefs	
20:04	73	10	Sand and boulders/ cobbles, <i>Alcyonium digitatum</i> , <i>Caryophyllidia smithii</i> , Hydrozoan/Bryozoan turf, <i>Paguridae</i> , <i>Munida</i> .		×		×									Potential Annex I (1170) – Stony Reefs	
20:08	73	20	Sand and boulders/ cobbles, areas with mostly sand <i>Alcyonium digitatum</i> , <i>Caryophyllidia smithii</i> , Hydrozoan/Bryozoan turf, <i>Paguridae</i> , <i>Munida</i> , <i>Pleuronectiforms</i> , Porifera.		×		×										
20:10	74	30	More boulders, same fauna as before, <i>Alcyonium digitatum</i> , <i>Caryophyllidia smithii</i> , Hydrozoan/Bryozoan turf, <i>Paguridae</i> , <i>Munida</i> , <i>Pleuronectiforms</i> , Porifera, Echinoidea, <i>Flustra foliacea</i> .		×		×									Potential Annex I (1170) – Stony Reefs	

ENV SCIENTIST	RK + FF			SUBSTRATE						ANNEX I						
TRANSECT ID	T005			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	448292															
N START	649914															
E END	448274															
N END	64990															
VESSEL	EGS Ventus															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION													
20:11	74	40	Boulders and sand, same fauna as before, <i>Alcyonium digitatum</i> , <i>Caryophyllidia smithii</i> , Hydrozoan/Bryozoan turf, <i>Paguridae</i> , <i>Munida</i> , <i>Pleuronectiforms</i> , Porifera, Echinoidea, <i>Flustra foliacea</i> , <i>Neptunea atlantica</i> shell.		X		X								Potential Annex I (1170) – Stony Reefs	
20:12	74	50	Boulders start to decrease in numbers towards the end, <i>Spirobranchus</i> .		X		X								Potential Annex I (1170) – Stony Reefs	

ENV SCIENTIST		RK + FF			SUBSTRATE						ANNEX I						
TRANSECT ID		T006			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START		448547															
N START		6499606															
E END		448482															
N END		6499593															
VESSEL		EGS Ventus															
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION	MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180	
18:46	79	0	Rock dump, boulders, silty sediment between boulders <i>Echinoidea, Alcyonium digitatum, Hydrozoan/ bryozoan turf, Labridae, Caryophyllia smithii, Marthasterias glacialis.</i> Boulders are often angular.	X			X									Potential Annex I (1170) - Stony Reefs	
18:52	75	10	Rock dump, boulders, silty sediment between boulders, <i>Cancer Pagurus, Paguridae, Munida, Galathea, Luidia ciliaris, Spirobranchus.</i>	X			X									Potential Annex I (1170) - Stony Reefs	
18:53	75	20	Rock dump, boulders, silty sediment between boulders, <i>Cancer Pagurus, Paguridae, Munida, Galathea, Luidia ciliaris, Spirobranchus.</i>	X			X									Potential Annex I (1170) - Stony Reefs	
18:57	77	30	Rock dump, boulders, silty sediment between boulders, <i>Cancer Pagurus, Paguridae, Munida, Galathea, Luidia ciliaris, Spirobranchus, Nemertesia, Caryophyllia smithii.</i>	X			X									Potential Annex I (1170) - Stony Reefs	

ENV SCIENTIST	RK + FF			SUBSTRATE						ANNEX I							
TRANSECT ID	T006			<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>	MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
E START	448547																
N START	6499606																
E END	448482																
N END	6499593																
VESSEL	EGS Ventus																
TIME (UTC)	DEPTH (m)	DISTANCE (m)															
18:58	77	40	Rock dump, boulders, silty sediment between boulders, <i>Cancer Pagurus</i> , <i>Paguridae</i> , <i>Munida</i> , <i>Galathea</i> , <i>Luidia ciliaris</i> , <i>Spirobranchus</i> , <i>Nemertesia</i> , <i>Caryophyllia smithii</i> .	X			X			Potential Annex I (1170) - Stony Reefs							
18:59	78	50	Rock dump, boulders, silty sediment between boulders, <i>Cancer Pagurus</i> , <i>Paguridae</i> , <i>Munida</i> , <i>Galathea</i> , <i>Luidia ciliaris</i> , <i>Spirobranchus</i> , <i>Nemertesia</i> , <i>Caryophyllia smithii</i> , <i>Arctica islandica</i> , Actiniaria.	X			X			Potential Annex I (1170) - Stony Reefs							
18:59	78	55	Fine sand with some boulders in the end.		X		X										

ENV SCIENTIST		RK + FF			SUBSTRATE						ANNEX I						
TRANSECT ID		T007			MUD	SAND	GRAVEL	COBBLES/BOULDERS	BEDROCK	SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																	
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION														
17:22	42	-20	Boulders and cobbles with encrusting polychaetes, some gravel. <i>Spirobranchus</i> , Echinoidea, Hydrozoan/ Bryozoan turf, Labridae, Paguridae, <i>Munida</i> , <i>Asterias rubens</i> .				X	X									Potential Annex I (1170) – Stony Reefs
17:28	43	-10	Boulders and cobbles with encrusting polychaetes, some gravel. <i>Spirobranchus</i> , Echinoidea, Hydrozoan/ Bryozoan turf, Labridae, Paguridae, <i>Munida</i> , <i>Asterias rubens</i> , <i>Crossaster papposus</i> .				X	X									Potential Annex I (1170) – Stony Reefs
17:29	43	0	Boulders and cobbles with encrusting polychaetes, some gravel. <i>Spirobranchus</i> , Echinoidea, Hydrozoan/ Bryozoan turf, Labridae, Paguridae, <i>Munida</i> , <i>Asterias rubens</i> , <i>Crossaster papposus</i> , <i>Cancer Pagurus</i> .				X	X									Potential Annex I (1170) – Stony Reefs
17:32	43	10	Boulders and cobbles with encrusting polychaetes, some gravel. Porifera, Paguridae.				X	X									Potential Annex I (1170) – Stony Reefs

ENV SCIENTIST		RK + FF			SUBSTRATE						ANNEX I								
TRANSECT ID		T007			MUD SAND GRAVEL COBBLES/BOULDERS BEDROCK SHELL COVER (%)	1110	1130	1140	1150	1160	1170	1180							
E START		454528																	
N START		6494533																	
E END		454619																	
N END		6494605																	
VESSEL		EGS Ventus																	
<p>1110 - Sandbanks which are slightly covered by sea water all the time, 1130 - Estuaries, 1140 - Mudflats and sandflats not covered by seawater at low tide, 1150 - Coastal lagoons, 1160 - Large shallow inlets and bays, 1170 - Reefs, 1180 - Submarine structures made by leaking gases.</p>																			
TIME (UTC)	DEPTH (m)	DISTANCE (m)	DESCRIPTION																
17:33	44	20	Boulders and cobbles with encrusting polychaetes, some gravel. <i>Nemertesia</i> , Cephalopoda			X	X				Potential Annex I (1170) – Stony Reefs								
17:34	43	30	Boulders and cobbles with encrusting polychaetes, some gravel.			X	X				Potential Annex I (1170) – Stony Reefs								
17:36	43	40	Boulders and cobbles with encrusting polychaetes, more gravel.			X	X				Potential Annex I (1170) – Stony Reefs								
17:37	44	50	Less boulders and more gravel.			X	X												

760_HWL_VE_DDV_S001

Date 2021-07-09
 Time (UTC) 23:50
 Water depth (m) 80 - 81

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica, Octocorallia

E	N	Photo ID	Visual quality (Good / Medium / Poor / Zero)	Group	Taxon	1	2	3	4
						/m ²	/m ²	/m ²	/m ²
449107.63	449105.33		G	Arthropoda	Caridea		4.87	7.95	449107.46
6501280.80	6501284.77		G	Arthropoda	Galatheidae		0.81		6501272.16
			G	Arthropoda	Paguridae	3.97	1.62		3.97
				Bryozoa	<i>Alcyonidium diaphanum</i>		< 1%		
				Cnidaria	<i>Alcyonium digitatum</i>		1%		
				Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>		0.81		
				Cnidaria	Hydrozoa	< 1%	5%		
				Cnidaria	<i>Nemertesia antennina</i>				< 1%
				Echinodermata	<i>Asterias rubens</i>		0.81		
				Mollusca	Naticidae				3.97
				Mollusca	Scaphopoda			3.97	
				Mollusca	Trochoidea		0.81		

760_HWL_VE_DVV_S001

Date 2021-07-11
 Time (UTC) 14:24
 Water depth (m) 81

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels, *Arctica islandica*, *Octocorallia*
 E 449105.45
 N 6501281.33

Replicat no

Group	Taxon	/m ²
Annelida	<i>Amphictene auricoma</i>	5
Annelida	<i>Aricidea minuta</i>	5
Annelida	<i>Chaetozone</i> species E	5
Annelida	<i>Cirratulus cirratus</i>	5
Annelida	<i>Diplocirrus glaucus</i>	5
Annelida	<i>Euclymene oerstedii</i> (aggr.)	5
Annelida	<i>Eumida bahusiensis</i>	10
Annelida	<i>Galathowenia oculata</i>	10
Annelida	<i>Glycinde nordmanni</i>	5
Annelida	<i>Heteroclymene robusta</i>	5
Annelida	<i>Lanice conchilega</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	20
Annelida	<i>Malmgrenia arenicolae</i>	5
Annelida	<i>Nephtys</i> (juv.)	5
Annelida	<i>Nephtys assimilis</i>	5
Annelida	<i>Odontosyllis fulgurans</i>	5
Annelida	<i>Owenia</i>	10
Annelida	<i>Paradoneis lyra</i>	25
Annelida	<i>Peresiella clymenoides</i>	5
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	20
Annelida	<i>Poecilochaetus serpens</i>	5
Annelida	<i>Proclymene muelleri</i>	5
Annelida	<i>Scolelepis bonnierii</i>	5
Annelida	<i>Scoloplos armiger</i>	10
Annelida	Serpulidae	5
Annelida	<i>Spiophanes bombyx</i>	10
Annelida	<i>Thelepus setosus</i>	5
Arthropoda	<i>Ampelisca tenuicornis</i>	5
Arthropoda	Aoridae (female)	5
Arthropoda	<i>Bathyporeia elegans</i>	5
Arthropoda	<i>Hippomedon denticulatus</i>	10
Arthropoda	<i>Leucothoe lilljeborgi</i>	5
Arthropoda	<i>Pontocrates</i> species A	5
Arthropoda	<i>Stenopleustes nodifera</i>	Frag.
Arthropoda	<i>Tanaopsis graciloides</i>	5
Arthropoda	<i>Urothoe elegans</i>	75
Arthropoda	<i>Verruca stroemia</i>	10
Ciliophora	Folliculinidae	P
Echinodermata	<i>Amphiura filiformis</i>	50
Echinodermata	Amphiuridae (juv.)	20
Echinodermata	<i>Echinocyamus pusillus</i>	20
Echinodermata	Ophiuridae (juv.)	5
Hemichordata	Enteropneusta	5
Mollusca	<i>Abra prismatica</i>	60
Mollusca	<i>Cylichna cylindracea</i>	5
Mollusca	<i>Kurtiella bidentata</i>	75
Nemertea	Nemertea	15
Platyhelminthes	Platyhelminthes	5

760_HWL_VE_DVV_S001	BLOTTED WET WEIGHT	
Date	2021-07-11	
Time (UTC)	14:24	
Water depth (m)	81	
Habitat classification		A5.27 - Deep circalittoral sand
Conservation Areas & Species		Subtidal sands and gravels, <i>Arctica islandica</i> , <i>Octocorallia</i>
E		449105.45
N		6501281.33
Replicat no		
Group	Taxon	g /m ²
Annelida	<i>Amphictene auricoma</i>	0.0150
Annelida	<i>Aricidea minuta</i>	0.0005
Annelida	<i>Chaetozone species E</i>	0.0070
Annelida	<i>Cirratulus cirratus</i>	0.0180
Annelida	<i>Diplocirrus glaucus</i>	0.0005
Annelida	<i>Euclymene oerstedii</i> (aggr.)	0.0840
Annelida	<i>Eumida bahusiensis</i>	0.0385
Annelida	<i>Galathowenia oculata</i>	0.0135
Annelida	<i>Glycinde nordmanni</i>	0.0350
Annelida	<i>Heteroclymene robusta</i>	0.0125
Annelida	<i>Lanice conchilega</i>	0.0005
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0805
Annelida	<i>Malmgrenia arenicolae</i>	0.0005
Annelida	<i>Nephtys</i> (juv.)	0.0095
Annelida	<i>Nephtys assimilis</i>	1.3095
Annelida	<i>Odontosyllis fulgurans</i>	0.0100
Annelida	<i>Owenia</i>	0.1540
Annelida	<i>Paradoneis lyra</i>	0.0200
Annelida	<i>Peresiella clymenoides</i>	0.0005
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	0.0125
Annelida	<i>Poecilochaetus serpens</i>	0.0010
Annelida	<i>Proclymene muelleri</i>	0.2365
Annelida	<i>Scolelepis bonnierii</i>	0.0005
Annelida	<i>Scoloplos armiger</i>	0.0605
Annelida	Serpulidae	0.0005
Annelida	<i>Spiophanes bombyx</i>	0.0245
Annelida	<i>Thelepus setosus</i>	0.7730
Arthropoda	<i>Ampelisca tenuicornis</i>	0.0040
Arthropoda	Aoridae (female)	0.0005
Arthropoda	<i>Bathyporeia elegans</i>	0.0055
Arthropoda	<i>Hippomedon denticulatus</i>	0.0005
Arthropoda	<i>Leucothoe lilljeborgi</i>	0.0005
Arthropoda	<i>Pontocrates species A</i>	0.0005
Arthropoda	<i>Stenopleustes nodifera</i>	0.0020
Arthropoda	<i>Tanaopsis graciloides</i>	0.0005
Arthropoda	<i>Urothoe elegans</i>	0.0600
Echinodermata	<i>Amphiura filiformis</i>	5.4555
Echinodermata	Amphiuridae (juv.)	0.0105
Echinodermata	<i>Echinocyamus pusillus</i>	0.0370
Echinodermata	Ophiuridae (juv.)	0.0080
Hemichordata	<i>Enteropneusta</i>	0.0300
Mollusca	<i>Abra prismatica</i>	0.2145
Mollusca	<i>Cylichna cylindracea</i>	0.1425
Mollusca	<i>Kurtiella bidentata</i>	0.1200
Nemertea	Nemertea	0.0670
Platyhelminthes	Platyhelminthes	0.0100

760_HWL_VE_DVV_S002

Date 2021-07-11
 Time (UTC) 19:34 & 20:28
 Water depth (m) 95

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels
Arctica islandica, *Octocorallia*
 E 449233.09 449232.07
 N 6502541.81 6502543.68

Replicat no	Taxon	/m ²
Group	Animalia (eggs)	P
Annelida	<i>Aphelochaeta</i> species A	5
Annelida	<i>Clymenella cincta</i>	10
Annelida	<i>Euclymene oerstedii</i> (aggr.)	Frag.
Annelida	<i>Glycera alba</i>	5
Annelida	<i>Goniada maculata</i>	5
Annelida	<i>Magelona alleni</i>	5
Annelida	<i>Magelona filiformis</i>	10
Annelida	<i>Nephtys</i> (juv.)	10
Annelida	<i>Nephtys hombergii</i>	15
Annelida	<i>Owenia</i>	20
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	5
Annelida	<i>Podarkeopsis capensis</i>	10
Annelida	<i>Scolecopsis bonnierii</i>	5
Annelida	<i>Scoloplos armiger</i>	5
Annelida	<i>Spiophanes kroyeri</i>	5
Annelida	<i>Sthenelais limicola</i>	15
Arthropoda	<i>Anoplodactylus petiolatus</i>	5
Arthropoda	<i>Balanus crenatus</i>	5
Arthropoda	<i>Bathyporeia tenuipes</i>	15
Arthropoda	Copepoda	5
Arthropoda	<i>Eurydice truncata</i>	5
Arthropoda	<i>Harpinia antennaria</i>	10
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	<i>Sarsinebalia urgorrhii</i>	5
Arthropoda	<i>Urothoe elegans</i>	10
Arthropoda	<i>Westwoodilla caecula</i>	5
Bryozoa	<i>Omalosecosa ramulosa</i>	P
Cnidaria	Campanulariidae	P
Cnidaria	Edwardsiidae	10
Cnidaria	<i>Sertularia</i>	P
Echinodermata	<i>Amphiura filiformis</i>	30
Echinodermata	Amphiuridae (juv.)	30
Echinodermata	<i>Echinocardium cordatum</i>	5
Echinodermata	<i>Echinocyamus pusillus</i>	15
Echinodermata	Ophiuridae (juv.)	5
Echinodermata	Spatangoida (juv.)	10
Mollusca	<i>Abra prismatica</i>	200
Mollusca	<i>Acanthocardia</i> (juv.)	5
Mollusca	<i>Arctica islandica</i>	5
Mollusca	<i>Euspira nitida</i>	10
Mollusca	<i>Fabulina fabula</i>	5
Mollusca	<i>Hermania</i>	15
Mollusca	<i>Kurtiella bidentata</i>	10
Mollusca	<i>Lucinoma borealis</i> (juv.)	5
Mollusca	<i>Nucula nucleus</i>	5
Mollusca	<i>Phaxas pellucidus</i>	5
Mollusca	<i>Tellimya ferruginosa</i>	5
Mollusca	<i>Thracia</i> (juv.)	5
Nemertea	Nemertea	5
Phoronida	<i>Phoronis</i>	30

760_HWL_VE_DDV_S003

Date 2021-07-10
 Time (UTC) 02:01
 Water depth (m) 83

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

		Octocorallia			
		450313.40	450326.26	450322.10	450332.46
		6502169.05	6502170.47	6502176.99	6502169.43
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Arthropoda	Paguridae				0.76
Cnidaria	<i>Alcyonium digitatum</i>				7%
Cnidaria	Hydrozoa			3%	3%
Mollusca	Buccinidae				1.51

760_HWL_VE_DVV_S003

Date 2021-07-11
 Time (UTC) 15:19
 Water depth (m) 83

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels
 Octocorallia

E 450324.05
 N 6502170.58

Replicat no

Group	Taxon	/m ²
Annelida	<i>Aricidea catherinae</i>	5
Annelida	<i>Diplocirrus glaucus</i>	5
Annelida	<i>Goniada maculata</i>	Frag.
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Leiochone</i>	5
Annelida	<i>Nephtys</i> (juv.)	5
Annelida	<i>Nephtys hombergii</i>	5
Annelida	<i>Odontosyllis fulgurans</i>	5
Annelida	<i>Owenia</i>	40
Annelida	<i>Peresiella clymenoides</i>	10
Annelida	Polychaeta	Frag.
Annelida	<i>Polycirrus</i>	Frag.
Annelida	<i>Scalibregma inflatum</i>	5
Annelida	<i>Scoloplos armiger</i>	20
Arthropoda	<i>Bathyporeia gracilis</i>	35
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	5
Arthropoda	<i>Eudorellopsis deformis</i>	10
Arthropoda	<i>Eurydice truncata</i>	5
Arthropoda	<i>Gnathia oxyuraea</i>	5
Arthropoda	<i>Harpinia antennaria</i>	5
Arthropoda	Paguridae (juv.)	15
Arthropoda	<i>Scopelocheirus hopei</i>	5
Arthropoda	<i>Urothoe elegans</i>	10
Cnidaria	Campanulariidae	P
Cnidaria	Filifera	P
Echinodermata	Amphiuridae (juv.)	25
Echinodermata	<i>Echinocyamus pusillus</i>	15
Entoprocta	<i>Loxosomella murmanica</i>	P
Foraminifera	Astrorhiza	10
Mollusca	<i>Abra prismatica</i>	80
Mollusca	<i>Antalis entalis</i>	5
Mollusca	<i>Cylichna cylindracea</i>	5
Mollusca	<i>Dosinia</i> (juv.)	5
Mollusca	<i>Euspira nitida</i>	5
Mollusca	<i>Gari fervensis</i>	5
Mollusca	<i>Kurtiella bidentata</i>	5
Mollusca	<i>Phaxas pellucidus</i>	5
Mollusca	<i>Thracia</i> (juv.)	5
Phoronida	<i>Phoronis</i>	5
Sipuncula	<i>Phascolion strombus</i>	10

760_HWL_VE_DVV_S003	Blotted Wet Weight	
Date	2021-07-11	
Time (UTC)	15:19	
Water depth (m)	83	
Habitat classification		A5.27 - Deep circalittoral sand
Conservation Areas & Species		Subtidal sands and gravels
		Octocorallia
E		450324.05
N		6502170.58
Replicat no		
Group	Taxon	g /m ²
Annelida	<i>Aricidea catherinae</i>	0.0015
Annelida	<i>Diplocirrus glaucus</i>	0.0010
Annelida	<i>Goniada maculata</i>	0.0090
Annelida	<i>Harmothoe glabra</i>	0.0010
Annelida	<i>Leiochone</i>	0.0955
Annelida	<i>Nephtys</i> (juv.)	0.0180
Annelida	<i>Nephtys hombergii</i>	0.0385
Annelida	<i>Odontosyllis fulgurans</i>	0.0025
Annelida	<i>Owenia</i>	0.0725
Annelida	<i>Peresiella clymenoides</i>	0.0005
Annelida	Polychaeta	0.0015
Annelida	<i>Polycirrus</i>	0.0090
Annelida	<i>Scalibregma inflatum</i>	0.0025
Annelida	<i>Scoloplos armiger</i>	0.1805
Arthropoda	<i>Bathyporeia gracilis</i>	0.0370
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	0.0515
Arthropoda	<i>Eudorellopsis deformis</i>	0.0035
Arthropoda	<i>Eurydice truncata</i>	0.0005
Arthropoda	<i>Gnathia oxyuraea</i>	0.0050
Arthropoda	<i>Harpinia antennaria</i>	0.0070
Arthropoda	Paguridae (juv.)	0.4775
Arthropoda	<i>Scopelocheirus hopei</i>	0.0090
Arthropoda	<i>Urothoe elegans</i>	0.0090
Echinodermata	Amphiuridae (juv.)	0.3915
Echinodermata	<i>Echinocyamus pusillus</i>	0.0420
Mollusca	<i>Abra prismatica</i>	0.4165
Mollusca	<i>Antalis entalis</i>	0.8540
Mollusca	<i>Cylichna cylindracea</i>	0.1320
Mollusca	<i>Dosinia</i> (juv.)	0.0160
Mollusca	<i>Euspira nitida</i>	0.0145
Mollusca	<i>Gari fervensis</i>	3.7725
Mollusca	<i>Kurtiella bidentata</i>	0.0005
Mollusca	<i>Phaxas pellucidus</i>	0.0070
Mollusca	<i>Thracia</i> (juv.)	0.0045
Phoronida	<i>Phoronis</i>	0.0195
Sipuncula	<i>Phascolion strombus</i>	0.4170

760_HWL_VE_DDV_S004

Date 2021-07-10
 Time (UTC) 03:58
 Water depth (m) 78

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

	451211.01	451218.31	451215.59	451227.58
E	451211.01	451218.31	451215.59	451227.58
N	6503222.46	6503222.58	6503229.90	6503224.98
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Arthropoda				0.64
Arthropoda	1.91			
Bryozoa				<1%
Bryozoa			< 1%	
Cnidaria	17%	3%	6%	2%
Cnidaria	3%	2%	3%	3%
Cnidaria				<1%

760_HWL_VE_DVV_S004

Date 2021-07-11 & 2021-07-12
Time (UTC) 23:51 & 00:43
Water depth (m) 78

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 451216.18 451214.07
N 6503220.53 6503223.75

Replicat no

Group Taxon /m²

No grab sampling performed

760_HWL_VE_DVV_S004	Blotted Wet Weight		
Date	2021-07-11 & 2021-07-12		
Time (UTC)	23:51 & 00:43		
Water depth (m)	78		
Habitat classification		A5.45 - Deep circalittoral mixed sediments	
Conservation Areas & Species		Octocorallia	
E		451216.18	451214.07
N		6503220.53	6503223.75
Replicat no			
Group	Taxon		g /m ²
No grab sampling performed			

760_HWL_VE_DDV_S005

Date 2021-07-10
 Time (UTC) 06:23
 Water depth (m) 86

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica, Octocorallia

E	452791.94	452781.99	452775.29	452782.82
N	6503226.43	6503219.98	6503227.70	6503230.97
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Cnidaria	< 1%			
Cnidaria	Hydrozoa			< 1%

760_HWL_VE_DVV_S005

Date 2021-07-12
 Time (UTC) 03:03 & 03:51
 Water depth (m) 86

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species Subtidal sands and gravels
Arctica islandica, *Octocorallia*
 E 452782.22 452779.31
 N 6503227.20 6503229.03

Replicat no	Taxon	/m ²
Group		
Annelida	<i>Glycera oxycephala</i>	5
Annelida	<i>Lanice conchilega</i>	10
Annelida	<i>Leiochone</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	5
Annelida	<i>Magelona filiformis</i>	Frag.
Annelida	<i>Malmgrenia arenicolae</i>	5
Annelida	<i>Nephtys assimilis</i>	5
Annelida	<i>Nephtys cirrosa</i>	5
Annelida	<i>Owenia</i>	15
Annelida	<i>Scolelepis bonnieri</i>	10
Annelida	<i>Scoloplos armiger</i>	35
Annelida	<i>Spiophanes bombyx</i>	15
Annelida	<i>Spiophanes kroeyeri</i>	10
Annelida	<i>Sthenelais</i> (juv.)	5
Arthropoda	<i>Anoplodactylus petiolatus</i>	5
Arthropoda	<i>Bathyporeia elegans</i>	5
Arthropoda	<i>Bathyporeia tenuipes</i>	5
Arthropoda	<i>Eurydice truncata</i>	5
Arthropoda	<i>Harpinia antennaria</i>	15
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	<i>Processa edulis</i>	5
Bryozoa	<i>Crisia</i>	P
Bryozoa	<i>Crisidia cornuta</i>	P
Bryozoa	<i>Securiflustra securifrons</i>	P
Chlorophyta	<i>Acrosiphonia arcta</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Filifera</i>	P
Echinodermata	<i>Amphiura filiformis</i>	10
Echinodermata	<i>Echinocardium cordatum</i>	Frag.
Echinodermata	<i>Echinocyamus pusillus</i>	35
Echinodermata	<i>Spatangoida</i> (juv.)	10
Foraminifera	<i>Astrorhiza</i>	55
Mollusca	<i>Abra prismatica</i>	145
Mollusca	<i>Cochlodesma praetenuae</i>	5
Mollusca	<i>Colus gracilis</i>	5
Mollusca	<i>Cylichna cylindracea</i>	5
Mollusca	<i>Euspira nitida</i>	15
Mollusca	<i>Kurtiella bidentata</i>	20
Mollusca	<i>Philine</i>	5
Mollusca	<i>Thracia</i> (juv.)	5
Nemertea	Nemertea	Frag.
Phoronida	<i>Phoronis</i>	5

760_HWL_VE_DVV_S005

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 03:03 & 03:51
 Water depth (m) 86

Habitat classification

A5.25 - Circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica, Octocorallia

E 452782.22 452779.31
 N 6503227.20 6503229.03

Replicat no

Group	Taxon	/m ²
Annelida	<i>Glycera oxycephala</i>	0.0130
Annelida	<i>Lanice conchilega</i>	0.1275
Annelida	<i>Leiochone</i>	0.4400
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.3070
Annelida	<i>Magelona filiformis</i>	0.0040
Annelida	<i>Malmgrenia arenicolae</i>	0.0005
Annelida	<i>Nephtys assimilis</i>	0.0610
Annelida	<i>Nephtys cirrosa</i>	0.0250
Annelida	<i>Owenia</i>	0.2175
Annelida	<i>Scolecopsis bonnieri</i>	0.5340
Annelida	<i>Scoloplos armiger</i>	0.4250
Annelida	<i>Spiophanes bombyx</i>	0.0700
Annelida	<i>Spiophanes kroyeri</i>	0.0985
Annelida	<i>Sthenelais</i> (juv.)	0.0015
Arthropoda	<i>Anoplodactylus petiolatus</i>	0.0040
Arthropoda	<i>Bathyporeia elegans</i>	0.0065
Arthropoda	<i>Bathyporeia tenuipes</i>	0.0130
Arthropoda	<i>Eurydice truncata</i>	0.0050
Arthropoda	<i>Harpinia antennaria</i>	0.0260
Arthropoda	<i>Hippomedon denticulatus</i>	0.0440
Arthropoda	<i>Processa edulis</i>	0.0440
Echinodermata	<i>Amphiura filiformis</i>	0.9540
Echinodermata	<i>Echinocardium cordatum</i>	3.8625
Echinodermata	<i>Echinocyamus pusillus</i>	0.2150
Echinodermata	Spatangoida (juv.)	0.0055
Mollusca	<i>Abra prismatica</i>	0.7655
Mollusca	<i>Cochlodesma praetenuae</i>	0.1075
Mollusca	<i>Colus gracilis</i>	15.5135
Mollusca	<i>Cylichna cylindracea</i>	0.0200
Mollusca	<i>Euspira nitida</i>	0.1870
Mollusca	<i>Kurtiella bidentata</i>	0.1105
Mollusca	<i>Philine</i>	0.0070
Mollusca	<i>Thracia</i> (juv.)	0.0100
Nemertea	Nemertea	0.0005
Phoronida	<i>Phoronis</i>	0.0010

760_HWL_VE_DDV_S006

Date 2021-07-10
 Time (UTC) 08:08
 Water depth (m) 82

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica, Octocorallia

E	452487.34	452492.59	452480.40	452489.48
N	6502027.39	6502022.02	6502024.91	6502036.81
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Arthropoda	1.51			0.87
Cnidaria				< 1%
				<i>Alcyonium digitatum</i>

760_HWL_VE_DVV_S006

Date 2021-07-12
Time (UTC) 04:41 & 05:21
Water depth (m) 82

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species Subtidal sands and gravels
Arctica islandica, *Octocorallia*
E 452488.74 452488.28
N 6502030.18 6502027.93

Replicat no	Taxon	/m ²
Group		
Annelida	<i>Aricidea catherinae</i>	5
Annelida	<i>Capitella</i>	5
Annelida	<i>Cirratulus</i> (juv.)	10
Annelida	<i>Cirratulus cirratus</i>	10
Annelida	<i>Euclymene lombricoides</i>	15
Annelida	<i>Euclymene oerstedii</i> (aggr.)	5
Annelida	<i>Heteroclymene robusta</i>	5
Annelida	<i>Lagis koreni</i>	5
Annelida	<i>Lanice conchilega</i>	10
Annelida	<i>Leiochone</i>	5
Annelida	<i>Magelona filiformis</i>	10
Annelida	<i>Myriochele danielsseni</i>	5
Annelida	<i>Nephtys cirrosa</i>	5
Annelida	<i>Owenia</i>	45
Annelida	<i>Paradoneis lyra</i>	20
Annelida	<i>Poecilochaetus serpens</i>	5
Annelida	<i>Scolecopsis bonnieri</i>	5
Annelida	<i>Scoloplos armiger</i>	45
Annelida	<i>Spiophanes bombyx</i>	5
Annelida	<i>Spiophanes kroyeri</i>	10
Annelida	<i>Sthenelais limicola</i>	Frag.
Arthropoda	Aoridae (female)	5
Arthropoda	<i>Bathyporeia</i>	5
Arthropoda	<i>Eudorellopsis deformis</i>	10
Arthropoda	<i>Harpinia antennaria</i>	5
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	<i>Leucothoe lilljeborgi</i>	5
Arthropoda	<i>Pontocrates arenarius</i>	5
Arthropoda	<i>Urothoe elegans</i>	20
Ciliophora	Ciliophora	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Diphasia</i>	P
Cnidaria	<i>Filifera</i>	P
Cnidaria	<i>Hydrallmania falcata</i>	P
Cnidaria	<i>Tamarisca tamarisca</i>	P
Echinodermata	<i>Amphiura filiformis</i>	45
Echinodermata	<i>Dendrochirotida</i> (juv.)	5
Echinodermata	<i>Echinocyamus pusillus</i>	15
Echinodermata	Ophiuridae (juv.)	5
Foraminifera	<i>Astrorhiza</i>	30
Mollusca	<i>Abra prismatica</i>	115
Mollusca	<i>Antalis entalis</i>	5
Mollusca	<i>Arctica islandica</i>	5
Mollusca	<i>Chamelea striatula</i> (juv.)	5
Mollusca	<i>Cochlodesma praetenuae</i>	5
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	5
Mollusca	<i>Colus gracilis</i>	5
Mollusca	<i>Cylichna cylindracea</i>	10
Mollusca	<i>Kurtiella bidentata</i>	150
Mollusca	<i>Spisula</i> (juv.)	15
Mollusca	<i>Thracia</i> (juv.)	10
Mollusca	<i>Thracia phaseolina</i>	5
Mollusca	<i>Timoclea ovata</i>	5
Phoronida	<i>Phoronis</i>	5

760_HWL_VE_DVV_S006

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 04:41 & 05:21
 Water depth (m) 82

Habitat classification

A5.25 - Circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica, Octocorallia

E 452488.74 452488.28
 N 6502030.18 6502027.93

Replicat no	Taxon	g /m ²
Group		
Annelida	<i>Aricidea catherinae</i>	0.0005
Annelida	<i>Capitella</i>	0.0005
Annelida	<i>Cirratulus</i> (juv.)	0.0325
Annelida	<i>Cirratulus cirratus</i>	0.0695
Annelida	<i>Euclymene lombricoides</i>	5.7635
Annelida	<i>Euclymene oerstedii</i> (aggr.)	0.0530
Annelida	<i>Heteroclymene robusta</i>	0.6275
Annelida	<i>Lagis koreni</i>	0.1120
Annelida	<i>Lanice conchilega</i>	0.3860
Annelida	<i>Leiochone</i>	0.0425
Annelida	<i>Magelona filiformis</i>	0.0005
Annelida	<i>Myriochele danielsseni</i>	0.0400
Annelida	<i>Nephtys cirrosa</i>	0.0190
Annelida	<i>Owenia</i>	0.0555
Annelida	<i>Paradoneis lyra</i>	0.0115
Annelida	<i>Poecilochaetus serpens</i>	0.0055
Annelida	<i>Scolecopsis bonnieri</i>	0.0035
Annelida	<i>Scoloplos armiger</i>	0.1900
Annelida	<i>Spiophanes bombyx</i>	0.0120
Annelida	<i>Spiophanes kroyeri</i>	0.0275
Annelida	<i>Sthenelais limicola</i>	0.0540
Arthropoda	Aoridae (female)	0.0005
Arthropoda	<i>Bathyporeia</i>	0.0005
Arthropoda	<i>Eudorellopsis deformis</i>	0.0005
Arthropoda	<i>Harpinia antennaria</i>	0.0005
Arthropoda	<i>Hippomedon denticulatus</i>	0.0245
Arthropoda	<i>Leucothoe lilljeborgi</i>	0.0005
Arthropoda	<i>Pontocrates arenarius</i>	0.0070
Arthropoda	<i>Urothoe elegans</i>	0.0115
Echinodermata	<i>Amphiura filiformis</i>	5.8990
Echinodermata	Dendrochirotida (juv.)	0.0095
Echinodermata	<i>Echinocyamus pusillus</i>	0.0745
Echinodermata	Ophiuridae (juv.)	0.0005
Mollusca	<i>Abra prismatica</i>	0.2290
Mollusca	<i>Antalis entalis</i>	1.1595
Mollusca	<i>Arctica islandica</i>	385.9500
Mollusca	<i>Chamelea striatula</i> (juv.)	0.0055
Mollusca	<i>Cochlodesma praetenu</i>	0.0930
Mollusca	<i>Cochlodesma praetenu</i> (juv.)	0.0145
Mollusca	<i>Colus gracilis</i>	9.2620
Mollusca	<i>Cylichna cylindracea</i>	0.0835
Mollusca	<i>Kurtiella bidentata</i>	0.5545
Mollusca	<i>Spisula</i> (juv.)	0.0410
Mollusca	<i>Thracia</i> (juv.)	0.0100
Mollusca	<i>Thracia phaseolina</i>	0.0230
Mollusca	<i>Timoclea ovata</i>	0.0080
Phoronida	<i>Phoronis</i>	0.0005

760_HWL_VE_DDV_S007

Date 2021-07-10
 Time (UTC) 05:18
 Water depth (m) 86

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

		Octocorallia, <i>Dipturus</i> sp.			
		451456.40	451464.35	451470.92	451461.95
		6503898.76	6503907.61	6503900.65	6503892.74
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Bryozoa	<i>Alcyonidium diaphanum</i>		< 1%		
Cnidaria	<i>Alcyonium digitatum</i>			< 1%	
Cnidaria	<i>Nemertesia ramosa</i>				< 1%

760_HWL_VE_DVV_S007

Date 2021-07-12
 Time (UTC) 01:48 & 02:14
 Water depth (m) 86

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Octocorallia, *Dipturus* sp.

E 451460.14 451459.24
 N 6503901.93 6503899.64

Replicat no

Group	Taxon	/m ²
Annelida	<i>Amphictene auricoma</i>	5
Annelida	<i>Aonides paucibranchiata</i>	10
Annelida	<i>Aphelochaeta</i> species A	5
Annelida	<i>Aponuphis bilineata</i>	10
Annelida	<i>Aricidea cerrutii</i>	5
Annelida	<i>Asclerocheilus</i>	5
Annelida	<i>Caulleriella</i> species B	5
Annelida	<i>Eumida sanguinea</i> (aggr.)	5
Annelida	<i>Eusyllis blomstrandii</i>	20
Annelida	<i>Galathowenia oculata</i>	5
Annelida	<i>Gattyana cirrhosa</i>	5
Annelida	<i>Glycera alba</i>	10
Annelida	<i>Glycera lapidum</i> (aggr.)	20
Annelida	<i>Glycinde nordmanni</i>	30
Annelida	<i>Harmothoe extenuata</i>	10
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Harmothoe impar</i> (aggr.)	5
Annelida	<i>Heteroclymene robusta</i>	10
Annelida	<i>Hyalinoecia tubicola</i>	5
Annelida	<i>Lagis koreni</i>	5
Annelida	<i>Lanice conchilega</i>	25
Annelida	<i>Leiochone</i>	15
Annelida	<i>Lepidonotus squamatus</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	5
Annelida	<i>Myrianida</i>	35
Annelida	<i>Myrianida</i> (epitoke)	20
Annelida	<i>Myriochele danielsseni</i>	75
Annelida	<i>Nephtys cirrosa</i>	5
Annelida	<i>Nephtys hombergii</i>	10
Annelida	<i>Nereis zonata</i>	5
Annelida	<i>Notomastus</i>	25
Annelida	<i>Odontosyllis fulgurans</i>	25
Annelida	<i>Owenia</i>	25
Annelida	<i>Paradoneis lyra</i>	25
Annelida	<i>Peresiella clymenoides</i>	75
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	20
Annelida	<i>Pista mediterranea</i>	5
Annelida	<i>Poecilochaetus serpens</i>	5
Annelida	<i>Polycirrus</i>	25
Annelida	<i>Praxillella affinis</i>	5
Annelida	<i>Prionospio cf. cirrifera</i>	5
Annelida	<i>Pseudopolydora pulchra</i>	5
Annelida	<i>Scalibregma inflatum</i>	5
Annelida	<i>Scoloplos armiger</i>	90
Annelida	<i>Spiophanes bombyx</i>	5
Annelida	<i>Spiophanes kroyeri</i>	30
Annelida	<i>Sthenelais</i> (juv.)	10
Annelida	<i>Syllis parapari</i>	5
Annelida	<i>Terebellides</i>	5
Annelida	<i>Tharyx killariensis</i>	5
Annelida	<i>Thelepus setosus</i>	50
Arthropoda	<i>Ampelisca spinipes</i>	5
Arthropoda	Aoridae (female)	5
Arthropoda	<i>Apherusa ovalipes</i>	5
Arthropoda	<i>Astacilla</i>	5
Arthropoda	<i>Centraloecetes kroyeranus</i>	5
Arthropoda	<i>Eurynome</i> (juv.)	5

760_HWL_VE_DVV_S007

Date 2021-07-12
 Time (UTC) 01:48 & 02:14
 Water depth (m) 86

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Octocorallia, *Dipturus* sp.

E	451460.14	451459.24
N	6503901.93	6503899.64

Replicat no

Group	Taxon	/m ²
Arthropoda	<i>Galathea</i> (juv.)	5
Arthropoda	<i>Hippomedon denticulatus</i>	15
Arthropoda	<i>Liocarcinus</i> (juv.)	5
Arthropoda	<i>Microjassa cumbrensis</i>	5
Arthropoda	Paguridae (megalopa)	10
Arthropoda	<i>Processa canaliculata</i>	5
Arthropoda	<i>Sarsinebalia urgorii</i>	10
Arthropoda	<i>Scopelocheirus hopei</i>	5
Arthropoda	Sessilia (juv.)	20
Arthropoda	<i>Tanaopsis graciloides</i>	5
Arthropoda	<i>Urothoe elegans</i>	45
Arthropoda	<i>Verruca stroemia</i>	15
Bryozoa	<i>Alcyonidium parasiticum</i>	P
Bryozoa	<i>Crisia</i>	P
Bryozoa	<i>Microeciella suborbicularis</i>	P
Bryozoa	<i>Scrupocellaria scruposa</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Alcyonium digitatum</i>	P
Cnidaria	Bougainvilliidae	P
Cnidaria	<i>Campanulariidae</i>	P
Cnidaria	<i>Cerianthus lloydii</i> (juv.)	10
Cnidaria	<i>Clytia hemisphaerica</i>	P
Cnidaria	<i>Diphasia</i>	P
Cnidaria	Edwardsiidae	10
Cnidaria	<i>Eudendrium</i>	P
Cnidaria	<i>Halecium</i>	P
Cnidaria	<i>Nemertesia</i>	P
Cnidaria	<i>Sertularella</i>	P
Cnidaria	<i>Sertularia</i>	P
Cnidaria	<i>Tamarisca tamarisca</i>	P
Echinodermata	<i>Amphiura filiformis</i>	45
Echinodermata	Camarodonta (juv.)	5
Echinodermata	<i>Echinocyamus pusillus</i>	65
Entoprocta	<i>Barentsia</i>	P
Entoprocta	<i>Pedicellina</i>	P
Foraminifera	<i>Astrorhiza</i>	55
Hemichordata	<i>Enteropneusta</i>	25
Mollusca	<i>Abra alba</i>	5
Mollusca	<i>Abra prismatica</i>	35
Mollusca	<i>Alvania punctura</i>	5
Mollusca	<i>Antalis entalis</i>	5
Mollusca	<i>Asbjornsenia pygmaea</i>	5
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	15
Mollusca	<i>Cylichna cylindracea</i>	5
Mollusca	<i>Epitonium trevelyanum</i>	5
Mollusca	<i>Euspira nitida</i>	5
Mollusca	<i>Gari fervensis</i> (juv.)	5
Mollusca	<i>Hermania</i>	10
Mollusca	<i>Kurtiella bidentata</i>	5
Mollusca	<i>Modiolula phaseolina</i>	5
Mollusca	<i>Spisula</i> (juv.)	5
Mollusca	<i>Thracia</i> (juv.)	5
Nematoda	Nematoda	15
Nemertea	Nemertea	25
Phoronida	<i>Phoronis</i>	5
Platyhelminthes	Platyhelminthes	10
Sipuncula	<i>Aspidosiphon muelleri</i>	5

760_HWL_VE_DVV_S007

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 01:48 & 02:14
 Water depth (m) 86

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Octocorallia, *Dipturus* sp.

E 451460.14 451459.24
 N 6503901.93 6503899.64

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Amphictene auricoma</i>	0.0360
Annelida	<i>Aonides paucibranchiata</i>	0.0005
Annelida	<i>Aphelochaeta</i> species A	0.0345
Annelida	<i>Aponuphis bilineata</i>	0.0530
Annelida	<i>Aricidea cerrutii</i>	0.0005
Annelida	<i>Asclerocheilus</i>	0.0055
Annelida	<i>Cauleriella</i> species B	0.0035
Annelida	<i>Eumida sanguinea</i> (aggr.)	0.0020
Annelida	<i>Eusyllis blomstrandii</i>	0.0245
Annelida	<i>Galathowenia oculata</i>	0.0245
Annelida	<i>Gattyana cirrhosa</i>	0.0165
Annelida	<i>Glycera alba</i>	0.0230
Annelida	<i>Glycera lapidum</i> (aggr.)	0.1085
Annelida	<i>Glycinde nordmanni</i>	0.0605
Annelida	<i>Harmothoe extenuata</i>	0.0310
Annelida	<i>Harmothoe glabra</i>	0.0090
Annelida	<i>Harmothoe impar</i> (aggr.)	0.0035
Annelida	<i>Heteroclymene robusta</i>	4.4640
Annelida	<i>Hyalinoecia tubicola</i>	0.0075
Annelida	<i>Lagis koreni</i>	0.0305
Annelida	<i>Lanice conchilega</i>	0.3315
Annelida	<i>Leiochone</i>	0.1205
Annelida	<i>Lepidonotus squamatus</i>	0.0065
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0350
Annelida	<i>Myrianida</i>	0.0155
Annelida	<i>Myrianida</i> (epitoke)	0.0105
Annelida	<i>Myriochele danielsseni</i>	0.1035
Annelida	<i>Nephtys cirrosa</i>	0.0770
Annelida	<i>Nephtys hombergii</i>	0.2985
Annelida	<i>Nereis zonata</i>	0.1995
Annelida	<i>Notomastus</i>	0.3795
Annelida	<i>Odontosyllis fulgurans</i>	0.0300
Annelida	<i>Owenia</i>	0.0790
Annelida	<i>Paradoneis lyra</i>	0.0130
Annelida	<i>Peresiella clymenoides</i>	0.0355
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	0.0265
Annelida	<i>Pista mediterranea</i>	0.0180
Annelida	<i>Poecilochaetus serpens</i>	0.0005
Annelida	<i>Polycirrus</i>	0.6645
Annelida	<i>Praxillella affinis</i>	0.0075
Annelida	<i>Prionospio</i> cf. <i>cirrifera</i>	0.0005
Annelida	<i>Pseudopolydora pulchra</i>	0.0005
Annelida	<i>Scalibregma inflatum</i>	0.0030
Annelida	<i>Scoloplos armiger</i>	0.5050
Annelida	<i>Spiophanes bombyx</i>	0.0055
Annelida	<i>Spiophanes kroyeri</i>	0.0765
Annelida	<i>Sthenelais</i> (juv.)	0.0075
Annelida	<i>Syllis parapari</i>	0.0205
Annelida	<i>Terebellides</i>	3.0610
Annelida	<i>Tharyx killariensis</i>	0.0055
Annelida	<i>Thelepus setosus</i>	5.0045
Arthropoda	<i>Ampelisca spinipes</i>	0.0005
Arthropoda	Aoridae (female)	0.0145
Arthropoda	<i>Apherusa ovalipes</i>	0.0035
Arthropoda	<i>Astacilla</i>	0.0045
Arthropoda	<i>Centraloecetes kroyeranus</i>	0.0005
Arthropoda	<i>Eurynome</i> (juv.)	0.0150
Arthropoda	<i>Galathea</i> (juv.)	0.0305
Arthropoda	<i>Hippomedon denticulatus</i>	0.0395
Arthropoda	<i>Liocarcinus</i> (juv.)	0.0185
Arthropoda	<i>Microjassa cumbrensis</i>	0.0005
Arthropoda	Paguridae (megalopa)	0.0225
Arthropoda	<i>Processa canaliculata</i>	0.0345

760_HWL_VE_DVV_S007	Blotted Wet Weight	
Date	2021-07-12	
Time (UTC)	01:48 & 02:14	
Water depth (m)	86	
Habitat classification		A5.45 - Deep circalittoral mixed sediments
Conservation Areas & Species		Subtidal sands and gravels
		Octocorallia, <i>Dipturus</i> sp.
E		451460.14 451459.24
N		6503901.93 6503899.64
Replicat no		
Group	Taxon	g /m ²
Arthropoda	<i>Sarsinebalia urgorrhii</i>	0.0085
Arthropoda	<i>Scopelocheirus hopei</i>	0.0050
Arthropoda	<i>Tanaopsis graciloides</i>	0.0005
Arthropoda	<i>Urothoe elegans</i>	0.0440
Cnidaria	<i>Cerianthus lloydii</i> (juv.)	0.0665
Cnidaria	Edwardsiidae	0.0150
Echinodermata	<i>Amphiura filiformis</i>	3.1405
Echinodermata	Camarodonta (juv.)	0.0005
Echinodermata	<i>Echinocyamus pusillus</i>	0.1475
Hemichordata	<i>Enteropneusta</i>	0.0390
Mollusca	<i>Abra alba</i>	0.0005
Mollusca	<i>Abra prismatica</i>	0.0405
Mollusca	<i>Alvania punctura</i>	0.0080
Mollusca	<i>Antalis entalis</i>	0.4520
Mollusca	<i>Asbjornsenia pygmaea</i>	0.0135
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0260
Mollusca	<i>Cyllichna cylindracea</i>	0.0070
Mollusca	<i>Epitonium trevelyanum</i>	0.0045
Mollusca	<i>Euspira nitida</i>	0.2125
Mollusca	<i>Gari fervensis</i> (juv.)	0.0360
Mollusca	<i>Hermania</i>	0.0230
Mollusca	<i>Kurtiella bidentata</i>	0.0005
Mollusca	<i>Modiolula phaseolina</i>	0.0030
Mollusca	<i>Spisula</i> (juv.)	0.0060
Mollusca	<i>Thracia</i> (juv.)	0.0130
Nematoda	Nematoda	0.0055
Nemertea	Nemertea	0.1005
Phoronida	<i>Phoronis</i>	0.0315
Platyhelminthes	Platyhelminthes	0.0120
Sipuncula	<i>Aspidosiphon muelleri</i>	0.0155

760_HWL_VE_DDV_S008

Date 2021-07-09
 Time (UTC) 16:19
 Water depth (m) 75

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

		Octocorallia			
		448853.96	448859.55	448861.46	448860.52
		6500430.98	6500435.54	6500441.84	6500424.72
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Arthropoda	Paguridae	0.60			
Cnidaria	<i>Alcyonium digitatum</i>	1%			
Cnidaria	Hydrozoa	< 1%			
Echinodermata	<i>Ophiura</i> sp.	0.60			
Porifera	Globular Porifera	0.60			

760_HWL_VE_DVV_S008

Date 2021-07-11
 Time (UTC) 12:05
 Water depth (m) 75

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels

Octocorallia
 E 448864.13
 N 6500434.73

Replicat no

Group	Taxon	/m ²
Annelida	<i>Amphictene auricoma</i>	10
Annelida	<i>Aonides paucibranchiata</i>	10
Annelida	<i>Dipolydora coeca</i>	5
Annelida	<i>Euclymene lombricoides</i>	5
Annelida	<i>Euclymene oerstedii</i> (aggr.)	10
Annelida	<i>Galathowenia oculata</i>	5
Annelida	<i>Glycinde nordmanni</i>	5
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	35
Annelida	<i>Magelona filiformis</i>	5
Annelida	<i>Myriochele danielsseni</i>	40
Annelida	<i>Nephtys</i> (juv.)	5
Annelida	<i>Notomastus</i>	Frag.
Annelida	<i>Odontosyllis fulgurans</i>	5
Annelida	<i>Owenia</i>	10
Annelida	<i>Paradoneis lyra</i>	10
Annelida	<i>Parexogone hebes</i>	5
Annelida	<i>Peresiella clymenoides</i>	40
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	10
Annelida	<i>Scolecopsis bonnieri</i>	5
Annelida	<i>Scoloplos armiger</i>	50
Annelida	<i>Spiophanes bombyx</i>	5
Annelida	<i>Sthenelais limicola</i>	5
Annelida	<i>Thelepus setosus</i>	5
Annelida	<i>Travisia forbesii</i>	10
Arthropoda	<i>Ampelisca provincialis</i>	5
Arthropoda	<i>Argissa hamatipes</i>	5
Arthropoda	<i>Bathyporeia elegans</i>	45
Arthropoda	<i>Diastylis</i> (juv.)	5
Arthropoda	<i>Galathea intermedia</i> (juv.)	5
Arthropoda	<i>Harpinia antennaria</i>	10
Arthropoda	<i>Harpinia laevis</i>	10
Arthropoda	<i>Liocarcinus</i> (juv.)	5
Arthropoda	<i>Pontocrates species A</i>	5
Arthropoda	<i>Tanaopsis graciloides</i>	5
Arthropoda	<i>Urothoe elegans</i>	5
Ciliophora	Folliculinidae	P
Cnidaria	Campanulariidae	P
Cnidaria	Edwardsiidae	15
Echinodermata	<i>Amphiura filiformis</i>	15
Echinodermata	Amphiuridae (juv.)	15
Echinodermata	<i>Echinocyamus pusillus</i>	35
Foraminifera	<i>Astrorhiza</i>	145
Mollusca	<i>Abra prismatica</i>	110
Mollusca	<i>Acanthocardia</i> (juv.)	5
Mollusca	<i>Antalis entalis</i>	10
Mollusca	<i>Chamelea striatula</i> (juv.)	10
Mollusca	<i>Cochlodesma praetenu</i>	10
Mollusca	<i>Cochlodesma praetenu</i> (juv.)	15
Mollusca	<i>Cylichna cylindracea</i>	10
Mollusca	<i>Hermania</i>	5
Mollusca	<i>Kurtiella bidentata</i>	65
Mollusca	<i>Spisula</i> (juv.)	10
Mollusca	<i>Thracia</i> (juv.)	5
Mollusca	<i>Thracia villosiuscula</i>	5
Mollusca	<i>Timoclea ovata</i>	5
Nematoda	Nematoda	5

760_HWL_VE_DVV_S008

Date 2021-07-11
Time (UTC) 12:05
Water depth (m) 75

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels

Octocorallia
E 448864.13
N 6500434.73

Replicat no

Group Taxon /m²

Nemertea Nemertea 15

Phoronida *Phoronis* 15

760_HWL_VE_DVV_S008	Blotted Wet Weight	
Date	2021-07-11	
Time (UTC)	12:05	
Water depth (m)	75	
Habitat classification		A5.27 - Deep circalittoral sand
Conservation Areas & Species		Subtidal sands and gravels
		Octocorallia
E		448864.13
N		6500434.73
Replicat no		
Group	Taxon	g /m ²
Annelida	Amphictene auricoma	0.0315
Annelida	Aonides paucibranchiata	0.0005
Annelida	Dipolydora coeca	0.0790
Annelida	Euclymene lombricoides	1.3845
Annelida	<i>Euclymene oerstedii</i> (aggr.)	0.0455
Annelida	Galathowenia oculata	0.0040
Annelida	Glycinde nordmanni	0.0030
Annelida	Harmothoe glabra	0.0235
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.3255
Annelida	Magelona filiformis	0.0040
Annelida	Myriochele danielsseni	0.1460
Annelida	<i>Nephtys</i> (juv.)	0.0030
Annelida	Notomastus	0.0135
Annelida	Odontosyllis fulgurans	0.0235
Annelida	Owenia	0.0310
Annelida	Paradoneis lyra	0.0035
Annelida	Parexogone hebes	0.0005
Annelida	Peresiella clymenoides	0.0125
Annelida	Pholoe baltica (sensu Petersen)	0.0160
Annelida	Scolelepis bonnieri	0.0125
Annelida	Scoloplos armiger	0.5720
Annelida	Spiophanes bombyx	0.0005
Annelida	Sthenelais limicola	0.1660
Annelida	Thelepus setosus	0.4875
Annelida	Travisia forbesii	0.0150
Arthropoda	Ampelisca provincialis	0.0050
Arthropoda	Argissa hamatipes	0.0015
Arthropoda	Bathyporeia elegans	0.0450
Arthropoda	<i>Diastylis</i> (juv.)	0.0005
Arthropoda	<i>Galathea intermedia</i> (juv.)	0.0090
Arthropoda	Harpinia antennaria	0.0090
Arthropoda	Harpinia laevis	0.0065
Arthropoda	<i>Liocarcinus</i> (juv.)	0.0430
Arthropoda	Pontocrates species A	0.0025
Arthropoda	Tanaopsis graciloides	0.0005
Arthropoda	Urothoe elegans	0.0035
Cnidaria	Edwardsiidae	0.0525
Echinodermata	Amphiura filiformis	0.4955
Echinodermata	Amphiuridae (juv.)	0.0005
Echinodermata	Echinocyamus pusillus	0.0895
Mollusca	Abra prismatica	3.5865
Mollusca	<i>Acanthocardia</i> (juv.)	0.0090
Mollusca	Antalis entalis	3.4540
Mollusca	<i>Chamelea striatula</i> (juv.)	0.0125
Mollusca	Cochlodesma praetenu	0.1430
Mollusca	<i>Cochlodesma praetenu</i> (juv.)	0.0180
Mollusca	Cylichna cylindracea	0.0265
Mollusca	Hermania	0.0100
Mollusca	Kurtiella bidentata	0.0750
Mollusca	<i>Spisula</i> (juv.)	0.0210
Mollusca	<i>Thracia</i> (juv.)	0.0060
Mollusca	Thracia villosiuscula	0.0605
Mollusca	Timoclea ovata	0.0205
Nematoda	Nematoda	0.0005
Nemertea	Nemertea	0.0290
Phoronida	Phoronis	0.0455

760_HWL_VE_DVV_S009

Date 2021-07-11
 Time (UTC) 08:45 & 09:13
 Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 450452.88 450445.51
 N 6500531.35 6500531.11

Replicat no

Group	Taxon	/m ²
	Animalia (eggs)	P
Annelida	<i>Chaetozone</i> species E	5
Annelida	<i>Glycinde nordmanni</i> (epitoke)	5
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Lagis koreni</i>	10
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	10
Annelida	<i>Magelona filiformis</i>	5
Annelida	<i>Nephtys cirrosa</i>	5
Annelida	<i>Nothria</i>	10
Annelida	<i>Owenia</i>	10
Annelida	<i>Peresiella clymenoides</i>	5
Annelida	<i>Proclymene muelleri</i>	5
Annelida	<i>Scoloplos armiger</i>	25
Annelida	<i>Sigalion mathildae</i>	5
Annelida	<i>Spiophanes kroyeri</i>	10
Annelida	<i>Sthenelais</i> (juv.)	5
Annelida	<i>Sthenelais limicola</i>	10
Annelida	<i>Travisia forbesii</i>	5
Arthropoda	<i>Ampelisca provincialis</i>	10
Arthropoda	Amphipoda	Frag.
Arthropoda	Aoridae (female)	5
Arthropoda	<i>Bathyporeia gracilis</i>	10
Arthropoda	<i>Centraloecetes striatus</i>	5
Arthropoda	Decapoda (zoea)	5
Arthropoda	<i>Eurydice truncata</i>	10
Arthropoda	<i>Haplostylus lobatus</i>	5
Arthropoda	<i>Perioculodes longimanus</i>	5
Arthropoda	<i>Urothoe elegans</i>	5
Bryozoa	<i>Alcyonidioides mytili</i>	P
Cnidaria	<i>Diphasia</i>	P
Cnidaria	Edwardsiidae	10
Echinodermata	Amphiuridae (juv.)	5
Echinodermata	<i>Echinocyamus pusillus</i>	65
Echinodermata	Spatangoida	Frag.
Foraminifera	<i>Astrorhiza</i>	10
Mollusca	<i>Abra prismatica</i>	60
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	10
Mollusca	<i>Colus gracilis</i>	5
Mollusca	<i>Epitonium trevelyanum</i>	5
Mollusca	<i>Hermania</i>	5
Mollusca	<i>Ondina divisa</i>	5
Mollusca	<i>Thracia</i> (juv.)	5
Mollusca	<i>Timoclea ovata</i>	10
Nematoda	Nematoda	5
Phoronida	<i>Phoronis</i>	Frag.

760_HWL_VE_DVV_S009

Blotted Wet Weight

Date 2021-07-11
 Time (UTC) 08:45 & 09:13
 Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 450452.88 450445.51
 N 6500531.35 6500531.11

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Chaetozone</i> species E	0.0070
Annelida	<i>Glycinde nordmanni</i> (epitoke)	0.0080
Annelida	<i>Harmothoe glabra</i>	0.0715
Annelida	<i>Lagis koreni</i>	0.6880
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0535
Annelida	<i>Magelona filiformis</i>	0.0005
Annelida	<i>Nephtys cirrosa</i>	0.0880
Annelida	<i>Nothria</i>	0.4250
Annelida	<i>Owenia</i>	0.0585
Annelida	<i>Peresiella clymenoides</i>	0.0005
Annelida	<i>Proclymene muelleri</i>	3.5465
Annelida	<i>Scoloplos armiger</i>	0.1280
Annelida	<i>Sigalion mathildae</i>	0.3540
Annelida	<i>Spiophanes kroyeri</i>	0.0140
Annelida	<i>Sthenelais</i> (juv.)	0.0015
Annelida	<i>Sthenelais limicola</i>	0.1125
Annelida	<i>Travisia forbesii</i>	0.0490
Arthropoda	<i>Ampelisca provincialis</i>	0.0090
Arthropoda	Amphipoda	0.0055
Arthropoda	Aoridae (female)	0.0005
Arthropoda	<i>Bathyporeia gracilis</i>	0.0040
Arthropoda	<i>Centraloecetes striatus</i>	0.0005
Arthropoda	Decapoda (zoea)	0.0110
Arthropoda	<i>Eurydice truncata</i>	0.0070
Arthropoda	<i>Haplostylus lobatus</i>	0.0050
Arthropoda	<i>Perioculodes longimanus</i>	0.0005
Arthropoda	<i>Urothoe elegans</i>	0.0005
Cnidaria	Edwardsiidae	0.0405
Echinodermata	Amphiuridae (juv.)	0.0105
Echinodermata	<i>Echinocyamus pusillus</i>	0.1975
Echinodermata	Spatangoida	0.1125
Mollusca	<i>Abra prismatica</i>	1.5485
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0095
Mollusca	<i>Colus gracilis</i>	70.1575
Mollusca	<i>Epitonium trevelyanum</i>	0.0675
Mollusca	<i>Hermania</i>	0.0180
Mollusca	<i>Ondina divisa</i>	0.0095
Mollusca	<i>Thracia</i> (juv.)	0.0085
Mollusca	<i>Timoclea ovata</i>	0.0800
Nematoda	Nematoda	0.0070
Phoronida	<i>Phoronis</i>	0.0380

760_HWL_VE_DDV_S010

Date 2021-07-07
 Time (UTC) 17:40
 Water depth (m) 75

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

E	448937.64	448933.85	448937.38	448943.21
N	6499830.69	6499836.02	6499842.37	6499835.95
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²
Arthropoda	Paguridae	0.22		
Chordata	<i>Melanogrammus aeglefinus</i>		0.22	

760_HWL_VE_DVV_S010

Date 2021-07-11
 Time (UTC) 10:03 & 10:34
 Water depth (m) 75

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

E	448940.23	448937.00
N	6499839.91	6499838.49

Replicat no

Group	Taxon	/m ²
Annelida	<i>Aglaophamus agilis</i>	5
Annelida	<i>Amphitritides gracilis</i>	5
Annelida	<i>Aonides paucibranchiata</i>	30
Annelida	<i>Aricidea cerrutii</i>	5
Annelida	<i>Capitella</i>	10
Annelida	<i>Eulalia mustela</i>	10
Annelida	<i>Eumida sanguinea</i> (aggr.)	5
Annelida	<i>Glycera lapidum</i> (aggr.)	55
Annelida	<i>Glycera oxycephala</i>	5
Annelida	<i>Glycinde nordmanni</i> (epitoke)	5
Annelida	<i>Goniadella gracilis</i>	10
Annelida	<i>Grania</i>	10
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Harmothoe impar</i> (aggr.)	15
Annelida	<i>Laonice irinae</i>	10
Annelida	<i>Malmgrenia castanea</i>	5
Annelida	<i>Malmgrenia darbouxi</i>	5
Annelida	<i>Malmgrenia ljungmani</i>	30
Annelida	<i>Mediomastus fragilis</i>	5
Annelida	<i>Notomastus</i>	45
Annelida	<i>Notoproctus</i>	10
Annelida	<i>Owenia</i>	20
Annelida	<i>Pisione remota</i>	40
Annelida	<i>Polycirrus</i>	5
Annelida	<i>Polygordius</i>	105
Annelida	<i>Protodorvillea kefersteini</i>	Frag.
Annelida	<i>Pseudomystides limbata</i>	5
Annelida	<i>Sphaerosyllis cf. taylori</i>	10
Annelida	<i>Spio symphyta</i>	35
Annelida	<i>Syllis garciai</i>	5
Annelida	<i>Syllis parapari</i>	5
Annelida	<i>Thelepus setosus</i>	5
Arthropoda	<i>Ampelisca spinipes</i>	5
Arthropoda	<i>Ampelisca typica</i>	5
Arthropoda	<i>Balanus crenatus</i>	35
Arthropoda	<i>Bathyporeia elegans</i>	5
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	5
Arthropoda	<i>Ebalia tuberosa</i>	5
Arthropoda	<i>Megamphopus cornutus</i>	10
Arthropoda	<i>Nototropis vedlomensis</i>	5
Arthropoda	<i>Scopelocheirus hopei</i>	10
Arthropoda	Sessilia (juv.)	50
Arthropoda	<i>Verruca stroemia</i>	15
Bryozoa	<i>Disporella hispida</i>	P
Bryozoa	<i>Electra pilosa</i>	P
Bryozoa	<i>Entalophoroecia deflexa</i>	P
Bryozoa	<i>Escharella ventricosa</i>	P
Bryozoa	<i>Pyripora catenularia</i>	P
Bryozoa	<i>Tubulipora</i>	P
Chordata	<i>Dendrodoa grossularia</i>	5
Echinodermata	<i>Amphipholis squamata</i>	20
Echinodermata	<i>Amphiura filiformis</i>	Frag.
Echinodermata	<i>Echinocyamus pusillus</i>	90
Echinodermata	<i>Leptosynapta minuta</i>	5
Echinodermata	Ophiuridae (juv.)	5
Echinodermata	Spatangoida (juv.)	5
Echinodermata	<i>Spatangus purpureus</i>	5

760_HWL_VE_DVV_S010

Date 2021-07-11
 Time (UTC) 10:03 & 10:34
 Water depth (m) 75

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

E	448940.23	448937.00
N	6499839.91	6499838.49

Replicat no

Group	Taxon	/m ²
Entoprocta	<i>Loxosomella murmanica</i>	P
Mollusca	<i>Arctica islandica</i> (juv.)	5
Mollusca	<i>Asbjornsenia pygmaea</i>	35
Mollusca	<i>Euspira nitida</i>	10
Mollusca	<i>Gari tellinella</i>	5
Mollusca	<i>Gari tellinella</i> (juv.)	10
Mollusca	<i>Glycymeris glycymeris</i>	25
Mollusca	<i>Glycymeris glycymeris</i> (juv.)	10
Mollusca	<i>Goodallia triangularis</i>	170
Mollusca	<i>Gouldia minima</i>	10
Mollusca	<i>Limatula subauriculata</i>	30
Mollusca	<i>Montacuta substriata</i>	50
Mollusca	<i>Similipecten similis</i>	5
Mollusca	<i>Spisula</i> (juv.)	25
Mollusca	<i>Spisula elliptica</i>	5
Mollusca	<i>Tellimya ferruginosa</i>	5
Mollusca	<i>Thracia</i> (juv.)	20
Mollusca	<i>Venus casina</i> (juv.)	10
Nematoda	Nematoda	395
Nemertea	Nemertea	30
Porifera	Porifera	P
Sipuncula	<i>Golfingia elongata</i>	5
Sipuncula	<i>Golfingia vulgaris</i>	5
Sipuncula	<i>Phascolion strombus</i>	15

760_HWL_VE_DVV_S010

Blotted Wet weight

Date 2021-07-11
 Time (UTC) 10:03 & 10:34
 Water depth (m) 75

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

E 448940.23 448937.00
 N 6499839.91 6499838.49

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Aglaophamus agilis</i>	0.4355
Annelida	<i>Amphitritides gracilis</i>	1.0260
Annelida	<i>Aonides paucibranchiata</i>	0.0505
Annelida	<i>Aricidea cerrutii</i>	0.0005
Annelida	<i>Capitella</i>	0.0135
Annelida	<i>Eulalia mustela</i>	0.0060
Annelida	<i>Eumida sanguinea</i> (aggr.)	0.0045
Annelida	<i>Glycera lapidum</i> (juv.)	0.1310
Annelida	<i>Glycera oxycephala</i>	0.1890
Annelida	<i>Glycinde nordmanni</i> (epitoke)	0.0035
Annelida	<i>Goniadella gracilis</i>	0.0045
Annelida	<i>Grania</i>	0.0005
Annelida	<i>Harmothoe glabra</i>	0.0440
Annelida	<i>Harmothoe impar</i> (aggr.)	0.0055
Annelida	<i>Laonice irinae</i>	0.0505
Annelida	<i>Malmgrenia castanea</i>	0.0725
Annelida	<i>Malmgrenia darbouxi</i>	0.0125
Annelida	<i>Malmgrenia ljungmani</i>	0.0340
Annelida	<i>Mediomastus fragilis</i>	0.0005
Annelida	<i>Notomastus</i>	0.5835
Annelida	<i>Notoproctus</i>	0.0005
Annelida	<i>Owenia</i>	0.2290
Annelida	<i>Pisione remota</i>	0.0075
Annelida	<i>Polycirrus</i>	0.0635
Annelida	<i>Polygordius</i>	0.0400
Annelida	<i>Protodorvillea kefersteini</i>	0.0005
Annelida	<i>Pseudomystides limbata</i>	0.0005
Annelida	<i>Sphaerosyllis cf. taylori</i>	0.0005
Annelida	<i>Spio symphyta</i>	0.0900
Annelida	<i>Syllis garciai</i>	0.0005
Annelida	<i>Syllis parapari</i>	0.0145
Annelida	<i>Thelepus setosus</i>	0.0005
Arthropoda	<i>Ampelisca spinipes</i>	0.0005
Arthropoda	<i>Ampelisca typica</i>	0.0620
Arthropoda	<i>Bathyporeia elegans</i>	0.0005
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	0.0095
Arthropoda	<i>Ebalia tuberosa</i>	4.1955
Arthropoda	<i>Megamphopus cornutus</i>	0.0005
Arthropoda	<i>Nototropis vedlomensis</i>	0.0135
Arthropoda	<i>Scopelocheirus hopei</i>	0.0170
Echinodermata	<i>Amphipholis squamata</i>	0.0080
Echinodermata	<i>Amphiura filiformis</i>	0.0200
Echinodermata	<i>Echinocyamus pusillus</i>	1.7695
Echinodermata	<i>Leptosynapta minuta</i>	0.0055
Echinodermata	Ophiuridae (juv.)	0.0005
Echinodermata	Spatangoida (juv.)	0.0005
Echinodermata	<i>Spatangus purpureus</i>	80.1000
Mollusca	<i>Arctica islandica</i> (juv.)	0.0005
Mollusca	<i>Asbjornsenia pygmaea</i>	0.0830
Mollusca	<i>Euspira nitida</i>	0.8555
Mollusca	<i>Gari tellinella</i>	0.6955
Mollusca	<i>Gari tellinella</i> (juv.)	0.0140
Mollusca	<i>Glycymeris glycymeris</i>	1075.0000
Mollusca	<i>Glycymeris glycymeris</i> (juv.)	0.8110
Mollusca	<i>Goodallia triangularis</i>	0.2865
Mollusca	<i>Gouldia minima</i>	0.3325
Mollusca	<i>Limatula subauriculata</i>	0.0365
Mollusca	<i>Montacuta substriata</i>	0.0725
Mollusca	<i>Similipecten similis</i>	0.0065
Mollusca	<i>Spisula</i> (juv.)	0.0810
Mollusca	<i>Spisula elliptica</i>	3.9650
Mollusca	<i>Tellimya ferruginosa</i>	0.0010
Mollusca	<i>Thracia</i> (juv.)	0.0545
Mollusca	<i>Venus casina</i> (juv.)	0.0265
Nematoda	Nematoda	0.0295
Nemertea	Nemertea	0.0690
Sipuncula	<i>Golfingia elongata</i>	0.0005
Sipuncula	<i>Golfingia vulgaris</i>	0.0035
Sipuncula	<i>Phascolion strombus</i>	0.3935

760_HWL_VE_DDV_S011

Date 2021-07-10
 Time (UTC) 11:22
 Water depth (m) 68

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E	451781.09	451780.87	451772.27	451779.43
N	6498487.33	6498492.89	6498485.47	6498480.58
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Echinodermata			0.49	
Porifera			0.49	

Taxon
Ophiura ophiura
 Porifera

760_HWL_VE_DVV_S011

Date 2021-07-11
 Time (UTC) 05:56 & 06:09
 Water depth (m) 68

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 451776.67 451778.95
 N 6498485.20 6498484.04

Replicat no

Group	Taxon	/m ²
	Animalia (eggs)	P
Annelida	<i>Dipolydora coeca</i>	5
Annelida	<i>Glycera tridactyla</i>	5
Annelida	<i>Glycinde nordmanni</i>	5
Annelida	<i>Goniada maculata</i>	10
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Lagis koreni</i>	10
Annelida	<i>Lanice conchilega</i>	10
Annelida	<i>Magelona filiformis</i>	60
Annelida	<i>Magelona johnstoni</i>	5
Annelida	<i>Nephtys cirrosa</i>	5
Annelida	<i>Owenia</i>	110
Annelida	<i>Phyllodoce rosea</i>	5
Annelida	<i>Prionospio fallax</i>	15
Annelida	<i>Scolelepis bonnierii</i>	5
Annelida	<i>Sigalion mathildae</i>	5
Annelida	<i>Sigalion mathildae</i> (juv.)	5
Annelida	<i>Spio decorata</i>	5
Annelida	<i>Spiophanes bombyx</i>	20
Annelida	<i>Sthenelais</i> (juv.)	15
Arthropoda	<i>Ampelisca brevicornis</i>	5
Arthropoda	<i>Bathyporeia elegans</i>	5
Arthropoda	Copepoda	5
Arthropoda	<i>Gnathia oxyuraea</i> (Type A)	5
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	Paguridae (juv.)	5
Arthropoda	Pardaliscidae (male)	5
Bryozoa	<i>Flustra foliacea</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	Edwardsiidae	50
Echinodermata	<i>Amphiura filiformis</i>	10
Echinodermata	<i>Echinocardium cordatum</i>	5
Echinodermata	<i>Echinocyamus pusillus</i>	5
Echinodermata	Spatangoida (juv.)	5
Mollusca	<i>Abra alba</i>	35
Mollusca	<i>Abra prismatica</i>	260
Mollusca	<i>Acanthocardia</i> (juv.)	5
Mollusca	<i>Arctica islandica</i> (juv.)	20
Mollusca	<i>Chamelea striatula</i> (juv.)	350
Mollusca	<i>Cochlodesma praetenuae</i>	10
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	5
Mollusca	<i>Dosinia</i> (juv.)	125
Mollusca	<i>Fabulina fabula</i>	75
Mollusca	<i>Hermania</i>	40
Mollusca	<i>Kurtiella bidentata</i>	5
Mollusca	<i>Lucinoma borealis</i> (juv.)	5
Mollusca	<i>Mactra stultorum</i> (juv.)	5
Mollusca	<i>Mysia undata</i> (juv.)	5
Mollusca	<i>Spisula</i> (juv.)	10
Mollusca	<i>Thracia</i> (juv.)	30
Mollusca	<i>Thracia phaseolina</i>	25
Mollusca	<i>Timoclea ovata</i>	20
Mollusca	<i>Varicorbula gibba</i>	5
Nemertea	Nemertea	5
Phoronida	<i>Phoronis</i>	20

760_HWL_VE_DVV_S011

Blotted Wet Weight

Date 2021-07-11
 Time (UTC) 05:56 & 06:09
 Water depth (m) 68

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 451776.67 451778.95
 N 6498485.20 6498484.04

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Dipolydora coeca</i>	0.2860
Annelida	<i>Glycera tridactyla</i>	0.1630
Annelida	<i>Glycinde nordmanni</i>	0.0385
Annelida	<i>Goniada maculata</i>	0.1340
Annelida	<i>Harmothoe glabra</i>	0.0125
Annelida	<i>Lagis koreni</i>	0.4070
Annelida	<i>Lanice conchilega</i>	0.2000
Annelida	<i>Magelona filiformis</i>	0.0685
Annelida	<i>Magelona johnstoni</i>	0.0325
Annelida	<i>Nephtys cirrosa</i>	0.2370
Annelida	<i>Owenia</i>	1.4385
Annelida	<i>Phyllodoce rosea</i>	0.0010
Annelida	<i>Prionospio fallax</i>	0.0080
Annelida	<i>Scolecopsis bonnieri</i>	0.0535
Annelida	<i>Sigalion mathildae</i>	0.4390
Annelida	<i>Sigalion mathildae</i> (juv.)	0.0055
Annelida	<i>Spio decorata</i>	0.0050
Annelida	<i>Spiophanes bombyx</i>	0.2675
Annelida	<i>Sthenelais</i> (juv.)	0.0225
Arthropoda	<i>Ampelisca brevicornis</i>	0.1315
Arthropoda	<i>Bathyporeia elegans</i>	0.0100
Arthropoda	Copepoda	0.0005
Arthropoda	<i>Gnathia oxyuraea</i> Type A	0.0060
Arthropoda	<i>Hippomedon denticulatus</i>	0.0125
Arthropoda	Paguridae (juv.)	0.0115
Arthropoda	Pardaliscidae (male)	0.0045
Cnidaria	Edwardsiidae	0.3205
Echinodermata	<i>Amphiura filiformis</i>	0.5830
Echinodermata	<i>Echinocardium cordatum</i>	79.8350
Echinodermata	<i>Echinocyamus pusillus</i>	0.0030
Echinodermata	Spatangoida (juv.)	0.0020
Mollusca	<i>Abra alba</i>	0.2405
Mollusca	<i>Abra prismatica</i>	2.3620
Mollusca	<i>Acanthocardia</i> (juv.)	0.0295
Mollusca	<i>Arctica islandica</i> (juv.)	0.1145
Mollusca	<i>Chamelea striatula</i> (juv.)	0.8965
Mollusca	<i>Cochlodesma praetenuae</i>	0.6365
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0350
Mollusca	<i>Dosinia</i> (juv.)	0.2515
Mollusca	<i>Fabulina fabula</i>	4.7470
Mollusca	<i>Hermania</i>	0.0655
Mollusca	<i>Kurtiella bidentata</i>	0.0045
Mollusca	<i>Lucinoma borealis</i> (juv.)	0.0945
Mollusca	<i>Mactra stultorum</i> (juv.)	0.0570
Mollusca	<i>Mysia undata</i> (juv.)	0.0090
Mollusca	<i>Spisula</i> (juv.)	0.0575
Mollusca	<i>Thracia</i> (juv.)	0.1785
Mollusca	<i>Thracia phaseolina</i>	1.0590
Mollusca	<i>Timoclea ovata</i>	0.0370
Mollusca	<i>Varicorbula gibba</i>	0.0105
Nemertea	Nemertea	0.0240
Phoronida	<i>Phoronis</i>	0.8660

760_HWL_VE_DDV_S012

Date 2021-07-10
 Time (UTC) 09:49
 Water depth (m) 81

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

Arctica islandica

E	452003.82	451996.36	451991.37	451997.33
N	6499842.50	6499840.61	6499840.35	6499843.52
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Chordata	0.67			
Taxon	Pleuronectidae			

760_HWL_VE_DVV_S012

Date 2021-07-11
 Time (UTC) 07:19 & 07:44
 Water depth (m) 81

Habitat classification A5.25 - Circalittoral fine sand

Conservation Areas & Species Subtidal sands and gravels

Arctica islandica

E	452000.30	451997.35
N	6499837.41	6499838.73

Replicat no

Group	Taxon	/m ²
	Animalia (eggs)	P
Annelida	<i>Chaetozone christiei</i>	10
Annelida	<i>Glycinde nordmanni</i> (epitoke)	10
Annelida	<i>Lagis koreni</i>	5
Annelida	<i>Lanice conchilega</i>	25
Annelida	<i>Magelona alleni</i>	10
Annelida	<i>Magelona filiformis</i>	15
Annelida	Maldanidae	Frag.
Annelida	<i>Nephtys hombergii</i>	5
Annelida	<i>Ophelina acuminata</i>	5
Annelida	<i>Owenia</i>	70
Annelida	<i>Poecilochaetus serpens</i>	5
Annelida	<i>Scolecopsis bonnieri</i>	10
Annelida	<i>Scoloplos armiger</i>	10
Annelida	<i>Spiophanes bombyx</i>	10
Annelida	<i>Sthenelais limicola</i>	5
Arthropoda	<i>Bathyporeia gracilis</i>	10
Arthropoda	<i>Bathyporeia tenuipes</i>	10
Arthropoda	<i>Bodotria arenosa</i>	5
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	5
Arthropoda	Decapoda	Frag.
Arthropoda	<i>Harpinia antennaria</i>	15
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	Sessilia (juv.)	5
Arthropoda	<i>Urothoe elegans</i>	5
Bryozoa	<i>Securiflustra securifrons</i>	P
Chaetognatha	Sagittidae	5
Ciliophora	Ciliophora	P
Ciliophora	Folliculinidae	P
Cnidaria	Bougainvilliidae	P
Cnidaria	Edwardsiidae	40
Cnidaria	<i>Sertularia</i>	P
Echinodermata	<i>Amphiura filiformis</i>	5
Echinodermata	Amphiuridae (juv.)	10
Echinodermata	<i>Echinocyamus pusillus</i>	10
Echinodermata	Spatangoida (juv.)	10
Mollusca	<i>Abra alba</i>	10
Mollusca	<i>Abra prismatica</i>	185
Mollusca	<i>Acanthocardia</i> (juv.)	5
Mollusca	<i>Arctica islandica</i>	5
Mollusca	<i>Chamelea striatula</i> (juv.)	20
Mollusca	<i>Cochlodesma praetenuae</i>	10
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	5
Mollusca	<i>Cylichna cylindracea</i>	10
Mollusca	<i>Dosinia</i> (juv.)	35
Mollusca	<i>Gari fervensis</i> (juv.)	5
Mollusca	<i>Hermania</i>	20
Mollusca	<i>Kurtiella bidentata</i>	5
Mollusca	Naticidae (juv.)	15
Mollusca	<i>Nucula nitidosa</i>	10
Mollusca	<i>Phaxas pellucidus</i>	5
Mollusca	<i>Tellinomya ferruginosa</i>	10
Mollusca	<i>Thracia</i> (juv.)	10
Mollusca	<i>Thracia phaseolina</i>	15
Mollusca	<i>Timoclea ovata</i>	15
Nemertea	<i>Cerebratulus</i>	5
Phoronida	<i>Phoronis</i>	5

760_HWL_VE_DVV_S012	Blotted Wet Weight	
Date	2021-07-11	
Time (UTC)	07:19 & 07:44	
Water depth (m)	81	
Habitat classification		A5.25 - Circalittoral fine sand
Conservation Areas & Species		Subtidal sands and gravels
		<i>Arctica islandica</i>
E		452000.30 451997.35
N		6499837.41 6499838.73
Replicat no		
Group	Taxon	g /m ²
Annelida	<i>Chaetozone christiei</i>	0.0210
Annelida	<i>Glycinde nordmanni</i> (epitoke)	0.0885
Annelida	<i>Lagis koreni</i>	0.2285
Annelida	<i>Lanice conchilega</i>	0.3000
Annelida	<i>Magelona alleni</i>	0.0665
Annelida	<i>Magelona filiformis</i>	0.0075
Annelida	Maldanidae	0.2025
Annelida	<i>Nephtys hombergii</i>	0.1265
Annelida	<i>Ophelina acuminata</i>	0.0060
Annelida	<i>Owenia</i>	0.5375
Annelida	<i>Poecilochaetus serpens</i>	0.0060
Annelida	<i>Scolecopsis bonnieri</i>	0.0165
Annelida	<i>Scoloplos armiger</i>	0.1070
Annelida	<i>Spiophanes bombyx</i>	0.0330
Annelida	<i>Sthenelais limicola</i>	0.0695
Arthropoda	<i>Bathyporeia gracilis</i>	0.0085
Arthropoda	<i>Bathyporeia tenuipes</i>	0.0125
Arthropoda	<i>Bodotria arenosa</i>	0.0050
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	0.0640
Arthropoda	Decapoda	0.0005
Arthropoda	<i>Harpinia antennaria</i>	0.0090
Arthropoda	<i>Hippomedon denticulatus</i>	0.0265
Arthropoda	<i>Urothoe elegans</i>	0.0035
Chaetognatha	Sagittidae	0.0160
Cnidaria	Edwardsiidae	0.1340
Echinodermata	<i>Amphiura filiformis</i>	0.9845
Echinodermata	Amphiuridae (juv.)	0.0035
Echinodermata	<i>Echinocyamus pusillus</i>	0.0660
Echinodermata	Spatangoida (juv.)	0.0035
Mollusca	<i>Abra alba</i>	0.0150
Mollusca	<i>Abra prismatica</i>	0.9285
Mollusca	<i>Acanthocardia</i> (juv.)	0.0035
Mollusca	<i>Arctica islandica</i>	425.0000
Mollusca	<i>Chamelea striatula</i> (juv.)	0.0435
Mollusca	<i>Cochlodesma praetenuae</i>	0.1295
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0045
Mollusca	<i>Cylichna cylindracea</i>	0.0135
Mollusca	<i>Dosinia</i> (juv.)	0.0525
Mollusca	<i>Gari fervensis</i> (juv.)	0.0160
Mollusca	<i>Hermania</i>	0.0230
Mollusca	<i>Kurtiella bidentata</i>	0.0335
Mollusca	Naticidae (juv.)	0.1105
Mollusca	<i>Nucula nitidosa</i>	0.0445
Mollusca	<i>Phaxas pellucidus</i>	0.0005
Mollusca	<i>Tellimya ferruginosa</i>	0.0210
Mollusca	<i>Thracia</i> (juv.)	0.0315
Mollusca	<i>Thracia phaseolina</i>	0.2105
Mollusca	<i>Timoclea ovata</i>	0.0880
Nemertea	<i>Cerebratulus</i>	0.0165
Phoronida	<i>Phoronis</i>	0.0125

760_HWL_VE_DDV_S013

Date 2021-07-10
 Time (UTC) 16:31
 Water depth (m) 40

Habitat classification

A4.13 - Mixed faunal turf communities on circalittoral rock

Conservation Areas & Species

Annex I 1170 - Stony Reefs Medium Grade

		454014.54	454010.55	454018.31	454024.31
		6494237.39	6494240.90	6494242.98	6494243.89
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Arthropoda	Balanidae	<1%			
Arthropoda	Caridea	6.08			
Arthropoda	<i>Galathea</i> sp.			0.54	
Arthropoda	Galatheidae		0.87		
Arthropoda	<i>Munida</i> sp.			1.08	1.15
Arthropoda	Paguridae		0.87		2.30
Bryozoa	Encrusting Bryozoa		10%	10%	8%
Bryozoa	<i>Securiflustra securifrons</i>	1%	1%	< 1%	5%
Chordata	<i>Ascidia</i> sp.			0.5	
Chordata	Asciacea		0.87	4.85	
Chordata	<i>Ciona intestinalis</i>			2.16	
Chordata	<i>Clavelina lepadiformis</i>	<1%	<1%	<1%	<1%
Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>		1.73	2.16	
Cnidaria	Hydrozoa	2%	9%	12%	12%
Cnidaria	Kirchenpaueriidae	0.03			
Echinodermata	<i>Asterias rubens</i>			0.54	1.15
Echinodermata	<i>Echinus</i> sp.		0.87	1.08	1.15
Echinodermata	<i>Ophiura albida</i>	15.21			
Echinodermata	<i>Ophiura</i> sp.	21.29			
Echinodermata	Ophiurida		0.87		
Mollusca	<i>Gibbula</i> sp.	9.12			3.46
Mollusca	Trochoidea		1.73	1.08	1.15

760_HWL_VE_DVV_S013

Date 2021-07-10
Time (UTC)
Water depth (m) 40

Habitat classification A4.13 - Mixed faunal turf communities on circalittoral rock

Conservation Areas & Species Annex I 1170 - Stony Reefs Medium Grade

E 454015.45

N 6494242.19

Replicat no

Group Taxon /m²

No grab sampling performed

760_HWL_VE_DVV_S013	Blotted Wet Weight	
Date	2021-07-10	
Time (UTC)		
Water depth (m)	40	
Habitat classification		A4.13 - Mixed faunal turf communities on circalittoral rock
Conservation Areas & Species		Annex I 1170 - Stony Reefs Medium Grade
E		454015.45
N		6494242.19
Replicat no		
Group	Taxon	g /m ²
No grab sampling performed		

760_HWL_VE_DDV_S014

Date 2021-07-10
 Time (UTC) 13:12
 Water depth (m) 47

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E	453138.47	453142.46	453139.49	453150.07
N	6496594.36	6496596.34	6496601.99	6496596.88
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	Taxon			
Arthropoda	Paguridae	/m ²	/m ²	/m ²
Echinodermata	<i>Eutripla gurnardus</i>		0.6	0.76

760_HWL_VE_DVV_S014

Date 2021-07-11
 Time (UTC) 03:58 & 04:13
 Water depth (m) 47

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 453141.20 453141.39
 N 6496593.92 6496594.54

Replicat no

Group	Taxon	/m ²
Annelida	<i>Capitella</i>	5
Annelida	<i>Chaetozone</i> species E	5
Annelida	<i>Glycera tridactyla</i>	5
Annelida	<i>Goniada maculata</i>	5
Annelida	<i>Lagis koreni</i>	10
Annelida	<i>Magelona alleni</i>	5
Annelida	<i>Magelona filiformis</i>	70
Annelida	<i>Magelona johnstoni</i>	15
Annelida	<i>Nephtys</i> (juv.)	5
Annelida	<i>Nephtys cirrosa</i>	10
Annelida	<i>Owenia</i>	75
Annelida	<i>Scolecopsis bonnieri</i>	5
Annelida	<i>Scoloplos armiger</i>	5
Annelida	<i>Sigalion mathildae</i>	10
Annelida	<i>Spio decorata</i>	5
Annelida	<i>Sthenelais</i> (juv.)	5
Annelida	<i>Travisia forbesii</i>	25
Arthropoda	<i>Bathyporeia elegans</i>	20
Arthropoda	<i>Bodotria arenosa</i>	5
Arthropoda	<i>Pseudocuma simile</i>	5
Bryozoa	<i>Alcyonidium diaphanum</i>	P
Bryozoa	<i>Eucratea loricata</i>	P
Bryozoa	<i>Schizomavella</i>	P
Cnidaria	Edwardsiidae	15
Cnidaria	<i>Sertularia</i>	P
Echinodermata	<i>Acrocnida brachiata</i>	10
Echinodermata	<i>Amphiura filiformis</i>	5
Echinodermata	Amphiuridae (juv.)	5
Echinodermata	<i>Echinocardium cordatum</i>	5
Echinodermata	Spatangoida (juv.)	10
Mollusca	<i>Abra prismatica</i>	140
Mollusca	<i>Acanthocardia</i> (juv.)	5
Mollusca	<i>Acteon tornatilis</i> (juv.)	5
Mollusca	<i>Asbjornsenia pygmaea</i>	5
Mollusca	<i>Chamelea striatula</i> (juv.)	80
Mollusca	<i>Cochlodesma praetenuae</i>	30
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	10
Mollusca	<i>Dosinia</i> (juv.)	35
Mollusca	<i>Ensis</i> (juv.)	35
Mollusca	<i>Euspira nitida</i>	15
Mollusca	<i>Fabulina fabula</i>	5
Mollusca	<i>Lucinoma borealis</i> (juv.)	5
Mollusca	<i>Mactra stultorum</i>	5
Mollusca	<i>Philine punctata</i>	5
Mollusca	<i>Spisula</i> (juv.)	5
Mollusca	<i>Tellinomya ferruginosa</i>	5
Mollusca	<i>Thracia</i> (juv.)	5
Phoronida	<i>Phoronis</i>	20
Platyhelminthes	Platyhelminthes	10

760_HWL_VE_DVV_S014

Date 2021-07-11
 Time (UTC) 03:58 & 04:13
 Water depth (m) 47

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 453141.20 453141.39
 N 6496593.92 6496594.54

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Capitella</i>	0.0035
Annelida	<i>Chaetozone</i> species E	0.0160
Annelida	<i>Glycera tridactyla</i>	0.6540
Annelida	<i>Goniada maculata</i>	0.0165
Annelida	<i>Lagis koreni</i>	0.3450
Annelida	<i>Magelona alleni</i>	0.0440
Annelida	<i>Magelona filiformis</i>	0.0555
Annelida	<i>Magelona johnstoni</i>	0.0605
Annelida	<i>Nephtys</i> (juv.)	0.0120
Annelida	<i>Nephtys cirrosa</i>	0.0990
Annelida	<i>Owenia</i>	1.4120
Annelida	<i>Scolecopsis bonnieri</i>	0.1390
Annelida	<i>Scoloplos armiger</i>	0.0150
Annelida	<i>Sigalion mathildae</i>	0.3745
Annelida	<i>Spio decorata</i>	0.0035
Annelida	<i>Sthenelais</i> (juv.)	0.0010
Annelida	<i>Travisia forbesii</i>	0.0760
Arthropoda	<i>Bathyporeia elegans</i>	0.0305
Arthropoda	<i>Bodotria arenosa</i>	0.0045
Arthropoda	<i>Pseudocuma simile</i>	0.0035
Cnidaria	Edwardsiidae	0.0825
Echinodermata	<i>Acrocorda brachiata</i>	2.1905
Echinodermata	<i>Amphiura filiformis</i>	0.0980
Echinodermata	Amphiuridae (juv.)	0.0010
Echinodermata	<i>Echinocardium cordatum</i>	77.2185
Echinodermata	Spatangoida (juv.)	0.0025
Mollusca	<i>Abra prismatica</i>	0.4155
Mollusca	<i>Acanthocardia</i> (juv.)	0.0030
Mollusca	<i>Acteon tornatilis</i> (juv.)	0.0090
Mollusca	<i>Asbjornsenia pygmaea</i>	0.0100
Mollusca	<i>Chamelea striatula</i> (juv.)	0.1960
Mollusca	<i>Cochlodesma praetenuae</i>	0.5825
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0625
Mollusca	<i>Dosinia</i> (juv.)	0.0930
Mollusca	<i>Ensis</i> (juv.)	0.0355
Mollusca	<i>Euspira nitida</i>	0.1705
Mollusca	<i>Fabulina fabula</i>	0.0985
Mollusca	<i>Lucinoma borealis</i> (juv.)	0.0260
Mollusca	<i>Mactra stultorum</i>	12.1335
Mollusca	<i>Philine punctata</i>	0.0060
Mollusca	<i>Spisula</i> (juv.)	0.0180
Mollusca	<i>Tellinomya ferruginosa</i>	0.0295
Mollusca	<i>Thracia</i> (juv.)	0.0030
Phoronida	<i>Phoronis</i>	0.1245
Platyhelminthes	Platyhelminthes	0.0040

760_HWL_VE_DDV_S015

Date 2021-07-10
 Time (UTC) 14:50
 Water depth (m) 46

Habitat classification

A5.142 - Mediomastus fragilis, Lumbrineris spp. and venerid bivalves in circalittoral coarse sand or gravel

Conservation Areas & Species

Subtidal sands and gravels

	454069.93	454077.99	454071.85	454066.75
E	6494676.53	6494686.65	6494691.10	6494689.60
N	1	2	3	4
Photo ID				
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Arthropoda			0.99	0.49
Chordata	0.34			
Mollusca		0.54		

Taxon
 Paguridae
 Scyllorhinus sp.
 Gastropoda

760_HWL_VE_HG_S015

Date 2021-07-12
 Time (UTC) 09:00 & 09:35
 Water depth (m) 46

Habitat classification

A5.142 - Mediomastus fragilis, Lumbrineris spp. and venerid
 bivalves in circalittoral coarse sand or gravel

Conservation Areas & Species

Subtidal sands and gravels

E 454071.27 454071.23
 N 6494691.99 6494691.71

Replicat no

Group	Taxon	/m ²
	Animalia (eggs)	P
Annelida	<i>Aonides paucibranchiata</i>	55
Annelida	<i>Aponuphis bilineata</i>	5
Annelida	<i>Aricidea cerrutii</i>	5
Annelida	<i>Capitella</i>	265
Annelida	<i>Dialychone</i>	5
Annelida	<i>Eulalia mustela</i>	5
Annelida	<i>Glycera lapidum</i> (aggr.)	35
Annelida	<i>Grania</i>	35
Annelida	<i>Hydroides norvegica</i>	10
Annelida	<i>Laonice irinae</i>	5
Annelida	<i>Leiochone</i>	10
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	10
Annelida	<i>Malmgrenia ljunghmani</i>	10
Annelida	<i>Mediomastus fragilis</i>	65
Annelida	<i>Notomastus</i>	40
Annelida	<i>Peresiella clymenoides</i>	5
Annelida	<i>Pisione remota</i>	25
Annelida	<i>Pista mediterranea</i>	5
Annelida	<i>Polycirrus</i>	Frag.
Annelida	<i>Polygordius</i>	45
Annelida	<i>Pseudonotomastus southerni</i>	30
Annelida	<i>Rullierinereis ancornunezi</i>	5
Annelida	<i>Scalibregma species A</i>	5
Annelida	<i>Schistomeringos neglecta</i>	5
Annelida	<i>Scoletoma magnidentata</i>	5
Arthropoda	<i>Balanus crenatus</i>	85
Arthropoda	<i>Gammaropsis nitida</i> (Female)	20
Arthropoda	Paguridae (juv.)	5
Arthropoda	<i>Pagurus bernhardus</i>	5
Arthropoda	Sessilia (juv.)	5
Arthropoda	<i>Verruca stroemia</i>	40
Bryozoa	<i>Amphiblestrum auritum</i>	P
Bryozoa	<i>Cribrilina punctata</i>	P
Bryozoa	<i>Electra pilosa</i>	P
Bryozoa	<i>Escharella immersa</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	Edwardsiidae	5
Cnidaria	Hydractiniidae	P
Echinodermata	<i>Amphiura securigera</i>	5
Echinodermata	Amphiuridae (juv.)	15
Mollusca	Anomiidae (juv.)	10
Mollusca	<i>Clausinella fasciata</i>	15
Mollusca	<i>Clausinella fasciata</i> (juv.)	20
Mollusca	<i>Crenella decussata</i>	15
Mollusca	<i>Dosinia exoleta</i>	5
Mollusca	<i>Glycymeris glycymeris</i> (juv.)	10
Mollusca	<i>Goodallia triangularis</i>	105
Mollusca	<i>Gouldia minima</i>	20
Mollusca	<i>Limatula subauriculata</i>	5
Mollusca	<i>Musculus subpictus</i>	5
Mollusca	<i>Steromphala tumida</i>	5
Mollusca	<i>Thracia</i> (juv.)	15
Mollusca	<i>Thracia villosiuscula</i>	5
Mollusca	<i>Timoclea ovata</i>	10
Nematoda	Nematoda	25

760_HWL_VE_HG_S015

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 09:00 & 09:35
 Water depth (m) 46

Habitat classification

A5.142 - Mediomastus fragilis, Lumbrineris spp. and venerid
 bivalves in circalittoral coarse sand or gravel

Conservation Areas & Species

Subtidal sands and gravels

E 454071.27 454071.23
 N 6494691.99 6494691.71

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Aonides paucibranchiata</i>	0.0840
Annelida	<i>Aponuphis bilineata</i>	0.0065
Annelida	<i>Aricidea cerrutii</i>	0.0025
Annelida	<i>Capitella</i>	1.1360
Annelida	<i>Dialychone</i>	0.0260
Annelida	<i>Eulalia mustela</i>	0.0055
Annelida	<i>Glycera lapidum</i> (aggr.)	0.5540
Annelida	<i>Grania</i>	0.0090
Annelida	<i>Hydroides norvegica</i>	0.0200
Annelida	<i>Laonice irinae</i>	0.0635
Annelida	<i>Leiochone</i>	0.0195
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0315
Annelida	<i>Malmgrenia ljunghmani</i>	0.0135
Annelida	<i>Mediomastus fragilis</i>	0.1185
Annelida	<i>Notomastus</i>	0.9075
Annelida	<i>Peresiella clymenoides</i>	0.0020
Annelida	<i>Pisione remota</i>	0.0150
Annelida	<i>Pista mediterranea</i>	0.1830
Annelida	<i>Polycirrus</i>	0.0560
Annelida	<i>Polygordius</i>	0.3215
Annelida	<i>Pseudonotomastus southerni</i>	0.5965
Annelida	<i>Rullierinereis ancornunezi</i>	0.0725
Annelida	<i>Scalibregma species A</i>	0.0170
Annelida	<i>Schistomeringos neglecta</i>	0.0030
Annelida	<i>Scoletoma magnidentata</i>	0.2110
Arthropoda	<i>Gammaropsis nitida</i> (female)	0.0485
Arthropoda	Paguridae (juv.)	0.0355
Arthropoda	<i>Pagurus bernhardus</i>	8.5395
Cnidaria	Edwardsiidae	0.0055
Echinodermata	<i>Amphiura securigera</i>	0.0140
Echinodermata	Amphiuridae (juv.)	0.0400
Mollusca	Anomiidae (juv.)	0.7510
Mollusca	<i>Clausinella fasciata</i>	7.4070
Mollusca	<i>Clausinella fasciata</i> (juv.)	0.1495
Mollusca	<i>Crenella decussata</i>	0.0175
Mollusca	<i>Dosinia exoleta</i>	82.2090
Mollusca	<i>Glycymeris glycymeris</i> (juv.)	0.0255
Mollusca	<i>Goodallia triangularis</i>	0.2335
Mollusca	<i>Gouldia minima</i>	0.0455
Mollusca	<i>Limatula subauriculata</i>	0.0065
Mollusca	<i>Musculus subpictus</i>	0.0025
Mollusca	<i>Steromphala tumida</i>	0.0060
Mollusca	<i>Thracia</i> (juv.)	0.0260
Mollusca	<i>Thracia villosiuscula</i>	0.0980
Mollusca	<i>Timoclea ovata</i>	0.1055
Nematoda	Nematoda	0.0110

760_HWL_VE_DDV_S016

Date 2021-07-10
 Time (UTC) 15:44
 Water depth (m) 43

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Ammodytes sp., Octocorallia

		454064.96	454062.35	454055.50	454061.13
		6494431.27	6494433.70	6494437.18	6494441.18
		1	2	3	4
E					
N					
Photo ID					
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Arthropoda	Paguridae			0.99	0.87
Bryozoa	Encrusting Bryozoa	< 1%			
Chordata	Gobiidae	1.73			
Cnidaria	<i>Alcyonium digitatum</i>	< 1%	6%		
Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>	28.55	26.77		
Mollusca	<i>Pecten maximus</i>			0.99	

760_HWL_VE_HG_S016

Date 2021-07-12
 Time (UTC) 10:20 & 10:31
 Water depth (m) 43

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Ammodytes sp., *Octocorallia*
 454067.21 454066.54
 6494439.15 6494438.74

E		
N		
Replicat no		
Group	Taxon	/m ²
	Animalia (eggs)	P
Annelida	<i>Amphitritides gracilis</i>	5
Annelida	<i>Aonides paucibranchiata</i>	20
Annelida	<i>Aphelochaeta</i> species A	5
Annelida	<i>Capitella</i>	15
Annelida	<i>Eulalia mustela</i>	25
Annelida	<i>Eumida sanguinea</i> (aggr.)	15
Annelida	<i>Glycera lapidum</i> (aggr.)	85
Annelida	<i>Goniadella gracilis</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	10
Annelida	<i>Malmgrenia ljunghmani</i>	10
Annelida	<i>Mystides caeca</i>	5
Annelida	<i>Notomastus</i>	10
Annelida	<i>Owenia</i>	5
Annelida	<i>Phisidia aurea</i>	10
Annelida	<i>Pisione remota</i>	55
Annelida	<i>Polygordius</i>	310
Annelida	<i>Protodorvillea kefersteini</i>	25
Annelida	<i>Psamathe fusca</i>	5
Annelida	<i>Rullierinereis ancornunezi</i>	10
Annelida	<i>Sphaerosyllis bulbosa</i>	10
Annelida	<i>Syllis garciai</i>	45
Annelida	<i>Syllis variegata</i>	10
Arthropoda	<i>Ampelisca spinipes</i>	10
Arthropoda	<i>Cymodoce</i>	5
Arthropoda	<i>Galathea intermedia</i> (juv.)	5
Arthropoda	<i>Leptocheirus hirsutimanus</i>	Frag.
Arthropoda	<i>Liocarcinus</i> (juv.)	5
Arthropoda	<i>Megamphopus cornutus</i>	10
Arthropoda	<i>Nototropis swammerdamei</i>	5
Arthropoda	Paguridae (juv.)	5
Bryozoa	<i>Alcyonidium diaphanum</i>	P
Bryozoa	<i>Crisia</i>	P
Bryozoa	<i>Flustra foliacea</i>	P
Chordata	<i>Ammodytes</i> (juv.)	10
Chordata	Ascidacea (juv.)	5
Chordata	<i>Branchiostoma lanceolatum</i>	5
Cnidaria	Campanulariidae	P
Cnidaria	<i>Diphasia</i>	P
Cnidaria	<i>Sertularia</i>	P
Echinodermata	<i>Amphipholis squamata</i>	30
Echinodermata	<i>Echinocyamus pusillus</i>	25
Echinodermata	<i>Leptosynapta minuta</i>	5
Echinodermata	Ophiuridae (juv.)	10
Mollusca	<i>Arcopagia crassa</i> (juv.)	5
Mollusca	<i>Asbjornsenia pygmaea</i>	100
Mollusca	<i>Clausinella fasciata</i> (juv.)	10
Mollusca	<i>Crenella decussata</i>	15
Mollusca	<i>Dosinia</i> (juv.)	5
Mollusca	<i>Gari tellinella</i> (juv.)	55
Mollusca	<i>Glycymeris glycymeris</i>	10
Mollusca	<i>Glycymeris glycymeris</i> (juv.)	5
Mollusca	<i>Goodallia triangularis</i>	2695
Mollusca	<i>Gouldia minima</i>	5
Mollusca	<i>Limatula subauriculata</i>	95
Mollusca	<i>Lutraria</i> (juv.)	5
Mollusca	<i>Spisula</i> (juv.)	5

760_HWL_VE_HG_S016

Date 2021-07-12
 Time (UTC) 10:20 & 10:31
 Water depth (m) 43

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Ammodytes sp., Octocorallia
 454067.21 454066.54
 6494439.15 6494438.74

E		
N		
Replicat no		
Group	Taxon	/m ²
Mollusca	<i>Thracia</i> (juv.)	30
Mollusca	<i>Timoclea ovata</i>	5
Nematoda	Nematoda	115
Nemertea	Nemertea	5
Platyhelminthes	Platyhelminthes	5
Porifera	Porifera	P

760_HWL_VE_HG_S016

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 10:20 & 10:31
 Water depth (m) 43

Habitat classification

A5.451 - Polychaete-rich deep Venus community in offshore mixed sediments

Conservation Areas & Species

Subtidal sands and gravels

Ammodytes sp., Octocorallia
 454067.21 454066.54
 6494439.15 6494438.74

E	N	Replicat no	Group	Taxon	g /m ²
			Annelida	<i>Mystides caeca</i>	0.0005
			Arthropoda	<i>Nototropis swammerdamei</i>	0.0005
			Annelida	<i>Sphaerosyllis bulbosa</i>	0.0010
			Mollusca	<i>Timoclea ovata</i>	0.0020
			Mollusca	<i>Arcopagia crassa</i> (juv.)	0.0025
			Annelida	<i>Aphelochaeta</i> species A	0.0030
			Annelida	<i>Syllis variegata</i>	0.0040
			Echinodermata	<i>Leptosynapta minuta</i>	0.0040
			Mollusca	<i>Lutraria</i> (juv.)	0.0050
			Mollusca	<i>Dosinia</i> (juv.)	0.0050
			Annelida	<i>Psamathe fusca</i>	0.0055
			Arthropoda	<i>Galathea intermedia</i> (juv.)	0.0055
			Annelida	<i>Goniadella gracilis</i>	0.0060
			Annelida	<i>Phisidia aurea</i>	0.0060
			Nematoda	Nematoda	0.0070
			Arthropoda	<i>Leptocheirus hirsutimanus</i>	0.0070
			Mollusca	<i>Gouldia minima</i>	0.0070
			Arthropoda	<i>Megamphopus cornutus</i>	0.0090
			Mollusca	<i>Spisula</i> (juv.)	0.0090
			Annelida	<i>Eulalia mustela</i>	0.0095
			Annelida	<i>Eumida sanguinea</i> (aggr.)	0.0100
			Echinodermata	<i>Amphipholis squamata</i>	0.0100
			Nemertea	Nemertea	0.0105
			Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0120
			Annelida	<i>Owenia</i>	0.0140
			Mollusca	<i>Glycymeris glycymeris</i> (juv.)	0.0165
			Annelida	<i>Protodorvillea kefersteini</i>	0.0170
			Mollusca	<i>Crenella decussata</i>	0.0170
			Echinodermata	Ophiuridae (juv.)	0.0240
			Annelida	<i>Pisione remota</i>	0.0245
			Arthropoda	<i>Cymodoce</i>	0.0345
			Annelida	<i>Rullierinereis ancornunezi</i>	0.0365
			Annelida	<i>Notomastus</i>	0.0400
			Annelida	<i>Syllis garciai</i>	0.0420
			Platyhelminthes	Platyhelminthes	0.0430
			Annelida	<i>Capitella</i>	0.0550
			Annelida	<i>Amphitritides gracilis</i>	0.0680
			Annelida	<i>Malmgrenia ljungmani</i>	0.0700
			Arthropoda	<i>Ampelisca spinipes</i>	0.0740
			Annelida	<i>Aonides paucibranchiata</i>	0.0750
			Arthropoda	Paguridae (juv.)	0.0755
			Arthropoda	<i>Liocarcinus</i> (juv.)	0.0990
			Chordata	<i>Branchiostoma lanceolatum</i>	0.1010
			Mollusca	<i>Gari tellinella</i> (juv.)	0.1255
			Mollusca	<i>Clausinella fasciata</i> (juv.)	0.1565
			Mollusca	<i>Thracia</i> (juv.)	0.1650
			Annelida	<i>Glycera lapidum</i> (aggr.)	0.1845
			Mollusca	<i>Limatula subauriculata</i>	0.1865
			Annelida	<i>Polygordius</i>	0.3495
			Echinodermata	<i>Echinocyamus pusillus</i>	0.5825
			Mollusca	<i>Asbjornsenia pygmaea</i>	0.7530
			Mollusca	<i>Goodallia triangularis</i>	1.2360
			Chordata	<i>Ammodytes</i> (juv.)	4.0770
			Mollusca	<i>Glycymeris glycymeris</i>	61.5870

760_HWL_VE_DDV_S017

Date 2021-07-09
 Time (UTC) 21:43
 Water depth (m) 98

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

		Octocorallia			
		448871.77	448865.34	448862.59	448859.65
		6503398.39	6503402.23	6503398.08	6503397.39
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Arthropoda	Paguridae			3.97	
Cnidaria	<i>Alcyonium digitatum</i>	< 1%			
Cnidaria	Hydrozoa	< 1%	< 1%	< 1%	< 1%
Echinodermata	<i>Ophiura ophiura</i>		0.87		

760_HWL_VE_DVV_S017

Date 2021-07-11
 Time (UTC) 21:48 & 22:04
 Water depth (m) 98

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels

Octocorallia
 448867.35 448861.41
 6503394.15 6503393.82

Replicat no

Group	Taxon	/m ²
Annelida	<i>Cirratulus</i> (juv.)	5
Annelida	<i>Euclymene lombricoides</i>	5
Annelida	<i>Galathowenia oculata</i>	Frag.
Annelida	<i>Glycera tridactyla</i>	Frag.
Annelida	<i>Glycinde nordmanni</i> (epitoke)	Frag.
Annelida	<i>Harmothoe extenuata</i>	10
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Hypereteone foliosa</i>	Frag.
Annelida	<i>Lanice conchilega</i>	15
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	5
Annelida	<i>Magelona alleni</i>	5
Annelida	<i>Nephtys assimilis</i>	10
Annelida	<i>Nephtys hombergii</i>	15
Annelida	<i>Nereis zonata</i>	5
Annelida	<i>Notoproctus</i>	5
Annelida	<i>Owenia</i>	35
Annelida	<i>Prionospio fallax</i>	5
Annelida	<i>Scolecopsis bonnieri</i>	5
Annelida	<i>Scoloplos armiger</i>	20
Annelida	<i>Sigalion mathildae</i> (juv.)	5
Annelida	<i>Spiophanes bombyx</i>	5
Annelida	<i>Spiophanes kroyeri</i>	10
Annelida	<i>Sthenelais</i> (juv.)	5
Annelida	Terebellidae	5
Annelida	<i>Tharyx killariensis</i>	5
Annelida	<i>Thelepus davehalli</i>	20
Arthropoda	<i>Ampelisca brevicornis</i>	5
Arthropoda	<i>Atelecyclus rotundatus</i> (juv.)	5
Arthropoda	<i>Bathyporeia elegans</i>	5
Arthropoda	<i>Bathyporeia tenuipes</i>	10
Arthropoda	Copepoda	5
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	5
Arthropoda	<i>Eurynome</i> (juv.)	5
Arthropoda	<i>Harpinia antennaria</i>	10
Arthropoda	<i>Hippomedon denticulatus</i>	10
Arthropoda	Paguridae (juv.)	Frag.
Arthropoda	<i>Perioculodes longimanus</i>	5
Arthropoda	<i>Pontocrates species A</i>	5
Arthropoda	<i>Scalpellum scalpellum</i>	5
Arthropoda	<i>Tanaopsis graciloides</i>	5
Arthropoda	<i>Urothoe elegans</i>	20
Bryozoa	<i>Eucratea loricata</i>	P
Ciliophora	Ciliophora	P
Ciliophora	Folliculinidae	P
Cnidaria	Campanulariidae	P
Cnidaria	<i>Clytia gracilis</i>	P
Cnidaria	<i>Filifera</i>	P
Cnidaria	<i>Halecium</i>	P
Cnidaria	<i>Hydrallmania falcata</i>	P
Cnidaria	<i>Modeeria rotunda</i>	P
Echinodermata	<i>Amphiura filiformis</i>	60
Echinodermata	Amphiuridae (juv.)	20
Echinodermata	<i>Echinocardium flavescens</i>	5
Echinodermata	<i>Echinocyamus pusillus</i>	15
Echinodermata	Ophiuridae (juv.)	5
Echinodermata	Spatangoida (juv.)	10
Entoprocta	<i>Pedicellina</i>	P

760_HWL_VE_DVV_S017

Date 2021-07-11
 Time (UTC) 21:48 & 22:04
 Water depth (m) 98

Habitat classification

A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

Octocorallia
 448867.35 448861.41
 6503394.15 6503393.82

E			
N			
Replicat no			
Group	Taxon		/m ²
	Foraminifera	<i>Astrorhiza</i>	10
	Mollusca	<i>Abra alba</i>	15
	Mollusca	<i>Abra prismatica</i>	85
	Mollusca	<i>Acanthocardia</i> (juv.)	15
	Mollusca	<i>Arctica islandica</i>	5
	Mollusca	Bivalvia	Frag.
	Mollusca	<i>Cylichna cylindracea</i>	5
	Mollusca	<i>Dosinia</i> (juv.)	5
	Mollusca	<i>Dosinia lupinus</i>	5
	Mollusca	<i>Fabulina fabula</i>	5
	Mollusca	<i>Hermania</i>	10
	Mollusca	<i>Kurtiella bidentata</i>	15
	Mollusca	Naticidae (juv.)	10
	Mollusca	<i>Spisula</i> (juv.)	5
	Mollusca	<i>Thracia</i> (juv.)	5
	Nemertea	Nemertea	5
	Phoronida	<i>Phoronis</i>	10

760_HWL_VE_DVV_S017	Blotted Wet Weight	
Date	2021-07-11	
Time (UTC)	21:48 & 22:04	
Water depth (m)	98	
Habitat classification		A5.27 - Deep circalittoral sand
Conservation Areas & Species		Subtidal sands and gravels
		Octocorallia
E		448867.35 448861.41
N		6503394.15 6503393.82
Replicat no		
Group	Taxon	g /m ²
Annelida	<i>Cirratulus</i> (juv.)	0.0200
Annelida	<i>Euclymene lombricoides</i>	0.1745
Annelida	<i>Galathowenia oculata</i>	0.0025
Annelida	<i>Glycera tridactyla</i>	0.0040
Annelida	<i>Glycinde nordmanni</i> (epitoke)	0.0570
Annelida	<i>Harmothoe extenuata</i>	0.0065
Annelida	<i>Harmothoe glabra</i>	0.0335
Annelida	<i>Hypereteone foliosa</i>	0.0795
Annelida	<i>Lanice conchilega</i>	0.2705
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0390
Annelida	<i>Magelona alleni</i>	0.0580
Annelida	<i>Nephtys assimilis</i>	0.4315
Annelida	<i>Nephtys hombergii</i>	0.3435
Annelida	<i>Nereis zonata</i>	0.0005
Annelida	<i>Notoproctus</i>	0.0085
Annelida	<i>Owenia</i>	0.0965
Annelida	<i>Prionospio fallax</i>	0.0005
Annelida	<i>Scolelepis bonnieri</i>	0.2290
Annelida	<i>Scoloplos armiger</i>	0.0985
Annelida	<i>Sigalion mathildae</i> (juv.)	0.0055
Annelida	<i>Spiophanes bombyx</i>	0.0175
Annelida	<i>Spiophanes kroyeri</i>	0.1960
Annelida	<i>Sthenelais</i> (juv.)	0.0045
Annelida	Terebellidae	0.0005
Annelida	<i>Tharyx killariensis</i>	0.0105
Annelida	<i>Thelepus davehalli</i>	0.4670
Arthropoda	<i>Ampelisca brevicornis</i>	0.0580
Arthropoda	<i>Atelecyclus rotundatus</i> (juv.)	0.0390
Arthropoda	<i>Bathyporeia elegans</i>	0.0080
Arthropoda	<i>Bathyporeia tenuipes</i>	0.0135
Arthropoda	Copepoda	0.0005
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	0.0575
Arthropoda	<i>Eurynome</i> (juv.)	0.0125
Arthropoda	<i>Harpinia antennaria</i>	0.0100
Arthropoda	<i>Hippomedon denticulatus</i>	0.0475
Arthropoda	Paguridae (juv.)	0.0460
Arthropoda	<i>Perioculodes longimanus</i>	0.0005
Arthropoda	<i>Pontocrates</i> species A	0.0005
Arthropoda	<i>Tanaopsis graciloides</i>	0.0005
Arthropoda	<i>Urothoe elegans</i>	0.0115
Echinodermata	<i>Amphiura filiformis</i>	3.7455
Echinodermata	Amphiuridae (juv.)	0.0060
Echinodermata	<i>Echinocardium flavescens</i>	19.4600
Echinodermata	<i>Echinocyamus pusillus</i>	0.0165
Echinodermata	Ophiuridae (juv.)	0.0005
Echinodermata	Spatangoida (juv.)	0.1570
Mollusca	<i>Abra alba</i>	0.0305
Mollusca	<i>Abra prismatica</i>	0.5100
Mollusca	<i>Acanthocardia</i> (juv.)	0.0270
Mollusca	<i>Arctica islandica</i>	241.7000
Mollusca	Bivalvia	0.4340
Mollusca	<i>Cylichna cylindracea</i>	0.0360
Mollusca	<i>Dosinia</i> (juv.)	0.0255
Mollusca	<i>Dosinia lupinus</i>	19.2215
Mollusca	<i>Fabulina fabula</i>	0.1000
Mollusca	<i>Hermania</i>	0.0170
Mollusca	<i>Kurtiella bidentata</i>	0.0905
Mollusca	Naticidae (juv.)	0.0455
Mollusca	<i>Spisula</i> (juv.)	0.0125
Mollusca	<i>Thracia</i> (juv.)	0.0045
Nemertea	Nemertea	0.0005
Phoronida	<i>Phoronis</i>	0.0890

760_HWL_VE_DDV_S018

Date 2021-07-10
 Time (UTC) 14:02
 Water depth (m) 43

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E	453781.71	453788.43	453794.46	453788.73
N	6495698.64	6495705.32	6495699.36	6495696.59
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Arthropoda		1.51		

Taxon
 Paguridae

760_HWL_VE_DVV_S018

Date 2021-07-11
 Time (UTC) 01:48 & 02:18
 Water depth (m) 43

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E	453789.48	453785.59
N	6495698.14	6495698.57

Replicat no

Group	Taxon	/m ²
Annelida	<i>Aonides paucibranchiata</i>	5
Annelida	<i>Aphelochaeta</i> species A	5
Annelida	<i>Chaetozone christiei</i>	15
Annelida	<i>Glycera tridactyla</i>	5
Annelida	<i>Lanice conchilega</i>	5
Annelida	<i>Magelona alleni</i>	5
Annelida	<i>Magelona filiformis</i>	85
Annelida	<i>Magelona johnstoni</i>	40
Annelida	<i>Nephtys assimilis</i>	10
Annelida	<i>Nephtys cirrosa</i>	10
Annelida	<i>Owenia</i>	90
Annelida	<i>Peresiella clymenoides</i>	20
Annelida	<i>Scolecopsis bonnieri</i>	5
Annelida	<i>Scopelos armiger</i>	5
Annelida	<i>Sigalion mathildae</i> (juv.)	5
Annelida	<i>Sigalion mathildae</i>	20
Annelida	<i>Spio decorata</i>	5
Annelida	<i>Spiophanes bombyx</i>	10
Arthropoda	<i>Bathyporeia elegans</i>	35
Arthropoda	<i>Bathyporeia tenuipes</i>	5
Arthropoda	<i>Coryistes cassivelaunus</i> (juv.)	5
Arthropoda	<i>Megaluropus agilis</i>	5
Arthropoda	<i>Pontocrates arcticus</i>	5
Bryozoa	<i>Crisia</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Amphisbetia operculata</i>	P
Cnidaria	Edwardsiidae	35
Echinodermata	<i>Acrocnida brachiata</i>	10
Echinodermata	<i>Myriotrochus</i>	5
Mollusca	<i>Abra prismatica</i>	80
Mollusca	<i>Arctica islandica</i> (juv.)	5
Mollusca	<i>Chamelea striatula</i> (juv.)	340
Mollusca	<i>Cochlodesma praetenuae</i>	10
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	15
Mollusca	<i>Cylichna cylindracea</i>	10
Mollusca	<i>Dosinia</i> (juv.)	65
Mollusca	<i>Ensis</i> (juv.)	40
Mollusca	<i>Fabulina fabula</i>	10
Mollusca	<i>Gari fervensis</i> (juv.)	35
Mollusca	<i>Lucinoma borealis</i> (juv.)	5
Mollusca	<i>Lutraria</i> (juv.)	5
Mollusca	<i>Phaxas pellucidus</i>	5
Mollusca	<i>Thracia</i> (juv.)	20
Mollusca	<i>Thracia phaseolina</i>	10
Mollusca	<i>Timoclea ovata</i>	5
Nemertea	Nemertea	10
Phoronida	<i>Phoronis</i>	25

760_HWL_VE_DVV_S018

Blotted Wet Weight

Date 2021-07-11
 Time (UTC) 01:48 & 02:18
 Water depth (m) 43

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 453789.48 453785.59
 N 6495698.14 6495698.57

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Aonides paucibranchiata</i>	0.0040
Annelida	<i>Aphelochaeta</i> species A	0.0335
Annelida	<i>Chaetozone christiei</i>	0.1630
Annelida	<i>Glycera tridactyla</i>	0.0415
Annelida	<i>Lanice conchilega</i>	0.0245
Annelida	<i>Magelona alleni</i>	0.0905
Annelida	<i>Magelona filiformis</i>	0.0855
Annelida	<i>Magelona johnstoni</i>	0.3300
Annelida	<i>Nephtys assimilis</i>	2.4800
Annelida	<i>Nephtys cirrosa</i>	0.3385
Annelida	<i>Owenia</i>	0.7740
Annelida	<i>Peresiella clymenoides</i>	0.0110
Annelida	<i>Scolecopsis bonnieri</i>	0.0250
Annelida	<i>Scopelos armiger</i>	0.0075
Annelida	<i>Sigalion mathildae</i>	2.5540
Annelida	<i>Sigalion mathildae</i> (juv.)	0.0005
Annelida	<i>Spio decorata</i>	0.0085
Annelida	<i>Spiophanes bombyx</i>	0.0140
Arthropoda	<i>Bathyporeia elegans</i>	0.0605
Arthropoda	<i>Bathyporeia tenuipes</i>	0.0135
Arthropoda	<i>Corystes cassivelaunus</i> (juv.)	0.1125
Arthropoda	<i>Megaluropus agilis</i>	0.0080
Arthropoda	<i>Pontocrates arcticus</i>	0.0035
Cnidaria	Edwardsiidae	0.1085
Echinodermata	<i>Acrocrida brachiata</i>	2.5150
Echinodermata	<i>Myriotrochus</i>	0.0075
Mollusca	<i>Abra prismatica</i>	0.2420
Mollusca	<i>Arctica islandica</i> (juv.)	0.1610
Mollusca	<i>Chamelea striatula</i> (juv.)	0.8415
Mollusca	<i>Cochlodesma praetenuae</i>	0.2760
Mollusca	<i>Cochlodesma praetenuae</i> (juv.)	0.0835
Mollusca	<i>Cylichna cylindracea</i>	0.0195
Mollusca	<i>Dosinia</i> (juv.)	0.1060
Mollusca	<i>Ensis</i> (juv.)	0.0770
Mollusca	<i>Fabulina fabula</i>	0.2470
Mollusca	<i>Gari fervensis</i> (juv.)	0.1235
Mollusca	<i>Lucinoma borealis</i> (juv.)	0.0205
Mollusca	<i>Lutraria</i> (juv.)	0.0135
Mollusca	<i>Phaxas pellucidus</i>	0.0060
Mollusca	<i>Thracia</i> (juv.)	0.1440
Mollusca	<i>Thracia phaseolina</i>	0.1505
Mollusca	<i>Timoclea ovata</i>	0.0105
Nemertea	Nemertea	0.1200
Phoronida	<i>Phoronis</i>	0.2520

760_HWL_VE_DDV_S019

Date 2021-07-10
 Time (UTC) 12:25
 Water depth (m) 55

Habitat classification

A5.25 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

	452437.83	452434.17	452437.50	452443.85
E	452437.83	452434.17	452437.50	452443.85
N	6497560.68	6497555.57	6497556.03	6497555.63
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Arthropoda			0.87	
Bryozoa			< 1%	
Cnidaria	< 1%	< 1%		
Echinodermata			0.87	

Taxon
 Paguridae
Securiflustra securifrons
 Hydrozoa
Asterias rubens

760_HWL_VE_DVV_S019

Date 2021-07-11
 Time (UTC) 04:54 & 05:07
 Water depth (m) 55

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E	452437.13	452437.67
N	6497554.94	6497555.00

Replicat no

Group	Taxon	/m ²
Annelida	<i>Chaetozone</i> species E	10
Annelida	<i>Chaetozone zetlandica</i>	Frag.
Annelida	<i>Goniada maculata</i>	Frag.
Annelida	<i>Lagis koreni</i>	5
Annelida	<i>Magelona filiformis</i>	15
Annelida	<i>Magelona johnstoni</i>	15
Annelida	<i>Myriochele danielsseni</i>	5
Annelida	<i>Nephtys cirrosa</i>	10
Annelida	<i>Owenia</i>	105
Annelida	<i>Prionospio fallax</i>	5
Annelida	<i>Scolecopsis bonnieri</i>	10
Annelida	<i>Scoloplos armiger</i>	5
Annelida	<i>Sigalion mathildae</i>	5
Annelida	<i>Spio symphyta</i>	5
Annelida	<i>Spiophanes bombyx</i>	15
Annelida	<i>Sthenelais</i> (juv.)	10
Annelida	<i>Travisia forbesii</i>	25
Arthropoda	<i>Bathyporeia elegans</i>	35
Arthropoda	Decapoda (megalopa)	5
Arthropoda	Gnathiidae (juv.)	5
Arthropoda	<i>Hippomedon denticulatus</i>	5
Arthropoda	<i>Lepidepecreum longicornis</i>	5
Arthropoda	<i>Nototropis swammerdamei</i>	5
Arthropoda	<i>Nymphon brevirostre</i>	5
Arthropoda	Paguridae (megalopa)	10
Arthropoda	<i>Perioculodes longimanus</i>	5
Bryozoa	<i>Crisidia cornuta</i>	P
Bryozoa	<i>Eucratea loricata</i>	P
Bryozoa	<i>Securiflustra securifrons</i>	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Amphisbetia operculata</i>	P
Cnidaria	<i>Calycella syringa</i>	P
Cnidaria	<i>Clytia hemisphaerica</i>	P
Cnidaria	<i>Diphasia</i>	P
Cnidaria	Edwardsiidae	10
Cnidaria	<i>Filifera</i>	P
Cnidaria	<i>Sertularia</i>	P
Echinodermata	Amphiuridae (juv.)	Frag.
Echinodermata	<i>Echinocardium cordatum</i>	5
Mollusca	<i>Abra prismatica</i>	115
Mollusca	<i>Acanthocardia</i> (juv.)	10
Mollusca	<i>Acteon tornatilis</i> (juv.)	5
Mollusca	<i>Arctica islandica</i> (juv.)	5
Mollusca	<i>Chamelea striatula</i> (juv.)	210
Mollusca	<i>Cochlodesma praetenue</i> (juv.)	5
Mollusca	<i>Cylichna cylindracea</i>	5
Mollusca	<i>Dosinia</i> (juv.)	100
Mollusca	<i>Doto</i>	5
Mollusca	<i>Fabulina fabula</i>	35
Mollusca	<i>Gari fervensis</i> (juv.)	5
Mollusca	<i>Hermania</i>	5
Mollusca	<i>Mactra stultorum</i> (juv.)	5
Mollusca	<i>Philine</i>	5
Mollusca	<i>Spisula</i> (juv.)	15
Mollusca	<i>Tellinomya ferruginosa</i>	20
Mollusca	<i>Thracia</i> (juv.)	15
Mollusca	<i>Timoclea ovata</i>	10
Nemertea	Nemertea	5
Phoronida	<i>Phoronis</i>	25

760_HWL_VE_DVV_S019

Blotted Wet Weight

Date 2021-07-11
 Time (UTC) 04:54 & 05:07
 Water depth (m) 55

Habitat classification

A5.252 - *Abra prismatica*, *Bathyporeia elegans* and polychaetes in circalittoral fine sand

Conservation Areas & Species

Subtidal sands and gravels

E 452437.13 452437.67
 N 6497554.94 6497555.00

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Chaetozone</i> species E	0.0245
Annelida	<i>Chaetozone zetlandica</i>	0.0715
Annelida	<i>Goniada maculata</i>	0.0425
Annelida	<i>Lagis koreni</i>	0.0005
Annelida	<i>Magelona filiformis</i>	0.0105
Annelida	<i>Magelona johnstoni</i>	0.0670
Annelida	<i>Myriochele danielsseni</i>	0.0140
Annelida	<i>Nephtys cirrosa</i>	0.0995
Annelida	<i>Owenia</i>	0.5675
Annelida	<i>Prionospio fallax</i>	0.0005
Annelida	<i>Scolecopsis bonnieri</i>	0.0245
Annelida	<i>Scoloplos armiger</i>	0.0435
Annelida	<i>Sigalion mathildae</i>	0.9100
Annelida	<i>Spio symphyta</i>	0.0030
Annelida	<i>Spiophanes bombyx</i>	0.0520
Annelida	<i>Sthenelais</i> (juv.)	0.0085
Annelida	<i>Travisia forbesii</i>	0.1305
Arthropoda	<i>Bathyporeia elegans</i>	0.0585
Arthropoda	Decapoda (megalopa)	0.0005
Arthropoda	Gnathiidae (juv.)	0.0005
Arthropoda	<i>Hippomedon denticulatus</i>	0.0005
Arthropoda	<i>Lepidepecreum longicornis</i>	0.0075
Arthropoda	<i>Nototropis swammerdamei</i>	0.0050
Arthropoda	<i>Nymphon brevistre</i>	0.0110
Arthropoda	Paguridae (megalopa)	0.0175
Arthropoda	<i>Perioculodes longimanus</i>	0.0005
Cnidaria	Edwardsiidae	0.0280
Echinodermata	Amphiuridae (juv.)	0.0110
Echinodermata	<i>Echinocardium cordatum</i>	168.3005
Mollusca	<i>Abra prismatica</i>	0.6025
Mollusca	<i>Acanthocardia</i> (juv.)	0.1240
Mollusca	<i>Acteon tornatilis</i> (juv.)	0.0075
Mollusca	<i>Arctica islandica</i> (juv.)	0.0035
Mollusca	<i>Chamelea striatula</i> (juv.)	0.3775
Mollusca	<i>Cochlodesma praetenu</i> (juv.)	0.0180
Mollusca	<i>Cylichna cylindracea</i>	0.1135
Mollusca	<i>Gari fervensis</i> (juv.)	0.6915
Mollusca	<i>Doto</i>	0.0005
Mollusca	<i>Fabulina fabula</i>	1.4075
Mollusca	<i>Gari fervensis</i> (juv.)	0.0130
Mollusca	<i>Hermania</i>	0.0080
Mollusca	<i>Mactra stultorum</i> (juv.)	0.0130
Mollusca	<i>Philine</i>	0.0080
Mollusca	<i>Spisula</i> (juv.)	0.0425
Mollusca	<i>Tellimya ferruginosa</i>	0.0345
Mollusca	<i>Thracia</i> (juv.)	0.0200
Mollusca	<i>Timoclea ovata</i>	0.0145
Nemertea	Nemertea	0.0005
Phoronida	<i>Phoronis</i>	0.2150

760_HWL_VE_DDV_S020

Date 2021-07-10
 Time (UTC) 03:04
 Water depth (m) 85

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

		Octocorallia			
		450605.70	450610.90	450611.37	450618.51
		6502470.16	6502470.44	6502476.06	6502473.79
Photo ID		1	2	3	4
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²
Annelida	<i>Lanice conchilega</i>	3.97		3.97	
Cnidaria	<i>Alcyonium digitatum</i>				2%
Cnidaria	Hydrozoa		<1%	5%	< 1%
Cnidaria	<i>Nemertesia antennina</i>	< 1%			
Mollusca	<i>Pecten maximus</i>		0.32		
Mollusca	Pectinidae	3.97			

760_HWL_VE_DVV_S020

Date 2021-07-11
 Time (UTC) 18:09 & 18:29
 Water depth (m) 85

Habitat classification A5.27 - Deep circalittoral sand

Conservation Areas & Species Subtidal sands and gravels

Octocorallia
 450613.64 450611.32
 6502471.35 6502465.61

E	N	Replicat no	Group	Taxon	/m ²
			Annelida	<i>Aonides paucibranchiata</i>	10
			Annelida	<i>Aricidea cerrutii</i>	5
			Annelida	<i>Chaetozone elakata</i>	10
			Annelida	<i>Cirratulus cirratus</i>	5
			Annelida	<i>Euclymene lombricoides</i>	5
			Annelida	<i>Glycera lapidum</i> (aggr.)	5
			Annelida	<i>Glycera tridactyla</i>	5
			Annelida	<i>Glycinde nordmanni</i>	5
			Annelida	<i>Harmothoe extenuata</i>	10
			Annelida	<i>Leiochone</i>	5
			Annelida	<i>Lumbrineris cingulata</i> (aggr.)	25
			Annelida	<i>Magelona alleni</i>	5
			Annelida	<i>Magelona filiformis</i>	5
			Annelida	<i>Nephtys</i> (juv.)	5
			Annelida	<i>Nephtys cirrosa</i>	5
			Annelida	<i>Nereis zonata</i>	5
			Annelida	<i>Notocirrus scoticus</i>	5
			Annelida	<i>Owenia</i>	25
			Annelida	<i>Paradoneis lyra</i>	45
			Annelida	<i>Parexogone hebes</i>	5
			Annelida	<i>Peresiella clymenoides</i>	15
			Annelida	<i>Pholoe baltica</i> (sensu Petersen)	5
			Annelida	<i>Podarkeopsis capensis</i>	15
			Annelida	<i>Poecilochaetus serpens</i>	5
			Annelida	<i>Polycirrus</i>	5
			Annelida	<i>Praxillella affinis</i>	5
			Annelida	<i>Prionospio</i> cf. <i>cirrifera</i>	5
			Annelida	<i>Scoloplos armiger</i>	20
			Annelida	<i>Spiophanes bombyx</i>	5
			Annelida	<i>Spiophanes kroyeri</i>	25
			Annelida	<i>Sthenelais limicola</i>	15
			Annelida	<i>Thelepus davehalli</i>	15
			Arthropoda	<i>Ampelisca brevicornis</i>	5
			Arthropoda	<i>Ampelisca tenuicornis</i>	5
			Arthropoda	<i>Bathyporeia elegans</i>	20
			Arthropoda	Copepoda	5
			Arthropoda	<i>Eudorellopsis deformis</i>	15
			Arthropoda	<i>Gammaropsis palmata</i>	5
			Arthropoda	Gnathiidae (juv.)	5
			Arthropoda	<i>Harpinia antennaria</i>	10
			Arthropoda	<i>Hippomedon denticulatus</i>	5
			Arthropoda	Paguridae (juv.)	5
			Arthropoda	<i>Periculodes longimanus</i>	5
			Arthropoda	<i>Phtisica marina</i>	5
			Arthropoda	<i>Pontocrates</i> species A	5
			Arthropoda	<i>Stenothoe marina</i>	5
			Arthropoda	<i>Urothoe elegans</i>	95
			Arthropoda	<i>Verruca stroemia</i>	250
			Bryozoa	<i>Alcyonidium parasiticum</i>	P
			Chordata	Ascidiacea (juv.)	5
			Cnidaria	Actinaria	5
			Cnidaria	Bougainvilliidae	P
			Cnidaria	<i>Kirchenpaueria pinnata</i>	P
			Cnidaria	<i>Nemertesia</i>	P
			Echinodermata	<i>Amphiura filiformis</i>	15
			Echinodermata	Amphiuridae (juv.)	40
			Echinodermata	<i>Echinocyamus pusillus</i>	20

760_HWL_VE_DVV_S020

Date 2021-07-11
 Time (UTC) 18:09 & 18:29
 Water depth (m) 85

Habitat classification

A5.27 - Deep circalittoral sand

Conservation Areas & Species

Subtidal sands and gravels

Octocorallia

E	450613.64	450611.32
N	6502471.35	6502465.61

Replicat no

Group	Taxon	/m ²
Foraminifera	<i>Astrorhiza</i>	65
Hemichordata	<i>Enteropneusta</i>	5
Mollusca	<i>Abra prismatica</i>	65
Mollusca	<i>Acteon tornatilis</i> (juv.)	5
Mollusca	Astartidae (juv.)	5
Mollusca	<i>Cochlodesma praetenue</i>	5
Mollusca	<i>Cochlodesma praetenue</i> (juv.)	25
Mollusca	<i>Cylichna cylindracea</i>	15
Mollusca	<i>Epitonium trevelyanum</i>	5
Mollusca	<i>Euspira nitida</i>	5
Mollusca	<i>Gari fervensis</i> (juv.)	5
Mollusca	<i>Kurtiella bidentata</i>	20
Mollusca	<i>Modiolula phaseolina</i>	5
Mollusca	<i>Modiolus</i> (juv.)	5
Mollusca	<i>Spisula</i> (juv.)	5
Mollusca	<i>Turritellinella tricarinata</i> (juv.)	5
Nematoda	Nematoda	15
Nemertea	Nemertea	10
Phoronida	<i>Phoronis</i>	Frag.

760_HWL_VE_DVV_S020		Blotted Wet Weight	
Date		2021-07-11	
Time (UTC)		18:09 & 18:29	
Water depth (m)		85	
Habitat classification		A5.27 - Deep circalittoral sand	
Conservation Areas & Species		Subtidal sands and gravels	
		Octocorallia	
E		450613.64	450611.32
N		6502471.35	6502465.61
Replicat no			
Group	Taxon	g /m ²	
Annelida	<i>Aonides paucibranchiata</i>	0.0005	
Annelida	<i>Aricidea cerrutii</i>	0.0040	
Annelida	<i>Chaetozone elakata</i>	0.0075	
Annelida	<i>Cirratulus cirratus</i>	0.0135	
Annelida	<i>Euclymene lombricoides</i>	1.2835	
Annelida	<i>Glycera lapidum</i> (aggr.)	0.0035	
Annelida	<i>Glycera tridactyla</i>	0.0140	
Annelida	<i>Glycinde nordmanni</i>	0.0060	
Annelida	<i>Harmothoe extenuata</i>	0.0225	
Annelida	<i>Leiochone</i>	0.0230	
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0655	
Annelida	<i>Magelona alleni</i>	0.0165	
Annelida	<i>Magelona filiformis</i>	0.0005	
Annelida	<i>Nephtys</i> (juv.)	0.0015	
Annelida	<i>Nephtys cirrosa</i>	0.0180	
Annelida	<i>Nereis zonata</i>	0.0185	
Annelida	<i>Notocirrus scoticus</i>	0.1505	
Annelida	<i>Owenia</i>	0.0775	
Annelida	<i>Paradoneis lyra</i>	0.0230	
Annelida	<i>Parexogone hebes</i>	0.0005	
Annelida	<i>Peresiella clymenoides</i>	0.0080	
Annelida	<i>Pholoe baltica</i> (sensu Petersen)	0.0005	
Annelida	<i>Podarkeopsis capensis</i>	0.0050	
Annelida	<i>Poecilochaetus serpens</i>	0.0005	
Annelida	<i>Polycirrus</i>	0.0030	
Annelida	<i>Praxillella affinis</i>	0.0870	
Annelida	<i>Prionospio cf. cirrifera</i>	0.0005	
Annelida	<i>Scoloplos armiger</i>	0.0965	
Annelida	<i>Spiophanes bombyx</i>	0.0135	
Annelida	<i>Spiophanes kroyeri</i>	0.0250	
Annelida	<i>Sthenelais limicola</i>	0.0135	
Annelida	<i>Thelepus davehalli</i>	1.6705	
Arthropoda	<i>Ampelisca brevicornis</i>	0.0790	
Arthropoda	<i>Ampelisca tenuicornis</i>	0.0305	
Arthropoda	<i>Bathyporeia elegans</i>	0.0115	
Arthropoda	Copepoda	0.0035	
Arthropoda	<i>Eudorellopsis deformis</i>	0.0065	
Arthropoda	<i>Gammaropsis palmata</i>	0.0020	
Arthropoda	Gnathiidae (juv.)	0.0070	
Arthropoda	<i>Harpinia antennaria</i>	0.0080	
Arthropoda	<i>Hippomedon denticulatus</i>	0.0020	
Arthropoda	Paguridae (juv.)	0.0210	
Arthropoda	<i>Perioculodes longimanus</i>	0.0015	
Arthropoda	<i>Phtisica marina</i>	0.0045	
Arthropoda	<i>Pontocrates species A</i>	0.0015	
Arthropoda	<i>Stenothoe marina</i>	0.0020	
Arthropoda	<i>Urothoe elegans</i>	0.0550	
Cnidaria	Actiniaria	0.2555	
Echinodermata	<i>Amphiura filiformis</i>	3.5905	
Echinodermata	Amphiuridae (juv.)	0.0330	
Echinodermata	<i>Echinocyamus pusillus</i>	0.0550	
Hemichordata	<i>Enteropneusta</i>	0.0075	
Mollusca	<i>Abra prismatica</i>	0.5835	
Mollusca	<i>Acteon tornatilis</i> (juv.)	0.0025	
Mollusca	Astartidae (juv.)	0.0070	
Mollusca	<i>Cochlodesma praetenue</i> (juv.)	0.0720	
Mollusca	<i>Cochlodesma praetenue</i>	0.0995	
Mollusca	<i>Cyllichna cylindracea</i>	0.1135	
Mollusca	<i>Epitonium trevelyanum</i>	0.0055	
Mollusca	<i>Euspira nitida</i>	0.0340	
Mollusca	<i>Gari fervensis</i> (juv.)	0.0150	
Mollusca	<i>Kurtiella bidentata</i>	0.0455	
Mollusca	<i>Modiolula phaseolina</i>	0.0130	
Mollusca	<i>Modiolus</i> (juv.)	0.0045	
Mollusca	<i>Spisula</i> (juv.)	0.0155	
Mollusca	<i>Turritellinella tricarinata</i> (juv.)	0.1295	
Nematoda	Nematoda	0.0020	
Nemertea	Nemertea	0.0235	
Phoronida	<i>Phoronis</i>	0.0075	

760_HWL_VE_DDV_S021

Date 2021-07-10
 Time (UTC) 14:07
 Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

	449489.34	449490.71	449485.13	449489.97
E	449489.34	449490.71	449485.13	449489.97
N	6500889.14	6500894.64	6500888.39	6500883.30
Photo ID	1	2	3	4
Visual quality (Good / Medium / Poor / Zero)	G	G	G	G
Group	/m ²	/m ²	/m ²	/m ²
Cnidaria		4%	6%	5%
Cnidaria	4%	6%		<1%

Taxon
Alcyonium digitatum
 Hydrozoa

760_HWL_VE_HG_S021

Date 2021-07-12
Time (UTC) 06:37 & 06:45
Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 449487.74 449486.65
N 6500886.27 6500885.18

Replicat no

Group	Taxon	/m ²
Annelida	<i>Amphictene auricoma</i>	5
Annelida	<i>Aricidea cerrutii</i>	5
Annelida	<i>Cauleriella alata</i>	5
Annelida	<i>Clymenella cincta</i>	5
Annelida	<i>Diplocirrus glaucus</i>	5
Annelida	<i>Eumida sanguinea</i> (aggr.)	5
Annelida	<i>Eupolymnia nesidensis</i>	5
Annelida	<i>Gattyana cirrhosa</i>	20
Annelida	<i>Glycera alba</i>	5
Annelida	<i>Harmothoe extenuata</i>	10
Annelida	<i>Harmothoe glabra</i>	5
Annelida	<i>Harmothoe impar</i> (aggr.)	30
Annelida	<i>Hydroides norvegica</i>	15
Annelida	<i>Lanice conchilega</i>	5
Annelida	<i>Lepidonotus squamatus</i>	5
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	5
Annelida	<i>Nephtys</i> (juv.)	5
Annelida	<i>Nereimyra punctata</i>	15
Annelida	<i>Nereis zonata</i>	10
Annelida	<i>Notomastus</i>	5
Annelida	<i>Owenia</i>	10
Annelida	<i>Paradoneis lyra</i>	30
Annelida	<i>Peresiella clymenoides</i>	10
Annelida	<i>Pholoe inornata</i> (sensu Petersen)	Frag.
Annelida	<i>Podarkeopsis capensis</i>	5
Annelida	<i>Polycirrus</i>	15
Annelida	<i>Sabella pavonina</i>	5
Annelida	<i>Sabellaria spinulosa</i>	5
Annelida	<i>Scoloplos armiger</i>	5
Annelida	Serpulidae	25
Annelida	<i>Spiophanes bombyx</i>	5
Annelida	<i>Spiophanes kroyeri</i>	10
Annelida	<i>Spirobranchus triqueter</i>	5
Annelida	<i>Sthenelais limicola</i>	Frag.
Annelida	<i>Thelepus setosus</i>	30
Arthropoda	<i>Ampelisca spinipes</i>	5
Arthropoda	<i>Atelecycclus rotundatus</i> (juv.)	5
Arthropoda	<i>Balanus balanus</i>	5
Arthropoda	<i>Balanus crenatus</i>	905
Arthropoda	<i>Eurynome</i> (juv.)	20
Arthropoda	<i>Galathea</i> (juv.)	50
Arthropoda	<i>Gnathia oxyuraea</i>	15
Arthropoda	Gnathiidae (female)	5
Arthropoda	<i>Harpinia antennaria</i>	5
Arthropoda	<i>Hyas coarctatus</i> (juv.)	5
Arthropoda	<i>Nototropis vedlomensis</i>	5
Arthropoda	Paguridae (juv.)	10
Arthropoda	<i>Pagurus pubescens</i>	5
Arthropoda	<i>Parapleustes bicuspis</i>	5
Arthropoda	<i>Phtisica marina</i>	15
Arthropoda	Sessilia (juv.)	235
Arthropoda	<i>Stenopleustes nodifera</i>	5
Arthropoda	<i>Stenothoe marina</i>	5
Arthropoda	<i>Tanaopsis graciloides</i>	5
Arthropoda	<i>Urothoe elegans</i>	85
Arthropoda	<i>Verruca stroemia</i>	8470
Bryozoa	<i>Alcyonidium parasiticum</i>	P
Bryozoa	<i>Alderina imbellis</i>	P

760_HWL_VE_HG_S021

Date 2021-07-12
 Time (UTC) 06:37 & 06:45
 Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 449487.74 449486.65
 N 6500886.27 6500885.18

Replicat no

Group	Taxon	/m ²
Bryozoa	<i>Amphiblestrum flemingii</i>	P
Bryozoa	<i>Crisia</i>	P
Bryozoa	<i>Disporella hispida</i>	P
Bryozoa	<i>Entalophoroecia deflexa</i>	P
Bryozoa	<i>Escharella immersa</i>	P
Bryozoa	<i>Escharella ventricosa</i>	P
Bryozoa	<i>Hippoporina pertusa</i>	P
Bryozoa	<i>Microeciella suborbicularis</i>	P
Bryozoa	<i>Omalosecosa ramulosa</i>	P
Bryozoa	<i>Parasmittina trispinosa</i>	P
Bryozoa	<i>Plagioecia patina</i>	P
Bryozoa	<i>Pyripora catenularia</i>	P
Bryozoa	<i>Schizomavella</i>	P
Bryozoa	<i>Tubulipora</i>	P
Ciliophora	Ciliophora	P
Ciliophora	Folliculinidae	P
Cnidaria	<i>Calycella syringa</i>	P
Cnidaria	<i>Campanularia hincksii</i>	P
Cnidaria	Campanulariidae	P
Cnidaria	<i>Clytia hemisphaerica</i>	P
Cnidaria	<i>Halecium</i>	P
Cnidaria	<i>Halopteris catharina</i>	P
Cnidaria	<i>Nemertesia</i>	P
Cnidaria	<i>Rhizocaulus verticillatus</i>	P
Echinodermata	<i>Amphipholis squamata</i>	10
Echinodermata	<i>Amphiura filiformis</i>	5
Echinodermata	<i>Amphiura securigera</i>	Frag.
Echinodermata	<i>Ophiactis balli</i> (juv.)	5
Echinodermata	<i>Ophiactis balli</i>	10
Echinodermata	Ophiuridae (juv.)	10
Entoprocta	<i>Pedicellina</i>	P
Mollusca	<i>Alvania punctura</i>	5
Mollusca	Anomiidae (juv.)	50
Mollusca	<i>Colus gracilis</i>	10
Mollusca	<i>Emarginula fissura</i>	5
Mollusca	<i>Euspira montagui</i>	5
Mollusca	<i>Hiatella arctica</i>	20
Mollusca	<i>Leptochiton asellus</i>	15
Mollusca	<i>Nucula nucleus</i>	5
Mollusca	Nudibranchia (eggs)	P
Mollusca	<i>Onchidoris muricata</i>	5
Mollusca	<i>Onoba semicostata</i>	10
Mollusca	<i>Tritia incrassata</i>	20
Mollusca	<i>Venus casina</i>	5
Nematoda	<i>Nematoda</i>	20
Phoronida	<i>Phoronis</i>	Frag.
Porifera	<i>Porifera</i>	P

760_HWL_VE_HG_S021

Blotted Wet Weight

Date 2021-07-12
 Time (UTC) 06:37 & 06:45
 Water depth (m) 75

Habitat classification

A5.45 - Deep circalittoral mixed sediments

Conservation Areas & Species

Octocorallia

E 449487.74 449486.65
 N 6500886.27 6500885.18

Replicat no

Group	Taxon	g /m ²
Annelida	<i>Amphictene auricoma</i>	0.0235
Annelida	<i>Aricidea cerrutii</i>	0.0005
Annelida	<i>Cauleriella alata</i>	0.0035
Annelida	<i>Clymenella cincta</i>	0.0265
Annelida	<i>Diplocirrus glaucus</i>	0.0040
Annelida	<i>Eumida sanguinea</i> (aggr.)	0.0360
Annelida	<i>Eupolymnia nesidensis</i>	0.2975
Annelida	<i>Gattyana cirrhosa</i>	0.4220
Annelida	<i>Glycera alba</i>	0.0155
Annelida	<i>Harmothoe extenuata</i>	0.0045
Annelida	<i>Harmothoe glabra</i>	0.0005
Annelida	<i>Harmothoe impar</i> (aggr.)	0.0665
Annelida	<i>Hydroides norvegica</i>	0.2080
Annelida	<i>Lanice conchilega</i>	0.0040
Annelida	<i>Lepidonotus squamatus</i>	0.0375
Annelida	<i>Lumbrineris cingulata</i> (aggr.)	0.0780
Annelida	<i>Nephtys</i> (juv.)	0.0065
Annelida	<i>Nereimyra punctata</i>	0.0680
Annelida	<i>Nereis zonata</i>	0.0415
Annelida	<i>Notomastus</i>	0.0280
Annelida	<i>Owenia</i>	0.0260
Annelida	<i>Paradoneis lyra</i>	0.0135
Annelida	<i>Peresiella clymenoides</i>	0.0055
Annelida	<i>Pholoe inornata</i> (sensu Petersen)	0.0005
Annelida	<i>Podarkeopsis capensis</i>	0.0005
Annelida	<i>Polycirrus</i>	0.1595
Annelida	<i>Sabella pavonina</i>	0.0030
Annelida	<i>Sabellaria spinulosa</i>	0.0040
Annelida	<i>Scoloplos armiger</i>	0.0255
Annelida	Serpulidae	0.0895
Annelida	<i>Spiophanes bombyx</i>	0.0090
Annelida	<i>Spiophanes kroyeri</i>	0.0070
Annelida	<i>Spirobranchus triqueter</i>	0.0330
Annelida	<i>Sthenelais limicola</i>	0.0895
Annelida	<i>Thelepus setosus</i>	6.9315
Arthropoda	<i>Ampelisca spinipes</i>	0.2380
Arthropoda	<i>Atelecyclus rotundatus</i> (juv.)	0.0065
Arthropoda	<i>Eurynome</i> (juv.)	0.2845
Arthropoda	<i>Galathea</i> (juv.)	0.2240
Arthropoda	<i>Gnathia oxyuraea</i>	0.0070
Arthropoda	Gnathiidae (female)	0.0060
Arthropoda	<i>Harpinia antennaria</i>	0.0005
Arthropoda	<i>Hyas coarctatus</i> (juv.)	0.6335
Arthropoda	<i>Nototropis vedlomensis</i>	0.0110
Arthropoda	Paguridae (juv.)	0.0655
Arthropoda	<i>Pagurus pubescens</i>	2.0365
Arthropoda	<i>Parapleustes bicuspis</i>	0.0005
Arthropoda	<i>Phtisica marina</i>	0.0180
Arthropoda	<i>Stenopleustes nodifera</i>	0.0065
Arthropoda	<i>Stenothoe marina</i>	0.0060
Arthropoda	<i>Tanaopsis graciloides</i>	0.0005
Arthropoda	<i>Urothoe elegans</i>	0.0835
Echinodermata	<i>Amphipholis squamata</i>	0.0450
Echinodermata	<i>Amphiura filiformis</i>	0.1955
Echinodermata	<i>Amphiura securigera</i>	0.1480
Echinodermata	<i>Ophiactis balli</i> (juv.)	0.0005
Echinodermata	<i>Ophiactis balli</i>	0.4750
Echinodermata	Ophiuridae (juv.)	0.0225
Mollusca	<i>Alvania punctura</i>	0.0005
Mollusca	Anomiidae (juv.)	0.6415
Mollusca	<i>Colus gracilis</i>	58.6195
Mollusca	<i>Emarginula fissura</i>	0.0285
Mollusca	<i>Euspira montagui</i>	1.3290
Mollusca	<i>Hiatella arctica</i>	0.2595
Mollusca	<i>Leptochiton asellus</i>	0.2210
Mollusca	<i>Nucula nucleus</i>	0.0070
Mollusca	<i>Onchidoris muricata</i>	0.0005
Mollusca	<i>Onoba semicostata</i>	0.0070
Mollusca	<i>Tritia incrassata</i>	0.6985
Mollusca	<i>Venus casina</i>	196.9775
Nematoda	Nematoda	0.0115
Phoronida	<i>Phoronis</i>	0.0005

760_HWL_VE_DDV_T001A

Date 2021-07-21
 Time (UTC) 10:49
 Water depth (m) 16 - 18

Habitat classification

A3.115/ A3.125 & A5.23 - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock/ Mixed kelps with scourtolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock & Infralittoral fine sand

Conservation Areas & Species

Annex I 1170 - Bedrock Reefs

		Kelp beds, <i>Pleuronectes platessa</i> , Octocorallia					
		455306.98	455293.84	455287.79	455285.06	455277.67	455274.01
		6493473.35	6493489.92	6493494.63	6493497.31	6493504.89	6493512.99
Photo ID		1	2	3	4	5	6
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Arthropoda	Balanidae			9%			
Arthropoda	Caridea			7.50			
Arthropoda	<i>Ebalia</i> sp.		2.50				
Bryozoa	<i>Membranipora membranacea</i>		6%				
Chordata	<i>Pleuronectes platessa</i>					1.59	
Cnidaria	<i>Alcyonium digitatum</i>			7%			
Cnidaria	<i>Obelia geniculata</i>			3%			
Echinodermata	<i>Asterias rubens</i>	0.40					
Echinodermata	Asteroidea		2.50				
Echinodermata	<i>Echinus</i> sp.	1.59					
Mollusca	<i>Gibbula</i> sp.		2.50	5.00			
Mollusca	Trochidea			5.00			
Ochrophyta	<i>Laminaria hyperborea</i>	25%	41%	26%			
Ochrophyta	Phaeophyceae		1%				
Rhodophyta	Corallinales			75%			
Rhodophyta	Foliose Rhodophyta			75%			
Rhodophyta	Rhodophyta		5%				

760_HWL_VE_DDV_T002A

Date 2021-07-21
 Time (UTC) 10:49
 Water depth (m) 18

Habitat classification

A3.115 / A3.125 & A5.23 - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock/ Mixed kelps with scourtolerant and opportunistic foliose red seaweeds on scoured or sand-covered infralittoral rock & Infralittoral fine sand

Conservation Areas & Species

Annex I 1170 - Bedrock Reefs

		Kelp beds, Octocorallia					
		455224.69	455219.45	455211.09	455206.91	455194.77	455177.11
		6493427.85	6493434.06	6493442.08	6493445.48	6493456.94	6493472.91
Photo ID		1	2	3	4	5	6
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Chordata	Pleuronectidae			1.59			
Cnidaria	Actinaria				1.59		
Cnidaria	<i>Alcyonium digitatum</i>	< 1%		< 1%			
Cnidaria	Hydrozoa		17%				
Echinodermata	<i>Asterias rubens</i>	6.35		3.17			
Echinodermata	Asteroidea	1.59					
Echinodermata	<i>Echinus</i> sp.	4.76	1.59				
Echinodermata	<i>Martasterias glacialis</i>	1.59					
Ochrophyta	<i>Dictyota dichotoma</i>		21%				
Ochrophyta	<i>Laminaria hyperborea</i>	4%	3%	18%	< 1%		
Rhodophyta	Corallinales	5%		41%	23%		
Rhodophyta	Rhodophyta		10%				

760_HWL_VE_DDV_T003A

Date 2021-07-21
 Time (UTC) 10:49
 Water depth (m) 14 - 15

Habitat classification

A3.115 - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock

Conservation Areas & Species

Annex I 1170 - Bedrock Reefs

		Kelp beds					
		455518.83	455526.46	455532.33	455540.94	455550.36	455555.51
		6493426.55	6493434.33	6493439.25	6493449.10	6493461.13	6493465.90
Photo ID		1	2	3	4	5	6
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Arthropoda	Balanidae				<1%		
Arthropoda	<i>Necora puber</i>						4.3
Bryozoa	<i>Membranipora membranacea</i>				<1%		
Chordata	Ascidiacea					3.23	
Chordata	<i>Botryllus schlosseri</i>	<1%					
Cnidaria	Actinaria				2.5		
Cnidaria	<i>Obelia geniculata</i>	6%	2%		<1%		
Echinodermata	<i>Echinus</i> sp.						4.35
Echinodermata	<i>Martasterias glacialis</i>						4.35
Ochrophyta	<i>Dictyota dichotoma</i>				5%		
Ochrophyta	<i>Laminaria hyperborea</i>	51%	25%	90%	50%	50%	
Rhodophyta	Corallinales	10%	10%				100%
Rhodophyta	Foliose Rhodophyta	5%	50%	12%	50%	10%	5%

760_HWL_VE_DDV_T004B

Date 2021-07-21
 Time (UTC) 11:50
 Water depth (m) 13 - 16

Habitat classification

A3.115 - *Laminaria hyperborea* with dense foliose red seaweeds on exposed infralittoral rock

Conservation Areas & Species

Annex I 1170 - Bedrock Reefs

		Octocorallia								
		455251.08	455242.07	455235.30	455225.76	455221.26	455214.77	455210.09	455200.87	455194.61
		6493338.13	6493344.19	6493348.66	6493356.43	6493361.24	6493367.56	6493372.92	6493377.98	6493382.82
Photo ID		1	2	3	4	5	6	7	8	9
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G	G	G	G
Group		/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Bryozoa	Encrusting Bryozoa							< 1%		
Bryozoa	<i>Membranipora membranacea</i>	< 1%						< 1%		
Chordata	<i>Clavelina lepadiformis</i>							< 1%		
Cnidaria	<i>Alcyonium digitatum</i>					< 1%		< 1%	< 1%	
Cnidaria	<i>Obelia geniculata</i>	2%	11%	11%	< 1%		2%			
Echinodermata	<i>Asterias rubens</i>						7.50	6.35		
Echinodermata	Asteroidea		2.20	1.59		6.35	7.50	6.35	1.96	
Echinodermata	<i>Crossaster papposus</i>								1.96	
Echinodermata	<i>Echinus</i> sp.	0.79	2.20		3.17		2.50		9.80	
Echinodermata	<i>Martasterias glacialis</i>					1.59	2.50	3.17	3.92	
Mollusca	<i>Gibbula</i> sp.								1.96	
Mollusca	Trochidae					3.17	2.50		1.96	
Ochrophyta	<i>Laminaria</i> spp.	55%	63%	45%	68%	21%	38%	42%	44%	65%
Porifera	Porifera					< 1%				
Rhodophyta	Corallinales					5%		20%	10%	
Rhodophyta	Foliose Rhodophyta	5%			5%	15%	5%	10%	5%	

760_HWL_VE_DDV_T005

Date 2021-07-09
 Time (UTC) 20:04
 Water depth (m) 67

Habitat classification

A4.13 & A5.45 - Mixed faunal turf communities on circalittoral rock & Deep circalittoral mixed sediments

Conservation Areas & Species

Annex I 1170 - Stony Reefs Medium Grade

		Octocorallia							
		448296.16	448293.99	448290.61	448287.39	448284.55	448283.38	448281.08	448274.07
		6499151.17	6499142.71	6499130.76	6499123.03	6499115.17	6499108.88	6499100.59	6499078.43
Photo ID		1	2	3	4	5	6	7	8
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Arthropoda	Caridea	0.99			1.35			1.73	
Arthropoda	Galatheidae					0.87			
Arthropoda	<i>Munida</i> sp.						1.73	1.73	
Arthropoda	Paguridae							1.73	
Bryozoa	<i>Alcyonidium diaphanum</i>	< 1%					< 1%	< 1%	
Bryozoa	<i>Flustra foliacea</i>					< 1%	< 1%	< 1%	
Bryozoa	<i>Securiflustra securifrons</i>						< 1%		
Chordata	<i>Callionymus</i> sp.			3.97					
Cnidaria	<i>Alcyonium digitatum</i>				< 1%		1%	1%	
Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>	4.97	11.92		4.06	4.33	11.25	12.11	
Cnidaria	Hydrozoa	13%	18%		17%	19%	11%	14%	< 1%
Cnidaria	<i>Nemertesia antennina</i>							0.87	
Cnidaria	<i>Nemertesia ramosa</i>	< 1%					< 1%	< 1%	< 1%
Cnidaria	<i>Urticina</i> sp.								< 1%
Echinodermata	<i>Echinus</i> sp.						0.87		
Mollusca	<i>Gibbula</i> sp.	0.99							
Mollusca	<i>Pecten maximus</i>		3.97						
Mollusca	Trochidae		3.97						
Porifera	<i>Aplysilla sulfurea</i>					< 1%			

760_HWL_VE_DDV_T006

Date 2021-07-09
 Time (UTC) 18:52
 Water depth (m) 72

Habitat classification

A4.13 - Mixed faunal turf communities on circalittoral rock

Conservation Areas & Species

Annex I 1170 - Stony Reefs - High Grade / J - Constructed, industrial and other artificial habitats

Octocorallia, *Pleuronectes platessa*

E		448528.89	448517.73	448512.07	448509.87	448501.81	448491.30	448482.26
N		6499598.23	6499598.85	6499601.09	6499604.20	6499600.30	6499597.40	6499593.85
Photo ID		1	2	3	4	5	6	7
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Arthropoda	<i>Cancer pagurus</i>				0.76			
Arthropoda	Galatheoidea	0.99						
Arthropoda	<i>Munida</i> sp.	0.74	0.40	0.37	0.76	0.49	0.87	
Arthropoda	Paguridae						0.87	
Arthropoda	Trochidea					0.97		
Bryozoa	Branched Bryozoa	< 1%	< 1%					
Bryozoa	Encrusting Bryozoa	< 1%	1%	<1%	<1%	<1%		
Bryozoa	<i>Flustra foliacea</i>	<1%			<1%			
Bryozoa	<i>Securiflustra securifrons</i>	< 1%						
Chordata	Ascidiacea	< 1%		< 1%				
Chordata	<i>Pleuronectes platessa</i>	0.25						
Chordata	Serpulidae			0.37				
Cnidaria	Actiniaria	0.25						
Cnidaria	<i>Alcyonium digitatum</i>	< 1%						<1%
Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>	28.31	22.52	12.14	32.48	16.55	4.33	
Cnidaria	Hydrozoa	20%	10%	10%	10%	10%		
Cnidaria	<i>Nemertesia antennina</i>	< 1%		< 1%	<1%	<1%		
Cnidaria	<i>Nemertesia ramosa</i>		< 1%					
Cnidaria	<i>Thuiaria thuja</i>					<1%		
Echinodermata	Asteroidea			0.74				
Echinodermata	<i>Crossaster papposus</i>			0.37				
Echinodermata	<i>Echinus</i> sp.	0.74				0.49		
Echinodermata	Ophiuroidea	0.25	0.40					
Mollusca	Gastropoda		0.80					
Porifera	Encrusting Porifera		1%		<1%			
Porifera	<i>Hymedesmia</i> sp.		< 1%		<1%	<1%		

760_HWL_VE_DDV_T007

Date 2021-07-10
 Time (UTC) 17:29
 Water depth (m) 39

Habitat classification A4.13/ A5.141 - Mixed faunal turf communities on circalittoral rock/ Pomatoceros triqueter with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles

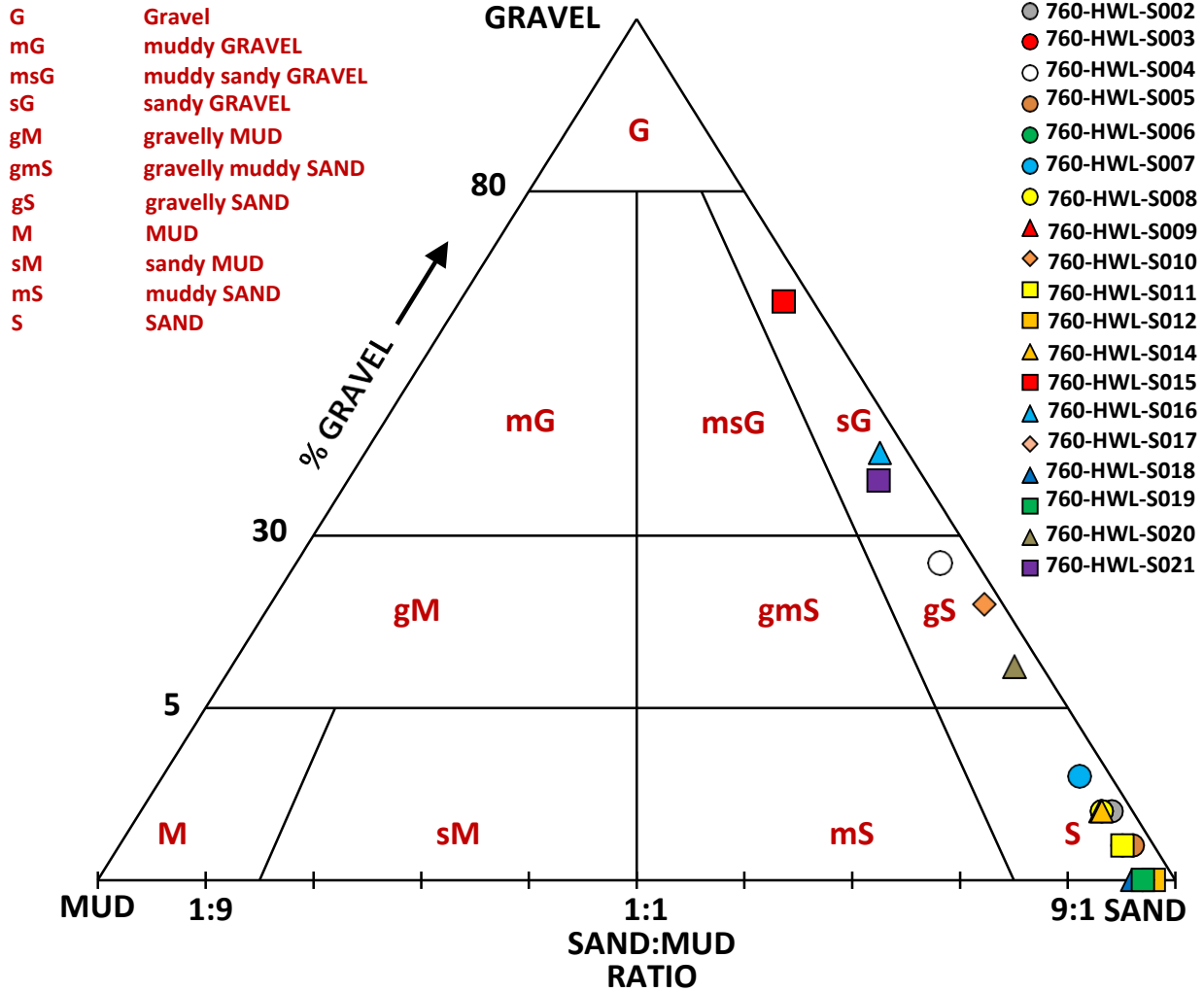
Conservation Areas & Species

Annex I 1170 - Stony Reefs Medium Grade

Molva molva

E		454571.27	454578.60	454584.83	454591.89	454598.28	454607.11	454613.47	454619.46
N		6494566.37	6494571.81	6494575.93	6494581.21	6494588.87	6494594.90	6494599.90	6494605.76
Photo ID		1	2	3	4	5	6	7	8
Visual quality (Good / Medium / Poor / Zero)		G	G	G	G	G	G	G	G
Group	Taxon	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²	/m ²
Arthropoda	<i>Cancer pagurus</i>							0.60	
Arthropoda	Galatheididae						0.35	4.21	1.95
Arthropoda	<i>Munida</i> sp.		0.40	0.40	1.34	1.14	1.06		
Arthropoda	<i>Necora puber</i>		0.40						
Arthropoda	Paguridae						0.35		
Bryozoa	<i>Alcyonidium diaphanum</i>		<1%			<1%		<1%	<1%
Bryozoa	Encrusting Bryozoa	10%	8%	7%	6%	12%	5%	3%	3%
Bryozoa	<i>Flustra foliacea</i>								<1%
Chordata	<i>Ascidia mentula</i>		0.40		2.02				
Chordata	<i>Ascidia</i> sp.						1.20		
Chordata	Ascidacea		0.40	0.40					
Chordata	<i>Clavelina lepadiformis</i>	<1%	<1%	<1%	<1%		<1%		
Chordata	<i>Dendrodoa grossularia</i>	0.57							
Chordata	<i>Molva molva</i>				0.67				
Cnidaria	Actiniaria				0.67				
Cnidaria	<i>Caryophyllia (Caryophyllia) smithii</i>	6.26	0.40					0.60	8.76
Cnidaria	Hydrozoa	30%	15%	10%	10%	6%	10%	25%	15%
Cnidaria	<i>Nemertesia antennina</i>								1%
Echinodermata	<i>Asterias rubens</i>	2.28			0.67			0.60	
Echinodermata	<i>Crossaster papposus</i>						0.35	0.60	
Echinodermata	<i>Echinus</i> sp.	2.84	1.61	0.40			1.76	1.80	0.97
Echinodermata	<i>Ophiothrix fragilis</i>				11.42	34.13	8.81	10.21	
Echinodermata	Ophiurida							2.40	
Mollusca	<i>Acesta excavata</i>		0.40						
Mollusca	<i>Gibbula</i> sp.	0.57							
Mollusca	Trochidae		1.21	1.21	0.67	1.14			0.49
Porifera	<i>Aplysilla sulfurea</i>			1%					
Porifera	Encrusting Porifera		<1%						

Classification of Seabed Sediments



Classification after:
 Folk, R.L., 1954. The distinction between grain size and mineral composition in sedimentary rock nomenclature. *Journal of Geology*, 62, 344-359.
 Long, D., 2006. BGS detailed explanation of seabed sediment modified Folk classification.

Client	Project Pentland FOWF Project No. 103760 Carried out for Highland Wind Limited	Figure FOLK
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Classification of Seabed Sediments



MMT Project No. 103760

Grab Sample ID	MUD (Silt + Clay)	SAND	GRAVEL	FOLK CLASSIFICATION
760-HWL-S002	2	96	2	SAND
760-HWL-S003	3	96	1	SAND
760-HWL-S004	4	70	26	gravelly SAND
760-HWL-S005	2	97	1	SAND
760-HWL-S006	3	95	2	SAND
760-HWL-S007	3	89	8	SAND
760-HWL-S008	3	95	2	SAND
760-HWL-S009	3	90	7	SAND
760-HWL-S010	2	78	20	gravelly SAND
760-HWL-S011	3	96	1	SAND
760-HWL-S012	2	98	0	SAND
760-HWL-S014	3	95	2	SAND
760-HWL-S015	3	33	64	sandy GRAVEL
760-HWL-S016	3	55	42	sandy GRAVEL
760-HWL-S017	3	97	0	SAND
760-HWL-S018	4	96	0	SAND
760-HWL-S019	3	97	0	SAND
760-HWL-S020	3	86	11	gravelly SAND
760-HWL-S021	5	57	38	sandy GRAVEL

Classification after:

Folk, R.L., 1954. The distinction between grain size and mineral composition in sedimentary rock nomenclature. *Journal of Geology*, 62, 344-359.

Long, D., 2006. BGS detailed explanation of seabed sediment modified Folk classification.

Client	Project Project No. Carried out for	Pentland FOWF 103760 Highland Wind Limited	Table FOLK
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Summary of Particle Size Distribution Tests

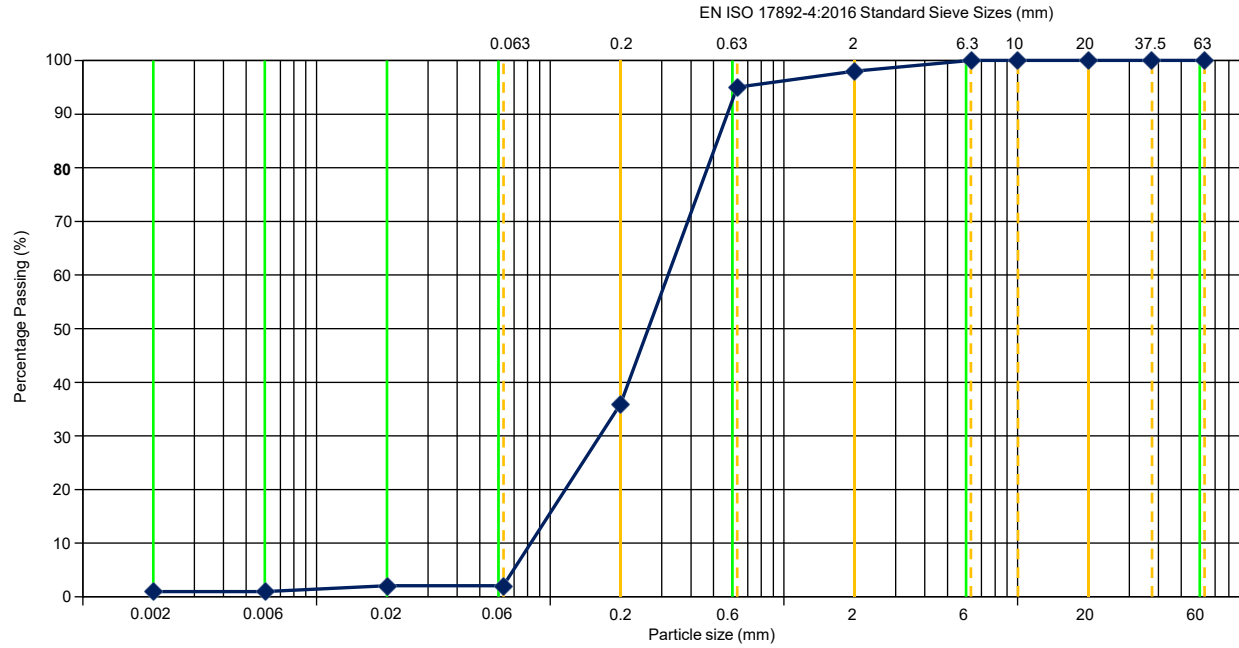


MMT Project No. 103760

Grab Sample ID	PSD		Sediment Fraction (%)					Sediment type from PSD result
	Sieve	Sed.	Clay	Silt	Total Fines	Sand	Gravel	
760-HWL-S002	Yes	Yes	1	1	2	96	2	Slightly silty slightly gravelly SAND.
760-HWL-S003	Yes	Yes	1	2	3	96	1	Slightly silty slightly gravelly SAND.
760-HWL-S004	Yes	Yes	1	3	4	70	26	Slightly silty very gravelly SAND.
760-HWL-S005	Yes	Yes		2	2	97	1	Slightly silty slightly gravelly SAND.
760-HWL-S006	Yes	Yes	1	2	3	95	2	Slightly silty slightly gravelly SAND.
760-HWL-S007	Yes	Yes	1	2	3	89	8	Slightly silty gravelly SAND.
760-HWL-S008	Yes	Yes		3	3	95	2	Slightly silty slightly gravelly SAND.
760-HWL-S009	Yes	Yes		3	3	90	7	Slightly silty gravelly SAND.
760-HWL-S010	Yes	Yes		2	2	78	20	Slightly silty very gravelly SAND.
760-HWL-S011	Yes	Yes	1	2	3	96	1	Slightly silty slightly gravelly SAND.
760-HWL-S012	Yes	Yes	1	1	2	98		Slightly silty SAND.
760-HWL-S014	Yes	Yes		3	3	95	2	Slightly silty slightly gravelly SAND.
760-HWL-S015	Yes	Yes	1	2	3	33	64	Slightly silty very sandy GRAVEL.
760-HWL-S016	Yes	Yes		3	3	55	42	Slightly silty very gravelly SAND.
760-HWL-S017	Yes	Yes	1	2	3	97		Slightly silty SAND.
760-HWL-S018	Yes	Yes		4	4	96		Slightly silty SAND.
760-HWL-S019	Yes	Yes	1	2	3	97		Slightly silty SAND.
760-HWL-S020	Yes	Yes	1	2	3	86	11	Slightly silty gravelly SAND.
760-HWL-S021	Yes	Yes	1	4	5	57	38	Silty very gravelly SAND.

Client	Project Pentland FOWF Project No. 103760 Carried out for Highland Wind Limited	Table PSD
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Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	98		
0.63	95		
0.2	36		
0.063	2		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	2%
	Sand	96%
	Total Fines	2%
	Silt	1%
	Clay	1%

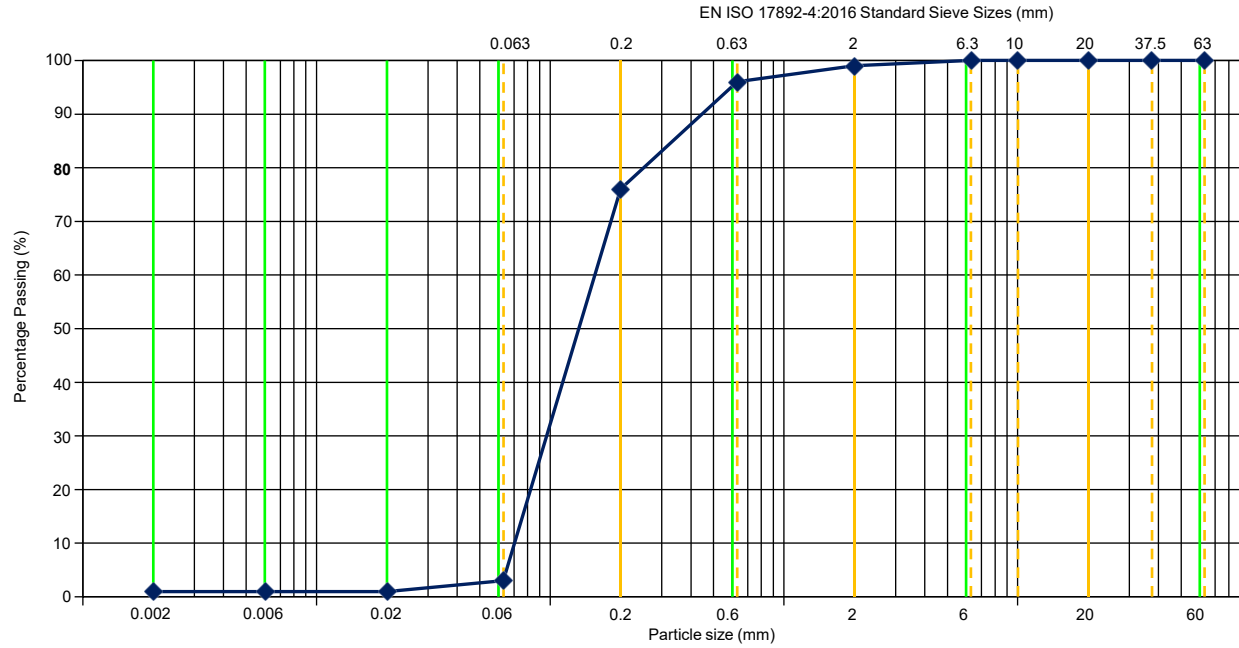
Sample Details		Value
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	3.9
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	0.9

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S002	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	99		
0.63	96		
0.2	76		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Material	Percentage
	Cobbles / boulders	0%
	Gravel	1%
	Sand	96%
	Total Fines	3%
	Silt	2%
	Clay	1%

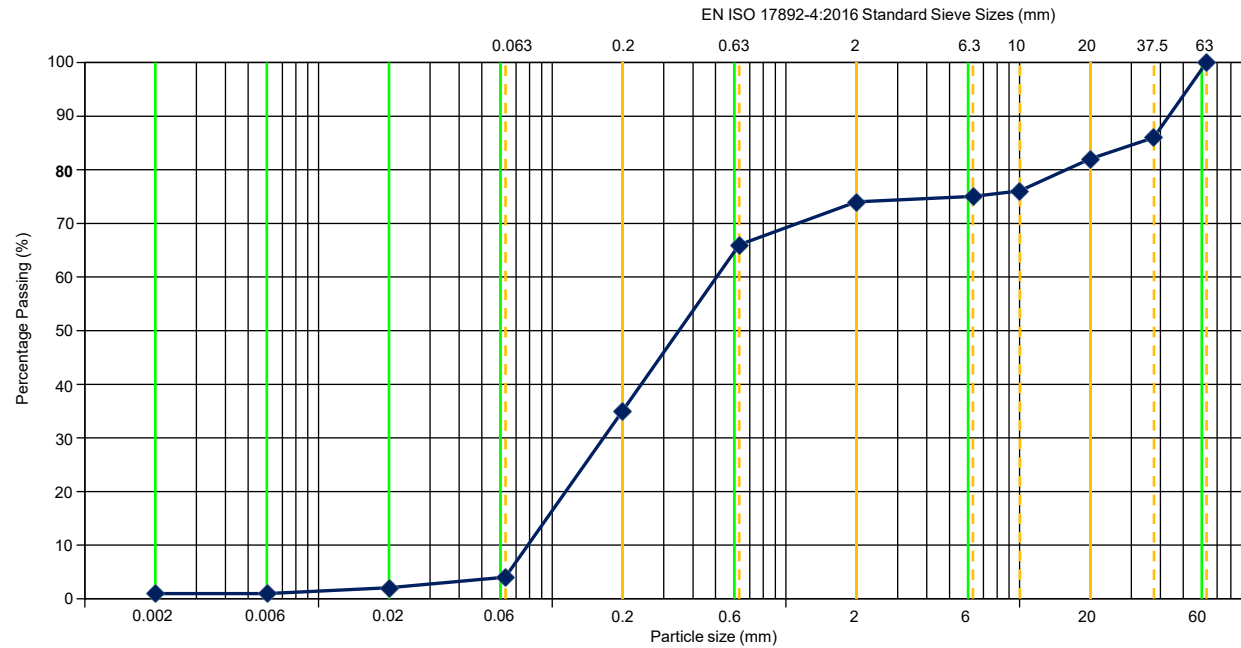
Sample Details	Parameter	Value
	Sample Top, mBGL	0.00
	Sample Base, mBGL	0.20
	Sample Ref	1
	Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.2
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S003	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving

Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	86	0.006	1
20	82	0.002	1
10	76		
6.3	75		
2	74		
0.63	66		
0.2	35		
0.063	4		

Sedimentation

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	26%
	Sand	70%
	Total Fines	4%
	Silt	3%
	Clay	1%

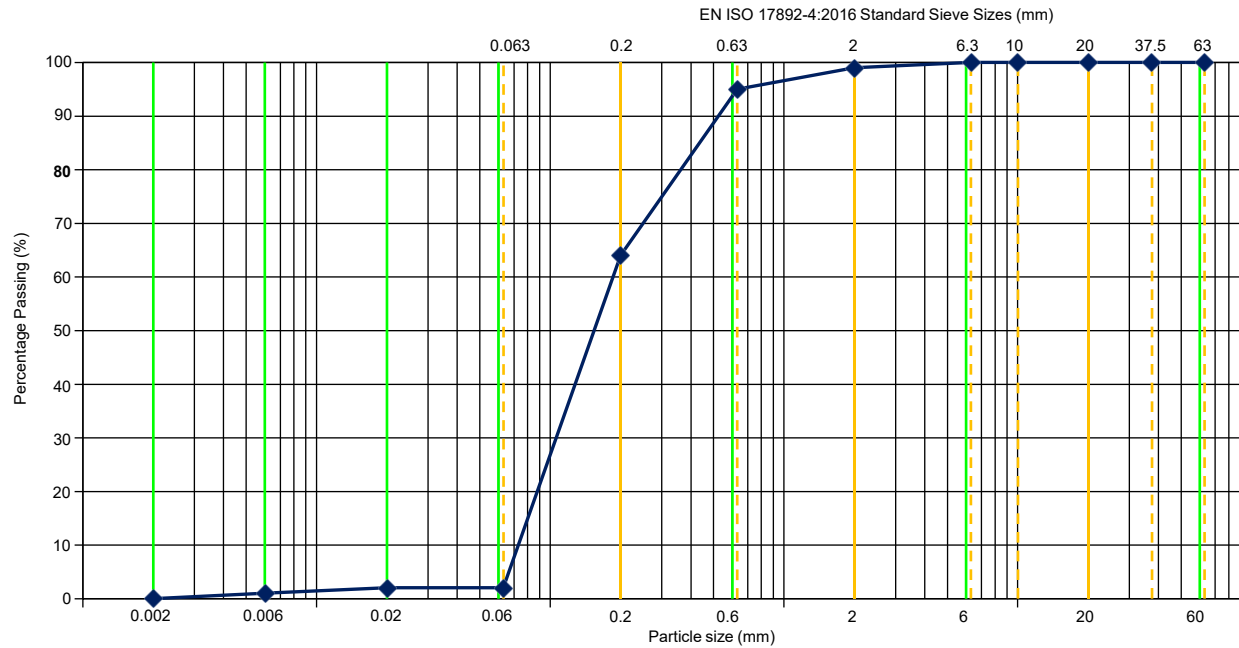
Sample Details	Parameter	Value
	Sample Top, mBGL	0.00
	Sample Base, mBGL	0.20
	Sample Ref	1
	Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	6.1
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	0.6

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S004	Comments Sample is a slightly silty very gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	0
10	100		
6.3	100		
2	99		
0.63	95		
0.2	64		
0.063	2		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	1%
	Sand	97%
	Total Fines	2%
	Silt	2%
	Clay	0%

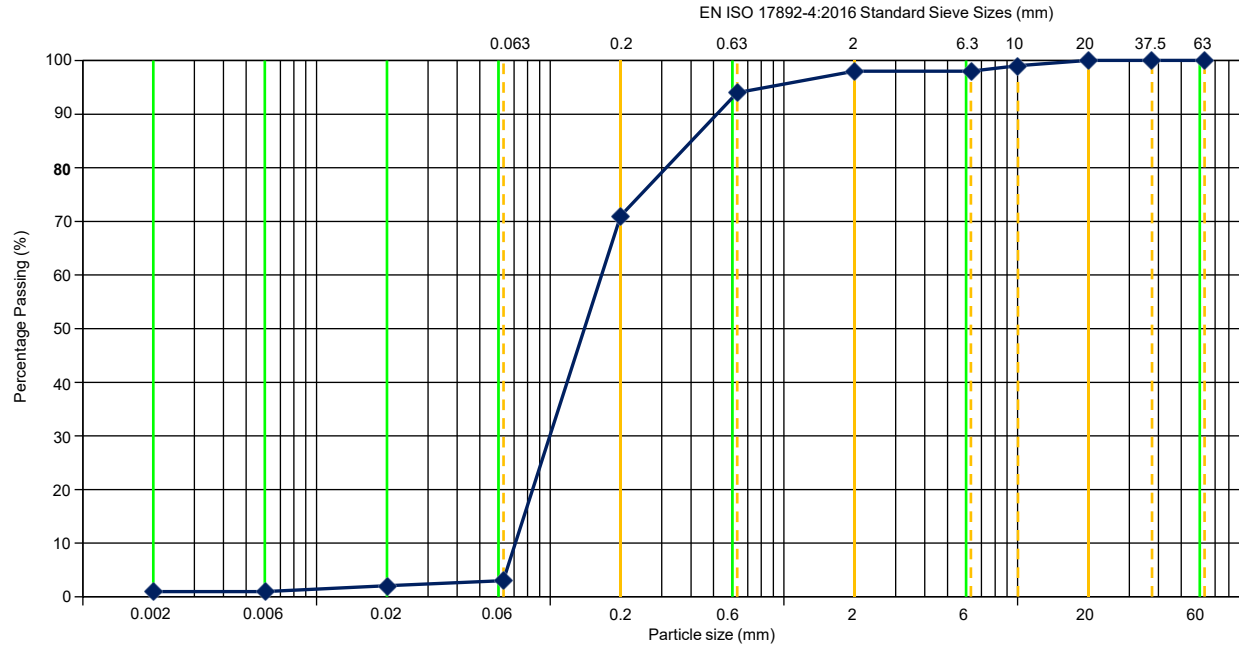
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.4
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S005	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	1
10	99		
6.3	98		
2	98		
0.63	94		
0.2	71		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Material	Percentage
	Cobbles / boulders	0%
	Gravel	2%
	Sand	95%
	Total Fines	3%
	Silt	2%
	Clay	1%

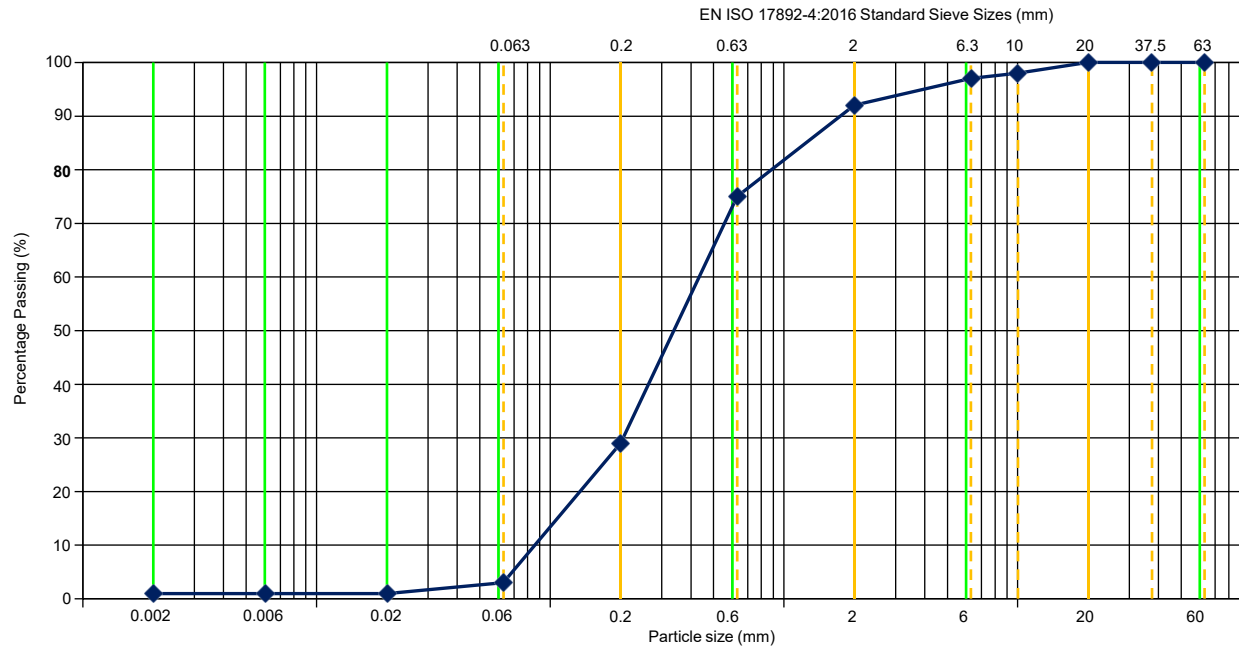
Sample Details	Parameter	Value
	Sample Top, mBGL	0.00
	Sample Base, mBGL	0.20
	Sample Ref	1
	Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.3
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S006	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	1
10	98		
6.3	97		
2	92		
0.63	75		
0.2	29		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	8%
	Sand	89%
	Total Fines	3%
	Silt	2%
	Clay	1%

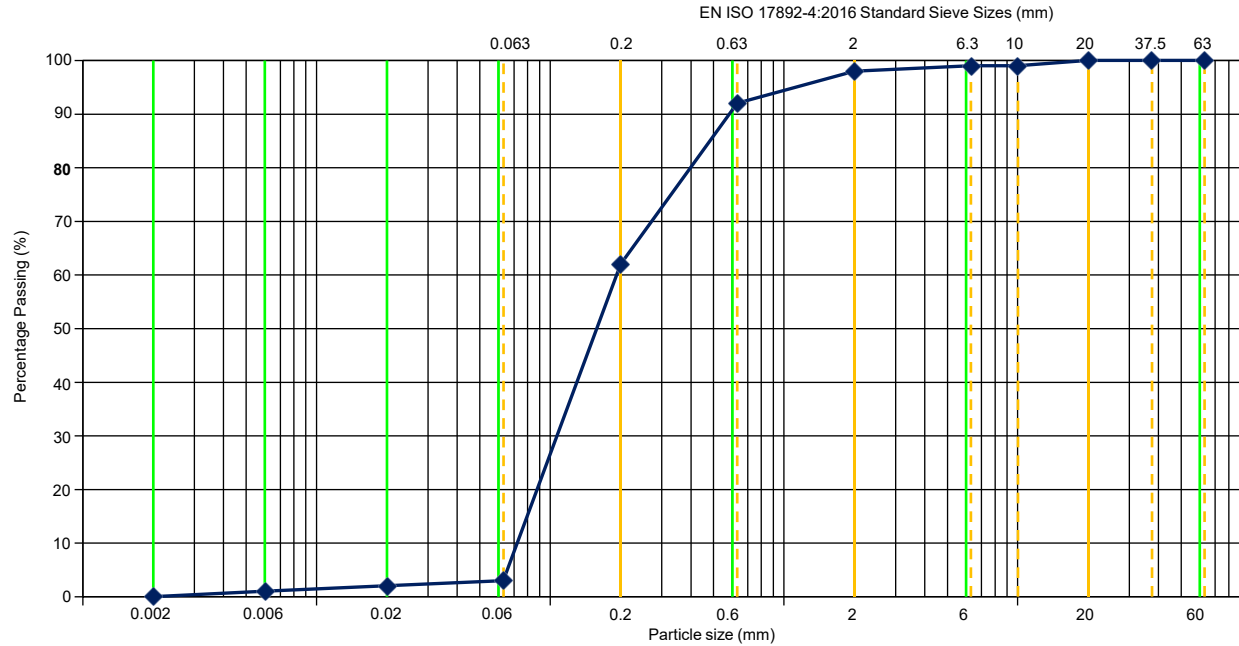
Sample Details		Value
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	4.9
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	0.9

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S007	Comments Sample is a slightly silty gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	0
10	99		
6.3	99		
2	98		
0.63	92		
0.2	62		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	2%
	Sand	95%
	Total Fines	3%
	Silt	3%
	Clay	0%

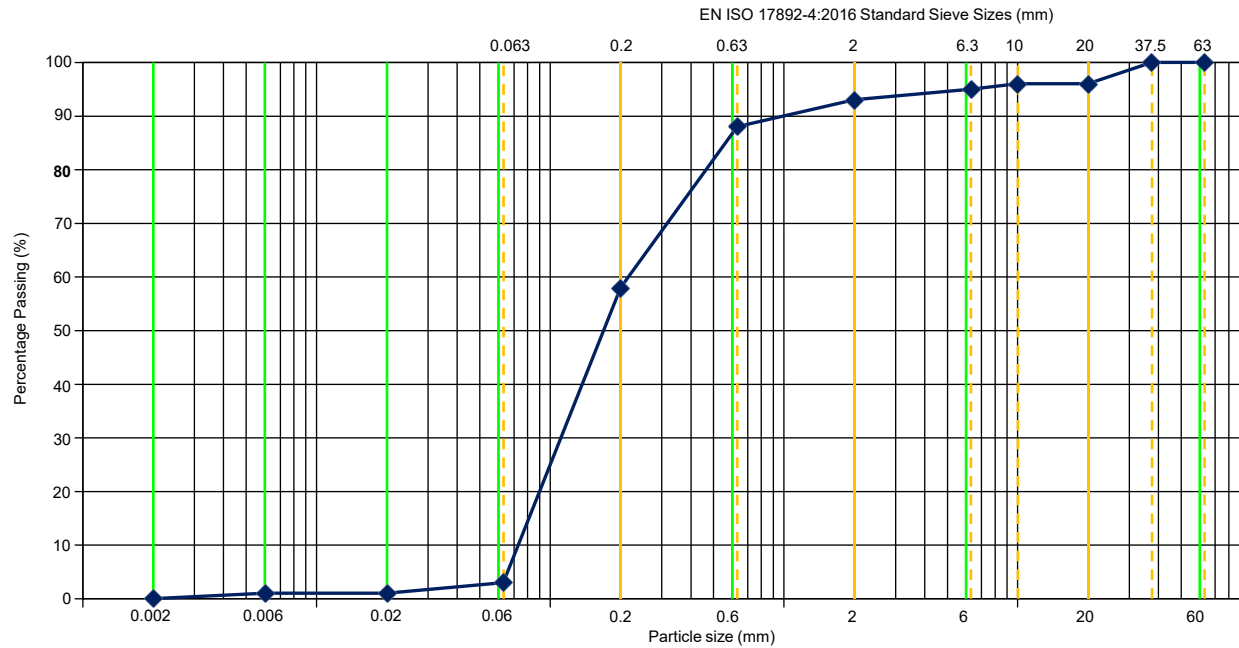
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.5
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S008	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	96	0.002	0
10	96		
6.3	95		
2	93		
0.63	88		
0.2	58		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	7%
	Sand	90%
	Total Fines	3%
	Silt	3%
	Clay	0%

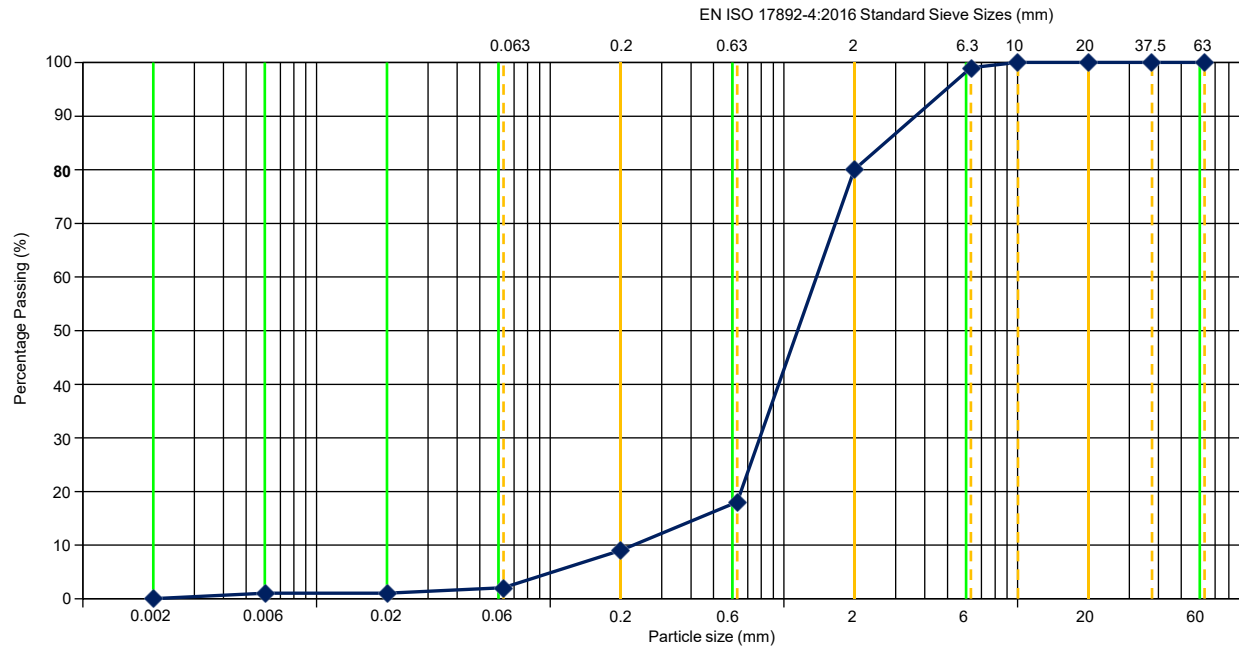
Sample Details	Parameter	Value
	Sample Top, mBGL	0.00
	Sample Base, mBGL	0.20
	Sample Ref	1
	Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.8
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	0.9

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S009	Comments Sample is a slightly silty gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	0
10	100		
6.3	99		
2	80		
0.63	18		
0.2	9		
0.063	2		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	20%
	Sand	78%
	Total Fines	2%
	Silt	2%
	Clay	0%

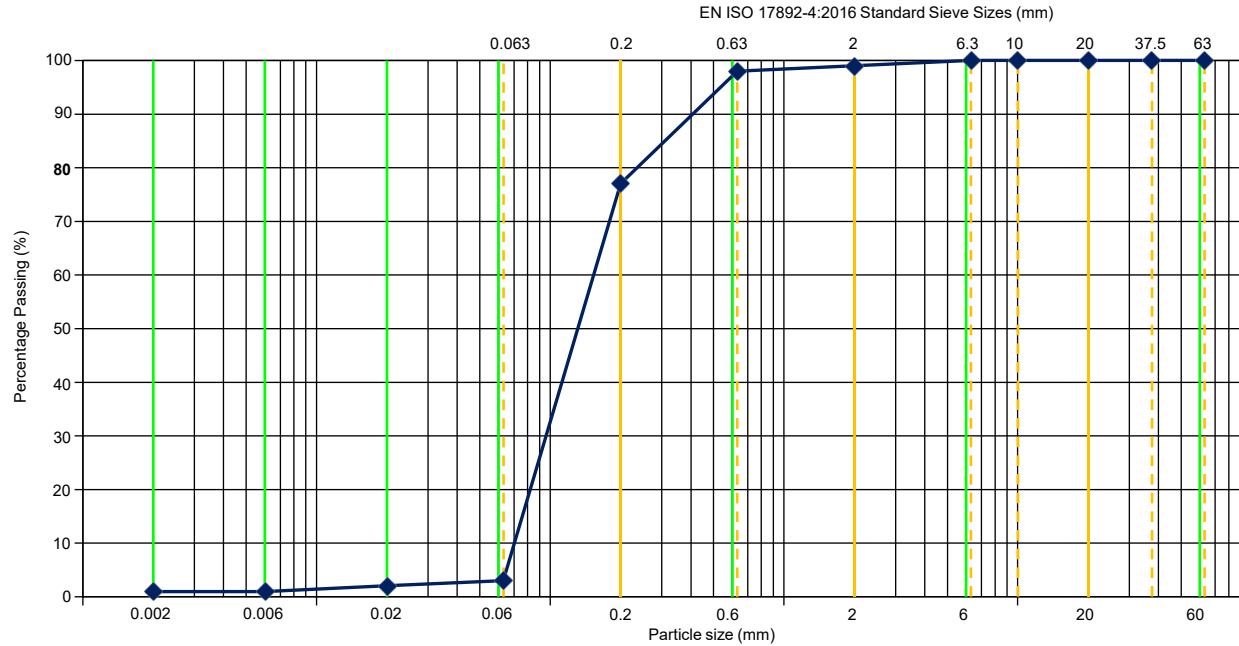
Sample Details		Value
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	6.3
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	2.1

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S010	Comments Sample is a slightly silty very gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	99		
0.63	98		
0.2	77		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Material	Percentage
	Cobbles / boulders	0%
	Gravel	1%
	Sand	96%
	Total Fines	3%
	Silt	2%
	Clay	1%

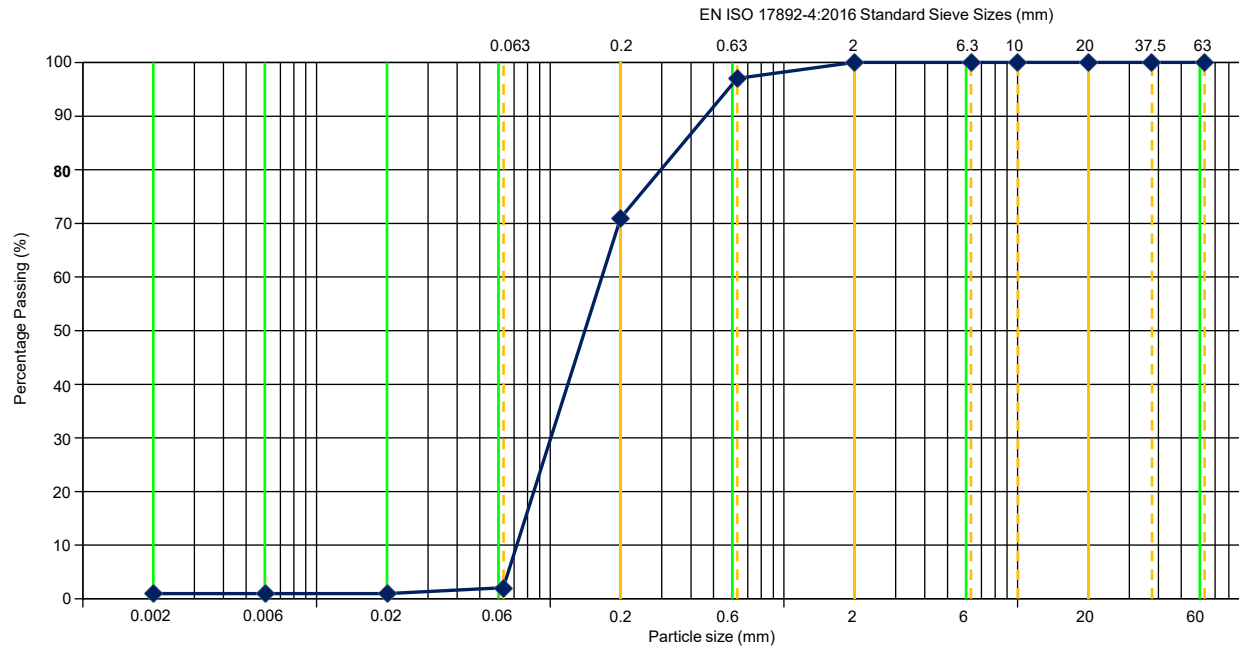
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.2
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S011	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	100		
0.63	97		
0.2	71		
0.063	2		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	0%
	Sand	98%
	Total Fines	2%
	Silt	1%
	Clay	1%

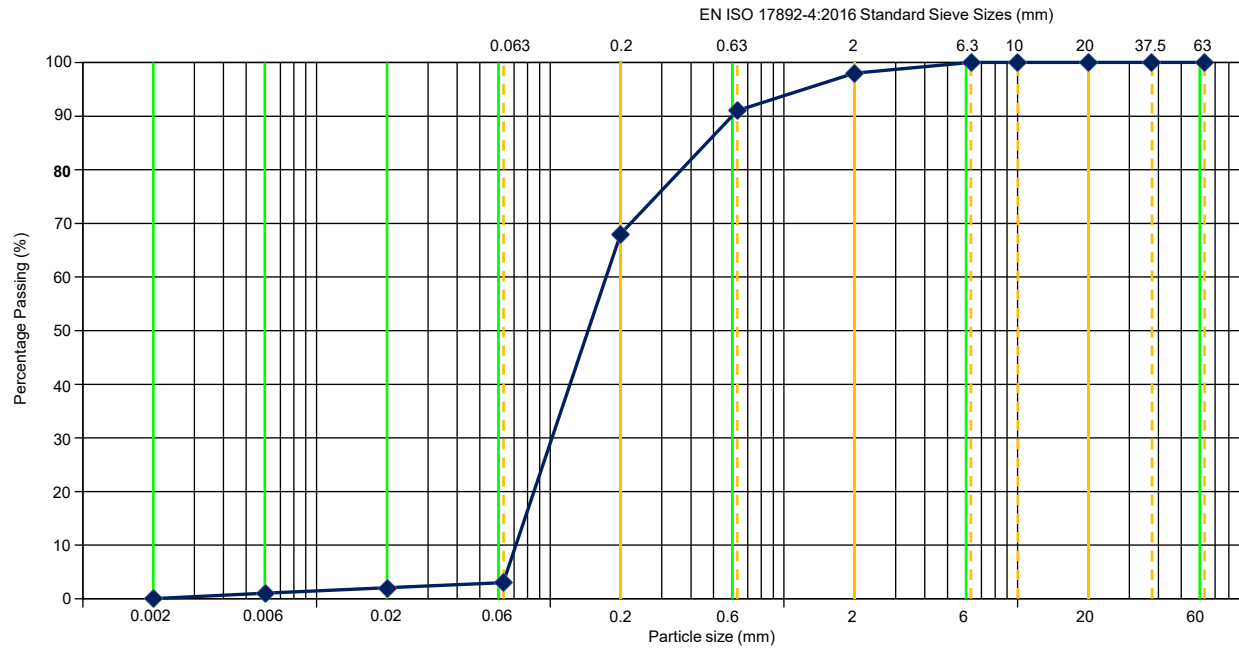
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.3
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S012	Comments Sample is a slightly silty SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	0
10	100		
6.3	100		
2	98		
0.63	91		
0.2	68		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	2%
	Sand	95%
	Total Fines	3%
	Silt	3%
	Clay	0%

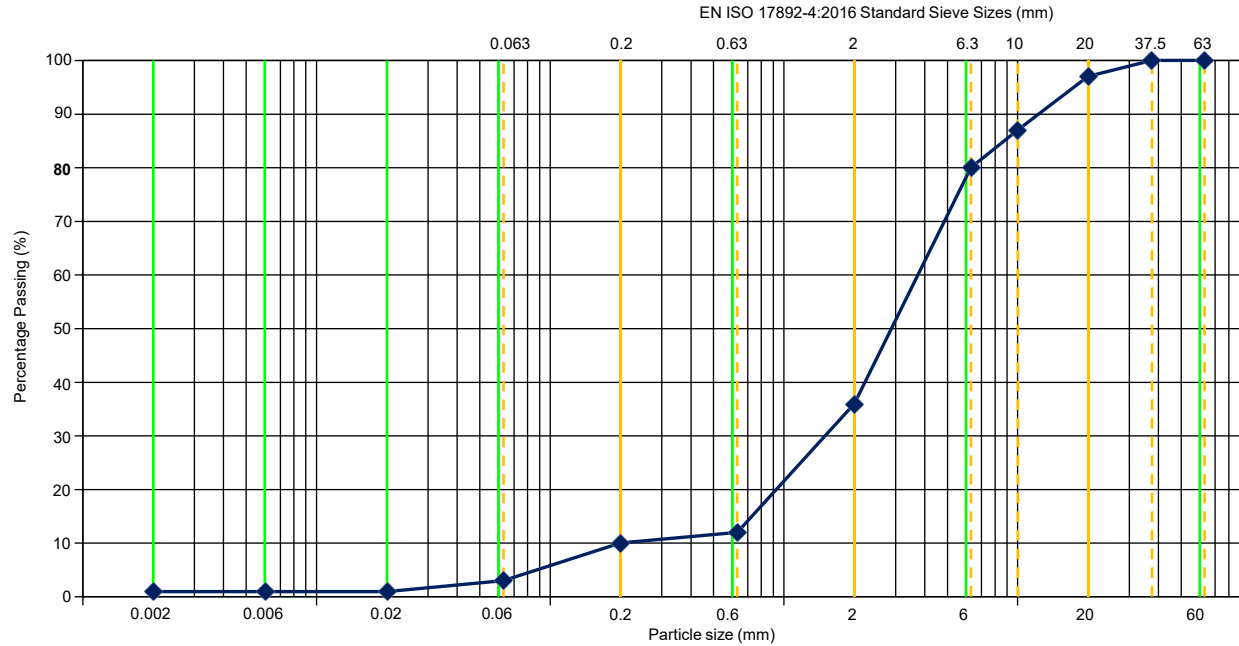
Sample Details		Value
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	2.4
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S014	Comments Sample is a slightly silty slightly gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	97	0.002	1
10	87		
6.3	80		
2	36		
0.63	12		
0.2	10		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	64%
	Sand	33%
	Total Fines	3%
	Silt	2%
	Clay	1%

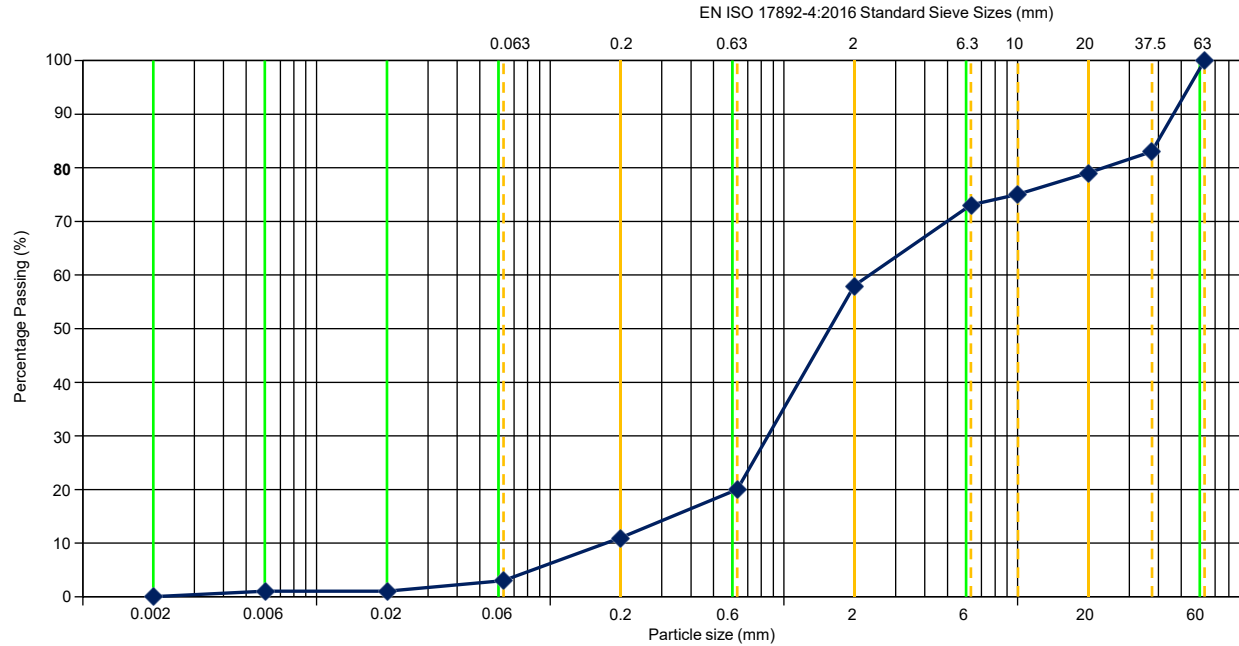
Sample Details		
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	21.7
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	3.2

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S015	Comments Sample is a slightly silty very sandy GRAVEL.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	83	0.006	1
20	79	0.002	0
10	75		
6.3	73		
2	58		
0.63	20		
0.2	11		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	42%
	Sand	55%
	Total Fines	3%
	Silt	3%
	Clay	0%

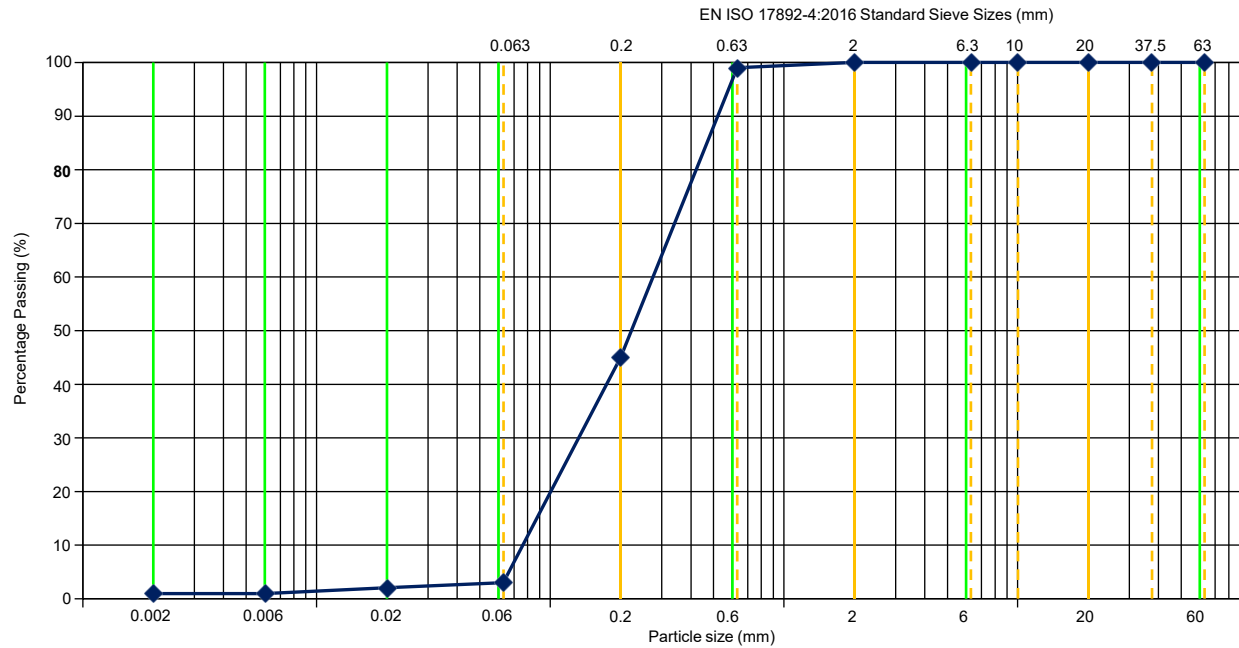
Sample Details		Value
Sample Top, mBGL		0.00
Sample Base, mBGL		0.20
Sample Ref		1
Sample Type		D

Uniformity Coefficient (Cu) D60 / D10	14.1
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	2.1

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S016	Comments Sample is a slightly silty very gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	2
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	100		
0.63	99		
0.2	45		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	0%
	Sand	97%
	Total Fines	3%
	Silt	2%
	Clay	1%

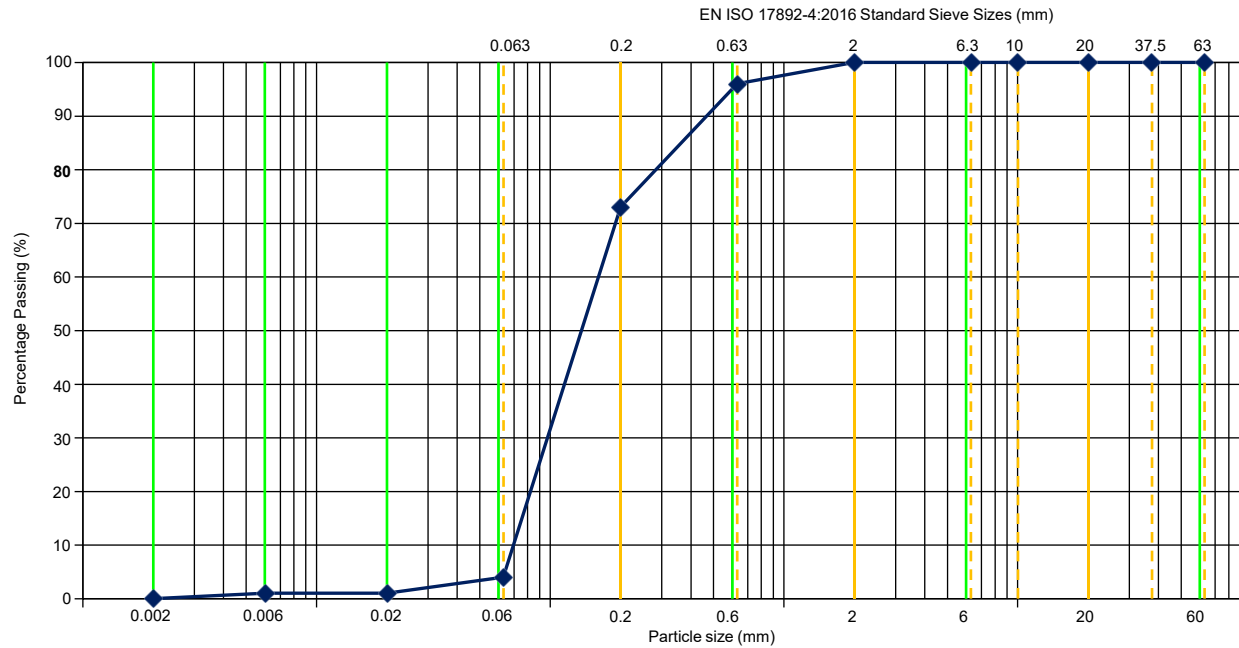
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	3.7
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	0.8

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S017	Comments Sample is a slightly silty SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	0
10	100		
6.3	100		
2	100		
0.63	96		
0.2	73		
0.063	4		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	0%
	Sand	96%
	Total Fines	4%
	Silt	4%
	Clay	0%

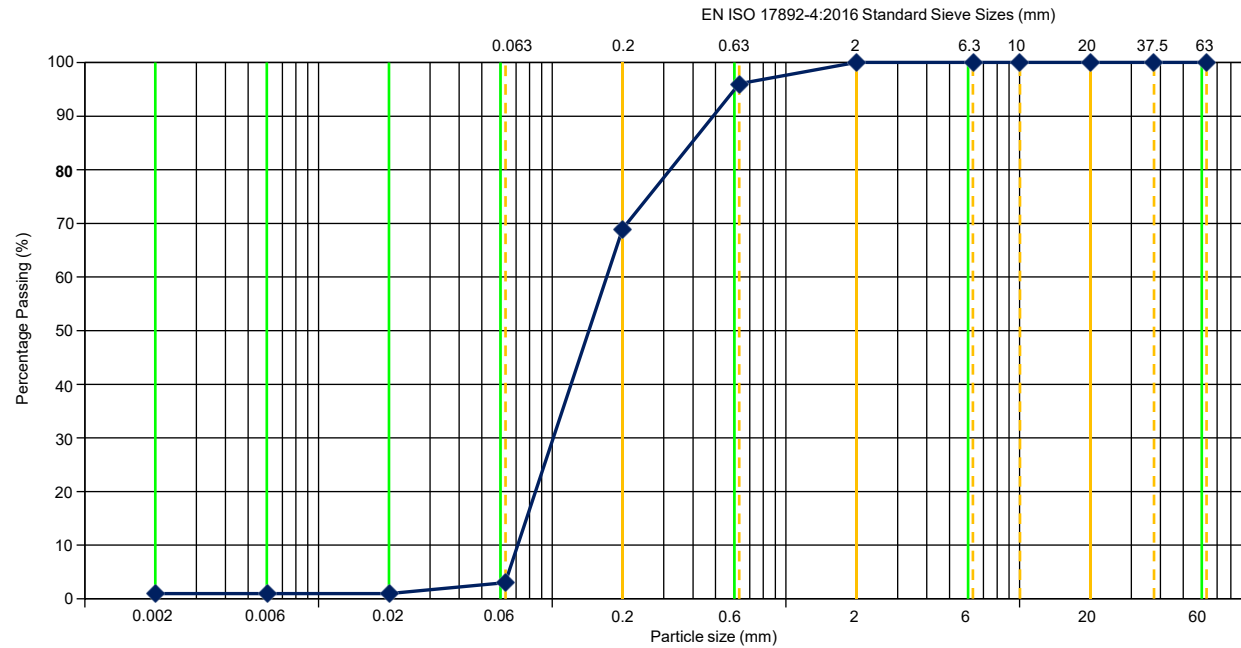
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.3
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S018	Comments Sample is a slightly silty SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	1
10	100		
6.3	100		
2	100		
0.63	96		
0.2	69		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	0%
	Sand	97%
	Total Fines	3%
	Silt	2%
	Clay	1%

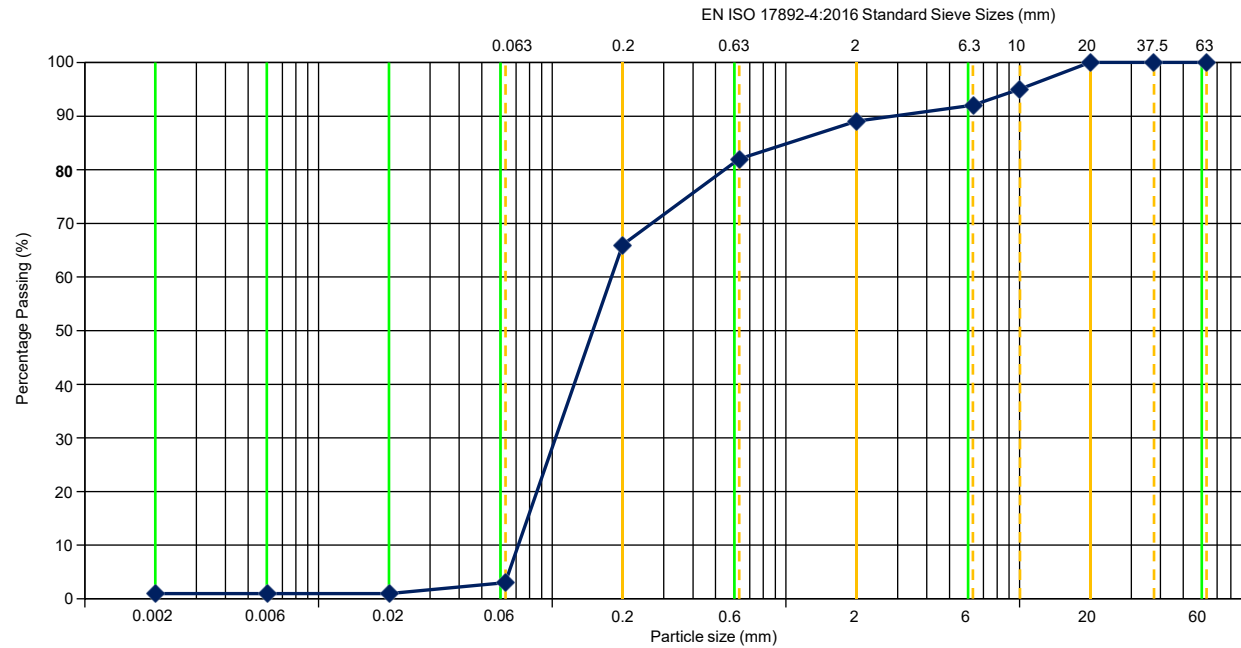
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.3
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S019	Comments Sample is a slightly silty SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	100	0.006	1
20	100	0.002	1
10	95		
6.3	92		
2	89		
0.63	82		
0.2	66		
0.063	3		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	11%
	Sand	86%
	Total Fines	3%
	Silt	2%
	Clay	1%

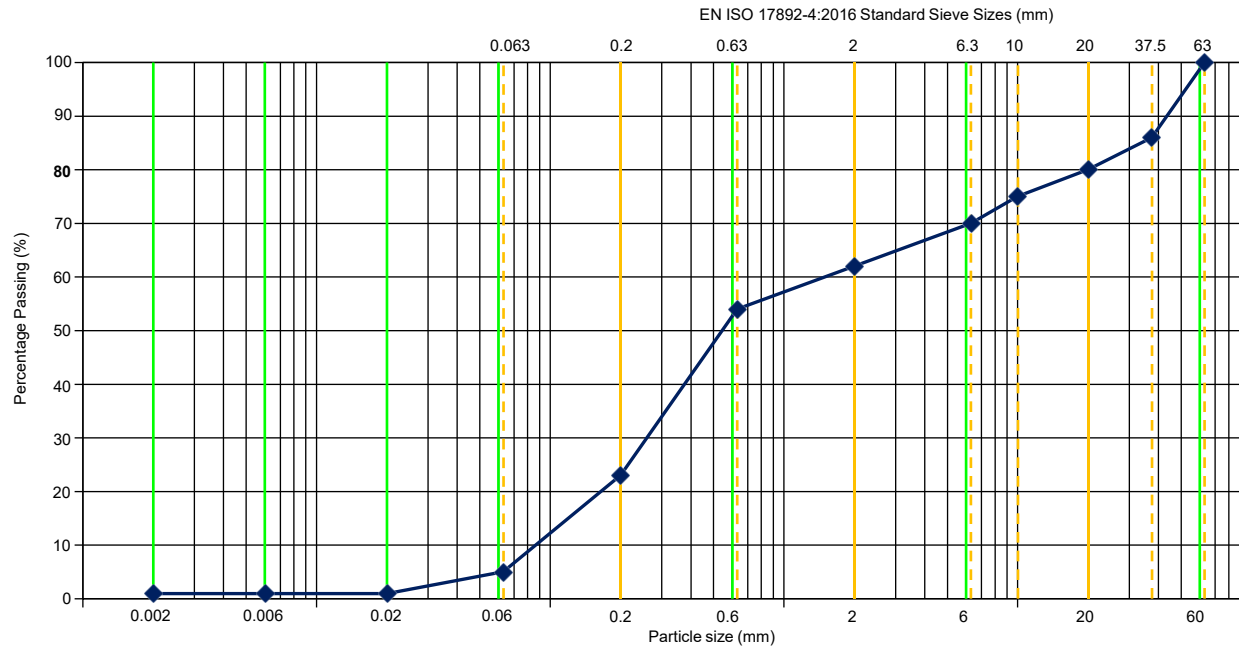
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	2.4
Coefficient of Curvature (Cc) D30 ² / (D10 x D60)	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S020	Comments Sample is a slightly silty gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	1
37.5	86	0.006	1
20	80	0.002	1
10	75		
6.3	70		
2	62		
0.63	54		
0.2	23		
0.063	5		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions	Category	Percentage
	Cobbles / boulders	0%
	Gravel	38%
	Sand	57%
	Total Fines	5%
	Silt	4%
	Clay	1%

Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	16.4
Coefficient of Curvature (Cc) D30 ² /(D10 x D60)	0.5

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	103760	Grab Sample Location 760-HWL-S021	Comments Sample is a silty very gravelly SAND.
Project	Pentland FOWF		
Client	Highland Wind Limited		

Summary of Chemical Test Results



MMT Project No. 103760

Analyte	Limit of Detection	Method	Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014
			Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Arsenic	0.5	ICPMSS	mg/Kg (Dry Weight)	4.8	4.5	7.5	4.9	5.3	5.7	6.1	23.5	5	5.3	3.1
Cadmium	0.04	ICPMSS	mg/Kg (Dry Weight)	1.39	0.11	0.06	0.06	0.06	<0.04	<0.04	0.10	0.04	0.05	<0.04
Chromium	0.5	ICPMSS	mg/Kg (Dry Weight)	21.2	10.4	11.1	9.9	9.7	11.5	11.4	8.4	8.8	10.7	8.0
Copper	0.5	ICPMSS	mg/Kg (Dry Weight)	51.9	7.9	5.5	4.9	5.0	5.2	4.5	5.5	4.8	5.4	4.9
Lead	0.5	ICPMSS	mg/Kg (Dry Weight)	10.7	5.3	6.4	5.1	5.8	5.4	5.2	13.8	4.5	5.6	3.1
Mercury	0.01	ICPMSS	mg/Kg (Dry Weight)	0.02	0.02	0.01	0.01	0.01	0.01	0.05	0.03	0.02	0.01	0.01
Nickel	0.5	ICPMSS	mg/Kg (Dry Weight)	1284	63.6	12.8	9.4	7.2	6.3	6.6	23.2	6.5	6.1	5.2
Zinc	2	ICPMSS	mg/Kg (Dry Weight)	86.1	37.5	34.6	51.4	36.6	33.1	32.2	40.2	60.2	44.6	41.7
Aluminium	10	SEDOES	mg/Kg (Dry Weight)	21000	18100	20500	20100	17400	24400	24400	8740	26200	23600	30800
Barium	1	SEDOES	mg/Kg (Dry Weight)	291	257	282	271	241	301	321	99.1	323	302	356
Beryllium	0.1	SEDOES	mg/Kg (Dry Weight)	0.5	0.4	0.4	0.4	0.4	0.6	0.6	0.3	0.6	0.5	0.8
Chromium	2	SEDOES	mg/Kg (Dry Weight)	25.6	17.5	15.1	13.9	14.5	19.1	18.0	9.9	12.9	15.9	13.9
Copper	2	SEDOES	mg/Kg (Dry Weight)	50.5	5.0	3.9	2.5	3.5	2.9	3.2	2.6	2.2	2.1	2.0
Iron	45	SEDOES	mg/Kg (Dry Weight)	8600	8770	8070	7190	7790	10300	9500	9580	7140	8330	7030
Manganese	5	SEDOES	mg/Kg (Dry Weight)	195	217	199	194	199	221	215	1190	205	189	175
Nickel	2	SEDOES	mg/Kg (Dry Weight)	1320	55.6	12.6	8.2	7.6	8.1	8.2	20.6	7.0	5.9	6.1
Phosphorus	45	SEDOES	mg/Kg (Dry Weight)	81	<45.0	1630	<45.0	<45.0	<45.0	<45.0	<45.0	389	456	366
Strontium	5	SEDOES	mg/Kg (Dry Weight)	698	621	730	639	778	682	651	1550	839	910	588
Vanadium	1	SEDOES	mg/Kg (Dry Weight)	18.2	18.5	20.3	16.7	17.9	23.7	22.4	36.5	18.3	21.3	16.9
Zinc	2	SEDOES	mg/Kg (Dry Weight)	62.2	16.8	13.5	10.1	12.8	11.9	12.2	14.1	16.3	12.5	11.0
Fraction of Organic Carbon	0.0002	WSLM59	-	0.003	0.002	0.002	0.003	0.002	0.002	0.002	0.004	0.002	0.002	0.001
Total Organic Carbon	0.02	WSLM59	%M/M	0.28	0.21	0.22	0.28	0.21	0.17	0.17	0.35	0.23	0.23	0.14
L.O.I. % @ 450°C	0.2	LOI (%M/M)	%	2.0	1.4	1.6	1.5	1.5	1.4	1.4	3.0	1.6	1.9	1.1
Moisture % @ 120°C	0.2	ASC/SOP/303	%	33.7	30.0	33.0	29.9	31.9	33.4	31.8	22.9	31.9	33.8	31.5

Client	Project Pentland FOWF Project No. 103760 Carried out for	Table CHEM - 1
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Summary of Chemical Test Results



MMT Project No. 103760

Analyte	Limit of Detection	Method	Sample ID	760-HWL-S015	760-HWL-S016	760-HWL-S017	760-HWL-S018	760-HWL-S019	760-HWL-S020	760-HWL-S021
			Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Arsenic	0.5	ICPMSS	mg/Kg (Dry Weight)	13.4	6.3	4.6	3.4	3.7	5.1	7.2
Cadmium	0.04	ICPMSS	mg/Kg (Dry Weight)	0.08	0.07	0.04	<0.04	<0.04	0.07	0.08
Chromium	0.5	ICPMSS	mg/Kg (Dry Weight)	18.3	3.8	11.4	9.9	7.8	11.1	16.8
Copper	0.5	ICPMSS	mg/Kg (Dry Weight)	9.4	4.1	5.0	5.6	5.1	6.9	30.1
Lead	0.5	ICPMSS	mg/Kg (Dry Weight)	6.3	4.5	5.4	3.5	3.2	7.2	6.1
Mercury	0.01	ICPMSS	mg/Kg (Dry Weight)	0.01	0.01	0.04	0.02	0.01	0.02	0.02
Nickel	0.5	ICPMSS	mg/Kg (Dry Weight)	15.3	9.1	6.3	5.8	5.0	6.0	14.9
Zinc	2	ICPMSS	mg/Kg (Dry Weight)	45.5	36.1	115	47.5	27.7	50.0	43.6
Aluminium	10	SEDOES	mg/Kg (Dry Weight)	45100	11800	17900	29200	2950	19400	37600
Barium	1	SEDOES	mg/Kg (Dry Weight)	656	151	270	357	363	293	354
Beryllium	0.1	SEDOES	mg/Kg (Dry Weight)	1.1	0.3	0.4	0.7	0.7	0.4	0.7
Chromium	2	SEDOES	mg/Kg (Dry Weight)	30.7	5.3	14.1	17.0	11.8	17.0	31.1
Copper	2	SEDOES	mg/Kg (Dry Weight)	5.8	<2.0	3.4	3.0	2.5	5.2	22.0
Iron	45	SEDOES	mg/Kg (Dry Weight)	13800	3740	7210	8500	6680	8460	14400
Manganese	5	SEDOES	mg/Kg (Dry Weight)	790	432	189	210	159	240	365
Nickel	2	SEDOES	mg/Kg (Dry Weight)	14.4	6.3	6.8	7.0	6.1	7.5	14.4
Phosphorus	45	SEDOES	mg/Kg (Dry Weight)	519	368	359	466	344	419	523
Strontium	5	SEDOES	mg/Kg (Dry Weight)	418	1750	564	590	636	713	575
Vanadium	1	SEDOES	mg/Kg (Dry Weight)	34.3	12.2	16.1	20.0	16.0	19.1	29.9
Zinc	2	SEDOES	mg/Kg (Dry Weight)	20.6	6.20	11.3	12.4	10.7	15.2	24.5
Fraction of Organic Carbon	0.0002	WSLM59	-	0.001	0.002	0.002	0.002	0.002	0.002	0.002
Total Organic Carbon	0.02	WSLM59	%M/M	0.13	0.19	0.23	0.16	0.15	0.24	0.24
L.O.I. % @ 450°C	0.2	LOI (%M/M)	%	1.0	2.2	1.8	1.2	1.1	1.7	1.7
Moisture % @ 120°C	0.2	ASC/SOP/303	%	18.7	31.5	34.8	29.4	28.3	30.1	29.1

Client	Project Pentland FOWF Project No. 103760 Carried out for	Table CHEM - 2
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Summary of Chemical Test Results

Analyte	Mass	Limit of Detection	Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014	760-HWL-S015
			Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Naphthalene	128	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
C1 Naphthalenes	142	1	µg/Kg (Dry Weight)	1.10	<1	1.03	<1	<1	<1	<1	2.52	<1	5.19	<1	<1
C2 Naphthalenes	156	1	µg/Kg (Dry Weight)	1.68	1.15	1.35	1.04	1.3	<1	1.09	2.16	1.32	5.66	<1	<1
C3 Naphthalenes	170	1	µg/Kg (Dry Weight)	1.3	<1	<1	1.06	1.1	<1	<1	1.70	<1	4.19	<1	<1
C4 Naphthalenes	184	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.06	<1	<1
Sum Naphthalenes	-	5	µg/Kg (Dry Weight)	<5	<5	<5	<5	<5	<5	<5	6.37	<5	17.1	<5	<5
Phenanthrene / Anthracene	178	2	µg/Kg (Dry Weight)	<2	<2	<2	13.00	<2	<2	<2	<2	<2	<2	<2	<2
C1 178	192	1	µg/Kg (Dry Weight)	1.2	<1	<1	6.82	1.05	<1	<1	2.49	<1	2.93	<1	<1
C2 178	206	1	µg/Kg (Dry Weight)	1.4	1.13	1.32	4.42	1.12	<1	<1	1.88	<1	3.23	<1	1.99
C3 178	220	1	µg/Kg (Dry Weight)	<1	<1	<1	2.14	<1	<1	<1	<1	<1	2.11	<1	1.91
Sum 178	-	5	µg/Kg (Dry Weight)	<5	<5	<5	26.4	<5	<5	<5	6.3	<5	9.97	<5	<5
Dibenzothiophene	184	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
C1 Dibenzothiophenes	198	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
C2 Dibenzothiophenes	212	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
C3 Dibenzothiophenes	226	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum Dibenzothiophenes	-	4	µg/Kg (Dry Weight)	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Fluoranthene / pyrene	202	2	µg/Kg (Dry Weight)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
C1 202	216	1	µg/Kg (Dry Weight)	<1	<1	<1	8.36	<1	<1	<1	1.4	<1	1.43	<1	<1
C2 202	230	1	µg/Kg (Dry Weight)	1.17	<1	<1	4.19	<1	<1	<1	1.70	<1	2.02	<1	<1
C3 202	244	1	µg/Kg (Dry Weight)	<1	<1	<1	2.07	<1	<1	<1	1.42	<1	1.85	<1	<1
Sum 202	-	5	µg/Kg (Dry Weight)	<5	<5	<5	40.70	<5	<5	<5	<5	<5	5.30	<5	<5
Benzoanthracene / Chrysene	228	2	µg/Kg (Dry Weight)	<2	<2	<2	12.10	<2	<2	<2	<2	<2	<2	<2	<2
C1 228	242	1	µg/Kg (Dry Weight)	<1	<1	1.08	4.58	<1	<1	<1	1.30	<1	1.63	<1	<1
C2 228	256	1	µg/Kg (Dry Weight)	1.25	1.40	1.39	3.70	1.50	<1	<1	1.72	<1	2.50	1.23	<1
Sum 228	-	4	µg/Kg (Dry Weight)	<4	<4	<4	20.40	<4	<4	<4	4.1	<4	5.13	<4	<4
Benzo(a)fluoranthene / benzopyrenes	252	4	µg/Kg (Dry Weight)	<4	<4	<4	18.20	<4	<4	<4	<4	<4	4.73	<4	<4
C1 252	266	1	µg/Kg (Dry Weight)	2.49	1.69	2.31	6.54	1.80	1.08	1.42	<4	1.3	2.64	1.26	<1
C2 252	280	1	µg/Kg (Dry Weight)	1.61	2.30	2.03	3.41	1.66	1.27	1.17	2.43	1.1	2.44	1.23	<1
Sum 252	-	6	µg/Kg (Dry Weight)	7.1	6.7	7.4	28.1	6.3	<6	<6	7.2	<6	9.8	<6	<6
Dibenzo(a,h)anthracene/Indenopyrene/Benzoperylene	276	3	µg/Kg (Dry Weight)	4.10	<3	3.72	8.31	3.00	<3	<3	2.66	<3	3.94	<3	<3
C1 276	290	1	µg/Kg (Dry Weight)	<1	<1	<1	1.62	<1	<1	<1	<1	<1	<1	<1	<1
C2 276	304	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	1.09	<1	<1	<1	<1
Sum 276	-	5	µg/Kg (Dry Weight)	<5	<5	<5	9.9	<5	<5	<5	<5	<5	<5	<5	<5
Sum of all fractions	-	34	µg/Kg (Dry Weight)	<34	<34	<34	128.0	<34	<34	<34	<34	<34	<34	<34	<34
Sum of NPQ fraction	-	14	µg/Kg (Dry Weight)	<14	<14	<14	28.5	<14	<14	<14	<14	<14	27.1	<14	<14
NPD / 4-6 ring PAH ratio	-	-	µg/Kg (Dry Weight)	0.50	0.21	0.27	0.29	0.43	-	0.22	0.65	0.38	1.12	-	-

Client	Project Pentland FOWF Project No. 103760 Carried out for	Table CHEM - 3
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Summary of Chemical Test Results

Analyte	Mass	Limit of Detection	Sample ID	760-HWL-S016	760-HWL-S017	760-HWL-S018	760-HWL-S019	760-HWL-S020	760-HWL-S021
			Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Naphthalene	128	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
C1 Naphthalenes	142	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.22
C2 Naphthalenes	156	1	µg/Kg (Dry Weight)	<1	1.09	<1	<1	1.2	1.91
C3 Naphthalenes	170	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.22
C4 Naphthalenes	184	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
Sum Naphthalenes	-	5	µg/Kg (Dry Weight)	<5	<5	<5	<5	<5	<5
Phenanthrene / Anthracene	178	2	µg/Kg (Dry Weight)	<2	<2	<2	<2	<2	<2
C1 178	192	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.47
C2 178	206	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.42
C3 178	220	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
Sum 178	-	5	µg/Kg (Dry Weight)	<5	<5	<5	<5	<5	<5
Dibenzothiophene	184	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
C1 Dibenzothiophenes	198	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
C2 Dibenzothiophenes	212	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
C3 Dibenzothiophenes	226	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
Sum Dibenzothiophenes	-	4	µg/Kg (Dry Weight)	<4	<4	<4	<4	<4	<4
Fluoranthene / pyrene	202	2	µg/Kg (Dry Weight)	<2	<2	<2	<2	<2	<2
C1 202	216	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.07
C2 202	230	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.07
C3 202	244	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.01
Sum 202	-	5	µg/Kg (Dry Weight)	<5	<5	<5	<5	<5	<5
Benzoanthracene / Chrysene	228	2	µg/Kg (Dry Weight)	<2	<2	<2	<2	<2	<2
C1 228	242	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.14
C2 228	256	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.2
Sum 228	-	4	µg/Kg (Dry Weight)	<4	<4	<4	<4	<4	<4
Benzo(a)fluoranthene / benzopyrenes	252	4	µg/Kg (Dry Weight)	<4	<4	<4	<4	<4	<4
C1 252	266	1	µg/Kg (Dry Weight)	<1	1.15	<1	<1	1.60	2.18
C2 252	280	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	1.21	1.61
Sum 252	-	6	µg/Kg (Dry Weight)	<6	<6	<6	<6	<6	6.92
Dibenzo(a,h)anthracene/Indenopyrene/Benzoperylene	276	3	µg/Kg (Dry Weight)	<3	<3	<3	<3	<3	3.72
C1 276	290	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1
C2 276	304	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	1.05
Sum 276	-	5	µg/Kg (Dry Weight)	<5	<5	<5	<5	<5	<5
Sum of all fractions	-	34	µg/Kg (Dry Weight)	<34	<34	<34	<34	<34	<34
Sum of NPQ fraction	-	14	µg/Kg (Dry Weight)	<14	<14	<14	<14	<14	<14
NPD / 4-6 ring PAH ratio	-	-	µg/Kg (Dry Weight)	-	0.33	-	-	0.17	0.42

Client	Project Pentland FOWF Project No. 103760 Carried out for	Table CHEM - 4
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Summary of Chemical Test Results



MMT Project No. 103760

			Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014	760-HWL-S015
Analyte	Mass	Limit of Detection	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Naphthalene	128	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	152	1	µg/Kg (Dry Weight)	<1	<1	<1	1.08	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	154	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	166	1	µg/Kg (Dry Weight)	<1	<1	<1	1.05	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	178	1	µg/Kg (Dry Weight)	<1	<1	<1	10.10	<1	<1	<1	1.96	<1	1.71	<1	<1
Dibenzothiophene	184	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	178	1	µg/Kg (Dry Weight)	<1	<1	<1	2.91	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	202	1	µg/Kg (Dry Weight)	<1	<1	<1	13.20	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	202	1	µg/Kg (Dry Weight)	<1	<1	<1	12.80	<1	<1	<1	<1	<1	<1	<1	<1
Benzo[a]anthracene	228	1	µg/Kg (Dry Weight)	<1	<1	<1	6.02	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	228	1	µg/Kg (Dry Weight)	<1	<1	<1	6.11	<1	<1	<1	1.10	<1	1.00	<1	<1
Benzo[b]fluoranthene	252	1	µg/Kg (Dry Weight)	1.58	1.56	1.58	4.93	1.63	<1	<1	1.53	<1	2.05	1.50	<1
Benzo[k]fluoranthene	252	1	µg/Kg (Dry Weight)	<1	<1	<1	2.94	<1	<1	<1	<1	<1	1.03	<1	<1
Benzo[e]pyrene	252	1	µg/Kg (Dry Weight)	1.38	1.16	1.47	4.59	1.17	<1	<1	1.27	<1	1.64	<1	<1
Benzo[a]pyrene	252	1	µg/Kg (Dry Weight)	<1	<1	<1	5.70	<1	<1	<1	<1	<1	<1	<1	<1
Perylene	252	1	µg/Kg (Dry Weight)	<1	<1	<1	1.47	<1	<1	<1	<1	<1	<1	<1	<1
Indeno[123,cd]pyrene	276	1	µg/Kg (Dry Weight)	2.17	1.54	1.98	4.28	1.67	1.19	1.20	1.40	1.04	2.11	1.06	<1
Dibenzo[a,h]anthracene	278	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo[ghi]perylene	276	1	µg/Kg (Dry Weight)	1.92	1.39	1.74	4.03	1.34	1.01	1.08	1.26	<1	1.83	<1	<1

Client		Project	Pentland FOWF	Table	
		Project No.	103760		
		Carried out for	Total		CHEM - 5

Summary of Chemical Test Results

		Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014	760-HWL-S015
Analyte	Limit of Detection	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
nC10	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
nC11	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	28.60
nC12	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	34.70
nC13	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	<1	<1	1.30	2.03	1.60	26.70
nC14	1	µg/Kg (Dry Weight)	4.49	8.57	9.18	7.83	8.15	6.29	9.04	8.14	9.50	13.80	20.60	43.00
nC15	1	µg/Kg (Dry Weight)	<1	4.43	2.69	1.17	3.18	1.33	2.60	2.70	4.55	5.91	6.47	33.00
nC16	1	µg/Kg (Dry Weight)	10.90	15.20	13.10	8.76	12.40	9.52	10.40	9.89	11.90	15.20	18.80	32.00
nC17	1	µg/Kg (Dry Weight)	8.03	15.30	9.47	5.10	7.15	4.91	7.41	4.95	7.34	15.40	17.70	34.50
pristane	1	µg/Kg (Dry Weight)	15.80	32.90	12.40	6.70	20.50	10.20	13.60	4.64	11.80	19.70	16.10	31.70
nC18	1	µg/Kg (Dry Weight)	2.42	12.20	4.54	1.97	7.50	2.57	3.98	2.08	4.60	9.18	11.90	25.80
phytane	1	µg/Kg (Dry Weight)	<1	1.50	<1	6.42	1.46	<1	<1	1.54	<1	1.65	<1	24.80
nC19	1	µg/Kg (Dry Weight)	7.05	15.80	8.20	7.93	9.80	4.91	5.39	3.38	6.91	15.10	13.70	29.30
nC20	1	µg/Kg (Dry Weight)	4.01	14.20	6.65	5.88	7.38	3.82	6.06	3.77	6.08	12.20	10.70	21.20
nC21	1	µg/Kg (Dry Weight)	4.18	4.53	5.13	5.17	6.65	4.21	4.92	3.09	4.78	10.20	7.75	16.20
nC22	1	µg/Kg (Dry Weight)	2.19	12.30	4.70	4.07	7.06	2.32	3.53	4.09	4.38	8.19	9.36	15.10
nC23	1	µg/Kg (Dry Weight)	4.26	10.60	6.00	4.14	6.58	2.96	5.58	3.70	4.22	10.00	7.81	13.50
nC24	1	µg/Kg (Dry Weight)	3.87	8.12	4.63	3.51	6.54	2.56	3.78	3.61	3.42	9.51	8.33	9.53
nC25	1	µg/Kg (Dry Weight)	10.80	10.70	7.93	4.85	12.00	3.78	6.20	4.43	2.73	13.00	22.40	12.10
nC26	1	µg/Kg (Dry Weight)	4.04	9.27	4.64	4.07	7.79	2.46	4.06	2.89	5.04	8.57	9.41	8.17
nC27	1	µg/Kg (Dry Weight)	7.73	9.96	10.80	5.88	8.85	5.08	7.64	6.31	5.88	12.90	8.01	7.13
nC28	1	µg/Kg (Dry Weight)	1.85	6.85	4.09	2.05	3.48	1.29	2.37	2.21	2.12	4.68	5.53	3.64
nC29	1	µg/Kg (Dry Weight)	11.30	10.40	8.61	3.61	7.34	6.32	5.48	5.88	4.02	11.80	6.30	3.72
nC30	1	µg/Kg (Dry Weight)	2.56	5.74	2.05	1.19	2.88	3.99	3.92	5.35	3.74	8.48	3.37	1.98
nC31	1	µg/Kg (Dry Weight)	11.70	13.40	11.40	3.77	10.70	9.78	9.99	7.67	4.88	16.50	6.36	2.27
nC32	1	µg/Kg (Dry Weight)	1.86	5.93	2.13	1.32	3.58	2.29	1.72	3.47	2.54	4.93	3.62	2.41
nC33	1	µg/Kg (Dry Weight)	1.36	1.57	1.45	<1	1.78	6.73	1.37	5.76	<1	2.30	2.79	1.60
nC34	1	µg/Kg (Dry Weight)	1.63	<1	1.01	<1	1.23	4.37	2.80	1.41	1.90	1.96	3.82	1.46
nC35	1	µg/Kg (Dry Weight)	6.78	7.84	2.75	4.59	5.25	10.90	7.73	3.82	9.31	7.27	5.13	1.33
nC36	1	µg/Kg (Dry Weight)	3.24	3.78	1.37	1.45	2.72	5.67	3.52	<1	2.22	5.02	2.69	2.26
nC37	1	µg/Kg (Dry Weight)	3.02	3.72	3.36	1.48	2.02	2.64	1.96	2.34	2.46	4.36	1.99	<1
Total Oil (ug/kg)	100	µg/Kg (Dry Weight)	4,640	5,330	5,210	3,850	5,020	4,340	4,660	3,540	8,350	7,460	6,640	4,810
Total n alkanes (ng/g)	28	µg/Kg (Dry Weight)	119	210	136	90	152	111	121	101	116	229	216	411
Carbon Preference Index	1	µg/Kg (Dry Weight)	1.77	1.06	1.34	1.13	1.15	1.35	1.20	1.15	1.02	1.25	1.00	1.04
Pristane	1	µg/Kg (Dry Weight)	15.80	32.90	12.40	6.70	20.50	10.20	13.60	4.64	11.80	19.70	16.10	31.70
Phytane	1	µg/Kg (Dry Weight)	<1	1.50	<1	6.42	1.46	<1	<1	1.54	<1	1.65	<1	24.80
Pristane / phytane ratio	1	µg/Kg (Dry Weight)	-	21.90	-	1.04	14.00	-	-	3.01	-	12.00	-	1.28

Client		Project	Pentland FOWF										Table
		Project No.	103760										CHEM - 7
		Carried out for											

Summary of Chemical Test Results



MMT Project No. 103760

		Sample ID	760-HWL-S016	760-HWL-S017	760-HWL-S018	760-HWL-S019	760-HWL-S020	760-HWL-S021	
Analyte	Limit of Detection	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	
nC10	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	
nC11	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	
nC12	1	µg/Kg (Dry Weight)	<1	<1	<1	<1	<1	<1	
nC13	1	µg/Kg (Dry Weight)	1.83	<1	<1	2.03	<1	3.52	
nC14	1	µg/Kg (Dry Weight)	12.00	12.70	15.40	13.40	10.80	19.50	
nC15	1	µg/Kg (Dry Weight)	5.67	<1	6.16	3.18	1.93	7.67	
nC16	1	µg/Kg (Dry Weight)	13.20	10.40	14.20	11.80	10.30	15.30	
nC17	1	µg/Kg (Dry Weight)	5.84	3.10	13.20	8.20	6.94	17.40	
pristane	1	µg/Kg (Dry Weight)	3.93	6.24	22.10	6.38	13.20	21.20	
nC18	1	µg/Kg (Dry Weight)	5.76	1.12	9.13	6.58	3.24	10.80	
phytane	1	µg/Kg (Dry Weight)	2.07	1.00	<1	<1	1.06	1.81	
nC19	1	µg/Kg (Dry Weight)	7.07	3.03	11.10	8.15	4.49	13.00	
nC20	1	µg/Kg (Dry Weight)	5.15	2.02	10.90	7.48	3.01	13.10	
nC21	1	µg/Kg (Dry Weight)	7.77	6.91	12.10	9.68	3.90	7.70	
nC22	1	µg/Kg (Dry Weight)	4.81	1.63	7.55	5.85	2.83	8.22	
nC23	1	µg/Kg (Dry Weight)	3.83	2.12	8.62	5.05	3.79	8.96	
nC24	1	µg/Kg (Dry Weight)	3.18	2.97	6.68	5.76	2.95	6.45	
nC25	1	µg/Kg (Dry Weight)	4.89	1.38	15.30	12.70	6.40	11.60	
nC26	1	µg/Kg (Dry Weight)	3.27	3.15	5.90	4.37	3.70	8.60	
nC27	1	µg/Kg (Dry Weight)	3.59	6.92	8.79	5.05	6.99	17.40	
nC28	1	µg/Kg (Dry Weight)	1.94	1.05	2.87	2.21	2.11	5.98	
nC29	1	µg/Kg (Dry Weight)	3.02	6.06	7.93	3.92	8.18	16.60	
nC30	1	µg/Kg (Dry Weight)	1.27	3.48	3.00	1.60	6.64	8.81	
nC31	1	µg/Kg (Dry Weight)	3.67	7.85	3.49	3.64	10.90	23.60	
nC32	1	µg/Kg (Dry Weight)	1.56	3.08	1.53	1.29	3.94	7.59	
nC33	1	µg/Kg (Dry Weight)	<1	1.45	1.93	1.83	2.15	1.51	
nC34	1	µg/Kg (Dry Weight)	<1	1.14	2.02	1.46	1.64	2.86	
nC35	1	µg/Kg (Dry Weight)	<1	1.10	1.94	<1	2.12	7.35	
nC36	1	µg/Kg (Dry Weight)	<1	1.34	2.32	<1	1.82	2.85	
nC37	1	µg/Kg (Dry Weight)	1.53	2.89	2.11	1.02	2.63	3.79	
Total Oil (ug/kg)	100	µg/Kg (Dry Weight)	2,820	3,980	5,470	4,050	4,820	7,230	
Total n alkanes (ng/g)	28	µg/Kg (Dry Weight)	101	87	174	126	113	250	
Carbon Preference Index	1	µg/Kg (Dry Weight)	0.93	0.97	1.14	1.04	1.14	1.27	
Pristane	1	µg/Kg (Dry Weight)	3.93	6.24	22.10	6.38	13.20	21.20	
Phytane	1	µg/Kg (Dry Weight)	2.07	1.00	<1	<1	1.06	1.81	
Pristane / phytane ratio	1	µg/Kg (Dry Weight)	1.90	6.23	-	-	12.40	11.70	
Client								Project	Pentland FOWF
								Project No.	103760
								Carried out for	
								Table	CHEM - 8

Summary of Chemical Test Results



MMT Project No. 103760

		Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014	760-HWL-S015
Analyte	Limit of Detection	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
PCB28	0.08	µg/Kg (Dry Weight)	0.23	0.09	0.10	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.10
PCB52	0.08	µg/Kg (Dry Weight)	0.23	0.11	0.11	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.10
PCB101	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB118	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB138	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB153	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB180	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

		Sample ID	760-HWL-S016	760-HWL-S017	760-HWL-S018	760-HWL-S019	760-HWL-S020	760-HWL-S021
Analyte	Limit of Detection	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
PCB28	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	0.15
PCB52	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	0.16
PCB101	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB118	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB138	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB153	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
PCB180	0.08	µg/Kg (Dry Weight)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Client	Project Pentland FOWF Project No. 103760 Carried out for	Table	CHEM - 9
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Summary of Chemical Test Results

	Sample ID	760-HWL-S002	760-HWL-S004	760-HWL-S005	760-HWL-S006	760-HWL-S007	760-HWL-S008	760-HWL-S009	760-HWL-S010	760-HWL-S011	760-HWL-S012	760-HWL-S014	760-HWL-S015	760-HWL-S016	760-HWL-S017	760-HWL-S018
Analyte	Units	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Be-7	Bq/kg	<12	<7.1	<12	<11	<9.8	<11	<8.3	<12	<12	<12	<11	<7.6	<6.8	<12	<12
K-40	Bq/kg	356 ± 49	291 ± 35	309 ± 44	327 ± 47	243 ± 35	359 ± 46	347 ± 41	90 ± 26	388 ± 54	324 ± 48	355 ± 50	725 ± 76	226 ± 28	364 ± 51	385 ± 50
Tl-208	Bq/kg	3.6 ± 1.3	2.73 ± 0.78	<1.6	<1.6	2.9 ± 1.0	4.1 ± 1.1	2.23 ± 0.88	3.6 ± 1.2	<1.7	<1.6	3.7 ± 1.1	5.6 ± 1.0	2.59 ± 0.77	<1.6	3.2 ± 1.2
Pb-210	Bq/kg	<38	58 ± 11	<32	<23	<39	<38	45 ± 11	<37	<23	<39	<29	<24	45.5 ± 8.7	<23	<36
Bi-212	Bq/kg	<21	<13	<20	<20	<17	<19	<14	<21	<20	<20	<20	<14	<12	<21	<20
Pb-212	Bq/kg	5.1 ± 1.9	6.8 ± 1.6	5.8 ± 1.8	6.0 ± 1.6	5.2 ± 1.6	9.6 ± 2.1	6.3 ± 1.5	7.3 ± 2.0	6.8 ± 1.6	6.6 ± 2.0	7.1 ± 1.8	17.2 ± 2.0	5.6 ± 1.3	5.6 ± 1.6	7.7 ± 2.1
Bi-214	Bq/kg	6.4 ± 2.5	7.3 ± 1.8	8.0 ± 2.7	6.3 ± 2.3	<3.1	6.5 ± 2.6	7.9 ± 2.1	8.0 ± 2.7	<3.5	6.8 ± 2.7	7.5 ± 2.5	18.8 ± 2.5	5.8 ± 1.6	<3.5	7.6 ± 2.5
Pb-214	Bq/kg	8.1 ± 2.4	9.3 ± 1.5	7.6 ± 2.2	6.9 ± 1.9	<4.5	9.2 ± 2.0	9.0 ± 1.6	9.8 ± 2.4	<4.6	<5.2	8.0 ± 2.1	21.6 ± 2.2	7.3 ± 1.3	<4.7	9.7 ± 2.0
Ra-223	Bq/kg	<12	<8.0	<12	<8.2	<9.9	<11	<8.5	<12	<9.1	<12	<11	<8.9	<7.3	<8.8	<11
Ra-224	Bq/kg	<33	<22	<29	<18	<30	<37	<23	<32	<25	<36	<30	<24	<19	<24	<35
Ra-226^	Bq/kg	<30	<25	<23	<19	<26	<28	<26	<25	<21	<30	<22	<26	<22	<20	<28
Ac-228	Bq/kg	<5.9	<4.2	<6.7	<6.7	<5.3	11.0 ± 4.3	10.5 ± 3.4	<7.4	<7.6	<6.2	<6.6	18.3 ± 3.0	<3.9	<7.2	<6.1
Th-234	Bq/kg	<30	<14	<21	<17	<25	<28	<15	<22	<18	<30	<20	<16	<13	<18	<28
U-235	Bq/kg	<1.9	<1.1	<1.4	<1.2	<1.6	<1.8	<1.2	<1.6	<1.3	<1.9	<1.4	<1.2	<1.0	<1.2	<1.8
Gross Alpha as Pu-242	Bq/kg	<79	80 ± 56	<72	126 ± 79	130 ± 62	103 ± 69	73 ± 52	139 ± 70	77 ± 53	<75	<79	186 ± 76	<72	<110	93 ± 56
Gross Beta as Cs-137	Bq/kg	570 ± 140	620 ± 140	610 ± 140	510 ± 130	520 ± 130	550 ± 130	510 ± 120	269 ± 85	500 ± 130	620 ± 150	550 ± 140	1300 ± 280	264 ± 95	520 ± 130	560 ± 130
Gross Beta as K-40	Bq/kg	450 ± 110	590 ± 140	740 ± 170	520 ± 130	400 ± 100	440 ± 110	530 ± 120	231 ± 73	394 ± 100	610 ± 140	430 ± 110	1240 ± 260	320 ± 120	530 ± 130	580 ± 140

Client	Project	Pentland FOWF	Table
	Project No.	103760	CHEM - 10
	Carried out for		

Summary of Chemical Test Results

	Sample ID	760-HWL-S019	760-HWL-S020	760-HWL-S021
Analyte	Units	Sediment	Sediment	Sediment
Be-7	Bq/kg	<11	<11	<7.4
K-40	Bq/kg	371 ± 52	316 ± 43	400 ± 45
Tl-208	Bq/kg	<1.7	3.1 ± 1.0	3.63 ± 0.88
Pb-210	Bq/kg	<22	<32	<22
Bi-212	Bq/kg	<20	<19	<13
Pb-212	Bq/kg	6.2 ± 1.6	7.5 ± 1.9	8.4 ± 1.5
Bi-214	Bq/kg	7.0 ± 2.5	8.8 ± 2.5	10.5 ± 2.1
Pb-214	Bq/kg	<4.5	9.8 ± 2.0	12.7 ± 1.6
Ra-223	Bq/kg	<8.8	<10	<7.8
Ra-224	Bq/kg	<24	<30	<23
Ra-226 [^]	Bq/kg	<20	<22	<18
Ac-228	Bq/kg	<7.2	<6.4	8.2 ± 3.1
Th-234	Bq/kg	<17	<19	<14
U-235	Bq/kg	<1.3	<1.4	<1.1
Gross Alpha as Pu-242	Bq/kg	83 ± 59	<72	91 ± 57
Gross Beta as Cs-137	Bq/kg	510 ± 130	470 ± 120	690 ± 160
Gross Beta as K-40	Bq/kg	440 ± 110	370 ± 95	670 ± 160
Client	Project	Pentland FOWF		
	Project No.	103760		
	Carried out for			
				Table
				CHEM - 11

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ



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*	MAR01069.001-018	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SOCOTEC Didcot*	MAR01069.001-018	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/303/304	MAR01069.004. .008, .010	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene may be present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene). This should be taken into consideration when utilising the data.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	Results are presented as Bq.kg-1 of dried and homogenised samples and are decay corrected to the sampling date.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	Uncertainties are rounded to 2 significant figures; results are rounded to the same precision.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	For results below the Limit of Detection, the LoD is rounded up to 2 significant figures.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	Detector calibrations are based upon homogeneous standard solutions. For quantification purposes the sample is assumed to be homogeneous.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	An "A" indicates that the analysis is not covered by the laboratory's UKAS accreditation.
SOCOTEC Didcot* (Gamma)	MAR01069.001-018	reported, the 226Ra result will be unreliable and overestimated. However even if 235U is below the LoD there may still be a contribution to the 226Ra from 235U and the 226Ra result may be unreliable and overestimated. If an accurate result for 226Ra is required this is better obtained by radiochemical analysis.
SOCOTEC Didcot* (Gross Alpha/Beta)	MAR01069.001-018	Results are presented as Bq.kg-1 of dried and homogenised sample, relative to the analysis date.
SOCOTEC Didcot* (Gross Alpha/Beta)	MAR01069.001-018	Uncertainties are quoted at 2 s.d. and are based on a total uncertainty budget.

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, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ



Method	Sample and Fraction Size	Method Summary
Metals - ICPMSS	Air dried and ground	Aqua Regia acid extraction followed by ICP analysis.
Metals - SEDOES	Air dried and ground	Microwave HF/Boric acid extraction followed by ICP analysis.
L.O.I % @ 450	Air dried and ground	Determination of loss on ignition at 450°C by gravimetry
Total Organic Carbon	Air dried and ground	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Solvent extraction and clean up followed by GC-FID analysis.
NORM	Air dried	High resolution gamma ray spectrometry
Gross alpha/beta	Air dried	Low-level gas-flow proportional counter