

JNCC/Cefas Partnership Report Series

Report No. 5

**CEND0915 cruise report: Monitoring at Haig Fras
candidate Special Area of Conservation / Site of Community
Importance and East of Haig Fras Marine Conservation Zone**

Callaway, A.

October 2015

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and East of Haig Fras Marine Conservation Zone**

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Summary

A monitoring survey was carried out at Haig Fras SCI and East of Haig Fras MCZ from 09/05/2015 - 28/05/2015. The sampling effort comprised 0.1 m² Hamon grab, Drop-down camera, 0.1 m² Day grab and CTD sampling. All proposed sampling stations were visited.

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1 Introduction and background

1.1 Survey project team

During May 2015, a survey was carried out from *RV Cefas Endeavour* at Haig Fras candidate Special Area of Conservation (cSAC and Site of Community Importance (SCI) and East of Haig Fras Marine Conservation Zone (MCZ) (Figure 1). The primary aim of the survey was to collect data to provide a baseline for Type 1 monitoring of these sites.

To achieve this aim a survey team comprising Cefas and JNCC staff carried out fieldwork from 09/05/2015 to 28/05/2015. The staff and their job title are listed below.

Cefas

Alex Callaway (Senior Habitat Mapper)
Simon Pearson (Marine Services Manager)
James Cook (Marine Engineer)
Rose Nicholson (GIS Analyst)
Joanna Murray (Marine Ecologist)
Ines Martin-Grandes (Research Scientist)
Jessica Larkham (Aquatic Health Scientist)
Thi Bolam (Marine Chemist)
Lee Warford (Marine Chemist)
Roi Martinez (GIS Analyst)
Simeon Archer (Environmental Scientist)
Ken May (Electronic Instrumentation Engineer)

JNCC

Mike Nelson (Offshore Seabed Survey Ecologist)
Joe Turner (Offshore Habitats Monitoring Officer)
Siobhan Vye (Marine Protected Areas Advisor)
Charli Mortimer (Offshore Seabed Survey Support Officer)

1.2 Background

1.2.1 Haig Fras cSAC/SCI

Haig Fras cSAC/SCI encompasses the majority of an isolated, fully submarine bedrock outcrop located in the Celtic Sea, 95 km north west of the Isles of Scilly and covers 481km² (Figure 1). The bedrock outcrop is the only substantial area of rocky reef in the Celtic Sea beyond the coastal margin. It supports a variety of fauna ranging from jewel anemones and Devonshire cup corals near the peak of the outcrop to encrusting sponges, crinoids and Ross coral towards the base of the rock (where boulders surround its edge) (Rees 2000). The rock is granite, mostly smooth with occasional fissures. The rocky outcrop is approximately 45km long and in one area rises to a peak which lies just 40m beneath the sea surface (Rees 2000). The surrounding seabed is approximately 117m deep (Figure 2). The site was proposed for designation due to the presence of EC Habitats Directive Annex I Reefs.

Conservation objectives set out the desired state for the protected features of a Marine Protected Area (MPA) (JNCC 2012). The conservation objective for the protected features of the Haig Fras cSAC/SCI is:

Subject to natural change, **restore** the **reefs** to a **favourable condition**, such that:

- The natural environmental quality is restored;
- The natural environmental processes are maintained;
- The extent, physical structure, diversity, community structure and typical species representative of bedrock reef in the Celtic Sea, are restored.

Location of CEND0915 survey areas

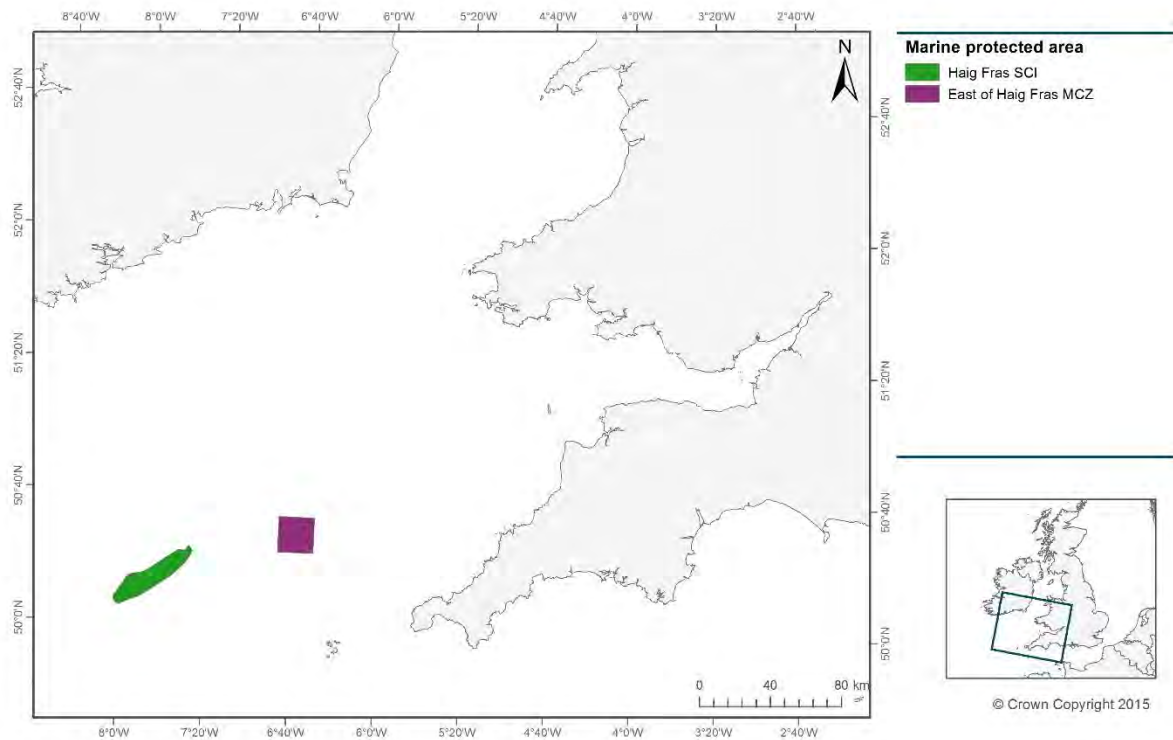


Figure 1. Location of sites surveyed during CEND0915.

1.2.2 East of Haig Fras

East of Haig Fras MCZ is located in UK offshore waters of the Celtic Sea between the UK and the Republic of Ireland. The site is approximately 70 km from the Land's End peninsula, south west England and covers an area of 409 km² (Figure 3). The seabed is heterogeneous, with small patches of substrata blending into each other. Ridges composed of a mosaic of coarse and mixed subtidal sediments run through the site (Figure 3). These sediment ridges are topped with rocky features and are separated by sand or mud.

East of Haig Fras MCZ was included in the Finding Sanctuary regional project recommendations to help meet targets regarding these broad-scale habitat features (Lieberknecht *et al* 2011). The MCZ currently has three designated features; Moderate energy circalittoral rock, Subtidal sand and a mosaic of Subtidal coarse sediment and Subtidal mixed sediments. Since the site was first recommended, two dedicated surveys have visited East of Haig Fras MCZ. These surveys confirmed that the designated habitats do occur in the MCZ and identified two other broadscale habitats (BSHs) and one feature of

conservation importance (FOCI) as present in the site. These were BSHs High energy circalittoral rock, Subtidal mud and habitat FOCI Mud Habitats in Deep Water.

The East of Haig Fras Marine Conservation Zone Designation Order (2013) describes the Conservation Objective for the protected features of the site as:

Subject to natural change, the **moderate energy circalittoral rock, subtidal coarse sediment / subtidal mixed sediments mosaic** and **subtidal sand** features are to **remain in or be brought into favourable condition**, such that

- their extent is stable or increasing; and
- their structures and functions, quality, and the composition of their characteristic biological communities are such as to ensure that they are in a condition which is healthy and not deteriorating.

In addition to the conservation objective above, General Management Approaches (GMAs) have been set by JNCC for each feature which provide a view as to whether a feature needs to be maintained in or be brought into favourable condition (i.e. recover), based on our knowledge about its condition (JNCC, 2013). The GMAs for the protected features of the East of Haig Fras MCZ are:

- Moderate energy circalittoral rock: Recover to favourable condition
- Subtidal coarse sediment / Subtidal mixed sediments mosaic: Recover to favourable condition
- Subtidal sand: Recover to favourable condition

1.2.3 Survey objectives

The primary objective of the survey was to collect data for Type 1 monitoring, which aims to elucidate long-term temporal and spatial patterns in benthic faunal communities across the sites and, more widely, across the entire UK range of the habitat types found at the sites (Box 1) (Nelson *et al* 2015).

The survey was designed to collect evidence which could be used to support the development of monitoring options and to begin operational MPA monitoring. Monitoring efforts would focus on benthic epifauna at Haig Fras cSAC/SCI and benthic infauna and epifauna at East of Haig Fras MCZ. To satisfy these objectives the survey was required to facilitate the following data collection:

- Grab sampling (0.1m² Hamon grab plus 0.1m² Day grab at selected mud stations) for PSA/infauna at East of Haig Fras MCZ.
- High Definition video camera and still image camera drop frame seabed survey at Haig Fras SCI and a targeted subset of rocky substrate stations at East of Haig Fras MCZ.
- A conductivity, temperature and Depth (CTD) profiler to be mounted on camera frame to record environmental variables including conductivity temperature and depth plus turbidity and dissolved oxygen.

The objective of the survey was to gather data to provide evidence to support the development of monitoring options for Haig Fras cSAC/SCI and East of Haig Fras MCZ and, more generally, for the broadscale habitats and biotopes found at the sites and to begin operational monitoring of the two MPAs (Nelson *et al* 2015).

Specifically, the evidence gathered on this survey will be used to establish the first point in a time series for Type 1 monitoring purposes. However, the sample design employed at East of Haig Fras for the 2015 survey has been designed to support any *post-hoc* analyses to support a Before-After-Control-Impact (BACI) study, should fisheries management measures be established in the future (Nelson *et al* 2015).

Box 1: Monitoring Type 1 – Objective: to measure rate and direction of change in the long-term.

Type 1 monitoring constitutes a design to measure the rate and direction of change in the long-term (at the scale appropriate to the question) whilst at the same time collecting relevant information on environmental variables and human pressures to allow inference to be made about possible causes of such change. Any stratification for type 1 monitoring would be based on major ecosystem drivers of variance (depth, biogeographic region, water currents etc.) and not exclusively on human pressures (whose spatial scale in the long-term is likely to change).

It provides the context to distinguish directional trends from short-scale variability in space and time by representing variability across space at any one time and documenting changes over time.

To achieve this objective efficiently, a long-term commitment to regular and consistent data collection is necessary; this means time-series must be established as their power in identifying trends is far superior to any combination of independent studies.

The seabed imagery and environmental data collected on this survey may also be used to inform development of a national indicator of 'Good Environmental Status' as part of the UK's obligations under the Marine Strategy Framework Directive (MSFD). The proposed indicator is one of a suite of indicators aimed at assessing the status of sublittoral rock habitats at the regional scale across UK waters, and will focus on sponge morphological diversity (Nelson *et al* 2015).

2 Survey design and methods

2.1 Power analysis

Power analyses using data from previous surveys were carried out by JNCC in communication with Cefas. These analyses were carried out to determine how many samples would be required to observe a 20% change in various biological metrics (Including taxa richness, abundance and a number of biodiversity metrics). Results of the analyses suggested that more samples would be required for taxa abundance than the other variables because of the much higher variation amongst the abundance levels per sample (Nelson *et al* 2015). Therefore, the taxa abundance power analysis was chosen to inform the sampling strategy. Analyses were conducted in MINITAB using 2-sample t-tests to compare means between surveys to determine the number of samples required to detect a 20% change in each metric at a power of 0.8 with statistical significance of 0.05 (Nelson *et al* 2015).

2.1.1 Haig Fras cSAC/SCI

As insufficient data were available for Haig Fras to perform a robust power analysis, data provided by Cefas/Natural England from an analogous site, Isles of Scilly, were used as a proxy. Data were square root transformed prior to analysis (Nelson *et al* 2015).

		Number of samples required to observe x percentage change in Variable		
Substrata	Variable	10%	20%	30%
Circolittoral rock*	Taxa Abundance	341	86*	39

* To target 'pinnacle' features five additional stations were added. Total = 91 video stations.

Planned video stations at Haig Fras SCI

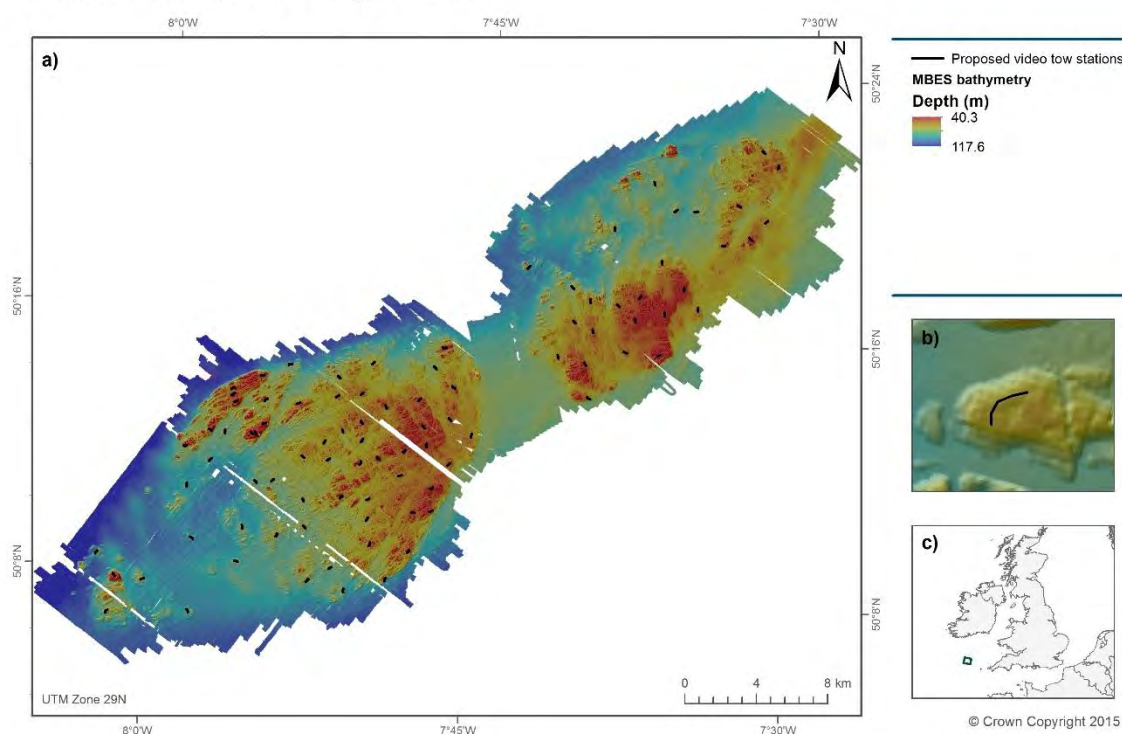


Figure 2. a) Planned camera stations at Haig Fras cSAC/SCI. b) Close up of transect designed to follow isobath. c) Location of site in U.K. waters.

2.1.2 East of Haig Fras MCZ

Power analyses were carried out on grab and video data previously collected by JNCC and Cefas. Due to the heterogeneity of broad-scale habitats at the site, several stratification scenarios were considered; stratifying by the rock, coarse, sand, mixed, and mud habitats; stratifying by the rock, mud and the sand/mixed/coarse habitats; stratifying by rock, mud, sand and mixed/coarse sediment habitats. The latter option was chosen due to the more representative nature of the strata (Nelson *et al* 2015).

		Number of samples required to observe x percentage change in Variable				
Substrata	Variable	10%	20%	30%	Mean	S.D
Subtidal sand	Taxa Abundance	355	90	41	44.56	21.14
Subtidal mud	Taxa Abundance	259	66	30	61	24.7
Subtidal coarse/mixed sediments	Taxa Abundance	564	142	64	59.52	35.63
Circalittoral rock*	Taxa Abundance	216	55*	25	32.19	11.91

* An additional 83 stations were added within 50m of predicted rock classes. Total = 138 video stations.

Planned sample stations at East of Haig Fras MCZ

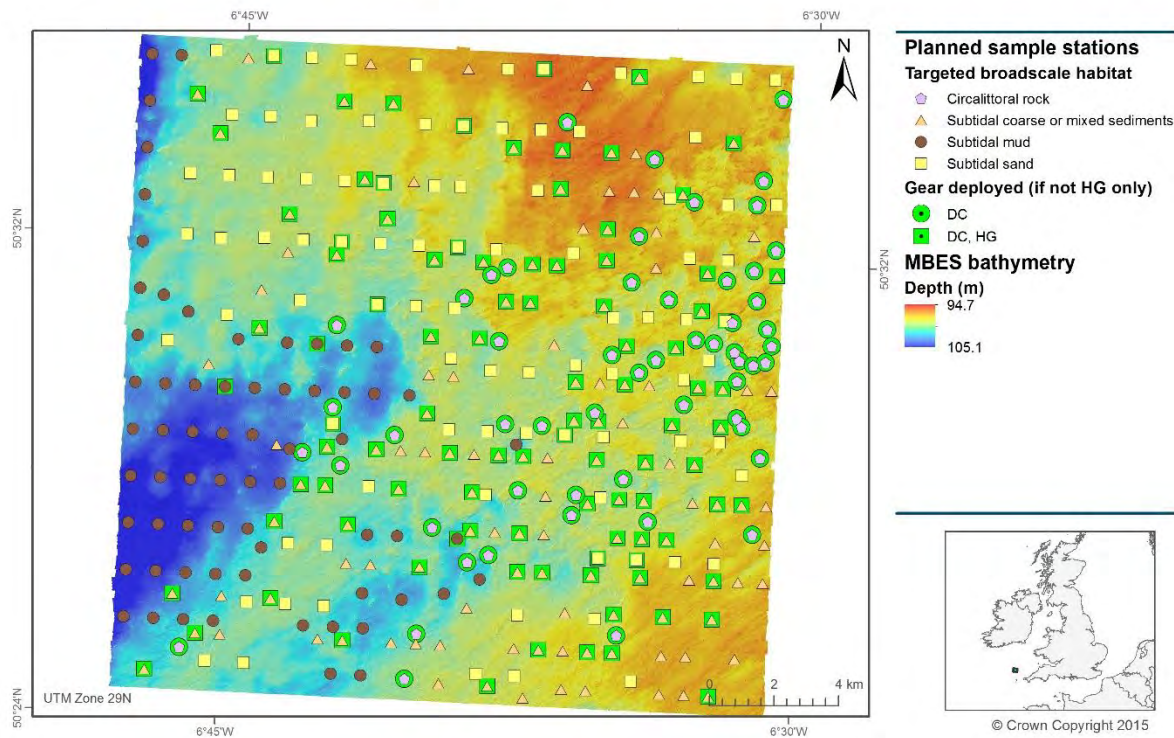


Figure 3. Planned stations and sampling plan at East of Haig Fras MCZ. DC = Drop camera, HG = Hamon grab.

2.2 Sampling methods

Ground-truthing across the two sites was undertaken with a variety of gears as detailed below.

2.2.1 0.1 m² Hamon grab

The grab system employed for the study comprised a 0.1m² mini Hamon grab (Figure 4). Samples were collected from the planned groundtruth stations anywhere within a 50m radius bullring centred on the target location.



Figure 4. 0.1 m² mini Hamon grab.

On recovery, the grab was emptied into a large plastic bin and a representative integrated sub-sample of sediment (approx. 0.5l) taken for Particle Size Analysis (PSA). The PSA sample was stored in a labelled plastic container and frozen ready for transfer to a laboratory for analysis. The remaining sample was photographed and the volume of sediment measured and recorded. Benthic fauna were collected by washing the sample with sea-water over a 1mm sieve. The retained >1mm fraction was transferred to a labelled container and preserved in buffered 4% formaldehyde for later analysis. A visual assessment was made of the sediment type sampled by the grab and noted on the field records, assigning the sample to a preliminary Folk class and its equivalent EUNIS Level 3 and broad-scale habitat (BSH) sediment class.

2.2.2 0.1 m² Day grab



Figure 5. 0.1 m² Day grab.

A Day grab was used to target mud sediments within East of Haig Fras MCZ (Figure 5). Samples were collected from a subset of Hamon grab stations that confirmed the presence of mud. These stations were determined by using the ratio of sample volume to residue container volume. The mud sediments were generally fine so whilst a large initial sample volume was recorded (~12l), washing of the sample reduced the volume to a much smaller volume (~1l). The ratio was determined from records extracted from Digilog and the 15 stations with the largest ratio were selected for sampling with the Day grab. On recovery, the Day grab sample surface was photographed and sample depth recorded after which a sub-sample of sediment was taken from the full depth of the sample using a 3cm diameter core. The PSA sub-sample was then stored in a labelled plastic container and frozen ready for transfer to a laboratory for analysis. The grab contents were then decanted into a large plastic bin. Benthic fauna were collected by washing the sample with sea-water over a 1mm sieve. The retained >1mm fraction was transferred to a labelled container and preserved in buffered 4% formaldehyde for later analysis. A visual assessment was made of the sediment type sampled by the grab and noted on the field records, assigning the sample to a Folk class and its equivalent EUNIS Level 3 and broad-scale habitat (BSH) sediment class.

2.2.3 Cameras



Figure 6. Drop-down camera frame.

Observations of the seabed (and associated epifaunal species) were made using an underwater camera system mounted on a drop frame (Figure 6), using a 5 megapixel Kongsberg video camera with capability to also capture still images. A High Definition (HD) SubC 1Cam Alpha+ video camera was also mounted in parallel with the Kongsberg video and stills camera system in order to acquire continuous video (uninterrupted by still image acquisition). Set-up and operation followed the MESH 'Recommended Operating Guidelines (ROG) for underwater video and photographic imaging techniques' (Coggan *et al* 2007).

After an initial series of video tows the mounting plate for the HD camera failed. Consequently, the HD camera was mounted at 90° to the Kongsberg camera to ensure security of equipment. This meant that resultant near-bed imagery covered the same area of view as the Kongsberg camera albeit from a different perspective whilst images further from the seabed had less overlap.

Illumination was provided by 6 LED lights, a dedicated flash unit for the Kongsberg camera and a dedicated LED/strobe unit for the SubC camera. The Kongsberg camera was oriented to provide an oblique view of the seabed and was fitted with a four-spot laser-scaling device which projects the corners of a 170mm x 170mm square along the axis of the lens onto the seabed. The SubC camera had an integrated laser scaling device consisting of two point lasers 62.4mm apart which was inconsistently used.

Video from the Kongsberg camera was recorded simultaneously to a Sony GV-HD700 DV tape recorder and a computer hard drive. A video overlay was also used on this system to provide station metadata, time and position (of the GPS antenna) in the recorded video image. HD video were recorded locally on the SubC camera and downloaded at appropriate intervals to a computer hard drive before being transferred to network storage. The HD video had no associated overlay.

2.3 Sample distribution

2.3.1 Haig Fras cSAC/SCI

The area delineated as Annex I reefs was created as a layer in ArcGIS. As the majority of the Annex I reefs feature was contained within the proposed site boundary, an even geographical coverage was not required to cover the eventuality of any future monitoring studies within the site. It was therefore determined that random allocation of sampling locations would provide the most statistically robust dataset. Based on the output of the power analyses, 86 sampling points were randomly allocated within this layer using ETGeowizard's 'Random points in polygon' tool with a minimum distance between samples and from layer boundary of 0.005 decimal degrees. In addition, a layer of the shallowest (<60m) areas of the site was created in ArcGIS. Within this layer, five targeted sample points were manually placed to ensure representation of the reef's 'pinnacle' habitats.

Camera tow polylines, 200m in length, were created, ensuring that the camera transect passed through the points as identified previously. These polylines were oriented such that they followed isobath contours as best as practicably possible (Figure 2b). Sample locations were adjusted where necessary to ensure that samples were collected from the range of topographic features found on the reef (tops, sides, sheltered, exposed etc.).

At each of the video stations, a drop frame HD camera tow transect was completed to provide epifaunal data. On each camera tow, HD video was recorded along with still images captured at 30 second intervals (plus additional opportunistic images captured to assist with ID of species and habitats).

2.3.2 East of Haig Fras MCZ

The areas delineated as Subtidal mud, Subtidal sand, Subtidal coarse / mixed sediments mosaic and Circalittoral rock were created as a layers in ArcGIS. Due to the patchiness and distribution of the rock, and the fact that the majority of the patches are small, only patches ≥ 0.005 km in length (of the longest dimension) were selected in which to add sample points. As the nature and location of any future management measures at the site was unknown at the time of survey planning, sample points were assigned based on regular grids within each strata to achieve a statistically robust design, whilst providing optimal spatial coverage for the purpose of potential future 'Type 2' and 'Type 3' monitoring studies. Based on the output of the power analyses, samples were placed within each stratum using the ETGeowizards 'Uniform points in polygons' tool in ArcGIS. To ensure that all habitat types were adequately sampled, stratification ensured that the grid point spacing did not coincide with a regular feature. Each sample point within the rock layer was selected as a video tow station. In addition, a buffer of 50m was added to each station that fell within the areas predicted as sediment. Any station whose buffer intersected an area currently delineated as rock was also selected as a video tow station in addition to the grab.

The same equipment and general methodology followed at Haig Fras cSAC/SCI was applied at East of Haig Fras MCZ. However, tows were 10 minutes in duration rather than following a transect of set distance. On each camera tow, HD video was recorded along with still

images captured at 30 second intervals (plus additional opportunistic images captured to assist with ID of species and habitats). If the video suggested the substrata at the station are suitable for grab deployment, a mini Hamon grab was used.

At each station within areas of predicted Subtidal mud, Subtidal sand, Subtidal coarse / mixed sediment mosaic, which did not appear to be within 50m of a predicted rock area, a mini Hamon grab was deployed. A subset of 15 successful Subtidal mud stations were selected for revisiting with a Day grab. Following completion of the initial survey objectives grab stations from which no sample was returned after three attempts were surveyed with the drop-down camera system.

2.3.3 GPS positions and corrections

GPS fixes were recorded using the Tower Navigation system on RV *Cefas Endeavour*. This records the positional coordinates of the steer point from which the sampling equipment is being deployed, automatically compensating for the offset between these gantries and the GPS antenna.

Fixes for grab samples were taken at the instant the grab contacted the seabed. The grab systems were always deployed from the side gantry and the position recorded is taken to be their true position on/above the seabed.

Fixes for the drop-down video were taken continuously during the planned transect, e.g. positional fixes began once the camera system had settled on the seabed and the vessel was moving across the station target and positional fixes ceased on completion of the 200m or 10 minute transect prior to recovery of the drop-frame. GPS positional fixes were continuously recorded at five second intervals during camera transects. Positions were recorded for both the side gantry steer point and the position derived from HiPAP (High Precision Acoustic Positioning).

The HiPAP system consists of a transceiver, which is mounted on a pole under the vessel, and a transponder/responder on the deployed gear, camera drop-frame for this survey. A "topside unit", is used to calculate a position from the ranges and bearings measured by the transceiver. It should be noted, however, that due to technical limitations the accuracy of HiPAP positioning in areas of rapid shoaling such as Haig Fras can be reduced. The recorded GPS fixes enabled the position of the camera system on the seabed to be cross referenced with the time at which the still image was captured to accurately determine the position of each still image acquired.

All GPS positions (derived from both the HiPAP and side gantry steer point) were checked prior to translation into the video transect and still image survey metadata. Where positions derived from HiPAP were observed to be erroneous (e.g. due to multiples) either, the position and associated image would be rejected from the HiPAP transect if an isolated error or the side gantry position would be used if a persistent error.

3 Survey narrative

The survey departed on schedule at 01:30 09/05/2015 from Lowestoft and began the transit to Haig Fras cSAC/SCI. During 10/05/2015 two separate medical emergencies occurred resulting in medical evacuation of two members of scientific crew. One member of staff was put ashore in the morning in Penzance and repatriated to Lowestoft. The other was evacuated in the evening by helicopter and transferred to hospital in Truro. These events added 5 ½ hours to the transit. The vessel arrived at Haig Fras cSAC/SCI at 04:00 11/05/2015 and began drop-camera operations.

During the first camera tow the camera mounting plate failed resulting in the abandonment of the tow and remounting of cameras on a larger plate. The HD camera unit consistently migrated in the plate resulting in a varying field-of-view. Therefore, the cameras were removed from the plate and mounted in a new configuration at 90° to each other in independent brackets. Alongside this the ESM2 logger, used to collect conductivity, temperature, depth, fluorescence and turbidity measurements, was damaged during deployment. No replacement unit was available which resulted in a standard mini CTD being deployed alongside video tows. This collected 60% of the variables targeted by the ESM2 logger, the exceptions being fluorescence and turbidity. It was also discovered that the Tower software had not been recording time for the first seven stations. This was corrected following contact with Cefas staff onshore. The analogue records were used to aid assigning a time based on the start and end times plus fix times recorded and a GPS fix interval of 4.5 seconds.

Operations continued until 03:00 12/05/2015 when the vessel departed to St. Ives to collect an engineer as replacement for one of the evacuated staff. The small boat transfer was carried out at 11:00 and the vessel returned to Haig Fras cSAC/SCI by 20:00.

Communication issues with the HD camera unit prevented operations recommencing until 21:00. Survey operations, including transit to East of Haig Fras MCZ at 22:00 15/05/2015, were carried out until 10:00 17/05/2015 when a third member of scientific staff was transferred to shore by small boat following an adverse reaction to anti-seasickness medication and as a consequence of ceasing treatment developing severe seasickness. Survey operations recommenced at 21:30 17/05/2015 and sampling was carried out until leaving site for return to port at 22:30 26/05/2015.

However, during this time the weather deteriorated between 18-19/05/2015 meaning that Hamon grab deployment was unsafe and was suspended. Drop-down video sampling continued throughout the period of inclement weather. At around 12:20 on 20/05/2015 the stern thruster of the vessel failed during transit between stations. This resulted in a small amount of downtime and increased transit time between stations due to reduced manoeuvrability as a result of the compromised ability of the dynamic positioning system. Favourable weather meant that this had negligible impact on the survey objectives enabling full completion of the primary objectives and collection of additional data. Alongside these additional data it was also possible to resurvey early video stations at Haig Fras cSAC/SCI where data were of lower quality i.e. less than 75% of the still images were considered to be usable. The vessel was alongside at Lowestoft on 28 May 2015 at 17:56.

Survey observations provided indicative confirmation of the presence of the habitat Feature of Conservation Interest (FOCI) “Sea-pen and burrowing megafauna communities”. Also observed was the species FOCI *Atrina fragilis*. Of potential interest were the observations of a *Swiftia* species (provisionally thought to be *S. pallida*) at Haig Fras cSAC/SCI and a *Psolus* species (provisionally thought to be *P. phantapus*) at East of Haig Fras MCZ. Neither have been recorded in the sites before and both of species, if confirmed, represent evidence of a wider distribution for taxa that are regarded as northern residents in U.K. waters. Whilst *Swiftia* species have been recorded from the Bay of Biscay and other more southerly locations *Psolus phantapus* is regarded as a sea loch species and no records of southern observations were found in literature and sources available during survey.

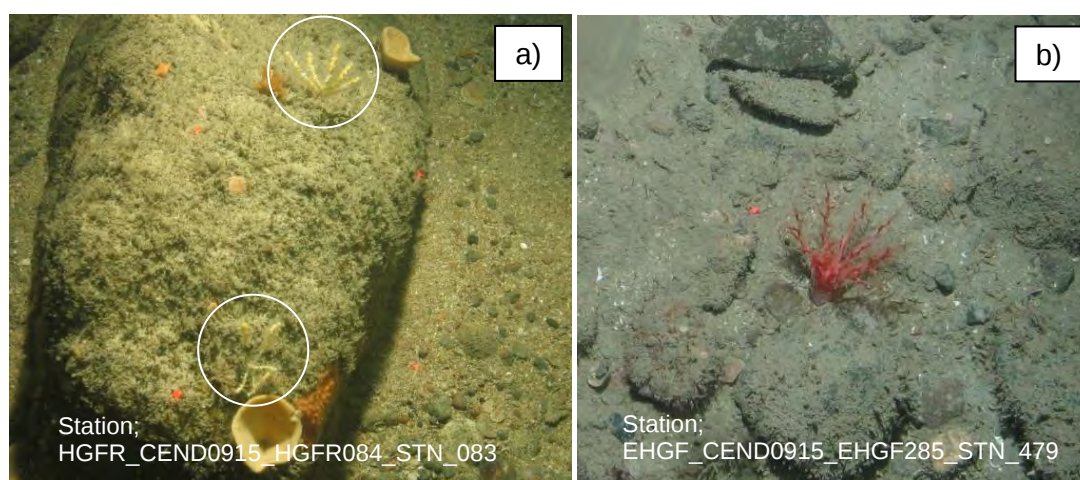


Figure 7. Examples of observed species of interest a) *Swiftia* species (circled) at Haig Fras cSAC/SCI and b) *Psolus* species at East of Haig Fras MCZ. Note, these observations are provisional until formal identification has taken place.

3.1 Health and safety

An induction was carried out for staff that had not sailed on RV *Cefas Endeavour* within the preceding six months at 15:30 08/05/2015.

The first muster and safety drill was cried out at 13:00 10/05/2015. This involved fire-fighting in ships quarters and extracting a casualty whilst preparing the main deck for helicopter Med-Evac. The second muster and drill was carried out at 13:00 17/05/2015 during transit to St Ives. This involved the demonstration of fire extinguishing technologies on the vessel and the correct scenarios for use as well as an emergency steering demonstration. The third muster and safety drill was carried out at 13:00 25/05/2015 and covered the use of Emergency Evacuation Breathing Device and Personal Breathing Apparatus.

Three medical incidents and two H&S near-misses were recorded during the survey. The near misses involved an engineer noticing a lack of striped warning tape on a step which was rectified and another was an engineer bumping their head without incident on a low hanging tray which guides cable used for sidescan sonar surveys. The tray was padded for the interim but will be removed for future surveys when sidescan sonar not in use.

4 Provisional survey results

All original survey objectives, with exception of collecting fluorescence and turbidity measurements, were achieved during the survey. All stations were sampled using the either the prescribed equipment or alternative equipment if deemed more suitable following initial sampling attempts.

It should be noted that all provisional results contained within this report come from field observations made during the survey and are not subjected to any Quality Assurance (QA) measures. Therefore, these results should be treated with caution and not used in any further analysis or interpretation.

4.1 Haig Fras cSAC/SCI

Distribution of underwater camera stations in Haig Fras SCI

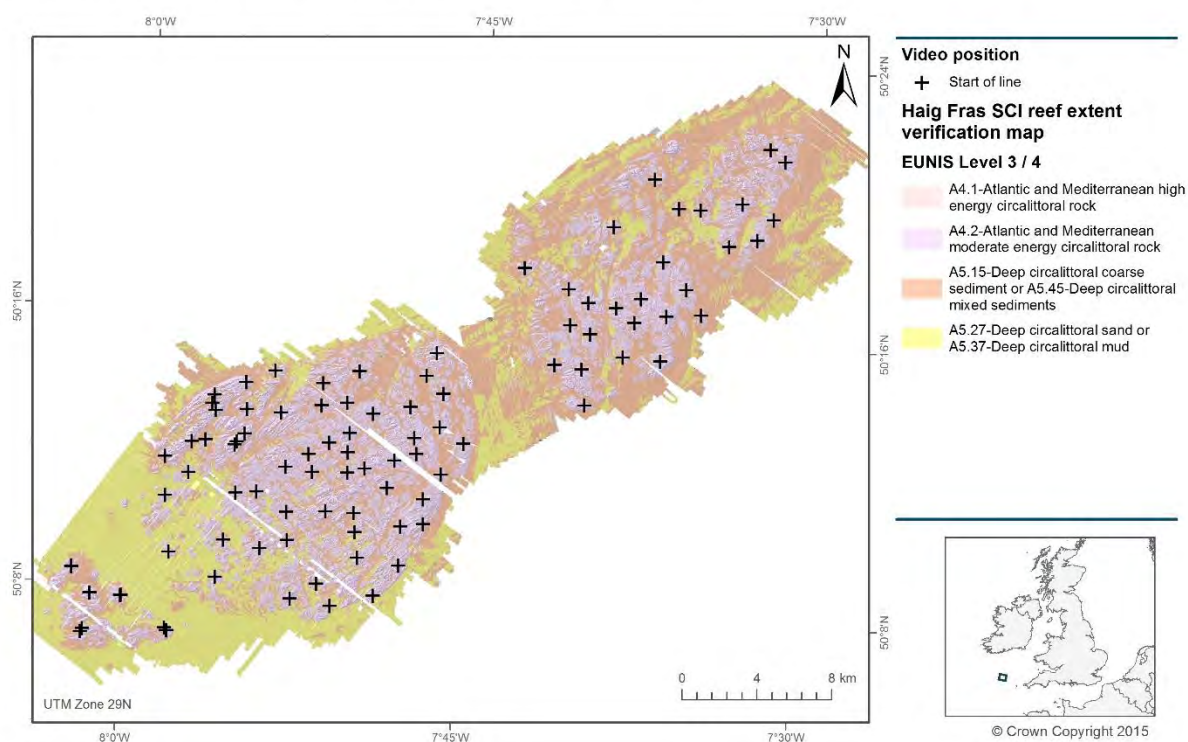
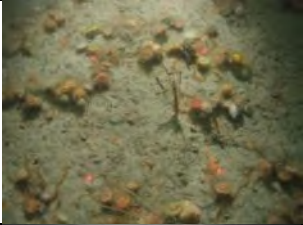
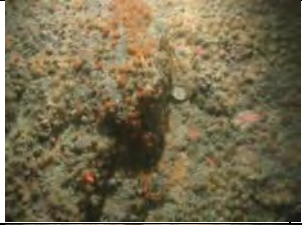
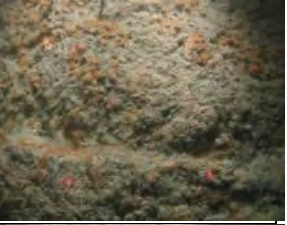
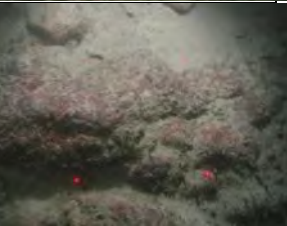
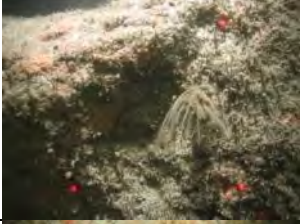
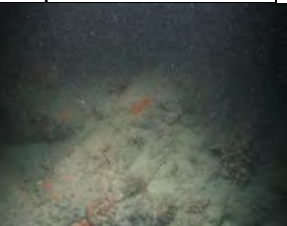
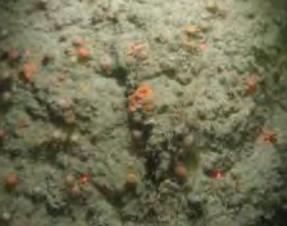
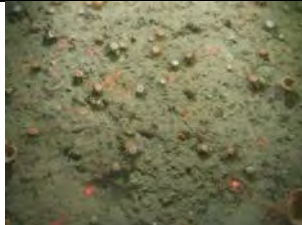
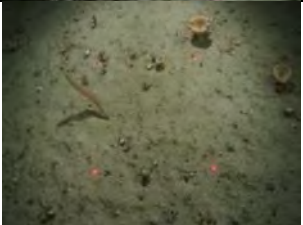


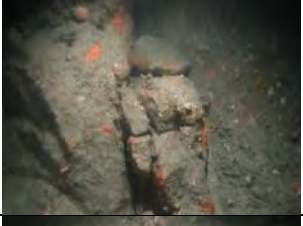
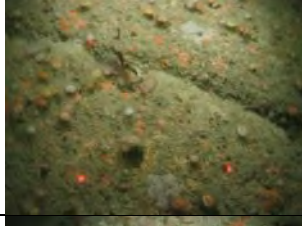
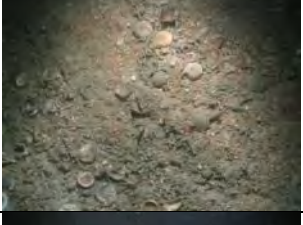
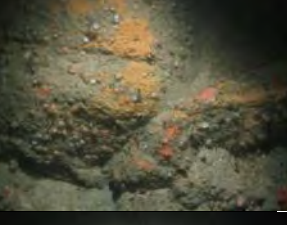
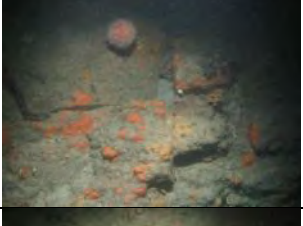
Figure 8. Distribution of underwater camera stations at Haig Fras SCI.

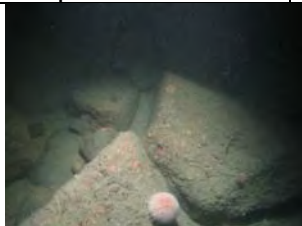
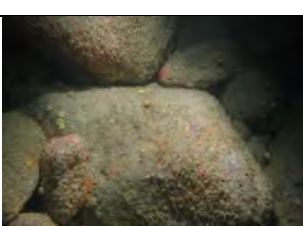
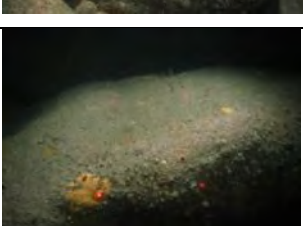
4.1.1 Video photographs

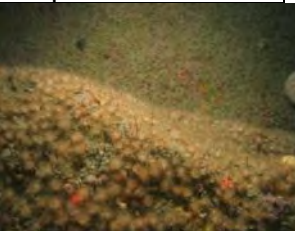
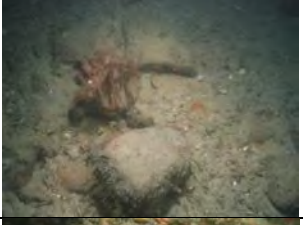
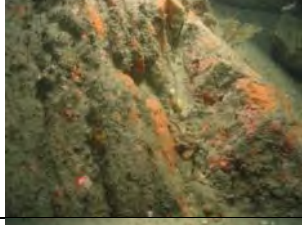
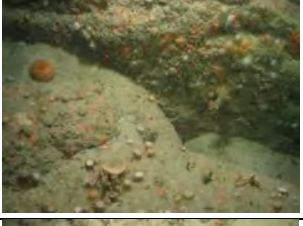
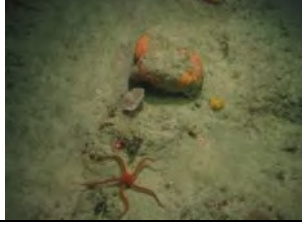
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR003_STN_002_A1			
HGFR_CEND0915_HGFR002_STN_003_A1			
HGFR_CEND0915_HGFR004_STN_004_A1			
HGFR_CEND0915_HGFR005_STN_005_A1			
HGFR_CEND0915_HGFR005_STN_005_A2			
HGFR_CEND0915_HGFR007_STN_006_A1			

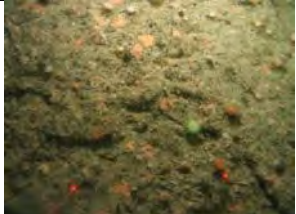
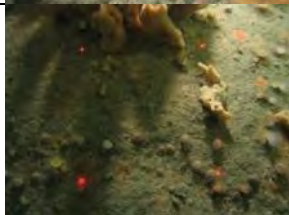
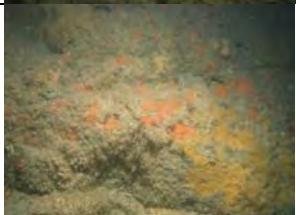
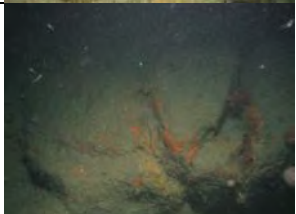
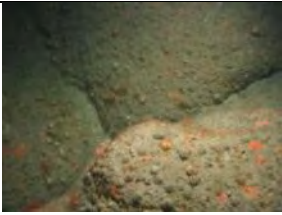
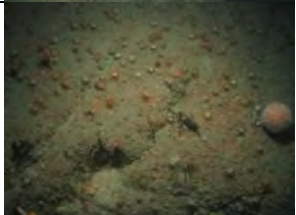
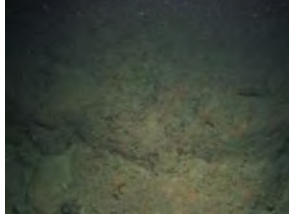
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HGFR_CEND0915_HGFR025_STN_010_A1			
HGFR_CEND0915_HGFR024_STN_011_A1			
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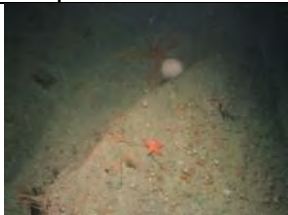
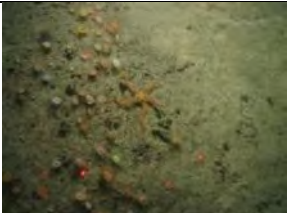
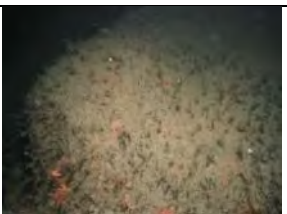
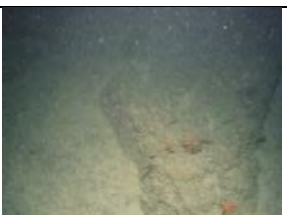
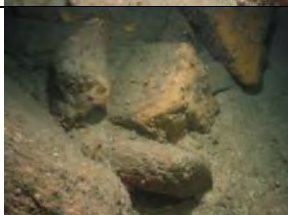
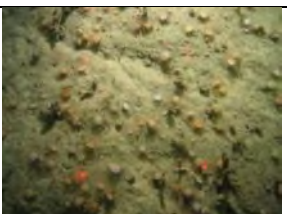
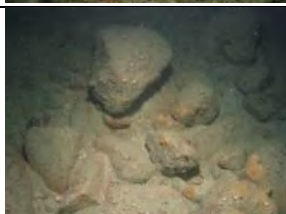
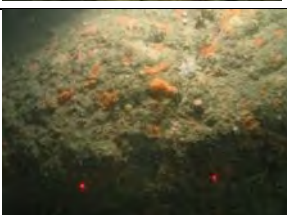
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR011_STN_017_A1			
HGFR_CEND0915_HGFR013_STN_018_A1			
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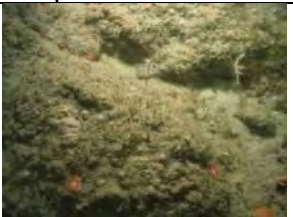
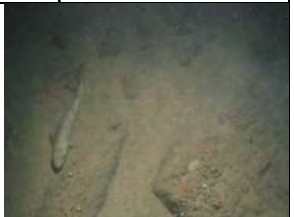
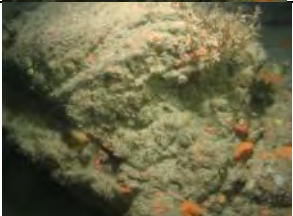
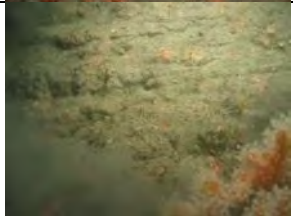
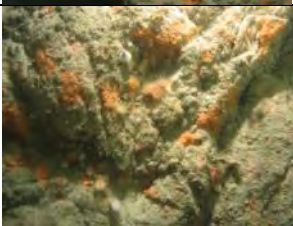
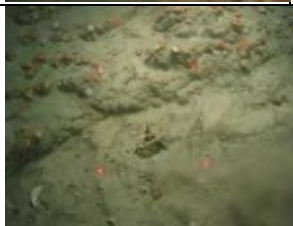
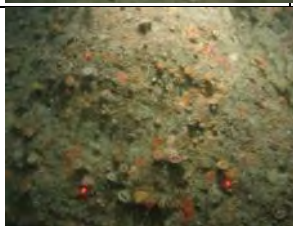
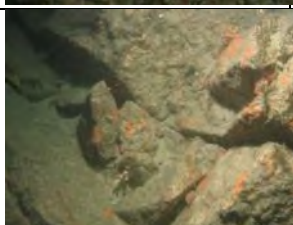
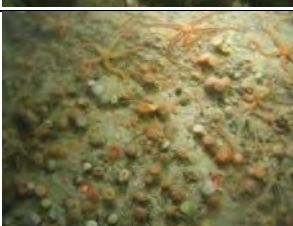
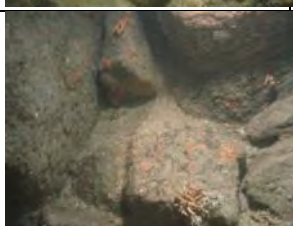
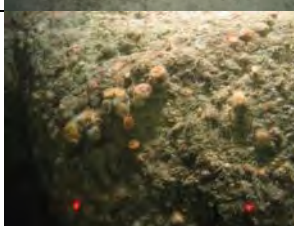
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR018_STN_024_A1			
HGFR_CEND0915_HGFR019_STN_025_A1			
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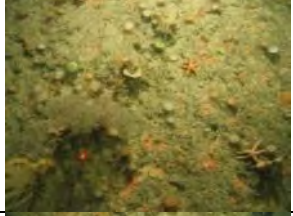
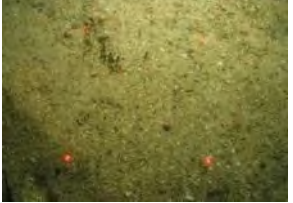
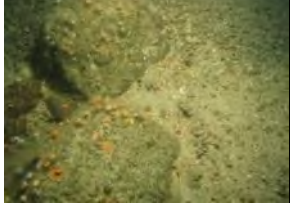
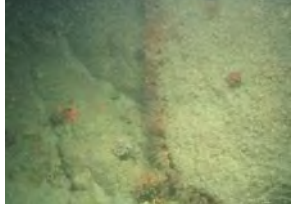
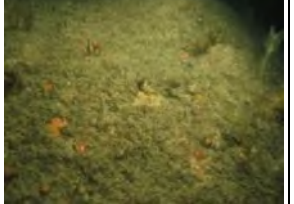
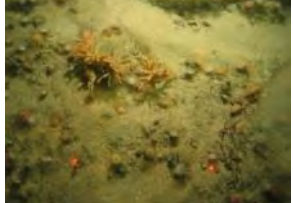
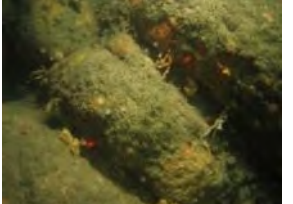
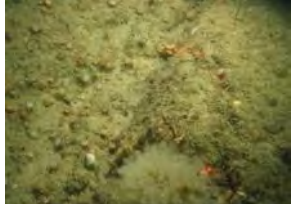
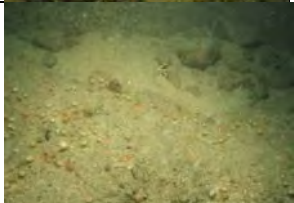
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR087_STN_031_A1			
HGFR_CEND0915_HGFR026_STN_032_A1			
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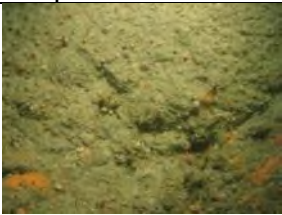
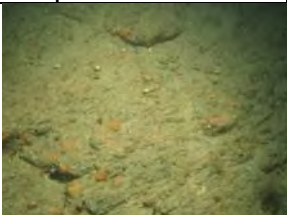
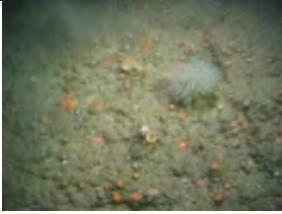
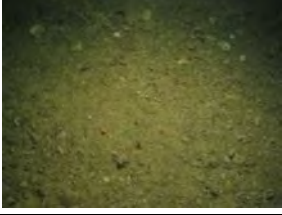
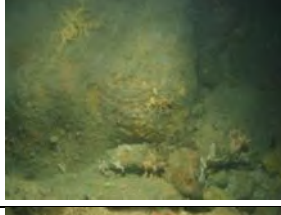
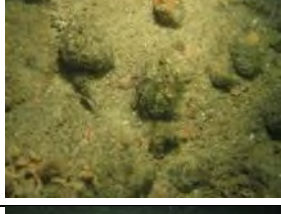
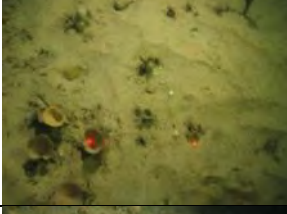
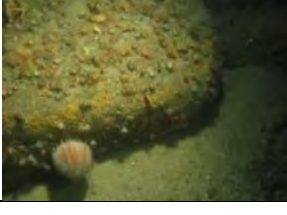
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR030_STN_038_A1			
HGFR_CEND0915_HGFR031_STN_039_A1			
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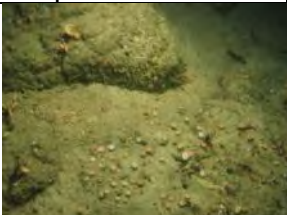
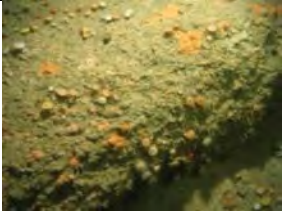
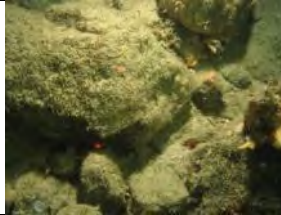
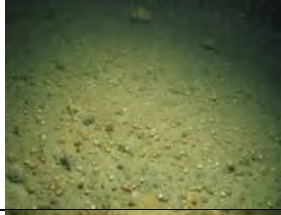
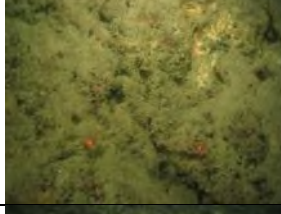
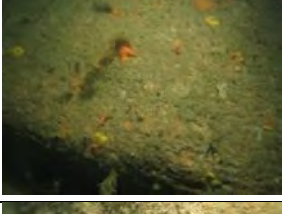
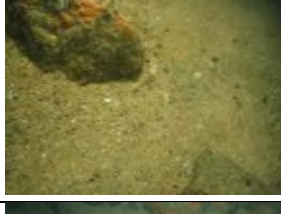
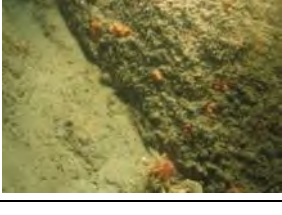
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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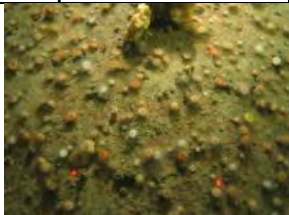
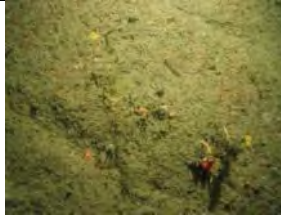
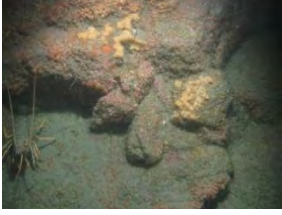
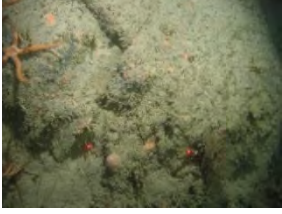
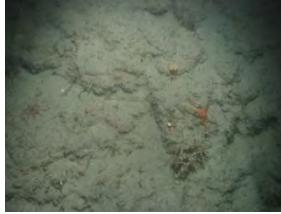
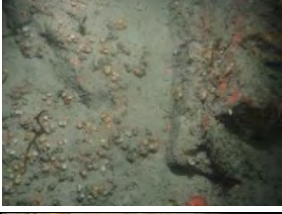
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
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HGFR_CEND0915_HGFR047_STN_053_A1			
HGFR_CEND0915_HGFR045_STN_054_A1			
HGFR_CEND0915_HGFR046_STN_055_A1			
HGFR_CEND0915_HGFR048_STN_056_A1			
HGFR_CEND0915_HGFR050_STN_057_A1			

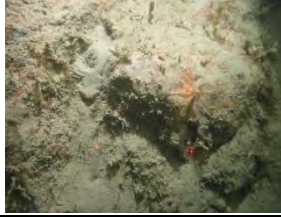
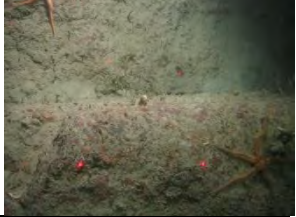
Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR051_STN_058_A1			
HGFR_CEND0915_HGFR052_STN_059_A1			
HGFR_CEND0915_HGFR053_STN_060_A1			
HGFR_CEND0915_HGFR054_STN_061_A1			
HGFR_CEND0915_HGFR058_STN_062_A1			
HGFR_CEND0915_HGFR059_STN_063_A1			
HGFR_CEND0915_HGFR057_STN_064_A2			

Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR060_STN_065_A1			
HGFR_CEND0915_HGFR061_STN_066_A1			
HGFR_CEND0915_HGFR062_STN_067_A1			
HGFR_CEND0915_HGFR064_STN_068_A1			
HGFR_CEND0915_HGFR063_STN_069_A1			
HGFR_CEND0915_HGFR071_STN_070_A1			
HGFR_CEND0915_HGFR072_STN_071_A1			
HGFR_CEND0915_HGFR075_STN_072_A1			

Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR074_STN_073_A1			
HGFR_CEND0915_HGFR073_STN_074_A1			
HGFR_CEND0915_HGFR070_STN_075_A1			
HGFR_CEND0915_HGFR065_STN_076_A1			
HGFR_CEND0915_HGFR069_STN_077_A1			
HGFR_CEND0915_HGFR066_STN_078_A1			
HGFR_CEND0915_HGFR067_STN_079_A1			
HGFR_CEND0915_HGFR068_STN_080_A1			

Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR077_STN_081_A1			
HGFR_CEND0915_HGFR076_STN_082_A1			
HGFR_CEND0915_HGFR084_STN_083_A1			
HGFR_CEND0915_HGFR083_STN_084_A1			
HGFR_CEND0915_HGFR082_STN_085_A1			
HGFR_CEND0915_HGFR078_STN_086_A1			
HGFR_CEND0915_HGFR079_STN_087_A1			
HGFR_CEND0915_HGFR080_STN_088_A1			

Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR081_STN_089_A1			
HGFR_CEND0915_HGFR086_STN_090_A1			
HGFR_CEND0915_HGFR085_STN_091_A1			
HGFR_CEND0915_HGFR090_STN_561_A1			
HGFR_CEND0916_HGFR005_STN_562_A1			
HGFR_CEND0915_HGFR001_STN_563_A1			
HGFR_CEND0915_HGFR004_STN_564_A1			
HGFR_CEND0915_HGFR002_STN_565_A1			

Video Reference	Representative sample 1	Representative sample 2	Representative sample 3
HGFR_CEND0915_HGFR003_STN_566_A1			

4.2 East of Haig Fras MCZ

Distribution of attempted grab sample stations at East of Haig Fras MCZ

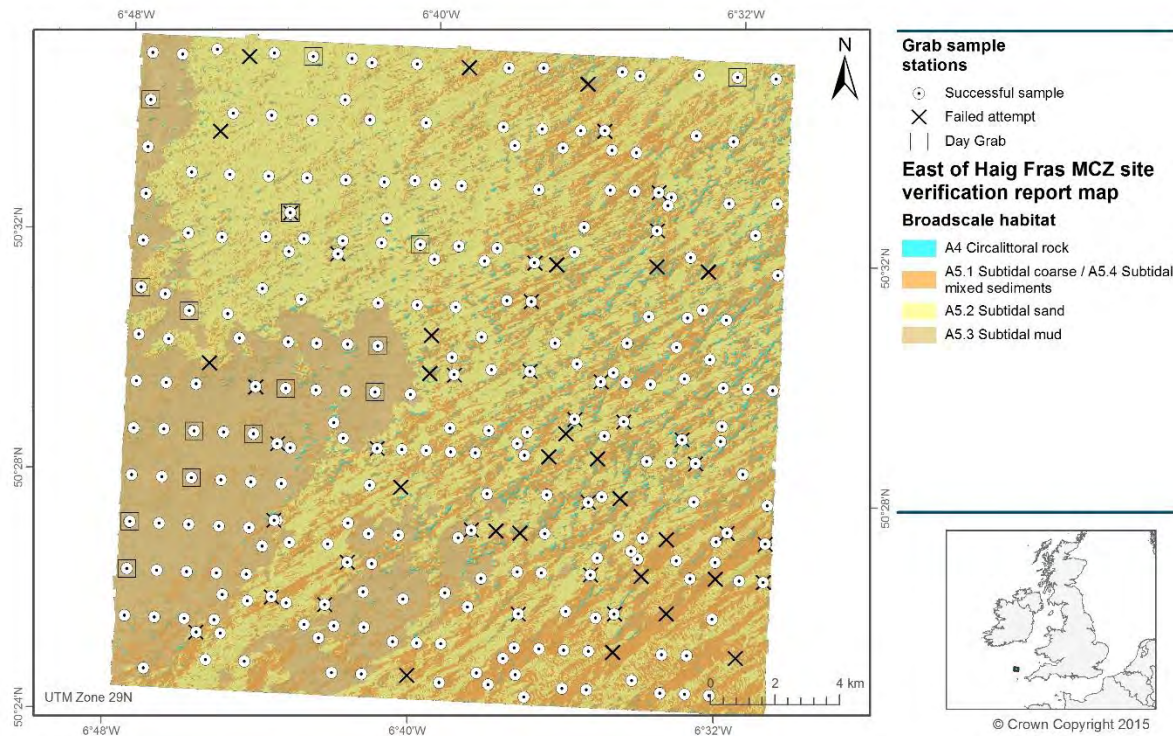
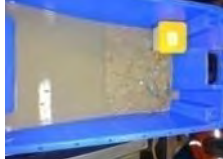
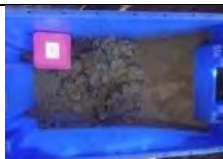


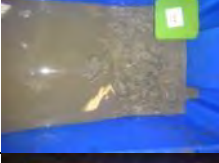
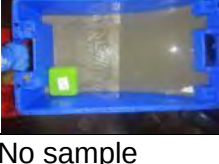
Figure 9. Distribution of grab sample stations at East of Haig Fras MCZ. The 0.1 m² mini Hamon grab was used unless specified otherwise.

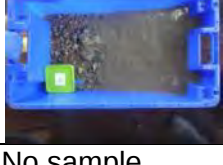
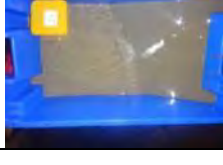
4.2.1 Grab photographs

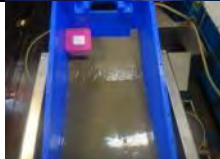
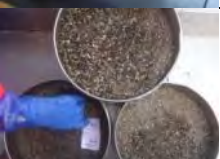
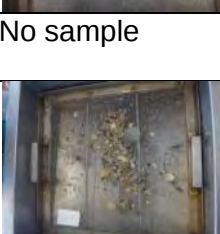
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF235_S TN_102_A1				5
EHGF_CEND0915_EHGF234_S TN_103_A1				2.5
EHGF_CEND0915_EHGF233_S TN_104_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF090_S TN_105_A1				2.5
EHGF_CEND0915_EHGF232_S TN_106_A1				5
EHGF_CEND0915_EHGF231_S TN_107_A1				5
EHGF_CEND0915_EHGF230_S TN_108_A1				2.5
EHGF_CEND0915_EHGF089_S TN_109_A1				2.5
EHGF_CEND0915_EHGF229_S TN_111_A1				2.5
EHGF_CEND0915_EHGF088_S TN_112_A1	No photo			5
EHGF_CEND0915_EHGF228_S TN_113_A1				2.5
EHGF_CEND0915_EHGF217_S TN_115_A1				10
EHGF_CEND0915_EHGF218_S TN_117_A1				10

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF219_S TN_118_A1				2.5
EHGF_CEND0915_EHGF220_S TN_120_A1				5
EHGF_CEND0915_EHGF221_S TN_121_A1				2.5
EHGF_CEND0915_EHGF222_S TN_123_A1				5
EHGF_CEND0915_EHGF223_S TN_125_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF224_S TN_126_A1				10
EHGF_CEND0915_EHGF225_S TN_127_A1				5
EHGF_CEND0915_EHGF226_S TN_128_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF211_S TN_131_A1				2.5
EHGF_CEND0915_EHGF210_S TN_133_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF209_S TN_136_A2				2.5
EHGF_CEND0915_EHGF085_S TN_137_A1				10

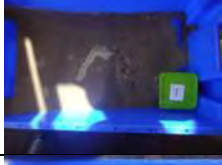
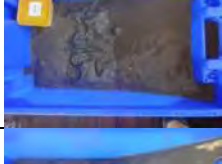
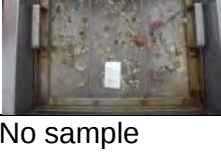
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF208_S TN_138_A1				5
EHGF_CEND0915_EHGF084_S TN_139_A2				5
EHGF_CEND0915_EHGF207_S TN_140_A1				10
EHGF_CEND0915_EHGF346_S TN_141_A1				5
EHGF_CEND0915_EHGF347_S TN_142_A1				2.5
EHGF_CEND0915_EHGF196_S TN_146_A1				2.5
EHGF_CEND0915_EHGF197_S TN_148_A1				2.5
EHGF_CEND0915_EHGF198_S TN_150_A2				2.5
EHGF_CEND0915_EHGF077_S TN_152_A1				2.5
EHGF_CEND0915_EHGF078_S TN_154_A1				2.5
EHGF_CEND0915_EHGF199_S TN_156_NS	No sample	No sample	No sample	No sample

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF079_S TN_157_A1				1
EHGF_CEND0915_EHGF200_S TN_158_A1				5
EHGF_CEND0915_EHGF080_S TN_159_A1				1
EHGF_CEND0915_EHGF201_S TN_161_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF202_S TN_162_A1				5
EHGF_CEND0915_EHGF203_S TN_163_A3				5
EHGF_CEND0915_EHGF192_S TN_164_A3				10
EHGF_CEND0915_EHGF191_S TN_166_A1				5
EHGF_CEND0915_EHGF190_S TN_168_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF189_S TN_171_A1				10
EHGF_CEND0915_EHGF188_S TN_173_A1				1
EHGF_CEND0915_EHGF187_S TN_174_A1				5

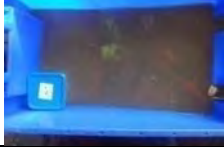
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF186_S TN_176_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF185_S TN_177_NS		No sample	No sample	No sample
EHGF_CEND0915_EHGF184_S TN_179_A3				5
EHGF_CEND0915_EHGF338_S TN_181_A1		No photo		2.5
EHGF_CEND0915_EHGF072_S TN_183_A1				5
EHGF_CEND0915_EHGF174_S TN_185_A1				5
EHGF_CEND0915_EHGF175_S TN_189_A2				10
EHGF_CEND0915_EHGF073_S TN_190_A1				1
EHGF_CEND0915_EHGF176_S TN_192_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF135_S TN_230_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF134_S TN_232_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF049_S TN_233_A1				10
EHGF_CEND0915_EHGF048_S TN_235_A1				2.5
EHGF_CEND0915_EHGF047_S TN_237_A1	No photo	No photo	No photo	5.5
EHGF_CEND0915_EHGF055_S TN_239_A1				5
EHGF_CEND0915_EHGF045_S TN_240_A1				2.5
EHGF_CEND0915_EHGF181_S TN_241_A1				5
EHGF_CEND0915_EHGF074_S TN_242_A1				2.5
EHGF_CEND0915_EHGF178_S TN_243_A1				5
EHGF_CEND0915_EHGF169_S TN_244_A2				1
EHGF_CEND0915_EHGF168_S TN_245_A1				5
EHGF_CEND0915_EHGF167_S TN_246_A1				1

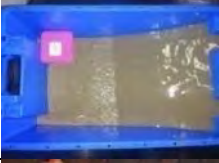
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF166_S TN_247_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF165_S TN_248_NS		No sample	No sample	No sample
EHGF_CEND0915_EHGF164_S TN_249_A1				2.5
EHGF_CEND0915_EHGF163_S TN_250_A1				2.5
EHGF_CEND0915_EHGF162_S TN_251_A1				10
EHGF_CEND0915_EHGF161_S TN_252_A1				1
EHGF_CEND0915_EHGF160_S TN_253_A1				10
EHGF_CEND0915_EHGF159_S TN_254_A1				5
EHGF_CEND0915_EHGF158_S TN_255_A2				2.5
EHGF_CEND0915_EHGF155_S TN_256_A1				2.5
EHGF_CEND0915_EHGF070_S TN_257_A1				5

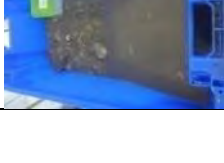
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF069_S TN_258_A2				1
EHGF_CEND0915_EHGF153_S TN_259_A2				5
EHGF_CEND0915_EHGF068_S TN_260_A1				5
EHGF_CEND0915_EHGF151_S TN_261_A2				5
EHGF_CEND0915_EHGF067_S TN_262_NS		No sample	No sample	No sample
EHGF_CEND0915_EHGF066_S TN_263_A1				5
EHGF_CEND0915_EHGF323_S TN_264_A1				2.5
EHGF_CEND0915_EHGF065_S TN_265_A1				2.5
EHGF_CEND0915_EHGF064_S TN_266_A1				2.5
EHGF_CEND0915_EHGF140_S TN_267_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF056_S TN_268_A1				2.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF141_S TN_269_A2				5
EHGF_CEND0915_EHGF057_S TN_270_A1				2.5
EHGF_CEND0915_EHGF058_S TN_271_A2				2.5
EHGF_CEND0915_EHGF136_S TN_272_A1				10
EHGF_CEND0915_EHGF059_S TN_273_A1				2.5
EHGF_CEND0915_EHGF143_S TN_274_A2				2.5
EHGF_CEND0915_EHGF060_S TN_275_A1				5
EHGF_CEND0915_EHGF144_S TN_276_A1				2.5
EHGF_CEND0915_EHGF145_S TN_277_A1				2.5
EHGF_CEND0915_EHGF061_S TN_278_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF062_S TN_279_A1				2.5
EHGF_CEND0915_EHGF147_S TN_280_A1				2.5
EHGF_CEND0915_EHGF148_S TN_281_A1				5
EHGF_CEND0915_EHGF149_S TN_282_A1				2.5
EHGF_CEND0915_EHGF138_S TN_292_A1				2.5
EHGF_CEND0915_EHGF137_S TN_295_A1				2.5
EHGF_CEND0915_EHGF054_S TN_299_A1				2.5
EHGF_CEND0915_EHGF132_S TN_301_A1				5
EHGF_CEND0915_EHGF053_S TN_302_A1				1
EHGF_CEND0915_EHGF052_S TN_304_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF051_S TN_305_A1				5
EHGF_CEND0915_EHGF130_S TN_308_A3				1
EHGF_CEND0915_EHGF050_S TN_309_A1			No photo	1
EHGF_CEND0915_EHGF129_S TN_312_A1				2.5
EHGF_CEND0915_EHGF040_S TN_314_A1				1
EHGF_CEND0915_EHGF041_S TN_315_A1				10
EHGF_CEND0915_EHGF121_S TN_317_A1				2.5
EHGF_CEND0915_EHGF122_S TN_321_A3				2.5
EHGF_CEND0915_EHGF123_S TN_323_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF042_S TN_324_A1				10
EHGF_CEND0915_EHGF114_S TN_325_A1				5

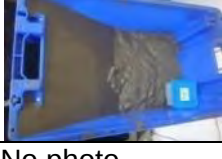
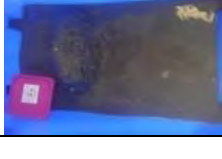
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF126_S TN_329_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF116_S TN_331_A2				2.5
EHGF_CEND0915_EHGF043_S TN_332_A1				5
EHGF_CEND0915_EHGF044_S TN_333_A1				5
EHGF_CEND0915_EHGF125_S TN_335_A3	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF127_S TN_340_A1				5
EHGF_CEND0915_EHGF117_S TN_342_A1				10
EHGF_CEND0915_EHGF033_S TN_343_A1				2.5
EHGF_CEND0915_EHGF032_S TN_346_A1				2.5
EHGF_CEND0915_EHGF031_S TN_349_A1				5
EHGF_CEND0915_EHGF110_S TN_350_A3				2.5
EHGF_CEND0915_EHGF109_S TN_351_A1				2.5

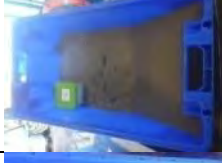
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF108_S TN_352_A1				2.5
EHGF_CEND0915_EHGF030_S TN_354_A1				2.5
EHGF_CEND0915_EHGF029_S TN_355_A1				2.5
EHGF_CEND0915_EHGF018_S TN_357_A1				5
EHGF_CEND0915_EHGF100_S TN_359_A1				2.5
EHGF_CEND0915_EHGF019_S TN_360_A1				2.5
EHGF_CEND0915_EHGF101_S TN_362_A1				2.5
EHGF_CEND0915_EHGF020_S TN_364_A1				5
EHGF_CEND0915_EHGF102_S TN_366_A1				5
EHGF_CEND0915_EHGF103_S TN_367_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF021_S TN_369_A1				10
EHGF_CEND0915_EHGF104_S TN_371_A1				2.5
EHGF_CEND0915_EHGF011_S TN_373_A1				2.5
EHGF_CEND0915_EHGF010_S TN_374_A1				1
EHGF_CEND0915_EHGF009_S TN_375_A1				1
EHGF_CEND0915_EHGF094_S TN_377_A1				5
EHGF_CEND0915_EHGF008_S TN_378_A1				5
EHGF_CEND0915_EHGF098_S TN_379_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF007_S TN_381_A1				1
EHGF_CEND0915_EHGF006_S TN_382_A1				2.5
EHGF_CEND0915_EHGF093_S TN_383_NS	No sample	No sample	No sample	No sample

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF005_S TN_384_A1				2.5
EHGF_CEND0915_EHGF092_S TN_385_A1				5
EHGF_CEND0915_EHGF004_S TN_386_A1				2.5
EHGF_CEND0915_EHGF003_S TN_387_A1				1
EHGF_CEND0915_EHGF002_S TN_389_A1				1
EHGF_CEND0915_EHGF091_S TN_390_NS		No sample	No sample	No sample
EHGF_CEND0915_EHGF001_S TN_391_A1				1
EHGF_CEND0915_EHGF292_S TN_392_A1				1
EHGF_CEND0915_EHGF291_S TN_393_A1				1

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF293_S TN_394_A1				1
EHGF_CEND0915_EHGF012_S TN_396_A1				2.5
EHGF_CEND0915_EHGF099_S TN_398_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF013_S TN_399_A1				1
EHGF_CEND0915_EHGF014_S TN_400_A1				1
EHGF_CEND0915_EHGF096_S TN_402_A1				1
EHGF_CEND0915_EHGF015_S TN_403_A1				5
EHGF_CEND0915_EHGF016_S TN_405_A1				5
EHGF_CEND0915_EHGF028_S TN_406_A1				2.5
EHGF_CEND0915_EHGF106_S TN_407_A1				1.0
EHGF_CEND0915_EHGF027_S TN_409_A1				5.0

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF026_S TN_411_A1				5.0
EHGF_CEND0915_EHGF025_S TN_412_A2				0.5
EHGF_CEND0915_EHGF024_S TN_413_A1				1.0
EHGF_CEND0915_EHGF023_S TN_414_A1				2.5
EHGF_CEND0915_EHGF022_S TN_415_A1				2.5
EHGF_CEND0915_EHGF294_S TN_416_A1				0.5
EHGF_CEND0915_EHGF295_S TN_417_A1				0.5
EHGF_CEND0915_EHGF296_S TN_418_A1				0.25
EHGF_CEND0915_EHGF034_S TN_419_A1	No photo			1.0
EHGF_CEND0915_EHGF046_S TN_420_A1				2.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF035_S TN_421_A1				0.5
EHGF_CEND0915_EHGF112_S TN_423_A1				1.0
EHGF_CEND0915_EHGF118_S TN_424_A1				0.5
EHGF_CEND0915_EHGF036_S TN_425_A1				0.5
EHGF_CEND0915_EHGF119_S TN_427_A3				1
EHGF_CEND0915_EHGF037_S TN_429_A1				2.5
EHGF_CEND0915_EHGF038_S TN_430_A1				2.5
EHGF_CEND0915_EHGF113_S TN_432_A1				1
EHGF_CEND0915_EHGF039_S TN_433_A1				1
EHGF_CEND0915_EHGF120_S TN_435_A1				2.5

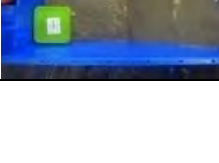
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF305_S TN_436_A1				0.5
EHGF_CEND0915_EHGF304_S TN_437_A1				2.5
EHGF_CEND0915_EHGF303_S TN_439_A1				1
EHGF_CEND0915_EHGF302_S TN_440_A1				1
EHGF_CEND0915_EHGF128_S TN_441_A1				2.5
EHGF_CEND0915_EHGF301_S TN_442_A1				1
EHGF_CEND0915_EHGF300_S TN_443_A1				1
EHGF_CEND0915_EHGF298_S TN_444_A1				2.5
EHGF_CEND0915_EHGF297_S TN_445_A1				1
EHGF_CEND0915_EHGF299_S TN_446_A1				2.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF306_S TN_447_A1				1
EHGF_CEND0915_EHGF307_S TN_448_A1				1
EHGF_CEND0915_EHGF308_S TN_449_A1				1
EHGF_CEND0915_EHGF139_S TN_450_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF310_S TN_451_A3				2.5
EHGF_CEND0915_EHGF311_S TN_452_A1				1
EHGF_CEND0915_EHGF312_S TN_453_A1				1
EHGF_CEND0915_EHGF313_S TN_454_A1				2.5
EHGF_CEND0915_EHGF314_S TN_455_A1				1
EHGF_CEND0915_EHGF315_S TN_456_A2				2.5
EHGF_CEND0915_EHGF322_S TN_457_A1				1

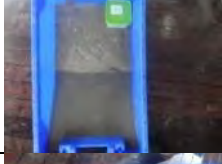
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF063_S TN_459_A1				1
EHGF_CEND0915_EHGF321_S TN_461_A1				1
EHGF_CEND0915_EHGF156_S TN_462_A2				1
EHGF_CEND0915_EHGF320_S TN_463_A1				1
EHGF_CEND0915_EHGF319_S TN_464_A1				1
EHGF_CEND0915_EHGF318_S TN_465_A1				1
EHGF_CEND0915_EHGF317_S TN_466_A1				2.5
EHGF_CEND0915_EHGF316_S TN_467_A1				2.5
EHGF_CEND0915_EHGF324_S TN_468_A1				1
EHGF_CEND0915_EHGF325_S TN_469_A1				2.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF326_S TN_470_A1				1
EHGF_CEND0915_EHGF327_S TN_471_A1				1
EHGF_CEND0915_EHGF328_S TN_472_A1				1
EHGF_CEND0915_EHGF329_S TN_473_A1				1
EHGF_CEND0915_EHGF071_S TN_476_A1				2.5
EHGF_CEND0915_EHGF172_S TN_478_NS	No sample	No sample	No sample	No sample
EHGF_CEND0915_EHGF194_S TN_481_A1				5.0
EHGF_CEND0915_EHGF337_S TN_482_A1				5.0
EHGF_CEND0915_EHGF336_S TN_483_A1				1.0
EHGF_CEND0915_EHGF183_S TN_485_A1				5.0
EHGF_CEND0915_EHGF193_S TN_486_A2				2.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF076_S TN_487_A1				2.5
EHGF_CEND0915_EHGF075_S TN_488_A1				2.5
EHGF_CEND0915_EHGF182_S TN_490_A2				5
EHGF_CEND0915_EHGF335_S TN_491_A1				1
EHGF_CEND0915_EHGF334_S TN_492_A1				5
EHGF_CEND0915_EHGF333_S TN_493_A1				2.5
EHGF_CEND0915_EHGF332_S TN_494_A1				2.5
EHGF_CEND0915_EHGF331_S TN_495_A1				1
EHGF_CEND0915_EHGF330_S TN_496_A1				1
EHGF_CEND0915_EHGF339_S TN_497_A1				1

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF340_S TN_498_A1				1
EHGF_CEND0915_EHGF341_S TN_500_A1				1
EHGF_CEND0915_EHGF342_S TN_501_A1				2.5
EHGF_CEND0915_EHGF343_S TN_502_A1				5
EHGF_CEND0915_EHGF205_S TN_503_A1				1
EHGF_CEND0915_EHGF081_S TN_504_A1				5
EHGF_CEND0915_EHGF206_S TN_506_A2				2.5
EHGF_CEND0915_EHGF082_S TN_507_A1				2.5
EHGF_CEND0915_EHGF083_S TN_508_A2				1
EHGF_CEND0915_EHGF344_S TN_509_A1				5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF345_S TN_510_A1				2.5
EHGF_CEND0915_EHGF216_S TN_511_A1				2.5
EHGF_CEND0915_EHGF354_S TN_512_A1				2.5
EHGF_CEND0915_EHGF353_S TN_514_A1				2.5
EHGF_CEND0915_EHGF214_S TN_515_A1				5
EHGF_CEND0915_EHGF352_S TN_516_A1				2.5
EHGF_CEND0915_EHGF213_S TN_517_A1				5
EHGF_CEND0915_EHGF351_S TN_518_A1				5
EHGF_CEND0915_EHGF212_S TN_520_A2				5
EHGF_CEND0915_EHGF350_S TN_521_A1				2.5

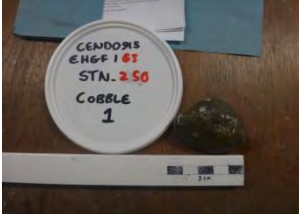
Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF349_S TN_522_A1				5
EHGF_CEND0915_EHGF348_S TN_523_A1				1
EHGF_CEND0915_EHGF227_S TN_525_A1				2.5
EHGF_CEND0915_EHGF086_S TN_527_A1				1
EHGF_CEND0915_EHGF087_S TN_528_A1				2.5
EHGF_CEND0915_EHGF355_S TN_529_A1				2.5
EHGF_CEND0915_EHGF356_S TN_530_A1				5
EHGF_CEND0915_EHGF339_S TN_531_A1				0.5
EHGF_CEND0915_EHGF330_S TN_532_A1				0.5
EHGF_CEND0915_EHGF326_S TN_533_A1				1

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF318_S TN_534_A1				1
EHGF_CEND0915_EHGF320_S TN_535_A1				1
EHGF_CEND0915_EHGF311_S TN_536_A1				1
EHGF_CEND0915_EHGF314_S TN_537_A1				1
EHGF_CEND0915_EHGF305_S TN_539_A1				0.50
EHGF_CEND0915_EHGF300_S TN_541_A1				0.25
EHGF_CEND0915_EHGF297_S TN_542_A1				1.0
EHGF_CEND0915_EHGF293_S TN_543_A1				0.25
EHGF_CEND0915_EHGF003_S TN_546_A1				0.5
EHGF_CEND0915_EHGF112_S TN_547_A3				0.5

Grab sample replicate	Sample image	5 mm	1 mm	Container size (l)
EHGF_CEND0915_EHGF039_S TN_548_A1				1
EHGF_CEND0915_EHGF010_S TN_550_A1				1
EHGF_CEND0915_EHGF360_S TN_551_A3				2.5
EHGF_CEND0915_EHGF359_S TN_552_A1				2.5
EHGF_CEND0915_EHGF357_S TN_556_A2				2.5
EHGF_CEND0915_EHGF358_S TN_557_A2				10
EHGF_CEND0915_EHGF362_S TN_559_A1				1
EHGF_CEND0915_EHGF361_S TN_560_NS		No sample	No sample	No sample

4.2.2 Grab photographs (Cobbles)

Grab Sample	Cobble 1	Cobble 2	Cobble 3
EHGF_CEND0915_EHGF184_S TN_179_A3		N/A	N/A

EHGF_CE ND0915_E HGF163_S TN_250_A 1		N/A	N/A
EHGF_CE ND0915_E HGF153_S TN_259_A 2		N/A	N/A

Distribution of underwater camera samples at East of Haig Fras MCZ

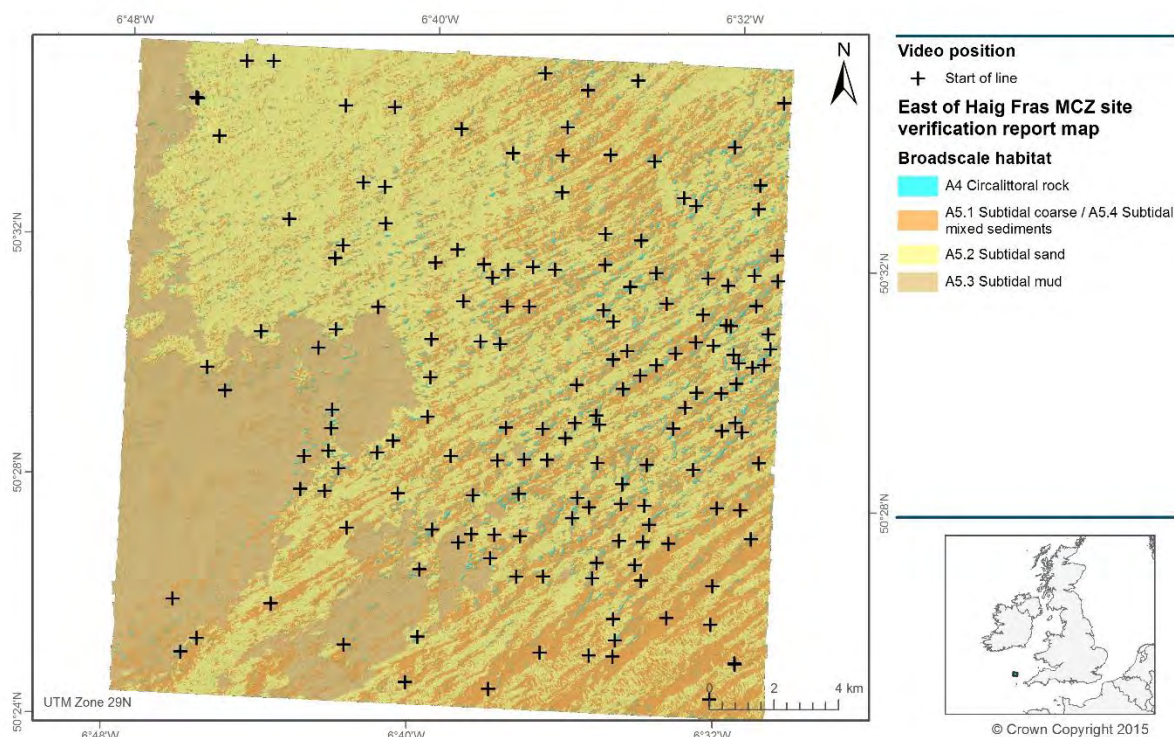
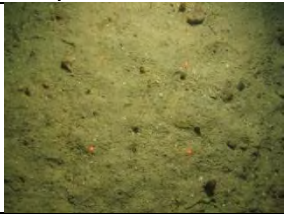
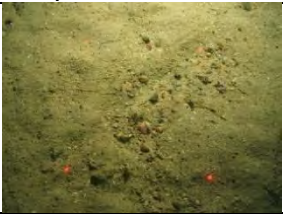
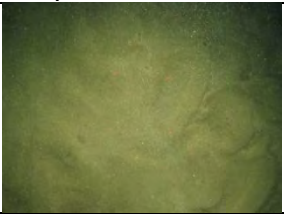
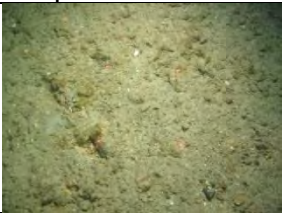
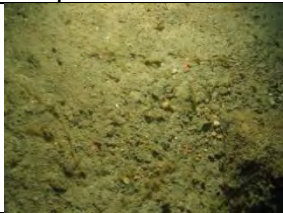
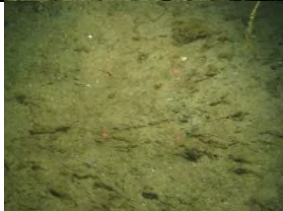
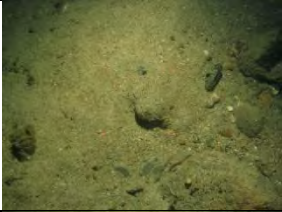
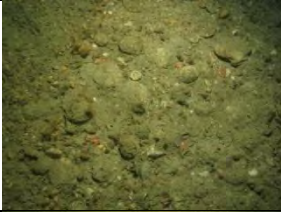
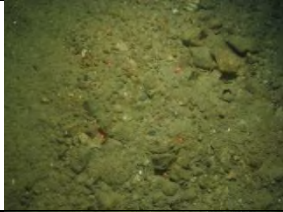
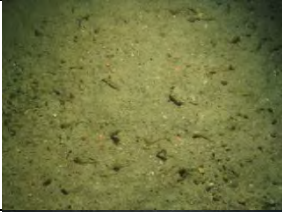
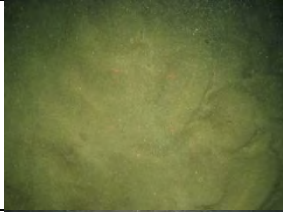
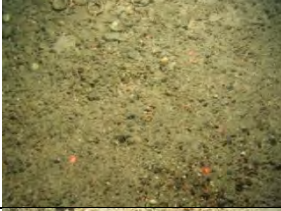
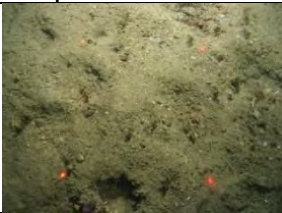
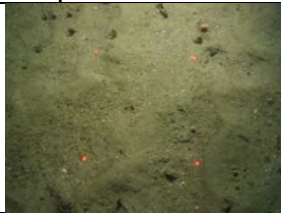
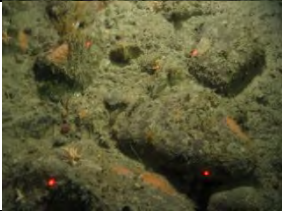
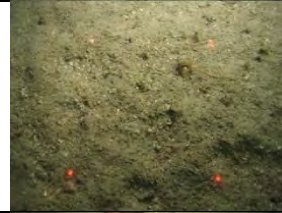
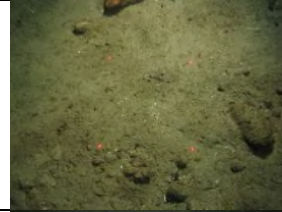
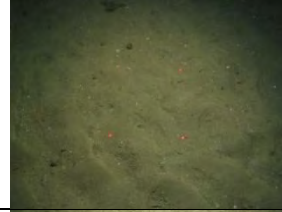
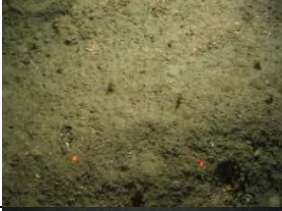
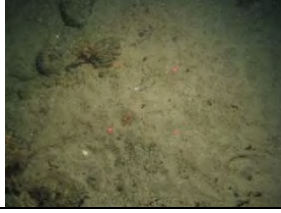


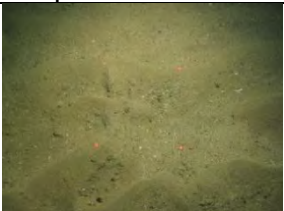
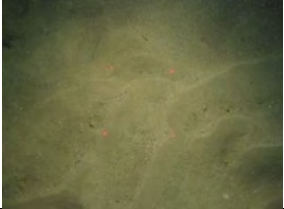
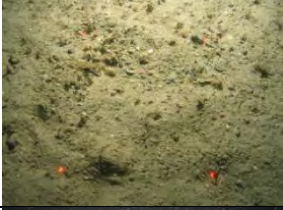
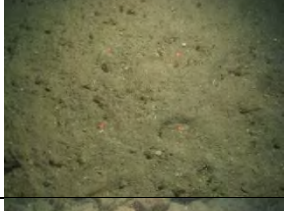
Figure 10. Distribution of underwater camera stations at East of Haig Fras MCZ.

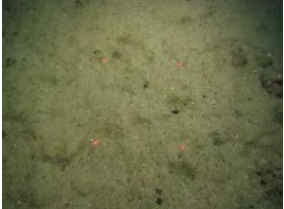
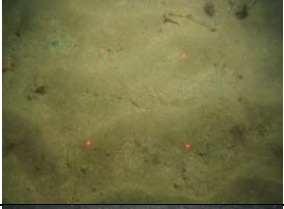
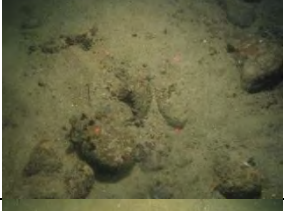
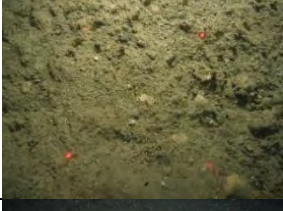
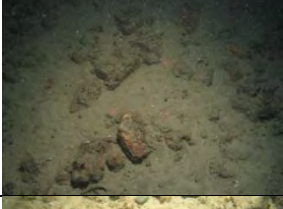
4.2.3 Video photographs

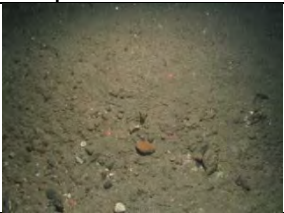
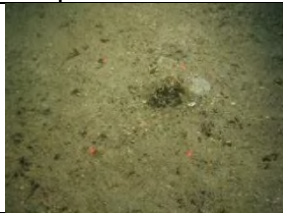
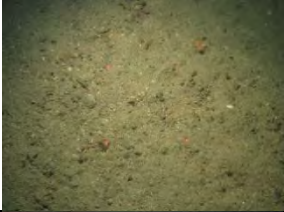
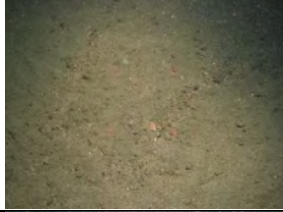
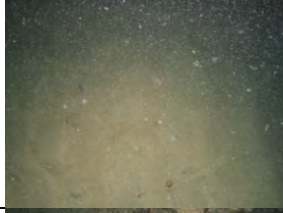
Video reference	Representative sample 1	Representative sample 2	Representative sample 3
EHGF_CEND0915_EHGF235_STN_101_A1			

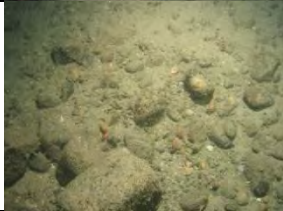
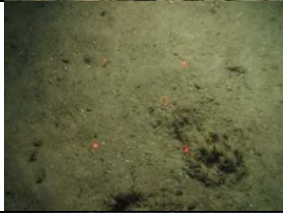
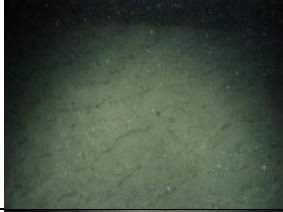
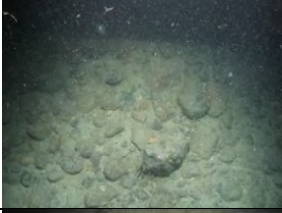
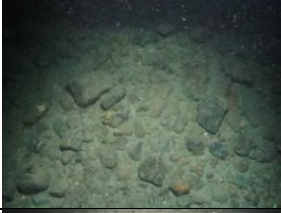
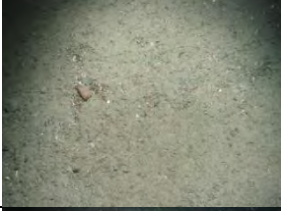
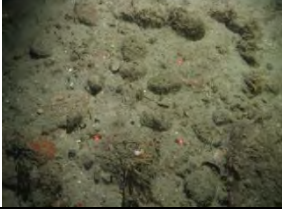
Video reference	Representative sample 1	Representative sample 2	Representative sample 3
EHGR_CEND0915_EHGF229_STN_110_A1			
EHGR_CEND0915_EHGF272_STN_114_A1			
EHGR_CEND0915_EHGF289_STN_116_A1			
EHGR_CEND0915_EHGF220_STN_119_A1			
EHGR_CEND0915_EHGF222_STN_122_A1			
EHGR_CEND0915_EHGF223_STN_124_A2			
EHGF_CEND0915_EHGF226_STN_129_A1			
EHGF_CEND0915_EHGF211_STN_130_A1			

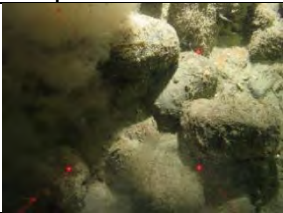
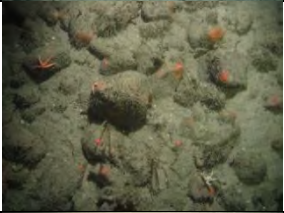
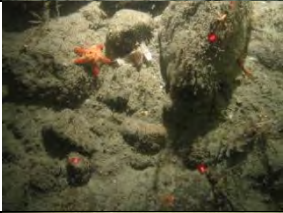
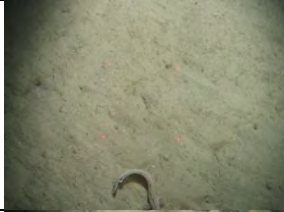
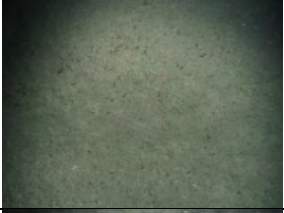
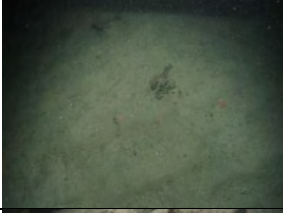
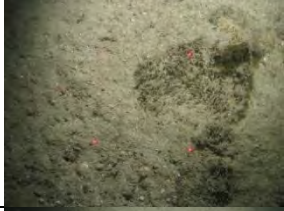
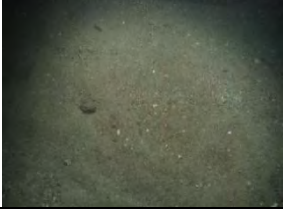
Video reference	Representative sample 1	Representative sample 2	Representative sample 3
EHGF_CEND0915_EHGF210_STN_132_A1			
EHGF_CEND0915_EHGF288_STN_134_A1			
EHGF_CEND0915_EHGF209_STN_135_A1			
EHGR_CEND0915_EHGF287_STN_143_A1			
EHGR_CEND0915_EHGF286_STN_144_A1			
EHGF_CEND0915_EHGF196_STN_145_A1			
EHGF_CEND0915_EHGF197_STN_147_A1			
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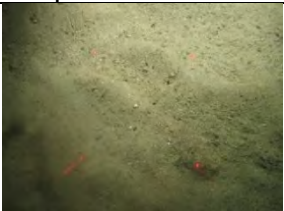
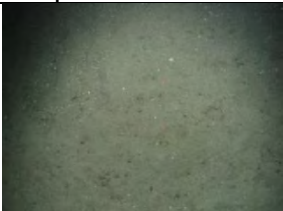
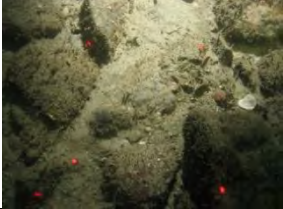
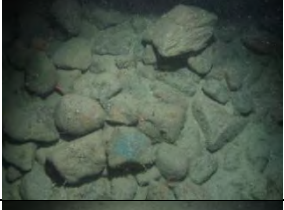
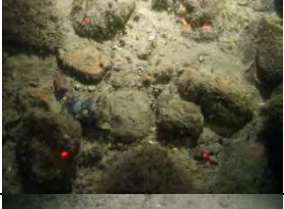
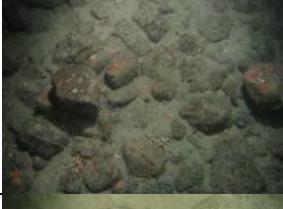
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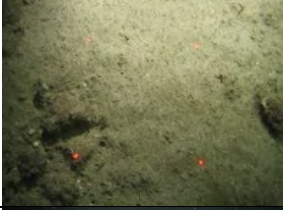
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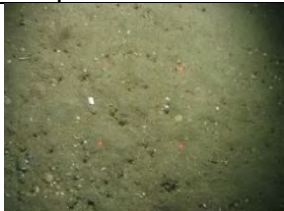
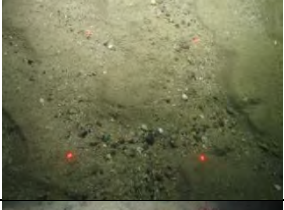
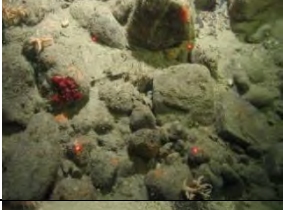
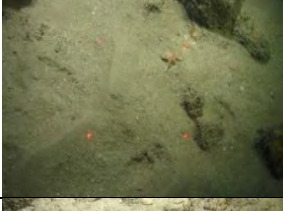
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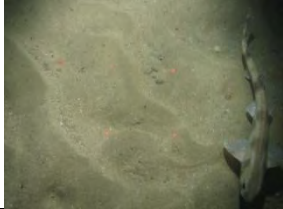
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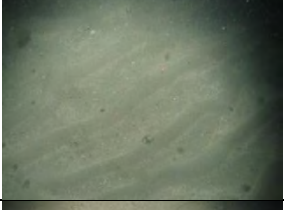
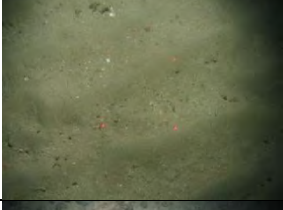
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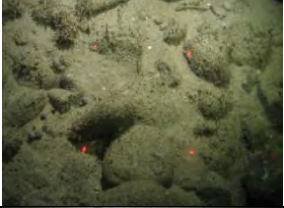
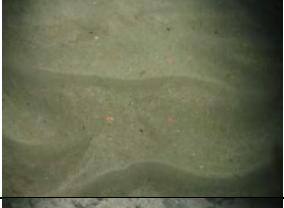
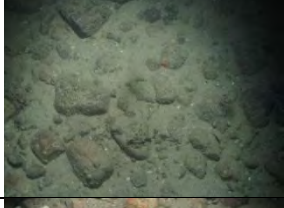
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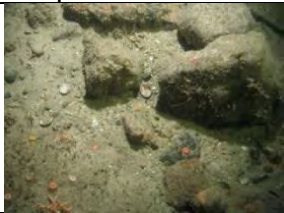
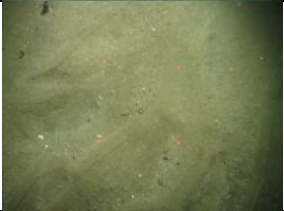
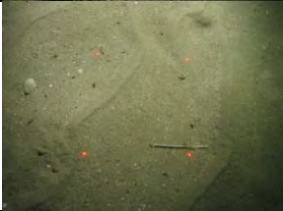
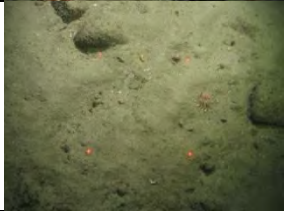
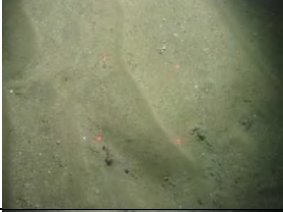
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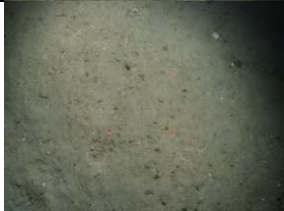
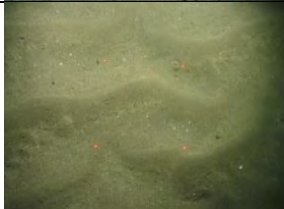
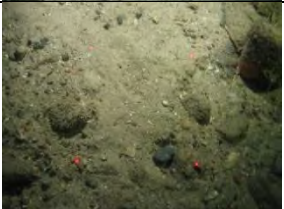
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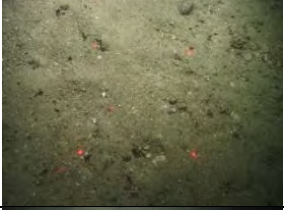
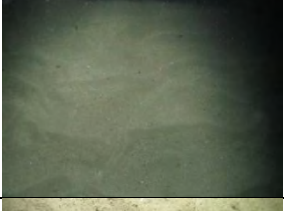
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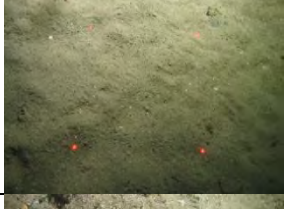
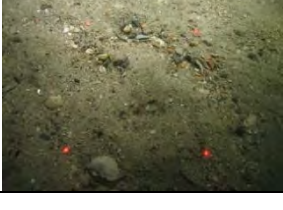
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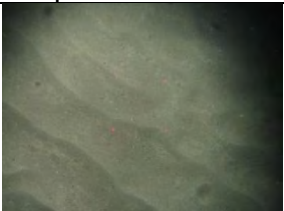
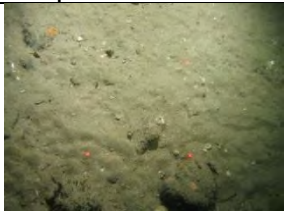
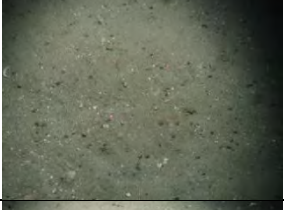
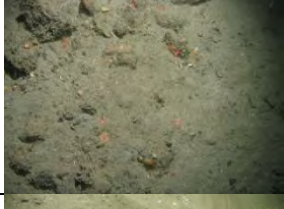
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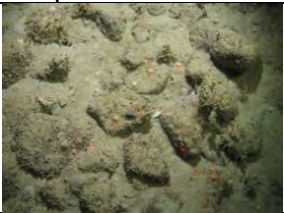
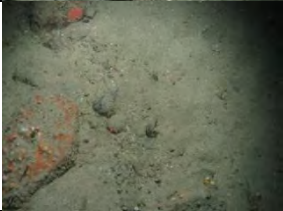
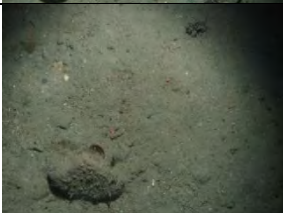
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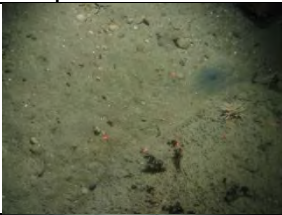
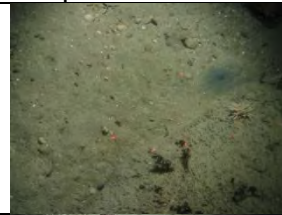
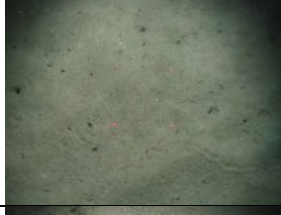
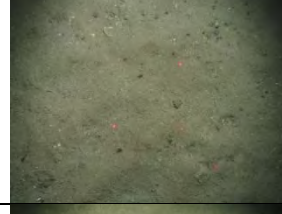
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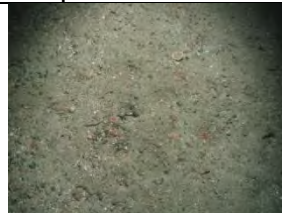
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4.2.4 Observations of Features of Conservation Importance

Image reference / Species FOCI	<i>Atrina fragilis</i> (Fan mussel)
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EHGF_CEND0915_EHGF09
8_STN_549_A1_018.jpg



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Appendix 1. Vessel information and operational parameters

RV Cefas Endeavour



Port of registry	Lowestoft
Length OA	73.00m (excluding stern roller)
Length extreme	73.916m
Breadth (MLD)	15.80m
Depth (MLD)	8.20m
Design draft	5.00m
Deep draught	5.50m
LBP	66.50m
Gross tonnage	2983 tonnes
Net register tonnage	894 tonnes
Net lightship	2436 tonnes
Deadweight @ 5.00m	784 tonnes
Deadweight @ 5.50m	1244 tonnes
Displacement @ 5.00m	3210 tonnes
Displacement @ 5.50m	3680 tonnes
Builder	Ferguson Shipbuilders Limited, Port Glasgow
Commissioned	2003
Communications	In port BT Tel. Cellphone Voice/Fax/Data Radio TELEX Inmarsat C Fleet 77 (Inmarsat F) and VSAT (eutelsat) internet access
Endurance	42 days
Complement	En-suite accommodation for 16 crew and 19 scientists with dedicated hospital facility
Propulsion System	AC/DC Diesel Electric 3 x diesel electric AC generators, individually raft mounted 2 x tandem electric DC motors Single screw
Power generation	3240 Kw
Power propulsion	2230 Kw
Thrusters	Bow thruster (flush mounted azimuthing) Stern thruster (tunnel)
Trial speed	14.4 knots
Bollard pull	29 tonnes
Call sign	VQHF3
Official number	906938
MMSI	235005270
Lloyds/IMO number	9251107

Side Gantry	7.5 tonne articulated side A-frame
Stern Gantry	25 tonne stern A-frame
Winches	3 x cranes 35 tM, heave compensated 2 x trawl winches 2 x drum winches, (1 double) Double barrel survey winch with motion compensation and slip rings Double barrel survey winch with slip rings Double barrel towing winch with slip rings Side-scan sonar winch with slip rings 3 x Gilson winches (one fitted to stern A-frame)
Transducers/Sea tube	Drop keel to deploy transducers outside the hull boundary layer in addition to hull mounted transducers 1.2m diameter sea tube/moon-pool
Acoustic equipment	Kongsberg Simrad: HiPAP 500 positioning sonar EK60, 38/120 kHz scientific sounder EA 600, 50/200 kHz scientific sounder Scanmar net mensuration system SH80 high frequency omni-directional sonar EM3002D & EM2040 swathe bathymetry sounders Hull mounted Scanmar fishing computer transducers
Boats	2 x 8m rigid work and rescue boats with suite of navigational equipment deployed on heave-compensated davits
Laboratories	Eight networked laboratories designed for optimum flexibility of purpose 4 serviced deck locations for containerised laboratories
Special features	Dynamic positioning system Interling anti-roll system Local Area Network with scientific data management system Ship-wide general information system CCTV
Class	LRS 100A1+LMC UMS SCM CCS ICC IP ES(2) DP(CM) ICE class 2

Appendix 2. CEND0915 survey metadata

Station metadata for CEND0915 are provided below. The station code is used to identify the location of the sampling station whilst station number is a sequential event number for the survey and changes each time a new gear is used or a new location is sampled. Other codes are: HGFR = Haig Fras cSAC/SCI, EHGF = East of Haig Fras MCZ, DC = Drop Camera, HG = 0.1m² Hamon Grab, DG = 0.1m² Day Grab, SOL = Start Of Line, EOL = End Of Line. All positions in decimal degrees, Lat/Long WGS84. Positional data provided for all gears relate to the side gantry steer point. Positional data provided for the drop-camera are uncorrected for the USBL position. Grab positions are given in the 'Time Sampled [+SOL]' field and will have no Time of EOL. Camera tow SOL positions are also given in the 'Time Sampled [+SOL]' field and have an associated EOL position.

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
11/05/2015	HGFR	1	HGFR001	DC	60	50.1102	-8.0301	07:13	07:43
11/05/2015	HGFR	1	HGFR001	DC	461	50.1120	-8.0313	07:13	07:43
11/05/2015	HGFR	2	HGFR003	DC	462	50.1413	-8.0398	08:28	08:53
11/05/2015	HGFR	2	HGFR003	DC	802	50.1397	-8.0412	08:28	08:53
11/05/2015	HGFR	3	HGFR002	DC	803	50.1305	-8.0265	09:25	09:51
11/05/2015	HGFR	3	HGFR002	DC	1152	50.1291	-8.0249	09:25	09:51
11/05/2015	HGFR	4	HGFR004	DC	1153	50.1289	-8.0014	10:23	10:49
11/05/2015	HGFR	4	HGFR004	DC	1497	50.1280	-8.0043	10:23	10:49
11/05/2015	HGFR	5	HGFR005	DC	1498	50.1147	-7.9675	11:27	11:39
11/05/2015	HGFR	5	HGFR005	DC	1645	50.1144	-7.9665	11:27	11:39
11/05/2015	HGFR	5	HGFR005	DC	1657	50.1143	-7.9665	12:13	12:28
11/05/2015	HGFR	5	HGFR005	DC	1854	50.1133	-7.9657	12:13	12:28
11/05/2015	HGFR	6	HGFR007	DC	1855	50.1511	-7.9679	13:12	13:34
11/05/2015	HGFR	6	HGFR007	DC	2155	50.1502	-7.9655	13:12	13:34
11/05/2015	HGFR	7	HGFR006	DC	2156	50.1406	-7.9322	14:05	14:27
11/05/2015	HGFR	7	HGFR006	DC	2438	50.1402	-7.9296	14:05	14:27
11/05/2015	HGFR	8	HGFR008	DC	2464	50.1781	-7.9734	16:51	17:12
11/05/2015	HGFR	8	HGFR008	DC	2737	50.1763	-7.9733	16:51	17:12
11/05/2015	HGFR	9	HGFR009	DC	2738	50.1586	-7.9279	17:51	18:13
11/05/2015	HGFR	9	HGFR009	DC	3036	50.1567	-7.9274	17:51	18:13
11/05/2015	HGFR	10	HGFR025	DC	3037	50.1969	-7.9752	18:59	19:21
11/05/2015	HGFR	10	HGFR025	DC	3319	50.1965	-7.9777	18:59	19:21
11/05/2015	HGFR	11	HGFR024	DC	3320	50.1911	-7.9553	20:38	21:01
11/05/2015	HGFR	11	HGFR024	DC	3626	50.1898	-7.9571	20:38	21:01
11/05/2015	HGFR	12	HGFR023	DC	3629	50.1807	-7.9188	21:40	22:01
11/05/2015	HGFR	12	HGFR023	DC	3907	50.1815	-7.9209	21:40	22:01
11/05/2015	HGFR	13	HGFR022	DC	3909	50.1827	-7.9054	23:04	23:21
11/05/2015	HGFR	13	HGFR022	DC	4143	50.1818	-7.9071	23:04	23:21
11/05/2015	HGFR	14	HGFR021	DC	4144	50.1740	-7.8820	23:50	00:11
11/05/2015	HGFR	14	HGFR021	DC	4414	50.1725	-7.8808	23:50	00:11

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
12/05/2015	HGFR	15	HGFR020	DC	4415	50.1604	-7.8801	01:01	01:24
12/05/2015	HGFR	15	HGFR020	DC	4715	50.1592	-7.8782	01:01	01:24
12/05/2015	HGFR	16	HGFR010	DC	4716	50.1556	-7.9002	19:53	20:20
12/05/2015	HGFR	16	HGFR010	DC	5071	50.1540	-7.9017	19:53	20:20
12/05/2015	HGFR	17	HGFR011	DC	5072	50.1337	-7.8733	20:55	21:16
12/05/2015	HGFR	17	HGFR011	DC	5355	50.1325	-7.8752	20:55	21:16
12/05/2015	HGFR	18	HGFR013	DC	5356	50.1405	-7.8562	21:40	22:02
12/05/2015	HGFR	18	HGFR013	DC	5649	50.1394	-7.8585	21:40	22:02
12/05/2015	HGFR	19	HGFR012	DC	5650	50.1302	-7.8452	22:39	23:04
12/05/2015	HGFR	19	HGFR012	DC	5969	50.1283	-7.8453	22:39	23:04
12/05/2015	HGFR	20	HGFR014	DC	5970	50.1364	-7.8135	23:40	23:59
12/05/2015	HGFR	20	HGFR014	DC	6187	50.1351	-7.8138	23:40	23:59
13/05/2015	HGFR	21	HGFR015	DC	6188	50.1516	-7.7958	00:52	01:14
13/05/2015	HGFR	21	HGFR015	DC	6478	50.1503	-7.7975	00:52	01:14
13/05/2015	HGFR	22	HGFR016	DC	6479	50.1540	-7.8269	01:49	02:10
13/05/2015	HGFR	22	HGFR016	DC	6770	50.1524	-7.8278	01:49	02:10
13/05/2015	HGFR	23	HGFR017	DC	6771	50.1663	-7.8300	02:48	03:10
13/05/2015	HGFR	23	HGFR017	DC	7053	50.1648	-7.8315	02:48	03:10
13/05/2015	HGFR	24	HGFR018	DC	7054	50.1754	-7.8318	03:46	04:08
13/05/2015	HGFR	24	HGFR018	DC	7348	50.1764	-7.8296	03:46	04:08
13/05/2015	HGFR	25	HGFR019	DC	7353	50.1754	-7.8528	04:37	04:58
13/05/2015	HGFR	25	HGFR019	DC	7632	50.1766	-7.8508	04:37	04:58
13/05/2015	HGFR	26	HGFR038	DC	7633	50.1945	-7.8384	05:36	06:01
13/05/2015	HGFR	26	HGFR038	DC	7969	50.1929	-7.8392	05:36	06:01
13/05/2015	HGFR	27	HGFR034	DC	7970	50.1939	-7.8648	06:58	07:17
13/05/2015	HGFR	27	HGFR034	DC	8220	50.1949	-7.8625	06:58	07:17
13/05/2015	HGFR	28	HGFR033	DC	8221	50.1955	-7.8849	07:44	08:04
13/05/2015	HGFR	28	HGFR033	DC	8486	50.1944	-7.8824	07:44	08:04
13/05/2015	HGFR	29	HGFR028	DC	8487	50.2101	-7.9168	08:40	09:03
13/05/2015	HGFR	29	HGFR028	DC	8794	50.2108	-7.9142	08:40	09:03
13/05/2015	HGFR	30	HGFR088	DC	8795	50.2062	-7.9224	09:26	09:52
13/05/2015	HGFR	30	HGFR088	DC	9134	50.2045	-7.9209	09:26	09:52
13/05/2015	HGFR	31	HGFR087	DC	9135	50.2059	-7.9261	10:12	10:35
13/05/2015	HGFR	31	HGFR087	DC	9445	50.2046	-7.9238	10:12	10:35
13/05/2015	HGFR	32	HGFR026	DC	9449	50.2061	-7.9459	11:11	11:38
13/05/2015	HGFR	32	HGFR026	DC	9803	50.2043	-7.9461	11:11	11:38
13/05/2015	HGFR	33	HGFR089	DC	9804	50.2059	-7.9583	12:04	12:26
13/05/2015	HGFR	33	HGFR089	DC	10098	50.2048	-7.9560	12:04	12:26
13/05/2015	HGFR	34	HGFR027	DC	10099	50.2205	-7.9397	12:57	13:19
13/05/2015	HGFR	34	HGFR027	DC	10389	50.2213	-7.9374	12:57	13:19
13/05/2015	HGFR	35	HGFR090	DC	10390	50.2238	-7.9425	13:45	14:05
13/05/2015	HGFR	35	HGFR090	DC	10654	50.2248	-7.9405	13:45	14:05

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
13/05/2015	HGFR	36	HGFR029	DC	10657	50.2219	-7.9164	14:34	14:56
13/05/2015	HGFR	36	HGFR029	DC	10945	50.2229	-7.9143	14:34	14:56
13/05/2015	HGFR	37	HGFR091	DC	10954	50.2267	-7.9432	15:25	15:46
13/05/2015	HGFR	37	HGFR091	DC	11233	50.2277	-7.9411	15:25	15:46
13/05/2015	HGFR	38	HGFR030	DC	11234	50.2346	-7.9182	16:35	16:56
13/05/2015	HGFR	38	HGFR030	DC	11491	50.2345	-7.9202	16:35	16:56
13/05/2015	HGFR	39	HGFR031	DC	11494	50.2412	-7.8969	17:51	18:14
13/05/2015	HGFR	39	HGFR031	DC	11780	50.2407	-7.8995	17:51	18:14
13/05/2015	HGFR	40	HGFR032	DC	11787	50.2214	-7.8907	18:44	19:03
13/05/2015	HGFR	40	HGFR032	DC	11787	50.2214	-7.8907	18:44	19:03
13/05/2015	HGFR	40	HGFR032	DC	12045	50.2222	-7.8885	18:44	19:03
13/05/2015	HGFR	40	HGFR032	DC	12046	50.2222	-7.8885	18:44	19:03
13/05/2015	HGFR	41	HGFR035	DC	12047	50.2023	-7.8682	19:34	19:57
13/05/2015	HGFR	41	HGFR035	DC	12349	50.2040	-7.8668	19:34	19:57
13/05/2015	HGFR	42	HGFR036	DC	12350	50.2084	-7.8535	20:29	20:53
13/05/2015	HGFR	42	HGFR036	DC	12665	50.2102	-7.8546	20:29	20:53
13/05/2015	HGFR	43	HGFR049	DC	12666	50.2136	-7.8384	21:36	22:00
13/05/2015	HGFR	43	HGFR049	DC	12994	50.2151	-7.8399	21:36	22:00
13/05/2015	HGFR	44	HGFR037	DC	13004	50.2044	-7.8390	22:24	22:48
13/05/2015	HGFR	44	HGFR037	DC	13301	50.2061	-7.8377	22:24	22:48
13/05/2015	HGFR	45	HGFR039	DC	13302	50.1971	-7.8257	23:24	23:38
13/05/2015	HGFR	45	HGFR039	DC	13450	50.1964	-7.8239	23:24	23:38
14/05/2015	HGFR	46	HGFR040	DC	13501	50.1883	-7.8081	00:05	00:26
14/05/2015	HGFR	46	HGFR040	DC	13777	50.1890	-7.8056	00:05	00:26
14/05/2015	HGFR	47	HGFR041	DC	13778	50.1703	-7.7963	00:58	01:18
14/05/2015	HGFR	47	HGFR041	DC	14050	50.1706	-7.7936	00:58	01:18
14/05/2015	HGFR	48	HGFR042	DC	14051	50.1715	-7.7820	01:40	02:01
14/05/2015	HGFR	48	HGFR042	DC	14331	50.1723	-7.7795	01:40	02:01
14/05/2015	HGFR	49	HGFR043	DC	14332	50.1842	-7.7805	02:26	02:54
14/05/2015	HGFR	49	HGFR043	DC	14706	50.1831	-7.7829	02:26	02:54
14/05/2015	HGFR	50	HGFR044	DC	14707	50.1964	-7.7686	03:40	04:01
14/05/2015	HGFR	50	HGFR044	DC	14981	50.1950	-7.7702	03:40	04:01
14/05/2015	HGFR	51	HGFR056	DC	14982	50.2119	-7.7530	04:31	04:52
14/05/2015	HGFR	51	HGFR056	DC	15259	50.2102	-7.7532	04:31	04:52
14/05/2015	HGFR	52	HGFR055	DC	15260	50.2191	-7.7714	05:21	05:41
14/05/2015	HGFR	52	HGFR055	DC	15520	50.2179	-7.7696	05:21	05:41
14/05/2015	HGFR	53	HGFR047	DC	15522	50.2146	-7.7919	06:06	06:27
14/05/2015	HGFR	53	HGFR047	DC	15810	50.2132	-7.7901	06:06	06:27
14/05/2015	HGFR	54	HGFR045	DC	15811	50.2056	-7.7877	07:10	07:31
14/05/2015	HGFR	54	HGFR045	DC	16085	50.2039	-7.7877	07:10	07:31
14/05/2015	HGFR	55	HGFR046	DC	16092	50.2018	-7.8039	07:58	08:22
14/05/2015	HGFR	55	HGFR046	DC	16412	50.2006	-7.8056	07:58	08:22

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
14/05/2015	HGFR	56	HGFR048	DC	16413	50.2235	-7.8219	08:56	09:18
14/05/2015	HGFR	56	HGFR048	DC	16710	50.2219	-7.8204	08:56	09:18
14/05/2015	HGFR	57	HGFR050	DC	16711	50.2280	-7.8418	09:49	10:12
14/05/2015	HGFR	57	HGFR050	DC	17014	50.2292	-7.8398	09:49	10:12
14/05/2015	HGFR	58	HGFR051	DC	17015	50.2261	-7.8609	10:49	11:11
14/05/2015	HGFR	58	HGFR051	DC	17309	50.2271	-7.8584	10:49	11:11
14/05/2015	HGFR	59	HGFR052	DC	17310	50.2357	-7.8585	11:46	12:07
14/05/2015	HGFR	59	HGFR052	DC	17578	50.2367	-7.8606	11:46	12:07
14/05/2015	HGFR	60	HGFR053	DC	17579	50.2450	-7.8325	12:43	13:05
14/05/2015	HGFR	60	HGFR053	DC	17857	50.2435	-7.8341	12:43	13:05
14/05/2015	HGFR	61	HGFR054	DC	17905	50.2279	-7.7942	13:40	14:03
14/05/2015	HGFR	61	HGFR054	DC	18209	50.2266	-7.7961	13:40	14:03
14/05/2015	HGFR	62	HGFR058	DC	18210	50.2433	-7.7836	14:36	14:58
14/05/2015	HGFR	62	HGFR058	DC	18507	50.2446	-7.7857	14:36	14:58
14/05/2015	HGFR	63	HGFR059	DC	18508	50.2544	-7.7771	15:27	15:53
14/05/2015	HGFR	63	HGFR059	DC	18860	50.2545	-7.7797	15:27	15:53
14/05/2015	HGFR	64	HGFR057	DC	18881	50.2353	-7.7702	18:58	19:19
14/05/2015	HGFR	64	HGFR057	DC	19158	50.2344	-7.7680	18:58	19:19
14/05/2015	HGFR	64	HGFR057	DC					
14/05/2015	HGFR	65	HGFR060	DC	19159	50.2542	-7.6894	20:11	20:32
14/05/2015	HGFR	65	HGFR060	DC	19436	50.2525	-7.6887	20:11	20:32
14/05/2015	HGFR	66	HGFR061	DC	19684	50.2511	-7.6683	21:10	21:31
14/05/2015	HGFR	66	HGFR061	DC	19959	50.2498	-7.6666	21:10	21:31
14/05/2015	HGFR	67	HGFR062	DC	19960	50.2339	-7.6644	22:06	22:29
14/05/2015	HGFR	67	HGFR062	DC	20275	50.2332	-7.6618	22:06	22:29
14/05/2015	HGFR	68	HGFR064	DC	20276	50.2573	-7.6098	23:20	23:40
14/05/2015	HGFR	68	HGFR064	DC	20541	50.2566	-7.6122	23:20	23:40
15/05/2015	HGFR	69	HGFR063	DC	20545	50.2579	-7.6379	00:09	00:30
15/05/2015	HGFR	69	HGFR063	DC	20824	50.2575	-7.6353	00:09	00:30
15/05/2015	HGFR	70	HGFR071	DC	20827	50.2682	-7.6634	01:04	01:25
15/05/2015	HGFR	70	HGFR071	DC	21105	50.2665	-7.6627	01:04	01:25
15/05/2015	HGFR	71	HGFR072	DC	21106	50.2719	-7.6787	01:58	02:19
15/05/2015	HGFR	71	HGFR072	DC	21382	50.2707	-7.6769	01:58	02:19
15/05/2015	HGFR	72	HGFR075	DC	21383	50.2980	-7.7154	02:59	03:20
15/05/2015	HGFR	72	HGFR075	DC	21661	50.2967	-7.7173	02:59	03:20
15/05/2015	HGFR	73	HGFR074	DC	21662	50.2891	-7.6816	03:55	04:15
15/05/2015	HGFR	73	HGFR074	DC	21927	50.2879	-7.6799	03:55	04:15
15/05/2015	HGFR	74	HGFR073	DC	21928	50.2832	-7.6663	04:46	05:07
15/05/2015	HGFR	74	HGFR073	DC	22206	50.2815	-7.6661	04:46	05:07
15/05/2015	HGFR	75	HGFR070	DC	22207	50.2816	-7.6451	05:40	06:02
15/05/2015	HGFR	75	HGFR070	DC	22495	50.2803	-7.6431	05:40	06:02
15/05/2015	HGFR	76	HGFR065	DC	22496	50.2750	-7.6308	06:58	07:19

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
15/05/2015	HGFR	76	HGFR065	DC	22783	50.2733	-7.6300	06:58	07:19
15/05/2015	HGFR	77	HGFR069	DC	22784	50.2865	-7.6269	07:47	08:10
15/05/2015	HGFR	77	HGFR069	DC	23087	50.2851	-7.6283	07:47	08:10
15/05/2015	HGFR	78	HGFR066	DC	23088	50.2790	-7.6073	08:36	08:57
15/05/2015	HGFR	78	HGFR066	DC	23365	50.2772	-7.6073	08:36	08:57
15/05/2015	HGFR	79	HGFR067	DC	23366	50.2823	-7.5816	09:30	09:52
15/05/2015	HGFR	79	HGFR067	DC	23654	50.2805	-7.5814	09:30	09:52
15/05/2015	HGFR	80	HGFR068	DC	23655	50.2921	-7.5935	10:21	10:43
15/05/2015	HGFR	80	HGFR068	DC	23947	50.2904	-7.5935	10:21	10:43
15/05/2015	HGFR	81	HGFR077	DC	23948	50.3048	-7.6121	11:19	11:40
15/05/2015	HGFR	81	HGFR077	DC	24224	50.3031	-7.6117	11:19	11:40
15/05/2015	HGFR	82	HGFR076	DC	24227	50.3202	-7.6508	12:16	12:38
15/05/2015	HGFR	82	HGFR076	DC	24513	50.3184	-7.6506	12:16	12:38
15/05/2015	HGFR	83	HGFR084	DC	24514	50.3442	-7.6222	13:11	13:32
15/05/2015	HGFR	83	HGFR084	DC	24802	50.3425	-7.6212	13:11	13:32
15/05/2015	HGFR	84	HGFR083	DC	24805	50.3309	-7.6026	14:00	14:23
15/05/2015	HGFR	84	HGFR083	DC	25070	50.3297	-7.6048	14:00	14:23
15/05/2015	HGFR	85	HGFR082	DC	25073	50.3307	-7.5865	14:47	15:08
15/05/2015	HGFR	85	HGFR082	DC	25332	50.3303	-7.5892	14:47	15:08
15/05/2015	HGFR	86	HGFR078	DC	25333	50.3141	-7.5633	15:44	16:06
15/05/2015	HGFR	86	HGFR078	DC	25608	50.3143	-7.5661	15:44	16:06
15/05/2015	HGFR	87	HGFR079	DC	25609	50.3179	-7.5427	17:00	17:27
15/05/2015	HGFR	87	HGFR079	DC	25934	50.3190	-7.5447	17:00	17:27
15/05/2015	HGFR	88	HGFR080	DC	25935	50.3282	-7.5311	17:51	18:09
15/05/2015	HGFR	88	HGFR080	DC	26156	50.3269	-7.5331	17:51	18:09
15/05/2015	HGFR	89	HGFR081	DC	26157	50.3348	-7.5552	18:36	18:53
15/05/2015	HGFR	89	HGFR081	DC	26368	50.3341	-7.5528	18:36	18:53
15/05/2015	HGFR	90	HGFR086	DC	26369	50.3562	-7.5252	19:35	20:00
15/05/2015	HGFR	90	HGFR086	DC	26666	50.3544	-7.5258	19:35	20:00
15/05/2015	HGFR	91	HGFR085	DC	26667	50.3631	-7.5385	20:23	20:45
15/05/2015	HGFR	91	HGFR085	DC	26927	50.3618	-7.5366	20:23	20:45
16/05/2015	EHGF	101	EHGF235	DC	26928	50.4127	-6.5348	00:56	01:06
16/05/2015	EHGF	101	EHGF235	DC	27049	50.4122	-6.5358	00:56	01:06
16/05/2015	EHGF	102	EHGF235	HG	27050	50.4124	-6.5353	01:36	
16/05/2015	EHGF	103	EHGF234	HG	27051	50.4125	-6.5459	01:58	
16/05/2015	EHGF	104	EHGF233	HG	27052	50.4125	-6.5567	02:18	
16/05/2015	EHGF	105	EHGF090	HG	27053	50.4156	-6.5693	02:42	
16/05/2015	EHGF	106	EHGF232	HG	27054	50.4124	-6.5889	03:37	
16/05/2015	EHGF	107	EHGF231	HG	27055	50.4125	-6.5995	03:56	
16/05/2015	EHGF	108	EHGF230	HG	27056	50.4096	-6.6160	04:18	
16/05/2015	EHGF	109	EHGF089	HG	27057	50.4156	-6.6201	04:37	
16/05/2015	EHGF	110	EHGF229	DC	27058	50.4127	-6.6314	05:04	05:15

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
16/05/2015	EHGF	110	EHGF229	DC	27186	50.4120	-6.6322	05:04	05:15
16/05/2015	EHGF	111	EHGF229	HG	27187	50.4125	-6.6317	05:27	
16/05/2015	EHGF	112	EHGF088	HG	27188	50.4156	-6.6371	05:45	
16/05/2015	EHGF	113	EHGF228	HG	27189	50.4124	-6.6532	06:09	
15/05/2015	EHGF	114	EHGF272	DC	27315	50.4129	-6.6686	07:06	07:17
15/05/2015	EHGF	114	EHGF272	DC	27790	50.4135	-6.6677	07:06	07:17
16/05/2015	EHGF	115	EHGF217	HG	27316	50.4231	-6.6637	08:02	
16/05/2015	EHGF	116	EHGF289	DC	27317	50.4263	-6.6633	08:25	08:35
16/05/2015	EHGF	116	EHGF289	DC	27444	50.4256	-6.6641	08:25	08:35
16/05/2015	EHGF	117	EHGF218	HG	27445	50.4232	-6.6533	08:59	
16/05/2015	EHGF	118	EHGF219	HG	27446	50.4231	-6.6212	09:27	
16/05/2015	EHGF	119	EHGF220	DC	27447	50.4234	-6.6096	09:49	10:00
16/05/2015	EHGF	119	EHGF220	DC	27573	50.4230	-6.6108	09:49	10:00
16/05/2015	EHGF	120	EHGF220	HG	27574	50.4232	-6.6103	10:12	
16/05/2015	EHGF	121	EHGF221	HG	27575	50.4231	-6.5996	10:34	
16/05/2015	EHGF	122	EHGF222	DC	27576	50.4234	-6.5882	10:58	11:09
16/05/2015	EHGF	122	EHGF222	DC	27709	50.4229	-6.5895	10:58	11:09
16/05/2015	EHGF	123	EHGF122	HG	27710	50.4232	-6.5889	11:23	
16/05/2015	EHGF	124	EHGF223	DC	27755	50.4234	-6.5778	12:54	13:04
16/05/2015	EHGF	124	EHGF223	DC	27871	50.4228	-6.5786	12:54	13:04
16/05/2015	EHGF	124	EHGF223	DC				12:04	12:07
16/05/2015	EHGF	125	EHGF223	HG	27752	50.4232	-6.5781	12:19	
16/05/2015	EHGF	125	EHGF223	HG	27753	50.4232	-6.5782	12:28	
16/05/2015	EHGF	125	EHGF223	HG	27754	50.4231	-6.5782	12:38	
16/05/2015	EHGF	126	EHGF224	HG	27872	50.4231	-6.5567	13:27	
16/05/2015	EHGF	127	EHGF225	HG	27873	50.4232	-6.5459	13:47	
16/05/2015	EHGF	128	EHGF226	HG	27875	50.4231	-6.5246	14:21	
16/05/2015	EHGF	128	EHGF226	HG	27876	50.4231	-6.5246	14:13	
16/05/2015	EHGF	128	EHGF226	HG	27876	50.4231	-6.5246	14:21	
16/05/2015	EHGF	129	EHGF226	DC	27874	50.4231	-6.5246	14:45	14:55
16/05/2015	EHGF	129	EHGF226	DC	27991	50.4228	-6.5209	14:45	14:55
16/05/2015	EHGF	130	EHGF211	DC	28003	50.4342	-6.5349	15:19	15:29
16/05/2015	EHGF	130	EHGF211	DC	28122	50.4335	-6.5358	15:19	15:29
16/05/2015	EHGF	131	EHGF211	HG	28175	50.4337	-6.5356	14:52	
16/05/2015	EHGF	132	EHGF210	DC	28176	50.4342	-6.5561	16:40	16:50
16/05/2015	EHGF	132	EHGF210	DC	28301	50.4348	-6.5552	16:40	16:50
16/05/2015	EHGF	133	EHGF210	HG	28302	50.4346	-6.5556	17:02	
16/05/2015	EHGF	133	EHGF210	HG	28303	50.4346	-6.5556	17:10	
16/05/2015	EHGF	133	EHGF210	HG	28304	50.4345	-6.5557	17:19	
16/05/2015	EHGF	134	EHGF288	DC	28305	50.4286	-6.5761	17:44	17:55
16/05/2015	EHGF	134	EHGF288	DC	28439	50.4279	-6.5772	17:44	17:55
16/05/2015	EHGF	135	EHGF209	DC	28440	50.4338	-6.5783	18:16	18:26

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
16/05/2015	EHGF	135	EHGF209	DC	28563	50.4342	-6.5778	18:16	18:26
16/05/2015	EHGF	136	EHGF209	HG	28561	50.4339	-6.5782	18:39	
16/05/2015	EHGF	136	EHGF209	HG	28562	50.4338	-6.5782	18:47	
16/05/2015	EHGF	136	EHGF209	HG	28563	50.4338	-6.5783	18:56	
16/05/2015	EHGF	137	EHGF085	HG	28564	50.4325	-6.5863	19:21	
16/05/2015	EHGF	138	EHGF208	HG	28565	50.4339	-6.5996	19:43	
16/05/2015	EHGF	139	EHGF084	HG	28566	50.4325	-6.6201	20:14	
16/05/2015	EHGF	139	EHGF084	HG	28567	50.4326	-6.6201	20:22	
16/05/2015	EHGF	140	EHGF207	HG	28568	50.4339	-6.6425	20:54	
16/05/2015	EHGF	141	EHGF346	HG	28569	50.4374	-6.6526	21:15	
16/05/2015	EHGF	142	EHGF347	HG	28570	50.4419	-6.6372	21:38	
16/05/2015	EHGF	143	EHGF287	DC	28570	50.4419	-6.6372	22:01	22:11
16/05/2015	EHGF	143	EHGF287	DC	28690	50.4462	-6.6435	22:01	22:11
16/05/2015	EHGF	144	EHGF286	DC	28691	50.4491	-6.6333	22:33	22:44
16/05/2015	EHGF	144	EHGF286	DC	28821	50.4487	-6.6346	22:33	22:44
16/05/2015	EHGF	145	EHGF196	DC	28822	50.4450	-6.6204	23:18	23:28
16/05/2015	EHGF	145	EHGF196	DC	28945	50.4443	-6.6215	23:18	23:28
16/05/2015	EHGF	146	EHGF196	HG	28945	50.4443	-6.6215	23:44	
17/05/2015	EHGF	147	EHGF197	DC	28951	50.4448	-6.6098	00:08	00:18
17/05/2015	EHGF	147	EHGF197	DC	29068	50.4444	-6.6109	00:08	00:18
17/05/2015	EHGF	148	EHGF197	HG	29071	50.4444	-6.6109	00:30	
17/05/2015	EHGF	149	EHGF198	DC	29077	50.4448	-6.5883	00:54	01:04
17/05/2015	EHGF	149	EHGF198	DC	29194	50.4444	-6.5894	00:54	01:04
17/05/2015	EHGF	150	EHGF198	HG	29195	50.4444	-6.5894	01:15	
17/05/2015	EHGF	150	EHGF198	HG	29196	50.4444	-6.5895	01:24	
17/05/2015	EHGF	151	EHGF077	DC	29197	50.4497	-6.5857	01:45	01:55
17/05/2015	EHGF	151	EHGF077	DC	29319	50.4492	-6.5868	01:45	01:55
17/05/2015	EHGF	152	EHGF077	HG	29320	50.4492	-6.5869	02:12	
17/05/2015	EHGF	153	EHGF078	DC	29328	50.4497	-6.5689	02:36	02:46
17/05/2015	EHGF	153	EHGF078	DC	29448	50.4491	-6.5700	02:36	02:46
17/05/2015	EHGF	154	EHGF078	HG	29449	50.4494	-6.5694	03:22	
17/05/2015	EHGF	155	EHGF199	DC	29450	50.4449	-6.5670	03:42	03:53
17/05/2015	EHGF	155	EHGF199	DC	29572	50.4443	-6.5679	03:42	03:53
17/05/2015	EHGF	156	EHGF199	HG	29573	50.4446	-6.5674	04:04	
17/05/2015	EHGF	156	EHGF199	HG	29574	50.4446	-6.5674	04:12	
17/05/2015	EHGF	156	EHGF199	HG	29575	50.4447	-6.5673	04:20	
17/05/2015	EHGF	157	EHGF079	HG	29576	50.4495	-6.5524	04:44	
17/05/2015	EHGF	158	EHGF200	HG	29577	50.4447	-6.5460	05:06	
17/05/2015	EHGF	159	EHGF080	HG	29578	50.4495	-6.5355	05:27	
17/05/2015	EHGF	160	EHGF201	DC	29580	50.4450	-6.5349	05:53	06:03
17/05/2015	EHGF	160	EHGF201	DC	29704	50.4443	-6.5357	05:53	06:03
17/05/2015	EHGF	161	EHGF201	HG	29705	50.4449	-6.5349	06:17	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
17/05/2015	EHGF	161	EHGF201	HG	29706	50.4449	-6.5350	06:24	
17/05/2015	EHGF	161	EHGF201	HG	29707	50.4448	-6.5350	06:58	
17/05/2015	EHGF	162	EHGF202	HG	29708	50.4446	-6.5245	07:20	
17/05/2015	EHGF	163	EHGF284	HG	29709	50.4446	-6.5139	07:40	
17/05/2015	EHGF	163	EHGF284	HG	29710	50.4446	-6.5139	07:48	
17/05/2015	EHGF	163	EHGF284	HG	29711	50.4446	-6.5140	07:56	
17/05/2015	EHGF	164	EHGF192	HG	29712	50.4553	-6.5139	08:20	
17/05/2015	EHGF	164	EHGF192	HG	29713	50.4553	-6.5139	08:27	
17/05/2015	EHGF	164	EHGF192	HG	29714	50.4553	-6.5140	08:35	
17/05/2015	EHGF	165	EHGF284	DC	29715	50.4582	-6.5187	09:00	09:10
17/05/2015	EHGF	165	EHGF284	DC	29837	50.4579	-6.5199	09:00	09:10
17/05/2015	EHGF	166	EHGF191	HG	29838	50.4553	-6.5353	09:32	
17/05/2015	EHGF	167	EHGF190	DC	29839	50.4555	-6.5559	09:56	10:06
17/05/2015	EHGF	167	EHGF190	DC	29961	50.4548	-6.5586	09:56	10:06
17/05/2015	EHGF	168	EHGF190	HG	29963	50.4552	-6.5571	20:35	
17/05/2015	EHGF	168	EHGF190	HG	29964	50.4552	-6.5571	20:42	
17/05/2015	EHGF	168	EHGF190	HG	29966	50.4552	-6.5572	20:50	
17/05/2015	EHGF	169	EHGF283	DC	29967	50.4605	-6.5646	21:13	21:24
17/05/2015	EHGF	169	EHGF283	DC	30097	50.4601	-6.5658	21:13	21:24
17/05/2015	EHGF	170	EHGF189	DC	30098	50.4557	-6.5669	21:58	22:08
17/05/2015	EHGF	170	EHGF189	DC	30216	50.4550	-6.5677	21:58	22:08
17/05/2015	EHGF	171	EHGF189	HG	30217	50.4553	-6.5675	22:22	
17/05/2015	EHGF	172	EHGF188	DC	30218	50.4556	-6.5775	22:24	22:34
17/05/2015	EHGF	172	EHGF188	DC	30343	50.4551	-6.5787	22:24	22:34
17/05/2015	EHGF	173	EHGF188	HG	30344	50.4556	-6.5782	23:09	
17/05/2015	EHGF	174	EHGF187	HG	30345	50.4553	-6.6103	23:37	
17/05/2015	EHGF	175	EHGF186	DC	30346	50.4557	-6.6206	23:58	00:09
17/05/2015	EHGF	175	EHGF186	DC	30473	50.4549	-6.6214	23:58	00:09
18/05/2015	EHGF	176	EHGF186	HG	30474	50.4551	-6.6212	00:21	
18/05/2015	EHGF	176	EHGF186	HG	30475	50.4551	-6.6212	00:28	
18/05/2015	EHGF	176	EHGF186	HG	30476	50.4550	-6.6211	00:35	
18/05/2015	EHGF	177	EHGF185	HG	30477	50.4554	-6.6317	00:57	
18/05/2015	EHGF	177	EHGF185	HG	30478	50.4553	-6.6317	01:04	
18/05/2015	EHGF	177	EHGF185	HG	30479	50.4553	-6.6317	01:11	
18/05/2015	EHGF	178	EHGF184	DC	30480	50.4556	-6.6419	01:33	01:43
18/05/2015	EHGF	178	EHGF184	DC	30603	50.4550	-6.6430	01:33	01:43
18/05/2015	EHGF	179	EHGF184	HG	30604	50.4553	-6.6424	01:54	
18/05/2015	EHGF	179	EHGF184	HG	30605	50.4553	-6.6425	02:02	
18/05/2015	EHGF	179	EHGF184	HG	30606	50.4552	-6.6425	02:10	
18/05/2015	EHGF	180	EHGF338	DC	30607	50.4531	-6.6475	02:28	02:48
18/05/2015	EHGF	180	EHGF338	DC	30735	50.4527	-6.6488	02:28	02:48
18/05/2015	EHGF	181	EHGF338	HG	30736	50.4529	-6.6480	02:50	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
18/05/2015	EHGF	182	EHGF173	DC	30737	50.4664	-6.6421	03:25	03:35
18/05/2015	EHGF	182	EHGF173	DC	30859	50.4657	-6.6428	03:25	03:35
18/05/2015	EHGF	183	EHGF072	HG	30860	50.4656	-6.6363	03:57	
18/05/2015	EHGF	184	EHGF282	DC	30861	50.4674	-6.6221	04:30	04:40
18/05/2015	EHGF	184	EHGF282	DC	30982	50.4669	-6.6231	04:30	04:40
18/05/2015	EHGF	185	EHGF174	HG	30983	50.4661	-6.6102	05:08	
18/05/2015	EHGF	186	EHGF278	DC	30984	50.4613	-6.5983	05:30	05:41
18/05/2015	EHGF	186	EHGF278	DC	31108	50.4607	-6.5992	05:30	05:41
18/05/2015	EHGF	187	EHGF279	DC	31109	50.4670	-6.5965	06:05	06:15
18/05/2015	EHGF	187	EHGF279	DC	31230	50.4663	-6.5973	06:05	06:15
18/05/2015	EHGF	188	EHGF175	DC	31231	50.4646	-6.5912	07:05	07:16
18/05/2015	EHGF	188	EHGF175	DC	31355	50.4645	-6.5926	07:05	07:16
18/05/2015	EHGF	189	EHGF175	HG	31356	50.4645	-6.5918	07:29	
18/05/2015	EHGF	189	EHGF175	HG	31357	50.4645	-6.5918	07:41	
18/05/2015	EHGF	190	EHGF073	HG	31358	50.4663	-6.5862	08:17	
18/05/2015	EHGF	191	EHGF176	DC	31359	50.4660	-6.5773	08:47	08:57
18/05/2015	EHGF	191	EHGF176	DC	31481	50.4660	-6.5779	08:47	08:57
18/05/2015	EHGF	192	EHGF176	HG	31482	50.4660	-6.5781	09:10	
18/05/2015	EHGF	192	EHGF176	HG	31483	50.4660	-6.5781	09:19	
18/05/2015	EHGF	192	EHGF176	HG	31484	50.4661	-6.5781	09:28	
18/05/2015	EHGF	192	EHGF176	HG	36846	50.4660	-6.5781	00:41	
18/05/2015	EHGF	192	EHGF176	HG	36847	50.4661	-6.5781	00:49	
18/05/2015	EHGF	193	EHGF177	DC	31485	50.4664	-6.5678	09:53	10:04
18/05/2015	EHGF	193	EHGF177	DC	31613	50.4657	-6.5671	09:53	10:04
18/05/2015	EHGF	194	EHGF179	DC	31614	50.4665	-6.5354	10:44	10:54
18/05/2015	EHGF	194	EHGF179	DC	31740	50.4660	-6.5354	10:44	10:54
18/05/2015	EHGF	195	EHGF180	DC	31741	50.4663	-6.5240	11:32	11:43
18/05/2015	EHGF	195	EHGF180	DC	31874	50.4658	-6.5252	11:32	11:43
18/05/2015	EHGF	196	EHGF275	DC	31875	50.4797	-6.5169	12:12	12:22
18/05/2015	EHGF	196	EHGF275	DC	32001	50.4791	-6.5180	12:12	12:22
18/05/2015	EHGF	197	EHGF169	DC	32002	50.4770	-6.5456	13:09	13:20
18/05/2015	EHGF	197	EHGF169	DC	32135	50.4764	-6.5465	13:09	13:20
18/05/2015	EHGF	198	EHGF167	DC	32136	50.4771	-6.5669	13:49	13:59
18/05/2015	EHGF	198	EHGF167	DC	32260	50.4764	-6.5680	13:49	13:59
18/05/2015	EHGF	199	EHGF281	DC	32261	50.4721	-6.5762	14:54	15:03
18/05/2015	EHGF	199	EHGF281	DC	32376	50.4715	-6.5771	14:54	15:03
18/05/2015	EHGF	200	EHGF166	DC	32379	50.4770	-6.5885	15:36	15:47
18/05/2015	EHGF	200	EHGF166	DC	32518	50.4764	-6.5894	15:36	15:47
18/05/2015	EHGF	201	EHGF164	DC	32519	50.4770	-6.6205	16:42	16:59
18/05/2015	EHGF	201	EHGF164	DC	32737	50.4765	-6.6221	16:42	16:59
18/05/2015	EHGF	202	EHGF163	DC	32745	50.4769	-6.6313	17:23	17:33
18/05/2015	EHGF	202	EHGF163	DC	32854	50.4764	-6.6321	17:23	17:33

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
18/05/2015	EHGF	203	EHGF161	DC	32882	50.4770	-6.6526	18:08	18:19
18/05/2015	EHGF	203	EHGF161	DC	33011	50.4764	-6.6537	18:08	18:19
18/05/2015	EHGF	204	EHGF276	DC	33016	50.4810	-6.6772	18:56	19:07
18/05/2015	EHGF	204	EHGF276	DC	33131	50.4805	-6.6782	18:56	19:07
18/05/2015	EHGF	205	EHGF158	DC	33132	50.4769	-6.6847	19:45	19:55
18/05/2015	EHGF	205	EHGF158	DC	33252	50.4769	-6.6860	19:45	19:55
18/05/2015	EHGF	206	EHGF280	DC	33253	50.4716	-6.7002	20:28	20:38
18/05/2015	EHGF	206	EHGF280	DC	33372	50.4720	-6.7013	20:28	20:38
18/06/2015	EHGF	207	EHGF277	DC	33374	50.4749	-6.7167	21:16	21:26
18/06/2015	EHGF	207	EHGF277	DC	33500	50.4751	-6.7178	21:16	21:26
18/05/2015	EHGF	208	EHGF271	DC	33501	50.4875	-6.5261	22:50	23:00
18/05/2015	EHGF	208	EHGF271	DC	33619	50.4883	-6.5267	22:50	23:00
18/05/2015	EHGF	209	EHGF269	DC	33620	50.4904	-6.5280	23:40	23:50
18/05/2015	EHGF	209	EHGF269	DC	33743	50.4900	-6.5291	23:40	23:50
19/05/2015	EHGF	210	EHGF155	DC	33744	50.4876	-6.5347	00:15	00:25
19/05/2015	EHGF	210	EHGF155	DC	33866	50.4871	-6.5359	00:15	00:25
19/05/2015	EHGF	211	EHGF154	DC	33867	50.4876	-6.5561	00:58	01:09
19/05/2015	EHGF	211	EHGF154	DC	33990	50.4873	-6.5570	00:58	01:09
19/05/2015	EHGF	212	EHGF152	DC	33991	50.4877	-6.5884	01:55	02:06
19/05/2015	EHGF	212	EHGF152	DC	34119	50.4873	-6.5893	01:55	02:06
19/05/2015	EHGF	213	EHGF259	DC	34120	50.4902	-6.5900	02:34	02:45
19/05/2015	EHGF	213	EHGF259	DC	34242	50.4896	-6.5909	02:34	02:45
19/05/2015	EHGF	214	EHGF151	DC	34243	50.4878	-6.5991	03:24	03:34
19/05/2015	EHGF	214	EHGF151	DC	34368	50.4872	-6.6001	03:24	03:34
19/05/2015	EHGF	215	EHGF067	DC	34369	50.4835	-6.6030	04:06	04:17
19/05/2015	EHGF	215	EHGF067	DC	34501	50.4830	-6.6039	04:06	04:17
19/05/2015	EHGF	216	EHGF274	DC	34502	50.4858	-6.6131	04:51	05:01
19/05/2015	EHGF	216	EHGF274	DC	34631	50.4851	-6.6140	04:51	05:01
19/05/2015	EHGF	217	EHGF273	DC	34632	50.4856	-6.6291	05:32	05:43
19/05/2015	EHGF	217	EHGF273	DC	34758	50.4852	-6.6300	05:32	05:43
19/05/2015	EHGF	218	EHGF150	DC	34759	50.4877	-6.6635	06:58	07:09
19/05/2015	EHGF	218	EHGF150	DC	34892	50.4871	-6.6646	06:58	07:09
19/05/2015	EHGF	219	EHGF270	DC	34893	50.4876	-6.7044	07:51	08:01
19/05/2015	EHGF	219	EHGF270	DC	35013	50.4882	-6.7054	07:51	08:01
19/05/2015	EHGF	220	EHGF309	DC	35042	50.4922	-6.7525	09:20	09:30
19/05/2015	EHGF	220	EHGF309	DC	35164	50.4927	-6.7535	09:20	09:30
19/05/2015	EHGF	220	EHGF309	DC				08:41	08:47
19/05/2015	EHGF	220	EHGF309	DC					
19/05/2016	EHGF	221	EHGF268	DC	35168	50.5009	-6.5295	10:55	11:06
19/05/2016	EHGF	221	EHGF268	DC	35289	50.5003	-6.5286	10:55	11:06
19/05/2015	EHGF	222	EHGF147	DC	35290	50.4984	-6.5347	11:34	11:44
19/05/2015	EHGF	222	EHGF147	DC	35418	50.4980	-6.5359	11:34	11:44

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
19/05/2015	EHGF	223	EHGF146	DC	35419	50.4984	-6.5455	12:09	12:20
19/05/2015	EHGF	223	EHGF146	DC	35545	50.4979	-6.5467	12:09	12:20
19/05/2015	EHGF	224	EHGF266	DC	35546	50.4935	-6.5512	12:45	12:55
19/05/2015	EHGF	224	EHGF266	DC	35678	50.4930	-6.5525	12:45	12:55
19/05/2015	EHGF	225	EHGF265	DC	35679	50.5019	-6.5715	13:23	13:33
19/05/2015	EHGF	225	EHGF265	DC	35805	50.5013	-6.5725	13:23	13:33
19/05/2015	EHGF	226	EHGF144	DC	35806	50.4984	-6.5777	14:00	14:10
19/05/2015	EHGF	226	EHGF144	DC	35926	50.4979	-6.5788	14:00	14:10
19/05/2015	EHGF	227	EHGF142	DC	35927	50.4985	-6.5991	14:38	14:48
19/05/2015	EHGF	227	EHGF142	DC	36056	50.4978	-6.6001	14:38	14:48
19/05/2015	EHGF	228	EHGF257	DC	36057	50.5088	-6.6335	15:21	15:31
19/05/2015	EHGF	228	EHGF257	DC	36177	50.5082	-6.6344	15:21	15:31
19/05/2015	EHGF	229	EHGF135	DC	36178	50.5092	-6.6420	15:49	15:59
19/05/2015	EHGF	229	EHGF135	DC	36305	50.5085	-6.6429	15:49	15:59
19/05/2015	EHGF	230	EHGF135	HG	36306	50.5091	-6.6421	16:40	
19/05/2015	EHGF	231	EHGF134	DC	36307	50.5092	-6.6635	17:12	17:22
19/05/2015	EHGF	231	EHGF134	DC	36426	50.5086	-6.6644	17:12	17:22
19/05/2015	EHGF	232	EHGF134	HG	36428	50.5089	-6.6639	17:42	
19/05/2015	EHGF	232	EHGF134	HG	36429	50.5088	-6.6640	17:34	
19/05/2015	EHGF	232	EHGF134	HG	36429	50.5088	-6.6640	17:50	
19/05/2015	EHGF	233	EHGF049	HG	36430	50.5171	-6.6708	18:13	
19/05/2015	EHGF	234	EHGF048	DC	36431	50.5174	-6.6874	18:41	18:51
19/05/2015	EHGF	234	EHGF048	DC	36555	50.5167	-6.6884	18:41	18:51
19/05/2015	EHGF	235	EHGF048	HG	36556	50.5171	-6.6878	19:01	
19/05/2015	EHGF	236	EHGF254	DC	36557	50.5109	-6.7042	19:27	19:38
19/05/2015	EHGF	236	EHGF254	DC	36691	50.5106	-6.7054	19:27	19:38
19/05/2015	EHGF	237	EHGF047	HG	36692	50.5171	-6.7215	20:07	
19/05/2015	EHGF	238	EHGF133	DC	36693	50.5091	-6.7380	20:35	20:48
19/05/2015	EHGF	238	EHGF133	DC	36840	50.5087	-6.7395	20:35	20:48
19/05/2015	EHGF	239	EHGF055	HG	36841	50.5121	-6.7533	21:11	
19/05/2015	EHGF	240	EHGF045	HG	36842	50.5042	-6.7786	21:42	
19/05/2015	EHGF	241	EHGF181	HG	36843	50.4660	-6.5138	23:21	
19/05/2015	EHGF	242	EHGF074	HG	36844	50.4743	-6.5250	23:44	
20/05/2015	EHGF	243	EHGF178	HG	36845	50.4660	-6.5460	00:12	
20/05/2015	EHGF	244	EHGF169	HG	36848	50.4767	-6.5460	01:17	
20/05/2015	EHGF	244	EHGF169	HG	36849	50.4768	-6.5460	01:23	
20/05/2015	EHGF	245	EHGF168	HG	36850	50.4767	-6.5567	01:42	
20/05/2015	EHGF	246	EHGF167	HG	36851	50.4767	-6.5674	02:03	
20/05/2015	EHGF	247	EHGF166	HG	36852	50.4767	-6.5889	02:30	
20/05/2015	EHGF	247	EHGF166	HG	36853	50.4768	-6.5889	02:37	
20/05/2015	EHGF	247	EHGF166	HG	36854	50.4767	-6.5889	02:45	
20/05/2015	EHGF	248	EHGF165	HG	36855	50.4767	-6.6102	03:23	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
20/05/2015	EHGF	248	EHGF165	HG	36856	50.4767	-6.6101	03:32	
20/05/2015	EHGF	248	EHGF165	HG	36857	50.4767	-6.6101	03:41	
20/05/2015	EHGF	249	EHGF164	HG	36858	50.4768	-6.6208	04:02	
20/05/2015	EHGF	250	EHGF163	HG	36850	50.4767	-6.5567	04:23	
20/05/2015	EHGF	251	EHGF162	HG	36860	50.4768	-6.6422	04:44	
20/05/2015	EHGF	252	EHGF161	HG	36861	50.4768	-6.6530	05:03	
20/05/2015	EHGF	253	EHGF160	HG	36862	50.4768	-6.6638	05:23	
20/05/2015	EHGF	254	EHGF159	HG	36863	50.4768	-6.6745	05:41	
20/05/2015	EHGF	255	EHGF158	HG	36864	50.4767	-6.6852	05:58	
20/05/2015	EHGF	255	EHGF158	HG	36865	50.4767	-6.6853	06:05	
20/05/2015	EHGF	256	EHGF155	HG	36866	50.4875	-6.5352	07:10	
20/05/2015	EHGF	257	EHGF070	HG	36867	50.4833	-6.5355	07:30	
20/05/2015	EHGF	258	EHGF069	HG	36868	50.4832	-6.5523	07:50	
20/05/2015	EHGF	258	EHGF069	HG	36869	50.4833	-6.5524	07:58	
20/05/2015	EHGF	259	EHGF153	HG	36870	50.4874	-6.5782	08:24	
20/05/2015	EHGF	259	EHGF153	HG	36871	50.4875	-6.5782	08:32	
20/05/2015	EHGF	260	EHGF068	HG	36872	50.4833	-6.5863	08:54	
20/05/2015	EHGF	261	EHGF151	HG	36873	50.4875	-6.5996	09:15	
20/05/2015	EHGF	261	EHGF151	HG	36874	50.4875	-6.5996	09:23	
20/05/2015	EHGF	262	EHGF067	HG	36875	50.4833	-6.6032	09:46	
20/05/2015	EHGF	262	EHGF067	HG	36875	50.4833	-6.6032	09:54	
20/05/2015	EHGF	262	EHGF067	HG	36877	50.4834	-6.6032	10:02	
20/05/2015	EHGF	263	EHGF066	HG	36878	50.4833	-6.6201	10:39	
20/05/2015	EHGF	264	EHGF323	HG	36879	50.4799	-6.6242	11:01	
20/05/2015	EHGF	265	EHGF065	HG	36880	50.4832	-6.6369	11:20	
20/05/2015	EHGF	266	EHGF064	HG	36881	50.4833	-6.6539	12:02	
20/05/2015	EHGF	267	EHGF140	HG	36882	50.4982	-6.6639	12:25	
20/05/2015	EHGF	267	EHGF140	HG	36883	50.4982	-6.6639	12:33	
20/05/2015	EHGF	267	EHGF140	HG	36884	50.4984	-6.6638	12:43	
20/05/2015	EHGF	268	EHGF056	HG	36885	50.5030	-6.6545	13:02	
20/05/2015	EHGF	269	EHGF141	HG	36886	50.4982	-6.6531	13:25	
20/05/2015	EHGF	269	EHGF141	HG	36887	50.4983	-6.6532	13:32	
20/05/2015	EHGF	270	EHGF057	HG	36888	50.5002	-6.6370	13:56	
20/05/2015	EHGF	271	EHGF058	HG	36889	50.5002	-6.6201	14:19	
20/05/2015	EHGF	271	EHGF058	HG	36890	50.5002	-6.6202	14:27	
20/05/2015	EHGF	272	EHGF136	HG	36891	50.5083	-6.6098	14:50	
20/05/2015	EHGF	273	EHGF059	HG	36892	50.5029	-6.5998	15:13	
20/05/2015	EHGF	274	EHGF143	HG	36893	50.4983	-6.5889	15:40	
20/05/2015	EHGF	274	EHGF143	HG	36894	50.4983	-6.5890	15:50	
20/05/2015	EHGF	275	EHGF103	HG	100001	50.5009	-6.5837	16:31	
20/05/2015	EHGF	276	EHGF144	HG	36895	50.4984	-6.5779	17:00	
20/05/2015	EHGF	277	EHGF145	HG	36896	50.4982	-6.5673	17:27	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
20/05/2015	EHGF	278	EHGF061	HG	36897	50.5002	-6.5526	17:51	
20/05/2015	EHGF	279	EHGF062	HG	36898	50.5059	-6.5418	18:12	
20/05/2015	EHGF	280	EHGF147	HG	36899	50.4981	-6.5354	18:33	
20/05/2015	EHGF	281	EHGF148	HG	36900	50.4982	-6.5245	18:54	
20/05/2015	EHGF	282	EHGF149	HG	36901	50.4981	-6.5137	19:21	
20/05/2015	EHGF	283	EHGF253	DC	36902	50.5151	-6.5165	19:54	20:04
20/05/2015	EHGF	283	EHGF253	DC	37028	50.5156	-6.5174	19:54	20:04
20/05/2015	EHGF	284	EHGF256	DC	37029	50.5104	-6.5141	20:32	20:43
20/05/2015	EHGF	284	EHGF256	DC	37159	50.5109	-6.5153	20:32	20:43
20/05/2015	EHGF	285	EHGF264	DC	37160	50.5060	-6.5165	21:05	21:15
20/05/2015	EHGF	285	EHGF264	DC	37286	50.5065	-6.5177	21:05	21:15
20/05/2015	EHGF	286	EHGF263	DC	37287	50.5047	-6.5223	21:41	21:51
20/05/2015	EHGF	286	EHGF263	DC	37416	50.5056	-6.5228	21:41	21:51
20/05/2015	EHGF	287	EHGF262	DC	37417	50.5058	-6.5282	22:14	22:25
20/05/2015	EHGF	287	EHGF262	DC	37548	50.5066	-6.5289	22:14	22:25
20/05/2015	EHGF	288	EHGF258	DC	37549	50.5082	-6.5305	22:45	22:56
20/05/2015	EHGF	288	EHGF258	DC	37674	50.5089	-6.5313	22:45	22:56
20/05/2015	EHGF	289	EHGF255	DC	37675	50.5104	-6.5397	23:33	23:43
20/05/2015	EHGF	289	EHGF255	DC	37798	50.5112	-6.5402	23:33	23:43
21/05/2015	EHGF	290	EHGF252	DC	37799	50.5110	-6.5476	00:03	00:13
21/05/2015	EHGF	290	EHGF252	DC	37922	50.5119	-6.5479	00:03	00:13
21/05/2015	EHGF	291	EHGF138	DC	37923	50.5085	-6.5566	00:33	00:43
21/05/2015	EHGF	291	EHGF138	DC	38045	50.5093	-6.5569	00:33	00:43
21/05/2015	EHGF	292	EHGF138	HG	38046	50.5088	-6.5567	00:55	
21/05/2015	EHGF	293	EHGF261	DC	38047	50.5050	-6.5648	01:19	01:29
21/05/2015	EHGF	293	EHGF261	DC	38170	50.5058	-6.5652	01:19	01:29
21/05/2015	EHGF	294	EHGF137	DC	38171	50.5085	-6.5779	01:46	01:56
21/05/2015	EHGF	294	EHGF137	DC	38295	50.5093	-6.5783	01:46	01:56
21/05/2015	EHGF	295	EHGF137	HG	38296	50.5094	-6.5783	02:05	
21/05/2015	EHGF	296	EHGF267	DC	38297	50.5060	-6.5838	02:32	02:42
21/05/2015	EHGF	296	EHGF267	DC	38419	50.5065	-6.5849	02:32	02:42
21/05/2015	EHGF	297	EHGF251	DC	38420	50.5167	-6.5318	03:17	03:27
21/05/2015	EHGF	297	EHGF251	DC	38544	50.5169	-6.5331	03:17	03:27
21/05/2015	EHGF	298	EHGF054	DC	38559	50.5170	-6.5350	03:40	03:50
21/05/2015	EHGF	298	EHGF054	DC	38685	50.5171	-6.5363	03:40	03:50
21/05/2015	EHGF	299	EHGF054	HG	38700	50.5171	-6.5355	04:02	
21/05/2015	EHGF	300	EHGF132	DC	38701	50.5196	-6.5454	04:25	04:36
21/05/2015	EHGF	300	EHGF132	DC	38841	50.5195	-6.5469	04:25	04:36
21/05/2015	EHGF	301	EHGF132	HG	38846	50.5196	-6.5460	04:46	
21/05/2015	EHGF	302	EHGF053	HG	38847	50.5172	-6.5525	05:07	
21/05/2015	EHGF	302	EHGF053	HG	38847	50.5172	-6.5525	05:07	
21/05/2015	EHGF	303	EHGF247	DC	38848	50.5223	-6.5601	05:27	05:38

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
21/05/2015	EHGF	303	EHGF247	DC	38977	50.5222	-6.5616	05:27	05:38
21/05/2015	EHGF	304	EHGF052	HG	38978	50.5171	-6.5695	05:59	
21/05/2015	EHGF	305	EHGF051	HG	38979	50.5166	-6.5844	06:58	
21/05/2015	EHGF	306	EHGF131	DC	38980	50.5196	-6.5877	07:20	07:30
21/05/2015	EHGF	306	EHGF131	DC	39102	50.5196	-6.5890	07:20	07:30
21/05/2015	EHGF	307	EHGF130	DC	39103	50.5195	-6.6202	09:08	09:16
21/05/2015	EHGF	307	EHGF130	DC	39225	50.5196	-6.6216	09:08	09:16
21/05/2015	EHGF	308	EHGF130	HG	39226	50.5196	-6.6210	08:27	
21/05/2015	EHGF	308	EHGF130	HG	39227	50.5196	-6.6210	08:34	
21/05/2015	EHGF	308	EHGF130	HG	39228	50.5196	-6.6211	08:41	
21/05/2015	EHGF	309	EHGF050	HG	39229	50.5171	-6.6540	09:44	
21/05/2015	EHGF	310	EHGF248	DC	39230	50.5196	-6.6494	10:12	10:22
21/05/2015	EHGF	310	EHGF248	DC	39354	50.5202	-6.6505	10:12	10:22
21/05/2015	EHGF	311	EHGF129	DC	39355	50.5193	-6.6311	10:46	10:57
21/05/2015	EHGF	311	EHGF129	DC	39477	50.5198	-6.6321	10:46	10:57
21/05/2015	EHGF	312	EHGF129	HG	39478	50.5196	-6.6317	11:09	
21/05/2015	EHGF	313	EHGF040	DC	39479	50.5336	-6.6539	11:34	11:44
21/05/2015	EHGF	313	EHGF040	DC	39604	50.5345	-6.6540	11:34	11:44
21/05/2015	EHGF	314	EHGF040	HG	39605	50.5340	-6.6539	11:54	
21/05/2015	EHGF	315	EHGF041	HG	39606	50.5340	-6.6370	12:16	
21/05/2015	EHGF	316	EHGF121	DC	39607	50.5299	-6.6426	12:38	12:49
21/05/2015	EHGF	316	EHGF121	DC	39744	50.5308	-6.6422	12:38	12:49
21/05/2015	EHGF	317	EHGF121	HG	39746	50.5303	-6.6424	13:01	
21/05/2015	EHGF	318	EHGF246	DC	39747	50.5264	-6.6388	13:21	13:31
21/05/2015	EHGF	318	EHGF246	DC	39867	50.5272	-6.6382	13:21	13:31
21/05/2015	EHGF	319	EHGF245	DC	39868	50.5287	-6.6317	13:52	14:02
21/05/2015	EHGF	319	EHGF245	DC	39986	50.5296	-6.6316	13:52	14:02
21/05/2015	EHGF	320	EHGF122	DC	39987	50.5299	-6.6213	14:18	14:28
21/05/2015	EHGF	320	EHGF122	DC	40109	50.5307	-6.6207	14:18	14:28
21/05/2015	EHGF	321	EHGF122	HG	40110	50.5303	-6.6203	14:41	
21/05/2015	EHGF	321	EHGF122	HG	40111	50.5304	-6.6204	14:48	
21/05/2015	EHGF	321	EHGF122	HG	40112	50.5304	-6.6205	14:55	
21/05/2015	EHGF	322	EHGF123	DC	40113	50.5303	-6.6098	15:16	15:26
21/05/2015	EHGF	322	EHGF123	DC	40227	50.5302	-6.6110	15:16	15:26
21/06/2015	EHGF	323	EHGF123	HG	40277	50.5302	-6.6108	15:37	
21/06/2015	EHGF	323	EHGF123	HG	40278	50.5303	-6.6107	15:46	
21/06/2015	EHGF	323	EHGF123	HG	40279	50.5303	-6.6106	15:56	
21/05/2015	EHGF	324	EHGF042	HG	40280	50.5340	-6.6033	16:36	
15/05/2015	EHGF	325	EHGF114	HG	40281	50.5410	-6.5995	16:56	
21/05/2015	EHGF	326	EHGF115	DC	40282	50.5411	-6.5885	17:22	17:32
21/05/2015	EHGF	326	EHGF115	DC	40402	50.5408	-6.5898	17:22	17:32
21/05/2015	EHGF	327	EHGF124	DC	40403	50.5326	-6.5881	17:56	18:06

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
21/05/2015	EHGF	327	EHGF124	DC	40519	50.5322	-6.5893	17:56	18:06
21/05/2015	EHGF	328	EHGF260	DC	40527	50.5268	-6.5766	18:42	18:52
21/05/2015	EHGF	328	EHGF260	DC	40647	50.5265	-6.5779	18:42	18:52
21/05/2015	EHGF	329	EHGF126	HG	40648	50.5310	-6.5668	19:19	
21/05/2015	EHGF	329	EHGF126	HG	40649	50.5310	-6.5669	19:27	
21/05/2015	EHGF	329	EHGF126	HG	40650	50.5309	-6.5671	19:36	
21/05/2015	EHGF	330	EHGF241	DC	40651	50.5395	-6.5741	20:01	20:11
21/05/2015	EHGF	330	EHGF241	DC	40779	50.5396	-6.5754	20:01	20:11
21/05/2015	EHGF	331	EHGF116	HG	40780	50.5410	-6.5675	20:36	
21/05/2015	EHGF	331	EHGF116	HG	40781	50.5410	-6.5676	20:45	
21/05/2015	EHGF	332	EHGF043	HG	40782	50.5340	-6.5524	21:14	
21/05/2015	EHGF	333	EHGF044	HG	40783	50.5340	-6.5355	21:42	
21/05/2015	EHGF	334	EHGF125	DC	40784	50.5298	-6.5439	22:11	22:22
21/05/2015	EHGF	334	EHGF125	DC	40910	50.5305	-6.5446	22:11	22:22
21/05/2015	EHGF	335	EHGF125	HG	40919	50.5302	-6.5443	22:34	
21/05/2015	EHGF	335	EHGF125	HG	40920	50.5302	-6.5444	22:42	
21/05/2015	EHGF	335	EHGF125	HG	40921	50.5303	-6.5444	22:51	
21/05/2015	EHGF	336	EHGF249	DC	40922	50.5280	-6.5350	23:17	23:28
21/05/2015	EHGF	336	EHGF249	DC	41045	50.5285	-6.5361	23:17	23:28
21/05/2015	EHGF	337	EHGF244	DC	41046	50.5311	-6.5237	23:49	23:59
21/05/2015	EHGF	337	EHGF244	DC	41166	50.5319	-6.5243	23:49	23:59
22/05/2015	EHGF	338	EHGF250	DC	41167	50.5227	-6.5223	00:23	00:33
22/05/2015	EHGF	338	EHGF250	DC	41290	50.5235	-6.5217	00:23	00:33
22/05/2015	EHGF	339	EHGF127	DC	41291	50.5300	-6.5134	00:55	01:05
22/05/2015	EHGF	339	EHGF127	DC	41413	50.5305	-6.5144	00:55	01:05
22/05/2015	EHGF	340	EHGF127	HG	41414	50.5302	-6.5139	01:16	
22/05/2015	EHGF	341	EHGF243	DC	41416	50.5371	-6.5143	01:37	01:47
22/05/2015	EHGF	341	EHGF243	DC	41538	50.5377	-6.5151	01:37	01:47
22/05/2015	EHGF	342	EHGF117	HG	41539	50.5410	-6.5245	02:06	
22/05/2015	EHGF	343	EHGF033	HG	41540	50.5501	-6.5156	02:52	
22/05/2015	EHGF	344	EHGF239	DC	41541	50.5566	-6.5211	03:12	03:22
22/05/2015	EHGF	344	EHGF239	DC	41665	50.5564	-6.5231	03:12	03:22
22/05/2015	EHGF	345	EHGF242	DC	41666	50.5498	-6.5234	03:52	04:03
22/05/2015	EHGF	345	EHGF242	DC	41790	50.5497	-6.5247	03:52	04:03
22/05/2015	EHGF	346	EHGF032	HG	41791	50.5495	-6.5367	04:26	
22/05/2015	EHGF	347	EHGF240	DC	41792	50.5498	-6.5508	04:50	05:00
22/05/2015	EHGF	347	EHGF240	DC	41915	50.5496	-6.5521	04:50	05:00
22/05/2015	EHGF	348	EHGF111	DC	41916	50.5518	-6.5561	05:18	05:29
22/05/2015	EHGF	348	EHGF111	DC	42040	50.5516	-6.5575	05:18	05:29
22/05/2015	EHGF	349	EHGF031	HG	32041	50.5505	-6.5621	05:43	
22/05/2015	EHGF	350	EHGF110	HG	42042	50.5517	-6.5675	06:03	
22/05/2015	EHGF	350	EHGF110	HG	42043	50.5517	-6.5676	06:11	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
22/05/2015	EHGF	350	EHGF110	HG	42044	50.5516	-6.5677	06:19	
22/05/2015	EHGF	351	EHGF109	HG	42045	50.5517	-6.5782	07:02	
22/05/2015	EHGF	352	EHGF108	HG	42046	50.5517	-6.5889	07:26	
22/05/2015	EHGF	353	EHGF107	DC	42047	50.5518	-6.6095	08:52	09:02
22/05/2015	EHGF	353	EHGF107	DC	42171	50.5517	-6.6109	08:52	09:02
22/05/2015	EHGF	354	EHGF030	HG	42226	50.5509	-6.6201	09:26	
22/05/2015	EHGF	355	EHGF029	HG	42227	50.5509	-6.6540	09:55	
22/05/2015	EHGF	356	EHGF017	DC	42239	50.5677	-6.6536	10:44	10:55
22/05/2015	EHGF	356	EHGF017	DC	42368	50.5681	-6.6549	10:44	10:55
22/05/2015	EHGF	356	EHGF017	DC				10:40	10:41
22/05/2015	EHGF	357	EHGF018	HG	42369	50.5678	-6.6370	11:17	
22/05/2015	EHGF	358	EHGF100	DC	42370	50.5620	-6.6318	11:38	11:48
22/05/2015	EHGF	358	EHGF100	DC	42489	50.5628	-6.6316	11:38	11:48
22/05/2015	EHGF	359	EHGF100	HG	42490	50.5629	-6.6316	11:59	
22/05/2015	EHGF	360	EHGF019	HG	42491	50.5678	-6.6200	12:21	
22/05/2015	EHGF	361	EHGF101	DC	42492	50.5621	-6.6100	12:43	12:53
22/05/2015	EHGF	361	EHGF101	DC	42613	50.5628	-6.6106	12:43	12:53
22/05/2015	EHGF	362	EHGF101	HG	42616	50.5628	-6.6105	13:04	
22/05/2015	EHGF	363	EHGF237	DC	42617	50.5700	-6.6086	13:21	13:31
22/05/2015	EHGF	363	EHGF237	DC	42738	50.5708	-6.6089	13:21	13:31
22/05/2015	EHGF	364	EHGF020	HG	42739	50.5678	-6.6031	13:49	
22/05/2015	EHGF	365	EHGF102	DC	42740	50.5621	-6.5886	14:14	14:24
22/05/2015	EHGF	365	EHGF102	DC	42865	50.5629	-6.5891	14:14	14:24
22/05/2015	EHGF	366	EHGF102	HG	42866	50.5628	-6.5891	14:35	
22/05/2015	EHGF	367	EHGF103	HG	42867	50.5624	-6.5782	14:52	
22/05/2015	EHGF	368	EHGF238	DC	42868	50.5609	-6.5698	15:13	15:13
22/05/2015	EHGF	368	EHGF238	DC	42988	50.5617	-6.5698	15:13	15:13
22/05/2015	EHGF	369	EHGF021	HG	42989	50.5679	-6.5524	15:46	
22/05/2015	EHGF	370	EHGF104	DC	42990	50.5667	-6.5350	16:40	16:50
22/05/2015	EHGF	370	EHGF104	DC	43119	50.5669	-6.5363	16:40	16:50
22/05/2015	EHGF	371	EHGF104	HG	43120	50.5668	-6.5361	17:00	
22/05/2015	EHGF	372	EHGF236	DC	43121	50.5796	-6.5145	17:27	17:38
22/05/2015	EHGF	372	EHGF236	DC	43247	50.5795	-6.5158	17:27	17:38
22/05/2015	EHGF	373	EHGF011	HG	43248	50.5847	-6.5187	17:53	
22/05/2015	EHGF	374	EHGF010	HG	43249	50.5848	-6.5355	18:15	
22/05/2015	EHGF	375	EHGF009	HG	43250	50.5848	-6.5524	18:37	
22/05/2015	EHGF	376	EHGF094	DC	43252	50.5837	-6.5776	19:02	19:13
22/05/2015	EHGF	376	EHGF094	DC	43353	50.5839	-6.5788	19:02	19:13
22/05/2015	EHGF	377	EHGF094	HG	43354	50.5838	-6.5782	19:23	
22/05/2015	EHGF	378	EHGF008	HG	43355	50.5848	-6.5862	19:47	
22/05/2015	EHGF	379	EHGF098	HG	43356	50.5809	-6.6008	20:15	
22/05/2015	EHGF	379	EHGF098	HG	43357	50.5808	-6.6010	20:24	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
22/05/2015	EHGF	379	EHGF098	HG	43358	50.5808	-6.6012	20:32	
22/05/2015	EHGF	380	EHGF007	DC	43359	50.5847	-6.6194	20:58	21:08
22/05/2015	EHGF	380	EHGF007	DC	43477	50.5847	-6.6207	20:58	21:08
22/05/2015	EHGF	381	EHGF007	HG	43478	50.5848	-6.6206	21:21	
22/05/2015	EHGF	382	EHGF006	HG	43479	50.5843	-6.6359	21:42	
22/05/2015	EHGF	383	EHGF093	HG	43480	50.5838	-6.6531	22:06	
22/05/2015	EHGF	383	EHGF093	HG	43481	50.5839	-6.6531	22:14	
22/05/2015	EHGF	383	EHGF093	HG	43482	50.5839	-6.6533	22:22	
22/05/2015	EHGF	384	EHGF005	HG	43483	50.5841	-6.6759	22:45	
22/05/2015	EHGF	385	EHGF092	HG	43484	50.5839	-6.6959	23:15	
22/05/2015	EHGF	386	EHGF004	HG	43485	50.5848	-6.7047	23:35	
22/05/2015	EHGF	387	EHGF003	HG	43486	50.5848	-6.7216	23:55	
23/05/2015	EHGF	388	EHGF002	DC	43487	50.5844	-6.7384	00:17	00:27
23/05/2015	EHGF	388	EHGF002	DC	43611	50.5852	-6.7387	00:17	00:27
23/05/2015	EHGF	389	EHGF002	HG	43630	50.5852	-6.7387	00:38	
23/05/2015	EHGF	390	EHGF091	HG	43631	50.5839	-6.7496	00:59	
23/05/2015	EHGF	390	EHGF091	HG	43632	50.5839	-6.7495	01:07	
23/05/2015	EHGF	390	EHGF091	HG	43633	50.5839	-6.7494	01:14	
23/05/2015	EHGF	391	EHGF001	HG	43634	50.5854	-6.7638	01:34	
23/05/2015	EHGF	392	EHGF292	HG	43635	50.5836	-6.7787	01:54	
23/05/2015	EHGF	393	EHGF291	HG	43636	50.5836	-6.7918	02:14	
23/05/2015	EHGF	394	EHGF293	HG	43637	50.5706	-6.7919	02:37	
23/05/2015	EHGF	395	EHGF095	DC	43638	50.5729	-6.7707	03:28	03:28
23/05/2015	EHGF	395	EHGF095	DC	43642	50.5729	-6.7707	03:28	03:28
23/05/2015	EHGF	395	EHGF095	DC	43643	50.5730	-6.7708	03:31	03:41
23/05/2015	EHGF	395	EHGF095	DC	43766	50.5738	-6.7715	03:31	03:41
23/05/2015	EHGF	396	EHGF012	HG	43767	50.5679	-6.7554	04:07	
23/05/2015	EHGF	397	EHGF099	DC	43768	50.5621	-6.7600	04:31	04:41
23/05/2015	EHGF	397	EHGF099	DC	43890	50.5628	-6.7606	04:31	04:41
23/05/2015	EHGF	398	EHGF099	HG	43891	50.5627	-6.7605	04:51	
23/05/2015	EHGF	398	EHGF099	HG	43892	50.5627	-6.7605	04:59	
23/05/2015	EHGF	398	EHGF099	HG	43893	50.5626	-6.7605	05:06	
23/05/2015	EHGF	399	EHGF013	HG	43894	50.5679	-6.7386	05:28	
23/05/2015	EHGF	400	EHGF014	HG	43895	50.5671	-6.7207	05:52	
23/05/2015	EHGF	401	EHGF096	DC	43896	50.5731	-6.7060	06:14	06:25
23/05/2015	EHGF	401	EHGF096	DC	44019	50.5732	-6.7074	06:14	06:25
23/05/2015	EHGF	402	EHGF096	HG	44020	50.5732	-6.7067	07:04	
23/05/2015	EHGF	403	EHGF015	HG	44021	50.5680	-6.6955	07:28	
23/05/2015	EHGF	404	EHGF097	DC	44022	50.5732	-6.6844	07:50	08:00
23/05/2015	EHGF	404	EHGF097	DC	44149	50.5732	-6.6858	07:50	08:00
23/05/2015	EHGF	405	EHGF016	HG	44150	50.5679	-6.6709	08:26	
23/05/2015	EHGF	406	EHGF028	HG	44151	50.5508	-6.6654	08:54	

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23/05/2015	EHGF	407	EHGF105	HG	44152	50.5517	-6.6745	09:14	
23/05/2015	EHGF	408	EHGF027	DC	44153	50.5509	-6.6871	09:33	09:43
23/05/2015	EHGF	408	EHGF027	DC	44276	50.5509	-6.6885	09:33	09:43
23/05/2015	EHGF	409	EHGF027	HG	44277	50.5509	-6.6878	09:54	
23/05/2015	EHGF	410	EHGF105	DC	44278	50.5515	-6.6953	10:09	10:20
23/05/2015	EHGF	410	EHGF105	DC	44405	50.5519	-6.6966	10:09	10:20
23/05/2015	EHGF	411	EHGF026	HG	44406	50.5509	-6.7046	10:38	
23/05/2015	EHGF	412	EHGF025	HG	44407	50.5510	-6.7216	10:59	
23/05/2015	EHGF	412	EHGF025	HG	44408	50.5509	-6.7217	11:08	
23/05/2015	EHGF	413	EHGF024	HG	44409	50.5509	-6.7385	11:27	
23/05/2015	EHGF	414	EHGF023	HG	44410	50.5509	-6.7555	11:48	
23/05/2015	EHGF	415	EHGF022	HG	44411	50.5509	-6.7722	12:14	
22/05/2015	EHGF	416	EHGF294	HG	44412	50.5575	-6.7918	12:43	
23/05/2015	EHGF	417	EHGF295	HG	44413	50.5444	-6.7918	13:10	
23/05/2015	EHGF	418	EHGF296	HG	44414	50.5313	-6.7918	13:37	
23/05/2015	EHGF	419	EHGF034	HG	44415	50.5340	-6.7723	14:03	
23/05/2015	EHGF	420	EHGF046	HG	44416	50.5333	-6.7575	14:25	
23/05/2015	EHGF	421	EHGF035	HG	44417	50.5340	-6.7385	14:47	
23/05/2015	EHGF	422	EHGF112	DC	44418	50.5407	-6.7282	15:07	15:17
23/05/2015	EHGF	422	EHGF112	DC	44540	50.5415	-6.7279	15:07	15:17
23/05/2015	EHGF	423	EHGF112	HG	44541	50.5407	-6.7282	15:29	
23/05/2015	EHGF	424	EHGF118	HG	44542	50.5303	-6.7280	15:52	
23/05/2015	EHGF	425	EHGF036	HG	44543	50.5340	-6.7217	16:35	
23/05/2015	EHGF	426	EHGF119	DC	44544	50.5301	-6.7060	17:04	17:14
23/05/2015	EHGF	426	EHGF119	DC	44675	50.5304	-6.7074	17:04	17:14
23/05/2015	EHGF	427	EHGF119	HG	44676	50.5303	-6.7067	17:24	
23/05/2015	EHGF	427	EHGF119	HG	44677	50.5303	-6.7067	17:36	
23/05/2015	EHGF	427	EHGF119	HG	44678	50.5303	-6.7066	17:44	
23/05/2015	EHGF	428	EHGF037	DC	44679	50.5340	-6.7041	18:04	18:15
23/05/2015	EHGF	428	EHGF037	DC	44809	50.5339	-6.7055	18:04	18:15
23/05/2015	EHGF	429	EHGF037	HG	44811	50.5340	-6.7047	18:25	
23/05/2015	EHGF	430	EHGF038	HG	44812	50.5339	-6.6877	18:53	
23/05/2015	EHGF	431	EHGF113	DC	44813	50.5412	-6.6848	19:22	19:32
23/05/2015	EHGF	431	EHGF113	DC	44936	50.5408	-6.6859	19:22	19:32
23/05/2015	EHGF	432	EHGF113	HG	44937	50.5408	-6.6860	19:42	
23/05/2015	EHGF	433	EHGF039	HG	44938	50.5341	-6.6709	20:06	
23/05/2015	EHGF	434	EHGF120	DC	44939	50.5306	-6.6633	20:25	20:35
23/05/2015	EHGF	434	EHGF120	DC	45069	50.5300	-6.6644	20:25	20:35
23/05/2015	EHGF	435	EHGF120	HG	45070	50.5301	-6.6642	20:44	
23/05/2015	EHGF	436	EHGF305	HG	45071	50.5052	-6.6872	21:15	
23/05/2015	EHGF	437	EHGF304	HG	45072	50.5052	-6.7003	21:38	
23/05/2015	EHGF	438	EHGF303	DC	45073	50.5052	-6.7127	22:00	22:10

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23/05/2015	EHGF	438	EHGF303	DC	45187	50.5051	-6.7139	22:00	22:10
23/05/2015	EHGF	439	EHGF303	HG	45188	50.5051	-6.7139	22:20	
23/05/2015	EHGF	440	EHGF302	HG	45188	50.5051	-6.7264	22:39	
23/05/2015	EHGF	441	EHGF128	HG	45190	50.5196	-6.7388	23:11	
23/05/2015	EHGF	442	EHGF301	HG	45191	50.5054	-6.7477	23:33	
23/05/2015	EHGF	443	EHGF300	HG	45192	50.5125	-6.7701	23:55	
24/05/2015	EHGF	444	EHGF298	HG	45193	50.5168	-6.7812	00:11	
24/05/2015	EHGF	445	EHGF297	HG	45194	50.5182	-6.7919	00:30	
24/05/2015	EHGF	446	EHGF299	HG	45195	50.5052	-6.7918		
24/05/2015	EHGF	447	EHGF306	HG	45196	50.4921	-6.7918	01:13	
24/05/2015	EHGF	448	EHGF307	HG	45197	50.4921	-6.7787	01:33	
24/05/2015	EHGF	449	EHGF308	HG	45198	50.4921	-6.7656	01:53	
25/05/2015	EHGF	450	EHGF139	HG	45199	50.4981	-6.7602	02:11	
25/05/2015	EHGF	450	EHGF139	HG	45200	50.4982	-6.7603	02:18	
25/05/2015	EHGF	450	EHGF139	HG	45201	50.4982	-6.7603	02:25	
24/05/2015	EHGF	451	EHGF310	HG	45202	50.4921	-6.7395	03:01	
24/05/2015	EHGF	451	EHGF310	HG	45203	50.4922	-6.7395	03:08	
24/05/2015	EHGF	451	EHGF310	HG	45204	50.4922	-6.7396	03:16	
24/05/2015	EHGF	452	EHGF311	HG	45205	50.4921	-6.7264	03:38	
24/05/2015	EHGF	453	EHGF312	HG	45206	50.4921	-6.7132	03:58	
24/05/2015	EHGF	454	EHGF313	HG	45207	50.4922	-6.7002	04:19	
24/05/2015	EHGF	455	EHGF314	HG	45208	50.4922	-6.6874	04:45	
24/05/2015	EHGF	456	EHGF315	HG	45209	50.4921	-6.6719	05:08	
24/05/2015	EHGF	457	EHGF322	HG	45210	50.4791	-6.7003	05:38	
24/05/2015	EHGF	458	EHGF063	DC	45211	50.4834	-6.7042	05:58	06:09
24/05/2015	EHGF	458	EHGF063	DC	45333	50.4831	-6.7054	05:58	06:09
24/05/2015	EHGF	459	EHGF063	HG	45334	50.4833	-6.7047	06:20	
24/05/2015	EHGF	460	EHGF157	DC	45335	50.4768	-6.7061	07:09	07:20
24/05/2015	EHGF	460	EHGF157	DC	45458	50.4766	-6.7074	07:09	07:20
24/05/2015	EHGF	461	EHGF321	HG	45459	50.4757	-6.7231	07:42	
24/05/2015	EHGF	462	EHGF156	HG	45460	50.4766	-6.7288	08:02	
24/05/2015	EHGF	462	EHGF156	HG	45461	50.4766	-6.7289	08:40	
24/05/2015	EHGF	463	EHGF320	HG	45462	50.4791	-6.7395	09:00	
24/05/2015	EHGF	464	EHGF319	HG	45463	50.4791	-6.7525	09:22	
24/05/2015	EHGF	465	EHGF318	HG	45464	50.4791	-6.7657	09:42	
24/05/2015	EHGF	466	EHGF317	HG	45465	50.4791	-6.7787	10:02	
24/05/2015	EHGF	467	EHGF316	HG	45466	50.4790	-6.7918	10:27	
24/05/2015	EHGF	468	EHGF324	HG	45467	50.4660	-6.7918	10:52	
24/05/2015	EHGF	469	EHGF325	HG	45468	50.4658	-6.7786	11:12	
24/05/2015	EHGF	470	EHGF326	HG	45469	50.4660	-6.7655	11:34	
25/05/2015	EHGF	471	EHGF327	HG	45470	50.4658	-6.7527	11:54	
24/05/2015	EHGF	472	EHGF328	HG	45471	50.4657	-6.7396	12:18	

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24/05/2015	EHGF	473	EHGF329	HG	45472	50.4656	-6.7262	12:42	
24/05/2015	EHGF	474	EHGF170	DC	45473	50.4658	-6.7175	13:01	13:11
24/05/2015	EHGF	474	EHGF170	DC	45592	50.4666	-6.7171	13:01	13:11
23/05/2015	EHGF	475	EHGF171	DC	45593	50.4655	-6.7069	13:30	13:40
23/05/2015	EHGF	475	EHGF171	DC	45702	50.4662	-6.7067	13:30	13:40
23/05/2015	EHGF	476	EHGF071	HG	45703	50.4663	-6.6877	14:05	
24/05/2015	EHGF	477	EHGF172	DC	45704	50.4659	-6.6749	14:37	14:47
24/05/2015	EHGF	477	EHGF172	DC	45823	50.4664	-6.6738	14:37	14:47
23/05/2015	EHGF	478	EHGF172	HG	45824	50.4663	-6.6741	15:00	
23/05/2015	EHGF	478	EHGF172	HG	45825	50.4662	-6.6741	15:09	
23/05/2015	EHGF	478	EHGF172	HG	45827	50.4662	-6.6742	15:23	
24/05/2015	EHGF	479	EHGF285	DC	45828	50.4553	-6.6591	15:49	15:59
24/05/2015	EHGF	479	EHGF285	DC	45953	50.4562	-6.6592	15:49	15:59
24/05/2015	EHGF	480	EHGF195	DC	45954	50.4442	-6.6638	16:43	16:53
24/05/2015	EHGF	480	EHGF195	DC	46079	50.4450	-6.6639	16:43	16:53
24/05/2015	EHGF	481	EHGF194	HG	46080	50.4446	-6.6852	17:17	
24/05/2015	EHGF	482	EHGF337	HG	46081	50.4529	-6.6741	17:37	
24/05/2015	EHGF	483	EHGF336	HG	46082	50.4529	-6.6872	17:56	
24/05/2015	EHGF	484	EHGF183	DC	46083	50.4550	-6.6955	18:21	18:31
24/05/2015	EHGF	484	EHGF183	DC	46208	50.4556	-6.6965	18:21	18:31
24/05/2015	EHGF	485	EHGF183	HG	46210	50.4555	-6.6963	18:41	
24/05/2015	EHGF	486	EHGF193	HG	46211	50.4446	-6.6959	19:03	
24/05/2015	EHGF	486	EHGF193	HG	46211	50.4446	-6.6959	19:12	
24/05/2015	EHGF	487	EHGF076	HG	46213	50.4494	-6.7047	19:33	
24/05/2015	EHGF	488	EHGF075	HG	46214	50.4494	-6.7216	19:56	
24/05/2015	EHGF	489	EHGF182	DC	46215	50.4553	-6.7273	20:17	20:27
24/05/2015	EHGF	489	EHGF182	DC	46335	50.4553	-6.7286	20:17	20:27
24/05/2015	EHGF	490	EHGF182	HG	46336	50.4553	-6.7287	20:36	
24/05/2015	EHGF	490	EHGF182	HG	46337	50.4553	-6.7285	20:45	
24/05/2015	EHGF	491	EHGF335	HG	46338	50.4479	-6.7332	21:10	
24/05/2015	EHGF	492	EHGF334	HG	46339	50.4529	-6.7394	21:38	
24/05/2015	EHGF	493	EHGF333	HG	46340	50.4529	-6.7526	22:05	
24/05/2015	EHGF	494	EHGF332	HG	46341	50.4529	-6.7657	22:28	
24/05/2015	EHGF	495	EHGF331	HG	46342	50.4529	-6.7787	22:57	
24/05/2015	EHGF	496	EHGF330	HG	46343	50.4529	-6.7918	23:19	
24/05/2015	EHGF	497	EHGF339	HG	46344	50.4398	-6.7918	23:39	
24/05/2015	EHGF	498	EHGF340	HG	36345	50.4398	-6.7787	23:58	
25/05/2015	EHGF	499	EHGF204	DC	46346	50.4335	-6.7708	00:20	00:30
25/05/2015	EHGF	499	EHGF204	DC	46472	50.4343	-6.7712	00:20	00:30
25/05/2015	EHGF	500	EHGF341	HG	46473	50.4398	-6.7657	00:50	
25/05/2015	EHGF	501	EHGF342	HG	46474	50.4398	-6.7526	01:11	
25/05/2015	EHGF	502	EHGF343	HG	46475	50.4398	-6.7395	01:29	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
25/05/2015	EHGF	503	EHGF205	HG	46476	50.4339	-6.7495	01:49	
25/05/2015	EHGF	504	EHGF081	HG	46477	50.4325	-6.7385	02:11	
25/05/2015	EHGF	505	EHGF206	DC	46478	50.4335	-6.7279	02:35	02:45
25/05/2015	EHGF	505	EHGF206	DC	46610	50.4344	-6.7285	02:35	02:45
25/05/2015	EHGF	506	EHGF206	HG	46612	50.4339	-6.7281	03:28	
25/05/2015	EHGF	506	EHGF206	HG	46613	50.4340	-6.7281	03:36	
25/05/2015	EHGF	507	EHGF082	HG	46614	50.4325	-6.7216	03:55	
25/05/2015	EHGF	508	EHGF083	HG	46615	50.4325	-6.7047	04:18	
25/05/2015	EHGF	508	EHGF083	HG	46616	50.4325	-6.7047	04:26	
25/05/2015	EHGF	509	EHGF344	HG	46617	50.4366	-6.6882	04:49	
25/05/2015	EHGF	510	EHGF345	HG	46618	50.4352	-6.6707	05:10	
25/05/2015	EHGF	511	EHGF216	HG	46619	50.4232	-6.6743	05:37	
25/05/2015	EHGF	512	EHGF354	HG	46620	50.4267	-6.6872	05:59	
25/05/2015	EHGF	513	EHGF215	DC	46621	50.4230	-6.6953	07:01	07:11
25/05/2015	EHGF	513	EHGF215	DC	46749	50.4233	-6.6966	07:01	07:11
25/05/2015	EHGF	514	EHGF353	HG	46750	50.4267	-6.7003	07:29	
25/05/2015	EHGF	515	EHGF214	HG	46751	50.4231	-6.7066	07:49	
25/05/2015	EHGF	516	EHGF352	HG	46752	50.4267	-6.7133	08:05	
25/05/2015	EHGF	517	EHGF213	HG	46753	50.4232	-6.7496	08:37	
25/05/2015	EHGF	518	EHGF351	HG	46754	50.4268	-6.7526	08:54	
25/05/2015	EHGF	519	EHGF212	DC	46755	50.4229	-6.7596	09:17	09:27
25/05/2015	EHGF	519	EHGF212	DC	46879	50.4233	-6.7607	09:17	09:27
25/05/2015	EHGF	520	EHGF212	HG	46880	50.4231	-6.7602	09:40	
25/05/2015	EHGF	520	EHGF212	HG	46881	50.4231	-6.7602	09:49	
25/05/2015	EHGF	521	EHGF350	HG	46882	50.4268	-6.7656	10:09	
25/05/2015	EHGF	522	EHGF349	HG	46884	50.4267	-6.7787	10:29	
25/05/2015	EHGF	523	EHGF348	HG	46885	50.4268	-6.7918	10:49	
25/05/2015	EHGF	524	EHGF227	DC	46886	50.4125	-6.7811	11:16	11:25
25/05/2015	EHGF	524	EHGF227	DC	46997	50.4124	-6.7823	11:16	11:25
25/05/2015	EHGF	525	EHGF227	HG	46998	50.4124	-6.7824	11:34	
25/05/2015	EHGF	526	EHGF290	DC	46999	50.4189	-6.7663	11:56	12:06
25/05/2015	EHGF	526	EHGF290	DC	47118	50.4193	-6.7675	11:56	12:06
25/05/2015	EHGF	527	EHGF086	HG	47119	50.4156	-6.7555	12:26	
25/05/2015	EHGF	528	EHGF087	HG	47120	50.4156	-6.7385	12:48	
25/05/2015	EHGF	529	EHGF355	HG	47124	50.4137	-6.7003	13:27	
25/05/2015	EHGF	530	EHGF356	HG	47125	50.4137	-6.6872	13:48	
25/05/2015	EHGF	531	EHGF339	DG	47126	50.4398	-6.7918	14:44	
25/05/2015	EHGF	532	EHGF330	DG	47127	50.4529	-6.7915	15:08	
25/05/2015	EHGF	533	EHGF326	DG	47128	50.4660	-6.7656	15:39	
25/05/2015	EHGF	534	EHGF318	DG	47129	50.4790	-6.7655	15:59	
25/05/2015	EHGF	535	EHGF320	DG	47130	50.4790	-6.7394	16:36	
25/05/2015	EHGF	536	EHGF311	DG	47131	50.4921	-6.7263	16:58	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
25/05/2015	EHGF	537	EHGF314	DG	47132	50.4923	-6.6873	17:53	
25/05/2015	EHGF	538	EHGF140	DC	47133	50.4986	-6.6632	17:53	18:04
25/05/2015	EHGF	538	EHGF140	DC	47267	50.4979	-6.6643	17:53	18:04
25/05/2015	EHGF	539	EHGF305	DG	47268	50.5052	-6.6872	18:25	
25/05/2015	EHGF	540	EHGF139	DC	47269	50.4980	-6.7596	19:13	19:24
25/05/2015	EHGF	540	EHGF139	DC	47400	50.4984	-6.7609	19:13	19:24
25/05/2015	EHGF	541	EHGF300	DG	47458	50.5124	-6.7702	19:50	
25/05/2015	EHGF	542	EHGF297	DG	47459	50.5183	-6.7917	20:13	
25/05/2015	EHGF	543	EHGF293	DG	47460	50.5706	-6.7917	20:51	
25/05/2015	EHGF	544	EHGF095	DC	47461	50.5729	-6.7702	21:18	21:28
25/05/2015	EHGF	544	EHGF095	DC	47587	50.5733	-6.7715	21:18	21:28
25/05/2015	EHGF	545	EHGF091	DC	47588	50.5836	-6.7490	21:54	22:04
25/05/2015	EHGF	545	EHGF091	DC	47712	50.5841	-6.7502	21:54	22:04
25/05/2015	EHGF	546	EHGF003	DG	47713	50.5848	-6.7216	22:33	
25/05/2015	EHGF	547	EHGF112	DG	47714	50.5410	-6.7281	23:18	
25/05/2015	EHGF	547	EHGF112	DG	47715	50.5410	-6.7282	23:24	
25/05/2015	EHGF	547	EHGF112	DG	47716	50.5410	-6.7282	23:31	
26/05/2015	EHGF	548	EHGF039	DG	47717	50.5340	-6.6708	00:03	
26/05/2015	EHGF	549	EHGF098	DC	47718	50.5806	-6.6005	00:48	00:58
26/05/2015	EHGF	549	EHGF098	DC	47844	50.5812	-6.6014	00:48	00:58
26/05/2015	EHGF	550	EHGF010	DG	47845	50.5847	-6.5355	01:34	
26/05/2015	EHGF	551	EHGF360	HG	47846	50.5680	-6.5925	02:08	
26/05/2015	EHGF	551	EHGF360	HG	47847	50.5680	-6.5925	02:15	
26/05/2015	EHGF	551	EHGF360	HG	47848	50.5681	-6.5926	02:22	
26/05/2015	EHGF	552	EHGF359	HG	47849	50.5482	-6.5634	03:10	
26/05/2015	EHGF	553	EHGF126	DC	47850	50.5307	-6.5667	03:41	03:52
26/05/2015	EHGF	553	EHGF126	DC	47973	50.5315	-6.5671	03:41	03:52
26/05/2015	EHGF	554	EHGF165	DC	47974	50.4764	-6.6101	04:35	04:46
26/05/2015	EHGF	554	EHGF165	DC	48099	50.4772	-6.6105	04:35	04:46
26/05/2015	EHGF	555	EHGF185	DC	48100	50.4549	-6.6314	05:20	05:30
26/05/2015	EHGF	555	EHGF185	DC	48223	50.4557	-6.6320	05:20	05:30
26/05/2015	EHGF	556	EHGF357	HG	48224	50.4515	-6.5724	06:05	
26/05/2015	EHGF	556	EHGF357	HG	48225	50.4515	-6.5724	06:13	
26/05/2015	EHGF	557	EHGF358	HG	48226	50.4578	-6.5307	07:00	
26/05/2015	EHGF	557	EHGF358	HG	48227	50.4578	-6.5307	07:08	
26/05/2015	EHGF	557	EHGF358	HG	48228	50.4579	-6.5308	07:16	
26/05/2015	EHGF	558	EHGF226	DC	48229	50.4228	-6.5244	07:55	08:05
26/05/2015	EHGF	558	EHGF226	DC	48354	50.4236	-6.5248	07:55	08:05
26/05/2015	EHGF	559	EHGF362	HG	48355	50.4199	-6.6259	08:52	
26/05/2015	EHGF	560	EHGF361	HG	48357	50.4139	-6.6674	09:21	
26/05/2015	EHGF	560	EHGF361	HG	48358	50.4140	-6.6674	09:28	
26/05/2015	EHGF	560	EHGF361	HG	48359	50.4140	-6.6674	09:37	

Date	Site	Station Number	Station Code	Gear Code	Fix	Latitude	Longitude	Time Sampled [+SOL]	Time of EOL
26/05/2015	EHGF	560	EHGF361	HG	48359	50.4140	-6.6674	09:46	
26/05/2015	HGFR	562	HGFR005	DC	48637	50.1134	-7.9658	16:34	16:55
26/05/2015	HGFR	562	HGFR005	DC	48891	50.1147	-7.9675	16:34	16:55
26/05/2015	HGFR	563	HGFR001	DC	48892	50.1118	-8.0288	17:06	18:00
26/05/2015	HGFR	563	HGFR001	DC	49180	50.1103	-8.0303	17:06	18:00
25/05/2015	HGFR	564	HGFR004	DC	49181	50.1287	-8.0018	18:31	18:55
25/05/2015	HGFR	564	HGFR004	DC	49459	50.1279	-8.0043	18:31	18:55
25/05/2015	HGFR	565	HGFR002	DC	49460	50.1290	-8.0248	19:22	19:45
25/05/2015	HGFR	565	HGFR002	DC	49750	50.1303	-8.0265	19:22	19:45
26/05/2015	HGFR	566	HGFR003	DC	49751	50.1397	-8.0412	20:09	20:31
26/05/2015	HGFR	566	HGFR003	DC	50013	50.1411	-8.0397	20:09	20:31
26/05/2015	HGFR	567	HGFR003	SH	50014	50.1400	-8.0407	21:08	

Appendix 3. Operational summary

Detailed daily progress reports covering the duration of the survey are available on request from datamanager@cefas.co.uk.

Overall proportions of survey operations are illustrated below.

