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Dogger Bank SCI Monitoring Survey – CEND 10/14 Cruise Report

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Introduction and background

1.1 Survey project team

In 2014, a pilot monitoring survey at the Dogger Bank Site of Community Importance (SCI) was carried out collaboratively, between the Joint Nature Conservation Committee (JNCC) and the Centre for Environment, Fisheries and Aquaculture Science (Cefas). The survey gathered 'baseline' data to help inform on the effectiveness of several proposed fishery management areas and to investigate changes in biological communities along a fishing pressure gradient. The survey is intended as a pilot survey to apply the principles of the UK Marine Biodiversity Monitoring R&D (MBMR&D) Programme at the Dogger Bank SCI. Two types of monitoring principles were considered, namely Type 2: to correlate observed change with possible causes and Type 3: to establish the cause of observed changes. Whilst Type 1 monitoring was not included in the primary survey objectives, the data generated will contribute to the existing long-term time series data and will be useful for informing on temporal patterns in community composition.

The survey at the Dogger Bank SCI was carried out between 17 May and 6 June 2014 on the RV Cefas Endeavour (cruise CEND 10/14). The survey team for the duration of the fieldwork included Cefas marine ecologists, marine sedimentologists, marine engineers and marine scientists, along with marine monitoring and Marine Protected Area (MPA) specialists from the JNCC:

1.2 Site description

The Dogger Bank is an underwater sandbank located in the southern North Sea, approximately 150km north east of the Humber Estuary, and was formed by glacial processes before being submerged through sea level rise. The southern area of the bank is covered by water seldom deeper than 20m and extends down to 35-40m depth. The Dogger Bank is an international site with portions of the site in UK (12,331km^2), German (1,699km^2) and Dutch (4,715km^2) waters (Figure 1).

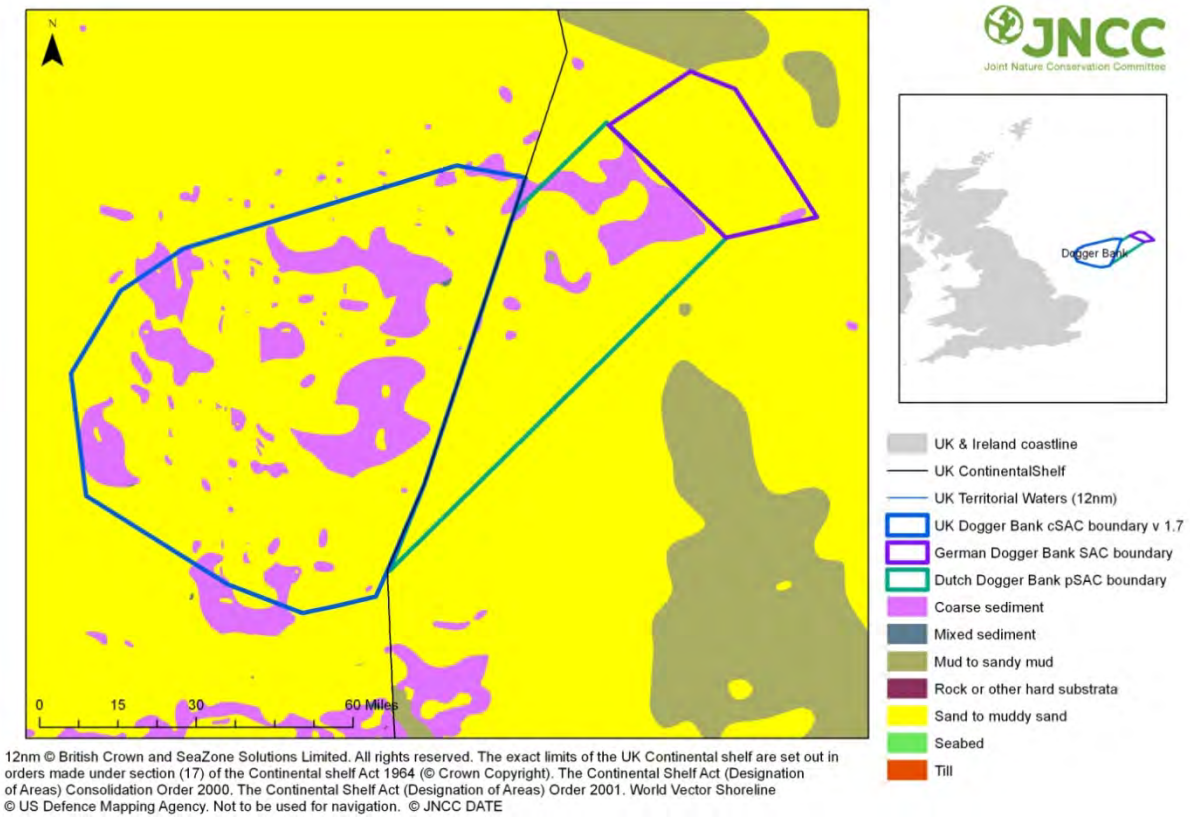


Figure 1. Location of the Dogger Bank Site of Community Importance (SCI).

The site was submitted to the European Commission in 2011 as a candidate Special Area of Conservation (cSAC) and approved as a SCI in 2012.

The Dogger Bank SCI contains the Habitats Directive Annex I habitat 'Sandbanks which are slightly covered by sea water all the time'. The SCI boundary was defined to include the shallow biological communities of the Dogger Bank itself, whilst excluding adjacent linear banks to the north-west and south-west which were not considered to be part of the Dogger Bank Annex I sandbank feature. The UK-Netherlands median line defines the eastern boundary of the SCI where the UK site adjoins the Dutch and German Dogger Bank sites. The boundaries for the UK Dogger Bank SCI were based on multiple data layers including subsurface geology, slope, surficial sedimentology, sandeel distribution data, epifauna and infauna data including those collected on a JNCC/Cefas survey in 2008 (Diesing *et al* 2008) and through studies previously conducted by Wieking and Kröncke (2001).

All countries encompassing protected areas of Dogger Bank agreed in 2011 that its conservation status was 'unfavourable' (NSRAC 2011). This was based on observation of a

long history of demersal fishing activity on the Dogger Bank and comparison of the benthic communities present in association with similar undisturbed habitats suggesting that Dogger Bank has excess opportunistic species and depleted long-lived species. The UK Conservation Objectives for Dogger Bank are:

Subject to natural change, restore the sandbanks to favourable condition, such that:

- The natural environmental quality is maintained.
- The natural environmental processes are maintained.
- The extent, physical structure, diversity, community structure and typical species representative of the sandbanks are restored.

1.3 Existing data and information used to inform survey planning

A number of historic data sources, along with more recent survey data were utilised to inform survey planning for the 2014 monitoring survey.

1.3.1 Historic data sources

Comprehensive historical information regarding spatial and temporal variability in the distribution of infaunal communities present in association with the Dogger Bank habitats is provided by Kröncke (1990, 1991), Kröncke and Rachor (1992), Kröncke and Knust (1995), Wieking and Kröncke (2003, 2005). As part of these studies, a number of historical time series stations/transects were established.

1.3.2 Recent data sources

More recent survey work was conducted during April 2008 to provide data and evidence to support the recommendation of Dogger Bank to the European Commission in 2011 as a Special Area of Conservation (SAC). This characterisation survey incorporated both acoustic multibeam echosounder (MBES) survey and groundtruthing elements (Hamon grab and seabed imagery) and results in relation to spatial distribution of both infaunal and epifaunal communities largely supported those reported by previous historical comparative studies (Diesing *et al* 2008).

A number of comprehensive surveys have also recently been conducted at the Dogger Bank in support of applications to develop the area as a potential Round 3 (R3) offshore windfarm. Forewind, a consortium of four international energy companies, has been granted a licence to submit an application for wind farm development at Dogger Bank and are currently assessing potential suitability of sites both within and outside the Dogger Bank SCI boundary. As part of the planning process four tranches have been identified. Tranche A (about 2,000km^2) was identified in 2010, Tranche B (about 1,500km^2) was defined in 2011 and Tranche C and D will be finalised at a later stage (Forewind, 2012). In support of the associated Environmental Impact Assessments (EIAs) and appropriate assessment under Article 6(3) of the Habitats Directive, extensive oceanographical and ecological survey work, encompassing habitat mapping, hydrography, benthic ecology and fisheries, has been conducted across the application site. Relevant data to aid the planning and design of the pilot monitoring survey at the Dogger Bank SCI were provided to the JNCC by Forewind ahead of survey.

2 Survey aims and objectives

2.1 Survey rationale

The survey is intended as a pilot survey to apply the principles of the MBMR&D programme at the Dogger Bank SCI. Two types of monitoring principles are considered at the MPA scale, namely Type 2: to correlate observed change with possible causes and Type 3: to establish the cause of observed changes (Table 1). Through the application of these principles, it may be possible in the future that these monitoring stations can also support a Type 1 monitoring design in the wider environment as part of a network of Type 1 stations which are fully representative of the habitat type across its UK range.

Table 1. Principles of monitoring developed under the MBMR&D programme.

Monitoring Type	Monitoring Objective	Monitoring Rationale
Type 1	To measure rate and direction of change in the long-term	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.
Type 2	To correlate change with possible causes	Complements Type 1 and is best suited to explore the likely impacts of pressures on habitats and species and identify emerging problems. It leads to setting of hypotheses about processes underlying observed patterns. Type 2 monitoring relies on finding relationships between observed changes in biodiversity and observed variability in pressures and environmental factors. It provides inference but it is not proof of cause and effect. The spatial and temporal scale for this type of monitoring activity will require careful consideration of the reality on the ground to ensure inference will be reliable; for example, inference will be poor in situations where the presence of a pressure is consistently correlated to the presence of an environmental driver (e.g. a specific depth stratum).
Type 3	To prove the cause of change	Provides evidence of causality. It complements the above types by testing specific hypothesis through targeted manipulative studies. The design and statistical approach that can be used in these cases gives confidence in identifying cause and effect. It is best suited to test state/pressure relationships and the efficacy of management measures.

2.2 Survey objectives

In following these basic principles, the objectives of the survey at Dogger Bank were identified and prioritised as described below:

Priority 1: To gather data to support a paired 'Before, After, Control, Impact' (BACI) study to investigate changes in benthic communities inside and outside proposed fisheries management zones within the Dogger Bank SCI. This will focus on four proposed fisheries closure areas within the Dogger Bank SCI. Data will be collected from similarly sized areas both inside (impact/treatment) and outside (control) the proposed closure areas (addressing Type 3 monitoring).

Priority 2: To sample along a fishing pressure gradient (informed by a subsurface abrasion gridded data layer) to develop a greater understanding of how the infaunal biological communities, characteristic of the Dogger Bank, respond to changes in fishing pressure (addressing Type 2 monitoring).

Priority 3: To collect data using different grabs to facilitate a gear comparison study: Survey some stations using at least two methods (e.g. the $0.1m^2$ mini Hamon grab and the $0.2m^2$ Van Veen grab) to enable the comparison of infaunal data collected using different gear types, possibly revisiting the historical 'Wieking and Kröncke' sampling stations. Revisiting the 'historic' sampling stations may also support the Type 1 monitoring principles, namely to explore temporal patterns in benthic faunal communities at fixed stations within the SCI.

3 Survey design and methods

3.1 Survey design

The survey was designed to meet the intended objectives of the Type 2 and Type 3 elements of the pilot monitoring R&D study.

3.1.1 Type 3 monitoring: BACI survey design

A paired (BACI) experimental design was employed with the intention of exploring the potential effects of four proposed fisheries management zones (where demersal fishing techniques would be excluded) within the UK sector of the SCI (Figure 2).

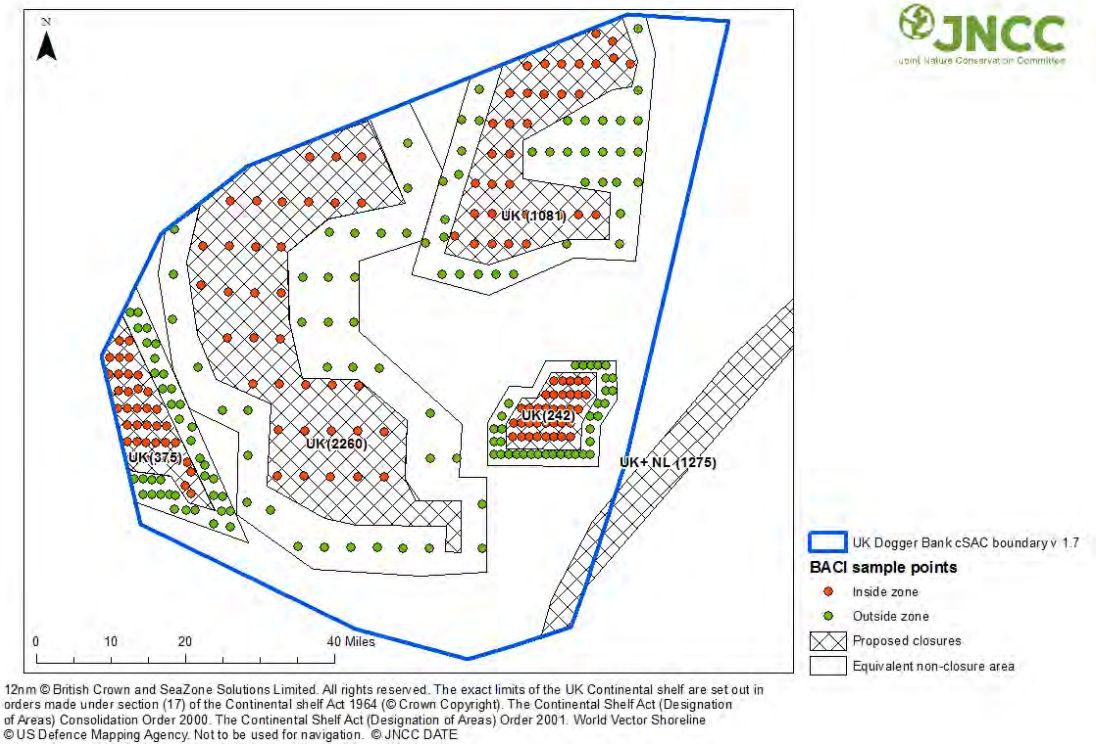


Figure 2. Location of the planned BACI stations in relation to the proposed demersal fishery closures within the UK sector of the SCI.

Survey design and sampling density was informed by means of power analyses conducted on sample data collected by JNCC/Cefas in 2008 as well as data collected by Forewind (in support of their EIA for the proposed Dogger Bank R3 windfarm development) in 2012. The metrics considered were number of species (S) and abundance of individuals (N) which, although are not currently under consideration as good indicators of the impact of abrasion pressure on the benthic communities of Dogger Bank, were readily attainable from both the Forewind/JNCC/Cefas data and could therefore support the required power analyses. The results of the analyses suggest that the achievable power for abundance of individuals is lower than for number of species because of the much higher variation amongst the abundance levels per grab. Therefore, the results of the power analysis performed using number of species was selected to inform the sampling strategy. Results of the power

analyses for each of the proposed fishery management areas (Zone 2260, Zone 375 and Zone 1081) are illustrated below in Table 2,

Table 3 and

Table 4. Power analyses could not be carried out for Zone 242 due to insufficient numbers of samples located within the zone.

Table 2. Results of power analyses using 'Species Number' (S) for proposed fishery closure zone 2260. Cells with a power value greater than or equal to 0.8 are highlighted in yellow, to show N values for each given level of change (%).

Management Zone 2260

N	5	8	11	14	17	20	23	26	29	32	35	38	41	44	47	50
10%	0.09	0.12	0.12	0.16	0.17	0.22	0.2	0.23	0.27	0.28	0.3	0.32	0.36	0.39	0.38	0.4
20%	0.18	0.25	0.34	0.43	0.51	0.53	0.62	0.67	0.73	0.77	0.8	0.85	0.87	0.88	0.9	0.94
30%	0.3	0.52	0.64	0.73	0.81	0.87	0.91	0.94	**0.97**	0.98	0.99	0.99	1	1	1	1
40%	0.52	0.7	0.84	0.93	0.96	0.98	0.99	0.99	1	1	1	1	1	1	1	1
50%	0.65	0.87	0.95	0.99	1	1	1	1	1	1	1	1	1	1	1	1

Table 3. Results of power analyses using 'Species Number' (S) for proposed fishery closure zone 375. Cells with a power value greater than or equal to 0.8 are highlighted in yellow, to show N values for each given level of change (%).

Management Zone 375

N	5	8	11	14	17	20	23	26	29	32	35	38	41	44	47	50
10%	0.08	0.11	0.13	0.14	0.17	0.19	0.2	0.23	0.27	0.29	0.31	0.33	0.32	0.37	0.42	0.41
20%	0.18	0.24	0.33	0.4	0.47	0.59	0.59	0.67	0.73	0.74	0.78	0.82	0.86	0.9	0.9	0.92
30%	0.32	0.46	0.6	0.74	0.8	0.86	0.91	0.94	0.96	0.98	0.99	0.99	0.99	1	1	1
40%	0.48	0.7	0.85	0.93	0.96	0.98	0.98	1	1	1	1	1	1	1	1	1
50%	0.64	0.86	0.95	0.98	1	1	1	1	1	1	1	1	1	1	1	1

Table 4. Results of power analyses using 'Species Number' (S) for proposed fishery closure zone 1081. Cells with a power value greater than or equal to 0.8 are highlighted in yellow, to show N values for each given level of change (%).

Management Zone 1081

N	5	8	11	14	17	20	23	26	29	32	35	38	41	44	47	50
10%	0.07	0.11	0.1	0.16	0.19	0.21	0.23	0.25	0.29	0.3	0.33	0.35	0.34	0.38	0.42	0.45
20%	0.19	0.28	0.36	0.43	0.5	0.61	0.65	0.72	0.74	0.78	0.83	0.88	0.88	0.9	0.93	0.93
30%	0.32	0.51	0.62	0.75	0.85	0.9	0.94	0.96	0.97	0.98	0.99	1	1	1	1	1
40%	0.51	0.75	0.88	0.94	0.97	0.99	1	1	1	1	1	1	1	1	1	1
50%	0.68	0.8	0.9	0.9	1	1	1	1	1	1	1	1	1	1	1	1

		8	7	9												

Consideration of the available habitat maps suggested that reliably stratifying sampling by substrate would be difficult to achieve due to the high level of heterogeneity in the substrata across the site (Figure 2). Therefore, the BACI experimental design was not stratified by habitat type and then sampled randomly, but instead was planned using a systematic grid to ensure comprehensive spatial coverage of the sediments within the treatments whilst at the same time minimising any effects of spatial autocorrelation.

Numbers of samples within each treatment (~35 infaunal sampling station) was selected based on the ability to detect a 20% level of change in species number (S) with a power of 0.8 or higher, as presented in the results of the power analysis (Table 2,

Table 3 and

Table 4). These values were chosen as 20% is a guideline degree of change which it would be useful to be able to detect and 0.8 being the realistically achievable power given the survey time available, in accordance with the guidance outlined in Marubini (2014). It should also be noted that the metrics selected for the power analyses are intended as a proxy for other metrics which may be explored using the dataset generated by the pilot monitoring R&D study.

As no power analyses were performed to inform sampling density within management zone 242, an approximate number of samples required per treatment were assumed based on the analysis of the other zones. The stations were placed within each proposed management zone using the ETGeowizards 'Regular points in polygons' tool in ArcGIS (version 10.1), with a buffer of 0.01dd from the zone boundary (Figure 2). Control areas (of approximately corresponding size) were delineated in those regions surrounding the proposed demersal fishery closures. This was intended (as far as possible) to ensure that environmental parameters influencing natural variability across the two treatments (e.g. inside and outside the proposed demersal fishery closures) were consistent. Any planned sampling points that lay within a 500m buffer of known oil and gas wells and pipelines (and other known obstacles on the seabed) were moved to the closest suitable location.

Infaunal sample collection was the primary requirement intended to inform the BACI element of the survey as the underlying power analyses were based on metrics derived from the pre-existing infaunal data matrices. Therefore, acquisition of seabed sediment samples (using a 0.1m^2 Hamon grab) was prioritised to allow subsequent infaunal abundance and biomass matrices to be generated to facilitate further identification and development of appropriate indicators for ongoing monitoring of this type of feature, namely ‘Annex 1 sandbanks which are slightly covered by seawater all of the time’ and other relevant predominant habitat types, namely ‘shallow sublittoral sand’ and ‘shallow sublittoral coarse sediments’.

In addition to infaunal sample acquisition, epifaunal species data were acquired at a sub-set of the planned sampling stations (using a combination of underwater camera techniques and a 2m scientific beam trawl) with the similar aim of facilitating future development of effective metrics or indicators based on the epifaunal community component associated with this type of feature.

3.1.2 Type 2 Monitoring: Pressure-State relationships

The Type 2 element of the survey design was intended to explore pressure-state change relationships between pressures caused by demersal fishing activities and benthic infaunal and epifaunal communities. In shallow sublittoral coarse sediment habitats, application of the draft strategy for deriving options for monitoring of benthic habitats has indicated that Type 2 monitoring is a priority for understanding the relationship between physical abrasion pressure and the condition of benthic communities.

For the Type 2 monitoring element of this survey, targeted sampling was planned along an 'abrasion' pressure gradient informed using spatial distribution of demersal fishing effort acquired from Vessel Monitoring System (VMS) data. Acquisition of replicate samples along the perceived pressure gradient is intended to inform on the identification and development of more responsive (and appropriate) indicators for use in relation to monitoring spatial and temporal changes in condition of this type of Annex 1 feature (and the relevant overlapping predominant habitat types). An integrated survey conducted in partnership between the JNCC and Cefas in 2011 used VMS data to create a 0.05dd grid of physical abrasion, which was used to identify a pressure gradient across which to sample to investigate the effects of fishing activity on sandy sediment seabed habitats (Jenkins *et al* in prep). A similar approach was adopted for the Type 2 element of the present survey. Gridded (0.05dd) surface and subsurface abrasion pressure layers, based on VMS data from 2006 - 2013, were created to identify areas across the site that have been exposed to physical abrasion pressure as a result of demersal trawling. Due to the recoverability rates of communities thought to be associated with the substrate types and seabed features present at Dogger Bank, and the fact that the present survey aims to focus on the site's infaunal component, the subsurface abrasion layer from the last year (2013) only was used to inform on the pressure gradient across which sampling stations were positioned.

The 2013 subsurface abrasion layer was split into 5 pressure categories (0 - 4). Two replicate cells were identified for each category resulting in 10 cells in total (Figure 3). Each cell (0.05 dd x 0.05 dd in size), was selected to be representative of the same water depth (-40m to -30m). Ten samples per cell were randomly allocated using ETGeowizard's 'Random points in polygon' tool with a minimum distance between samples and from cell boundaries of 0.005 dd. Any sample points previously created to serve the BACI study that lay within the pressure cells were annotated to indicate that they can be used for multipurpose. Any BACI sample points that lay in close proximity to the pressure cells were manually moved within the cells to reduce the overall number of samples required. In these cases, a corresponding number of the randomly assigned points were deleted, so that the total within each cell remained 10. In total, 100 sampling points were planned for this element of the survey (Figure 3). Any sample points that lay within a 500m buffer of known oil and gas wells and pipelines were manually moved to the closest suitable location.

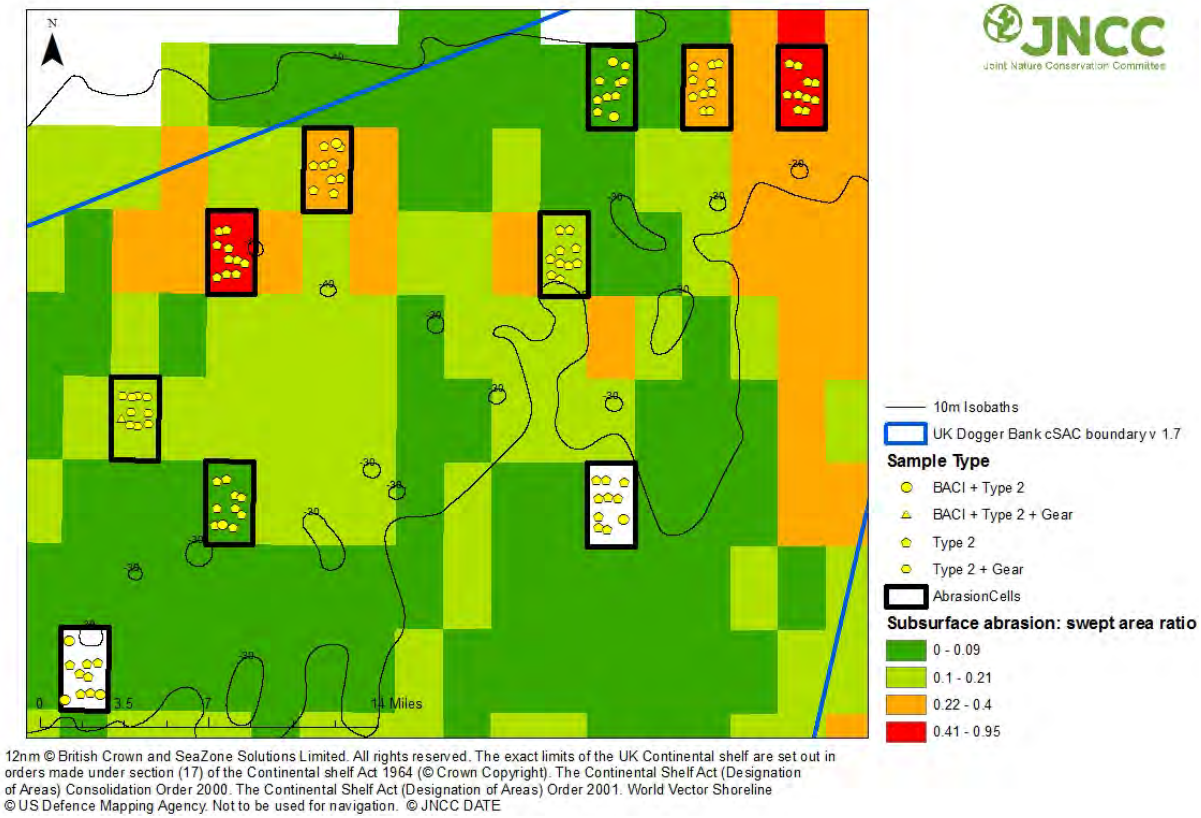


Figure 3. Type 2 'pressure gradient' study planned sampling locations, including cross-purpose BACI/gear comparison stations. Subsurface abrasion, quantified as swept area ratio, was clipped to the SCI boundary (with a 0.05 dd buffer) and classified into 4 categories using natural breaks. Areas with swept area ratio of 0 were excluded from the classification and are displayed as white in the figure. These effectively serve as the 5th category.

Potential indicators to be considered for future assessment of the impacts of physical abrasion on this habitat type include an 'adapted' Infaunal Quality Index (IQI), previously developed in support of monitoring under the Water Framework Directive (WFD) and indicators based on size-frequency measures of those taxa perceived to more sensitive to physical abrasion pressure (e.g. a 'bivalve size frequency' indicator).

However, the available data only allowed more simple univariate metrics (infaunal abundance and species number) to be explored for the purpose of power analyses conducted to inform sampling density in support of the Type 2 monitoring aspects of the survey. These selected metrics did not show evidence of any significant relationships between abrasion levels (as inferred by the 2013 abrasion layer employed) and the outcome variables. However, the Type 2 element of the study was still considered relevant as the resultant data set is intended to be utilised to further explore the effectiveness of the underlying metrics and categories of pressure (in this case 'abrasion') and also aid in the identification and development of more appropriate and responsive 'receptors' or state indicators to allow a better understanding of these types of 'pressure-state change-impact' relationships for this habitat type.

As with the BACI study, infaunal sample collection (using a 0.1m^2 Hamon grab) was the primary element of the survey in support of the Type 2 monitoring objectives. Collection of infaunal samples, to allow production of infaunal abundance and biomass matrices, was the primary objective to allow subsequent derivative metrics to be calculated and explored in

terms of their effectiveness as indicators of physical abrasion pressure attributable to demersal fishing activity.

Seabed imagery techniques and a 2m 'scientific' beam trawl were utilised to collect accompanying data pertaining to epifaunal species. This was intended to allow further exploration of the effectiveness of metrics or indicators derived from epifaunal community data in detecting a change in the benthic community along a gradient in abrasion pressure across the sandbank feature of interest.

3.1.3 Gear comparison study

As the Dogger Bank SCI spans international boundaries, there is a requirement for member states to develop a joint monitoring strategy for Dogger Bank. Due to the use of different sampling gears by each country over the years, the gear comparison element of the survey is intended to provide a robust data set that can subsequently be used to explore how utilisation of different gear types affects sampling efficacy and also the subsequent values of calculated metrics or infaunal indicators.

Available data suggest that the two most widely used gear types that have been used to collect benthic samples in the UK portion of Dogger Bank SCI are the mini Hamon grab ($0.1m^2$) and the $0.2m^2$ Van Veen grab. A subset of 10 stations were selected for sampling with both the $0.1m^2$ Hamon grab and the $0.2m^2$ Van Veen grab (along with additional grabbing gears where time allowed) to facilitate the comparison of data (and associated derived metrics) acquired using different sediment grabbing devices.

Planned sampling points from within one of the Type 2 monitoring survey cells were selected to reduce the overall number of required samples (e.g. the gear comparison stations were considered as multi-purpose stations, some of which served to inform both Type 2 and 3 monitoring objectives as well as the gear comparison study).

Underlying seabed habitat maps (produced by Envision Ltd on behalf of Forewind) indicated that the seabed sediments within the 'Type 2' sampling cell selected for the gear comparison study comprised a relatively uniform area of subtidal sand containing a small, uniform patch of coarse sediment. This area of seabed was selected intentionally to allow assessment of both the effectiveness of different sampling gears (to acquire a valid sample in different sedimentary habitats) and also to explore the effect of different sampling gears on the value of metrics derived from the infaunal abundance and biomass data they generate.

3.1.4 Type 1 monitoring: assessment of spatial and long-term temporal variability attributable to natural causes

A number of spatially fixed sampling stations, sampled historically (Kröncke 1990, Wieking and Kröncke 2005) were also included in the survey design (as a lower priority for sampling) with the intention of visiting these sites as a contingency objective should time permit. Where these stations were sampled, it was intended that (where possible) both the 0.1m^2 Hamon grab and the 0.2m^2 Van Veen grab would be deployed in order to collect seabed sediment samples which would act to provide additional data (and additional spatial coverage) for the gear comparison element of the study. These stations may in future feed into a wider scale Type 1 monitoring effort across a fully representative range of the habitat types of interest at the UK scale. This would allow changes potentially caused by human pressures to be put within the context of wider change on a large spatial and temporal scale.

3.2 Sampling methods

Groundtruth sampling carried out across the Type 1, 2 and 3 survey designs was achieved using a combinations of grabs, underwater video cameras and a scientific 2m Jennings beam trawl as described below.

3.2.1 The 0.1m^2 Hamon Grab

The grab system employed for the study comprised a 0.1m^2 mini Hamon grab fitted with a Bowtech video camera, the combined gear referred to as HamCam (Figure Figure 4). Samples were collected from the planned groundtruth stations anywhere within a 50m radius bullring centred on the target location.

Figure 4. Image of the 0.1m^2 mini Hamon grab with video camera (collectively referred to as HamCam).

On recovery, the grab was emptied into a large plastic bin and a representative integrated sub-sample of sediment (approx. 1 litre) taken for Particle Size Analysis (PSA). The PSA sample was stored in a labelled plastic container and frozen ready for transfer to a laboratory ashore. 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 ashore. 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 Broadscale Habitat (BSH) sediment class.

Where Hamon grab samples were collected to inform the gear comparison study, the sub-sample of sediment for PSA was picked for infauna. Details of the rationale employed for this element of the study are provided in section 3.3.

3.2.2 Cameras

Observations of the seabed (and associated epifaunal species) were made using an underwater camera system mounted on a towed sledge (Figure 6), using a 5 megapixel Kongsberg video camera with capability to also capture still images. A High Definition (HD) video camera was also mounted in parallel with the Konsgberg video and stills system in order to acquire continuous video (uninterrupted by still image acquisition). An initial pre-survey trial of the dual camera systems indicated that the quality of the images generated was inadequate due to a combination of the camera height above the seabed and turbidity levels in the water column. Therefore, the two systems were repositioned on the camera sledge to bring them closer to the seabed. Due to the different zoom capabilities of the two systems, this resulted in the video footage provided by the HD camera comprising a smaller (but overlapping) field of view than the SD camera (Figure 5). The field of view of the HD camera was 0.30m^2 and the field of view of the SD camera was 0.75m^2

Figure 5. Field of view provided by the HD camera (left) and the SD camera (right).

Illumination was provided by 6 LED lights and a dedicated flash unit. The camera was oriented to provide a forward 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.

Set-up and operation followed the MESH 'Recommended Operating Guidelines (ROG) for underwater video and photographic imaging techniques' (http://www.searchmesh.net/pdf/GMHM3_Video_ROG.pdf). Video was recorded simultaneously to a Sony GV-HD700 DV tape recorder and a computer hard drive. A video overlay was used to provide station metadata, time and position (of the GPS antenna) in the recorded video image.

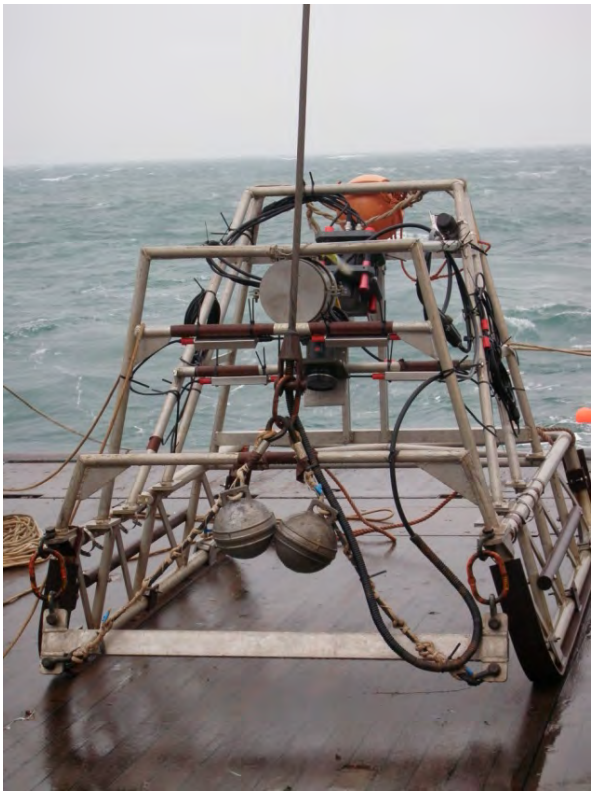


Figure 6. Image of the towed camera sledge comprising Kongsberg video and still image capture systems along with HD video acquisition system.

The camera sledge system was deployed at all planned video and still image stations. Minimum 10 minute video transects were carried out as standard, with still images acquired at 1 minute intervals during the tow (and opportunistically where features of interest were observed).

The camera sledge system was towed at ~ 0.3 knots through the station range ring in the direction which best suited prevailing conditions at the time of sampling (e.g. tides, wind direction). The camera sledge was controlled by a winch operator with sight of the video monitor.

Field notes were made during each camera deployment, noting station and sample metadata and real-time observations of substrate type and taxa along with length of cable paid out during the tow.

The internal clock of the camera used on the sledge was synchronised with GPS time. This clock creates a timestamp in the EXIF data stored in the digital image. A calibration test was

conducted using the camera to photograph a kitchen clock set to GPS time. The laser scaling device was also calibrated to a fixed distance of 170mm between each laser point.

3.2.3 2m Jennings Beam Trawl

Epibenthic fauna were sampled with a 2m scientific Jenning's beam trawl (Figure 7).

Figure 7. Image of the 2m scientific beam trawl utilised for epibenthic faunal sampling.

The beam trawl was fitted with a chain mat and a 4mm mesh liner and was deployed from the stern gantry of the vessel, using a warp length of three times water depth. Two five minute tows, at a speed of 1 knot (1.85km h^{-1}) were completed at each station. Tows were generally oriented parallel to each other across the bull ring but on some, infrequent, occasions they were carried out sequentially. The five minute period was timed from the moment that the net contacted the seabed until the moment of hauling from the seabed. This equates to a 'swept area' per station of approximately 600m^2.

On recovery of the beam trawl catch, fauna were identified and weighed individually (on heave compensated balances) and assigned to a $\log_2$ size class. Hermit crabs were weighed after removal from their shells but animals that secreted their own shells were weighed with shells intact. All bivalve specimens were retained and preserved (in buffered 4% Formaldehyde) for subsequent transport back to the laboratory to allow further morphometric analyses to be carried out.

3.3 Additional sampling conducted to inform the gear comparison study

In addition to the 0.1m^2 Hamon grab additional samples were acquired across the subset of stations selected for the gear comparison using a 0.2m^2 Van Veen grab, 0.1m^2 Day grab, a 0.25m^2 Hamon grab and a Shipek grab.

In order to ensure (as far as possible) that the different gear types were effectively sampling the same type of sediment for the gear comparison study, samples were collected as close together as possible (without overlap), through use of the ship's Dynamic Positioning (DP) system. Samples at any given station (collected with each specific gear type) were all located within a target bullring of 10m radius.

All sediment sub-samples collected from gear comparison samples were picked for macrofauna using a 1mm mesh sieve positioned over a 5l bucket. The >1mm sediment fraction retained on the sieve was combined with the <1mm sediment fraction, which passed through the sieve and was retained in the 5l bucket, to ensure that the integrity of the PSA sample was not compromised (i.e. there was no loss of any sediment during any part of the process). The macrofaunal specimens removed from the sediment sub-sample were stored in a separate container to the whole infaunal sample (from which the PSA sub-sample had been acquired) and preserved in buffered 4% formaldehyde for later analysis ashore. The data generated are intended to allow the potential effects of the removal of a sub-sample of sediment (for sediment PSA) from the infaunal grab sample to be explored across a range of gear types and sub-sampling techniques (e.g. integrated sub-sample or full depth core).

3.3.1 The 0.2m^2 Van Veen Grab

The grab system comprised a 0.2m^2 Van Veen grab (Figure 8). Figure Samples were collected from the planned groundtruth stations anywhere within a 50m radius bullring centred on the target location.

Figure 8. Image of the 0.2m^2 Van Veen grab.

On recovery, the 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 10 cm diameter core. The PSA sub-sample was picked for macrofauna and then stored in a labelled plastic container and frozen ready for transfer to a laboratory ashore. The grab contents were then decanted into a large plastic bin where the sample was photographed again and the volume of remaining 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 4% buffered formaldehyde for later analysis ashore. 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 Broadscale Habitat (BSH) sediment class.

3.3.2 The 0.1m^2 Day Grab

The grab system comprised a 0.1m^2 Day grab (Figure 9).

Figure 9. 0.1m^2 Day grab.

Samples were collected from the planned groundtruth stations anywhere within a 10m radius bullring centred on the target location. On recovery, the 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 3 cm diameter core. The PSA sub-sample was picked for macrofauna and then stored in a labelled plastic container and frozen ready for transfer to a laboratory ashore. 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 4% buffered formaldehyde for later analysis ashore. 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 Broadscale Habitat (BSH) sediment class.

3.3.3 The 0.25 m^2 Hamon Grab

The grab system comprised a 0.25 m^2 Hamon grab (Figure 10).

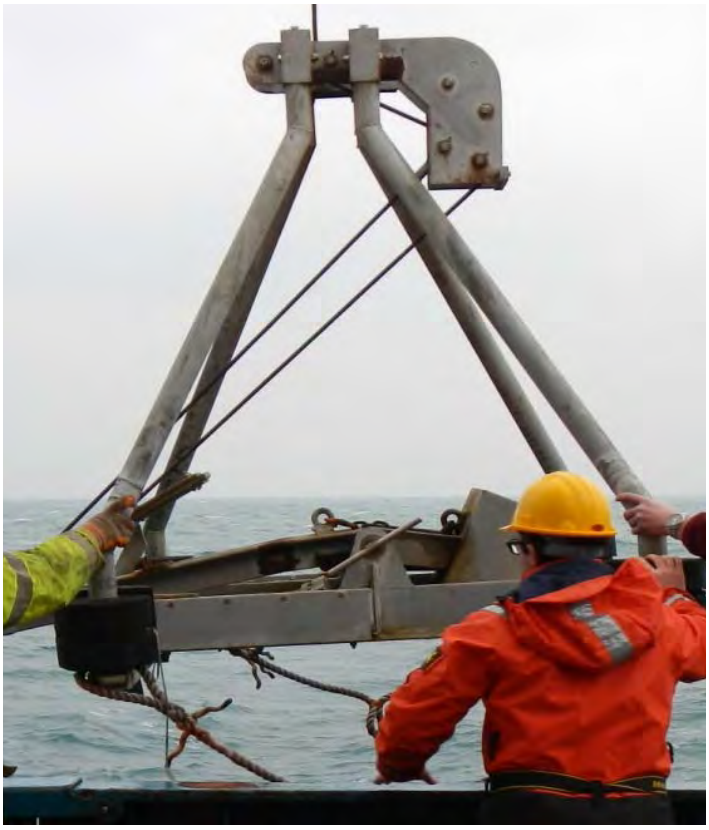


Figure 10. 0.25m^2 Hamon grab.

Sample processing followed the same methodology as described for the 0.1m^2 Hamon grab (see section 3.2.1)

3.3.4 The Shipek Grab

The grab system comprised a Shipek grab (Figure 11).

Figure 11. Shipek grab.

Seabed samples collected using the Shipek grab are only intended to inform on particle size distribution of the seabed sediments. Therefore, a surface scrape across the total sample surface was collected for sediment PSA and the remaining sediments also retained for PSA to allow comparisons of potential differences in PSD between surficial 2cm and remainder of sample.

3.3.5 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 camera sledge 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 10 minute transect prior to recovery of the camera sledge back onboard. GPS positional fixes were taken during camera sledge transects, for both the stern gantry steer point and the position derived from HiPAP (High Precision Acoustic Positioning), continuously at 10 second intervals throughout the tow. The HiPAP system consists of a transceiver, which is mounted on a pole under the vessel, and a transponder/responder on the towed camera system. 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 use/accuracy of HiPAP positioning in shallow waters is limited. This allowed 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 stern 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 (due multipath reflections), layback corrections were applied (using a combination of the stern gantry steer point position, the ships heading and 'cable out') to derive the location of the camera system on the seabed at the time each still image was acquired.

4 Survey Narrative

RV Cefas Endeavour departed Lowestoft at approximately 24:00 BST on 17 May 2014 and began the transit to the Dogger Bank SCI. The vessel arrived at the first BACI survey area, 'Block A' (proposed fishery management area 'UK 242'), at approximately 14:00 on 18 May at which time detailed guidance was provided regarding the safe deployment of the various sampling gears to be utilised during survey and the Standard Operating Procedures (SOPs) for subsequent sample processing. Final equipment checks and calibrations were carried out prior to survey commencing (15:30, 18 May 2014). Survey continued (combination of Hamon grabbing, seabed imagery and 2m 'scientific' beam trawling) at 'Block A' until 22:50, 20 May 2014 when all survey objectives at this area had been successfully completed.

The vessel transited to the second survey area, Block B. Objectives at Block B included sampling (as for Block A) to inform on a BACI experimental design for proposed fishery management area 'UK 1081' (see section 3.1.1) and also acquisition of samples to fulfil objectives of 'Type 2' monitoring as detailed in section 3.1.2. Survey within this block also incorporated a dedicated study designed to allow a comparison of samples acquired (e.g. PSA analyses and infaunal metrics) using different grab sampling devices ($0.1m^2$ Hamon Grab and $0.2m^2$ Van Veen grab). A number of samples were also acquired at the historical 'time series' fixed stations (established by Wieking and Kröncke 2003) using a $0.1m^2$ Hamon grab (and $0.2m^2$ Van Veen grab where possible). Following successful completion of all survey objectives at Block B (24:00, 26 May 2014), the vessel transited to Block C (BACI survey design for proposed fishery management area 'UK 375') where survey resumed at 02:20 on the 27 May 2014. Similarly, survey at this site employed a combination of seabed sediment grab sampling ($0.1m^2$ Hamon grab), seabed imagery techniques (camera sledge) and utilisation of a 2m scientific beam trawl to sample epibenthic fauna. At 07:45 on the 30 May 2014, all survey objectives at Block C had been completed and the vessel transited to the final survey area, Block D (BACI survey in proposed fishery management area 'UK/2260') where survey was resumed. All planned sampling (sediment sampling using a $0.1m^2$ Hamon grab, seabed imagery and beam trawling) was successfully completed within this survey block by 02:30 on the 3 June 2014. The completion of sampling at survey Block D also comprised the completion of all primary survey objectives. Therefore, a number of 'contingency' survey options were prioritised for the time remaining on survey. These consisted of 1) additional gear comparison survey ($0.25m^2$ Hamon grab, $0.1m^2$ Day grab and Shipek grab) at the subset of stations in Block B previously sampled with the $0.2m^2$ Van Veen and $0.1m^2$ Hamon grabs and 2) additional BACI survey within the UK portion of the 'cross boundary' proposed fishery management area 'UK + NL/1275'.

The additional gear comparison survey work commenced in Block B at 04:00 on the 3 June 2014 with all sampling successfully completed by 08:30 on the 4 June 2014. The vessel then transited to the final 'contingency' BACI survey within Block E (UK + NL 1275) where work commenced at 09:00 on the 4 June 2014. Due to the limited time remaining, only grab sampling (using the $0.1m^2$ Hamon grab) was conducted across this survey block with all sampling successfully completed by 22:45 on the 5 June 2014. The vessel then transited to

the final historical time series station (WK01_33) after which the vessel travelled back to the home port of Lowestoft for demobilisation, arriving at 15:00 on the 5 June 2014.

5 Preliminary Results

5.1 Preliminary habitat descriptions: Survey Block A, UK 242 (BACI)

Sampling employing a combination of 0.1m^2 Hamon grab, scientific 2m beam trawling and seabed imagery techniques was successfully achieved at all planned stations located within survey Block A (Figure 12). It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

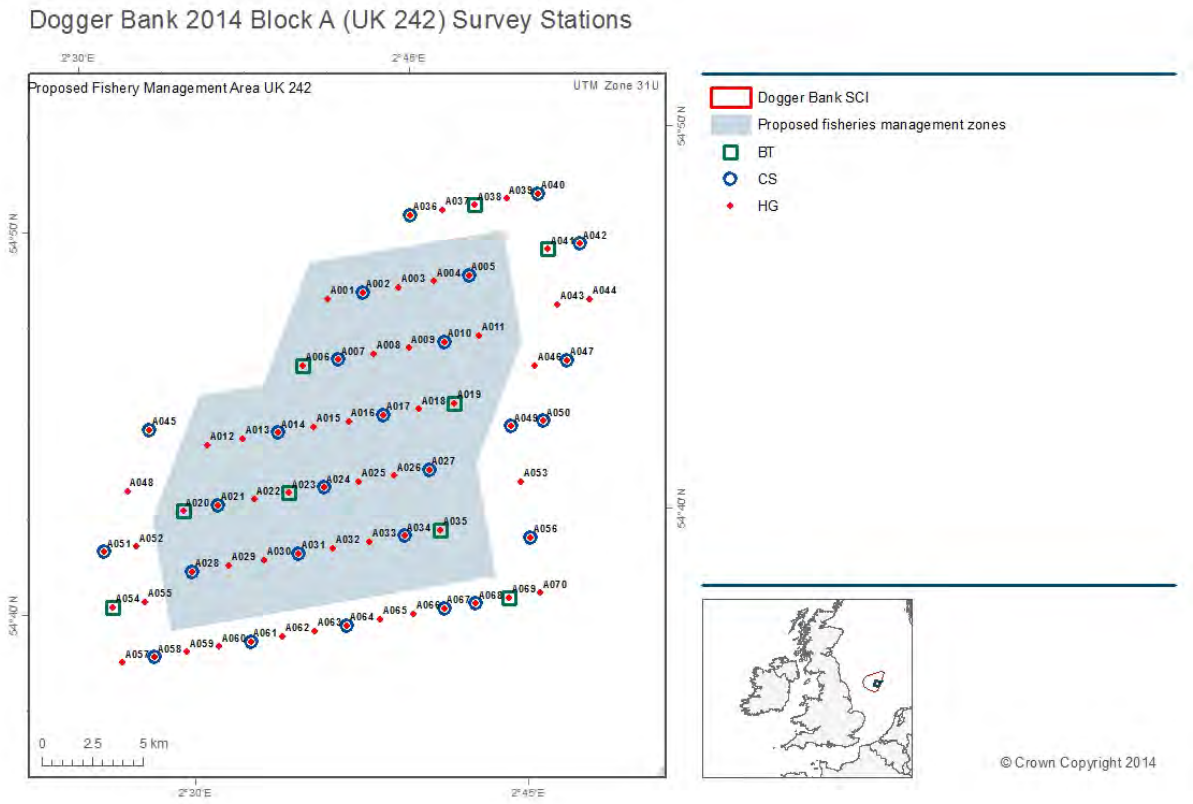


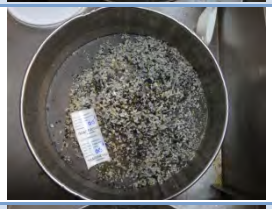
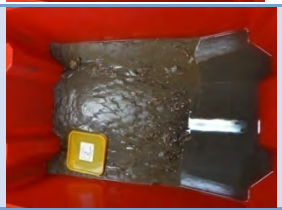
Figure 12. Stations sampled in Box A (UK 242) during Dogger Bank survey 2014.

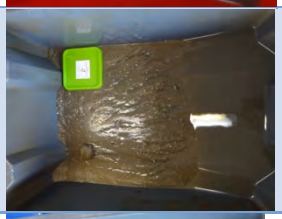
5.1.1 Grab sample summaries

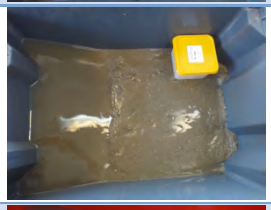
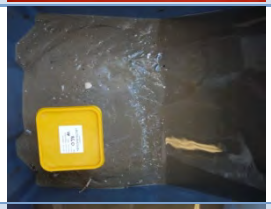
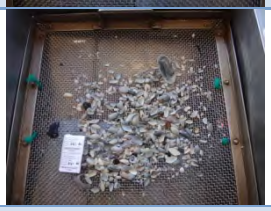
Preliminary field observations of the seabed sediment samples collected from within block A (UK 242) indicated that subtidal sand is the predominant sediment type with occasional patches of subtidal mixed sediment also present within this survey area (Table 5Table 5).

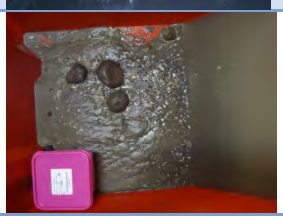
Table 5. Images of seabed sediment samples acquired using the 0.1m^2 Hamon grab from within Block A (UK 242).

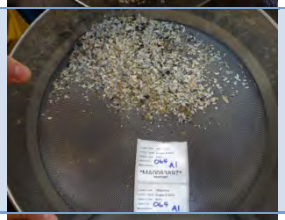
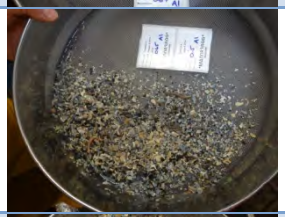
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A070_STN_001_A1				Sand
DGRB_CEND1014_A056_STN_002_A1				Sand
DGRB_CEND1014_A069_STN_004_A1				Sand
DGRB_CEND1014_A068_STN_006_A1				Sand
DGRB_CEND1014_A067_STN_008_A1				Sand
DGRB_CEND1014_A066_STN_010_A1				Sand

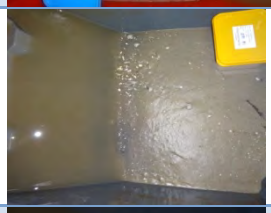
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A065_STN_011_A1				Sand
DGRB_CEND1014_A064_STN_012_A1				Sand
DGRB_CEND1014_A063_STN_014_A1				Sand
DGRB_CEND1014_A062_STN_015_A1				Sand
DGRB_CEND1014_A061_STN_016_A1				Sand
DGRB_CEND1014_A060_STN_018_A1				Sand
DGRB_CEND1014_A059_STN_019_A1				Sand
DGRB_CEND1014_A058_STN_020_A1				Sand

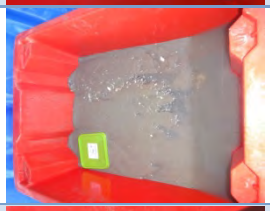
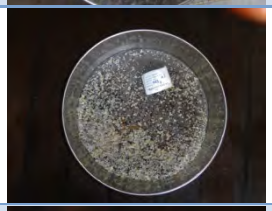
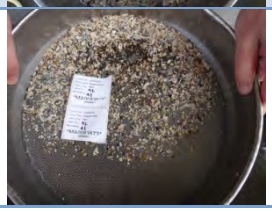
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A057_STN_022_A1				Sand
DGRB_CEND1014_A054_STN_023_A1				Sand
DGRB_CEND1014_A055_STN_025_A1				Sand
DGRB_CEND1014_A028_STN_026_A1				Sand
DGRB_CEND1014_A029_STN_028_A1				Sand
DGRB_CEND1014_A030_STN_029_A1				Sand
DGRB_CEND1014_A031_STN_030_A1				Sand
DGRB_CEND1014_A032_STN_032_A1				Sand

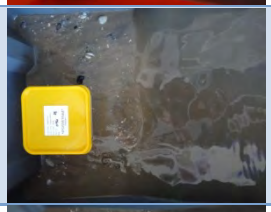
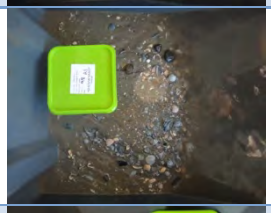
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A033_STN_033_A1				Sand
DGRB_CEND1014_A034_STN_034_A1				Sand
DGRB_CEND1014_A035_STN_036_A2				Sand
DGRB_CEND1014_A053_STN_038_A1				Sand
DGRB_CEND1014_A050_STN_039_A1				Sand
DGRB_CEND1014_A049_STN_041_A1				Sand
DGRB_CEND1014_WK16_T5_STN_043_A1	No photo available	No photo available	No photo available	Sand
DGRB_CEND1014_A027_STN_044_A1				Sand

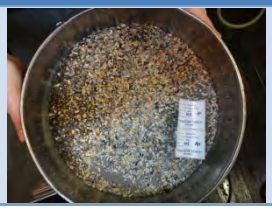
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A026_STN_046_A1				Sand
DGRB_CEND1014_A025_STN_047_A1				Sand
DGRB_CEND1014_A024_STN_048_A1				Sand
DGRB_CEND1014_A023_STN_050_A1				Sand
DGRB_CEND1014_A022_STN_052_A1				Sand
DGRB_CEND1014_A021_STN_053_A1				Sand
DGRB_CEND1014_A020_STN_055_A1				Sand
DGRB_CEND1014_A052_STN_057_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A051_STN_058_A1				Sand
DGRB_CEND1014_A048_STN_060_A1				Sand
DGRB_CEND1014_A045_STN_061_A1				Sand
DGRB_CEND1014_A012_STN_063_A1				Sand
DGRB_CEND1014_A013_STN_064_A1				Sand
DGRB_CEND1014_A014_STN_065_A1				Sand
DGRB_CEND1014_A015_STN_067_A1				Sand
DGRB_CEND1014_A016_STN_068_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A017_STN_069_A1				Sand
DGRB_CEND1014_A018_STN_071_A1				Sand
DGRB_CEND1014_A019_STN_072_A1				Sand
DGRB_CEND1014_A046_STN_074_A1				Sand
DGRB_CEND1014_A047_STN_075_A1				Sand
DGRB_CEND1014_A044_STN_077_A1				Sand
DGRB_CEND1014_A043_STN_078_A1				Mixed
DGRB_CEND1014_A042_STN_079_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A041_STN_081_A1				Mixed
DGRB_CEND1014_A011_STN_083_A1				Sand
DGRB_CEND1014_A010_STN_084_A1				Sand
DGRB_CEND1014_A009_STN_086_A1				Sand
DGRB_CEND1014_A008_STN_087_A1				Sand
DGRB_CEND1014_A007_STN_088_A1				Sand
DGRB_CEND1014_A006_STN_090_A1				Sand
DGRB_CEND1014_A001_STN_092_A1				Sand

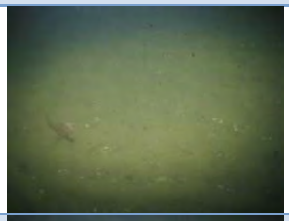
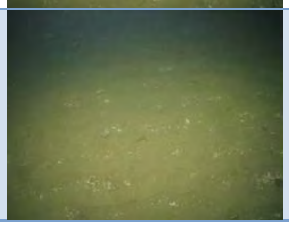
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A002_STN_093_A1				Sand
DGRB_CEND1014_A003_STN_095_A1				Sand
DGRB_CEND1014_A036_STN_096_A1				Sand
DGRB_CEND1014_A004_STN_098_A1				Sand
DGRB_CEND1014_A037_STN_099_A1				Sand
DGRB_CEND1014_A005_STN_100_A1			No photo available	Sand
DGRB_CEND1014_A038_STN_102_A1				Sand
DGRB_CEND1014_A039_STN_104_A1				Sand

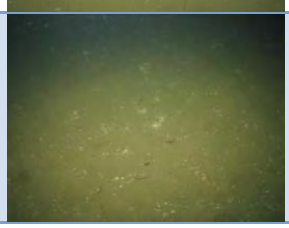
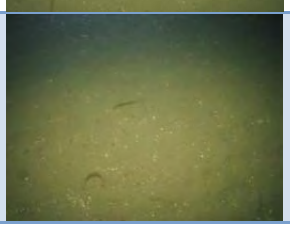
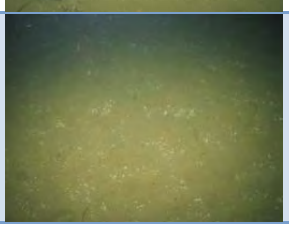
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_A040_STN_105_A1				Sand

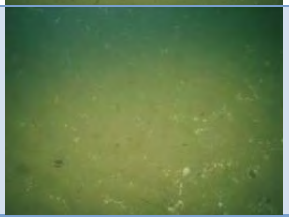
5.1.2 Camera sledge summaries

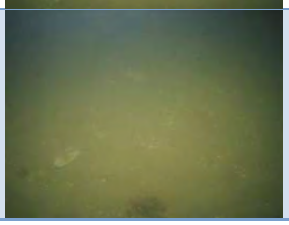
Preliminary observations of the video footage and still images acquired of the seabed in Block A indicated that rippled subtidal sand was the predominant broadscale habitat type present within the survey area (Table 6).

Table 6. Representative still images of the seabed sediment types acquired using a camera sledge from within Block A (UK 242).

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_A056_STN_003_A1	No still images available		
DGRB_CEND1014_A068_STN_007_A1			
DGRB_CEND1014_A067_STN_009_A1			
DGRB_CEND1014_A064_STN_013_A1			
DGRB_CEND1014_A061_STN_017_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_A058_STN_021_A1			
DGRB_CEND1014_A028_STN_027_A1			
DGRB_CEND1014_A031_STN_031_A1			
DGRB_CEND1014_A034_STN_035_A1			
DGRB_CEND1014_A050_STN_040_A1			
DGRB_CEND1014_A027_STN_045_A1			
DGRB_CEND1014_A024_STN_049_A1			
DGRB_CEND1014_A021_STN_054_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_A051_STN_059_A1			
DGRB_CEND1014_A045_STN_062_A1			
DGRB_CEND1014_A014_STN_066_A1			
DGRB_CEND1014_A017_STN_070_A1			
DGRB_CEND1014_A047_STN_076_A1			
DGRB_CEND1014_A042_STN_080_A1			
DGRB_CEND1014_A010_STN_085_A1			
DGRB_CEND1014_A007_STN_089_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_A002_STN_094_A1			
DGRB_CEND1014_A036_STN_097_A1			
DGRB_CEND1014_A005_STN_101_A1			
DGRB_CEND1014_A040_STN_106_A1			

5.1.3 2m Beam trawl summaries

Photographs of the total beam trawl catches acquired from within Block A (UK 242) are provided below in Table 7.

Table 7. Photographs of total catch acquired using the scientific 2m beam trawl from within survey Block A (UK 242).

Station Code	A1	A2
DGRB_CEND1014_A069_STN_005		
DGRB_CEND1014_A054_STN_024		

Station Code	A1	A2
DGRB_CEND1014_A035_STN_037		No photo available
DGRB_CEND1014_A049_STN_042		
DGRB_CEND1014_A023_STN_051		
DGRB_CEND1014_A020_STN_056		
DGRB_CEND1014_A019_STN_073		
DGRB_CEND1014_A041_STN_082		
DGRB_CEND1014_A006_STN_091		
DGRB_CEND1014_A038_STN_103		

5.2 Preliminary Habitat descriptions: Survey Block B, UK 1081 (BACI and 'Type 2' Monitoring)

Sampling employing a combination of 0.1m^2 Hamon grab, scientific 2m beam trawling and seabed imagery techniques was successfully achieved at all planned stations located within survey Block B (Figure 13). It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

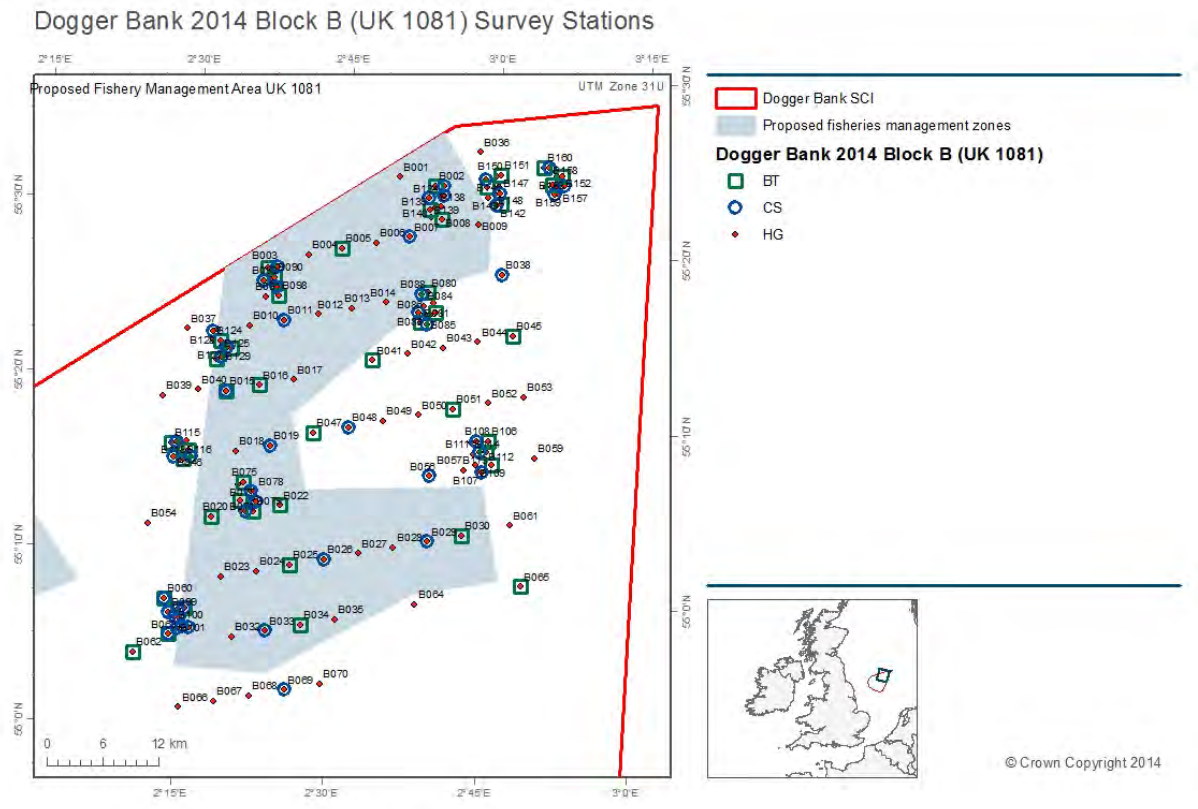
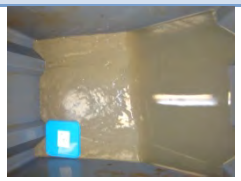
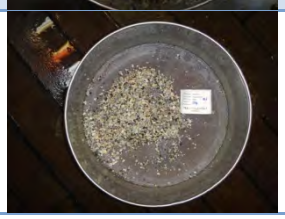


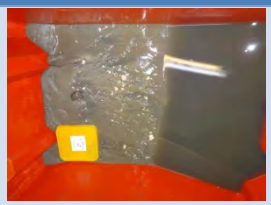
Figure 13. Stations sampled in Box B (UK 1081) during Dogger Bank survey 2014.

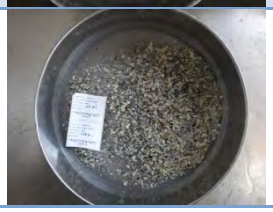
5.2.1 Grab sample summaries

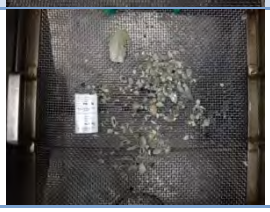
Preliminary field observations of the seabed sediment samples collected from within Block B (UK 242) indicated that subtidal sand is the predominant sediment type with occasional patches of subtidal coarse and mixed sediment also present within this survey area (Table 8).

Table 8. Images of seabed sediment samples acquired using the 0.1m^2 Hamon grab from within Block B (UK 1081).

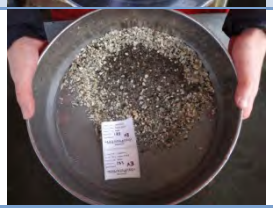
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK07_25_STN_107_A1				Sand
DGRB_CEND1014_B065_STN_108_A1				Sand
DGRB_CEND1014_B064_STN_110_A1				Sand
DGRB_CEND1014_B028_STN_111_A1				Sand
DGRB_CEND1014_B029_STN_112_A1_PSA				Sand
DGRB_CEND1014_B030_STN_114_A1_PSA				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B061_STN_116_A1_PSA				Sand
DGRB_CEND1014_B056_STN_117_A1_PSA				Coarse
DGRB_CEND1014_B057_STN_119_A1_PSA				Sand
DGRB_CEND1014_B107_STN_120_A1_PSA				Sand
DGRB_CEND1014_B110_STN_121_A1_PSA				Sand
DGRB_CEND1014_B058_STN_123_A1_PSA				Coarse
DGRB_CEND1014_B109_STN_125_A1_PSA				Sand
DGRB_CEND1014_B111_STN_126_A1				Mixed

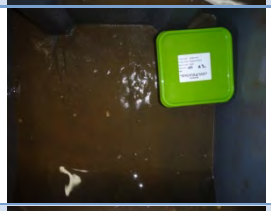
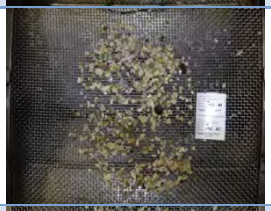
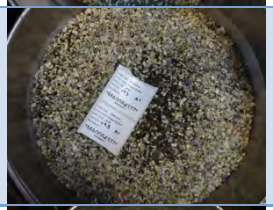
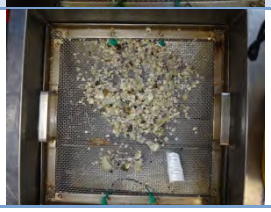
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B113_STN_127_A1				Sand
DGRB_CEND1014_B112_STN_129_A1				Sand
DGRB_CEND1014_B114_STN_131_A1				Sand
DGRB_CEND1014_B108_STN_132_A1				Sand
DGRB_CEND1014_B106_STN_134_A1				Sand
DGRB_CEND1014_B059_STN_136_A1				Sand
DGRB_CEND1014_B053_STN_137_A1				Sand
DGRB_CEND1014_B052_STN_138_A1				Sand

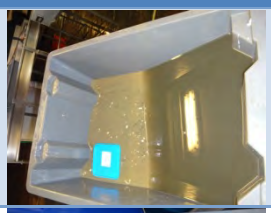
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B051_STN_139_A1				Sand
DGRB_CEND1014_B050_STN_141_A1				Sand
DGRB_CEND1014_B049_STN_142_A1				Sand
DGRB_CEND1014_B048_STN_143_A1				Sand
DGRB_CEND1014_B041_STN_145_A1				Sand
DGRB_CEND1014_B013_STN_147_A1				Sand
DGRB_CEND1014_B014_STN_148_A1				Sand
DGRB_CEND1014_B088_STN_149_A1_PSA				Sand

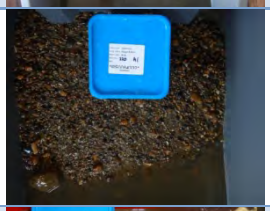
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B080_STN_151_A1				Sand
DGRB_CEND1014_B087_STN_153_A1				Mud
DGRB_CEND1014_B084_STN_154_A1				Mud
DGRB_CEND1014_B083_STN_155_A1				Sand
DGRB_CEND1014_B086_STN_157_A1				Sand
DGRB_CEND1014_B082_STN_158_A1				Sand
DGRB_CEND1014_B089_STN_159_A1				Sand
DGRB_CEND1014_B085_STN_161_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B081_STN_163_A1				Sand
DGRB_CEND1014_B042_STN_165_A1				Sand
DGRB_CEND1014_B043_STN_166_A1				Sand
DGRB_CEND1014_B044_STN_167_A1				Sand
DGRB_CEND1014_B045_STN_168_A1				Sand
DGRB_CEND1014_WK06_23_STN_170_A1				Sand
DGRB_CEND1014_B038_STN_171_A1				Sand
DGRB_CEND1014_B009_STN_173_A3				Sand

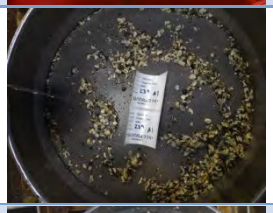
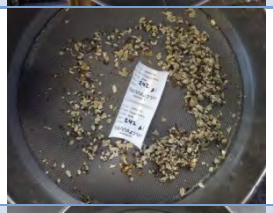
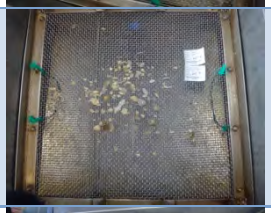
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B142_STN_174_A3				Sand
DGRB_CEND1014_B144_STN_175_A2				Sand
DGRB_CEND1014_B149_STN_176_A1				Sand
DGRB_CEND1014_B148_STN_177_A1				Sand
DGRB_CEND1014_B147_STN_178_A1				Sand
DGRB_CEND1014_B146_STN_179_A2				Sand
DGRB_CEND1014_B143_STN_180_A1				Sand
DGRB_CEND1014_B145_STN_182_A1				Sand

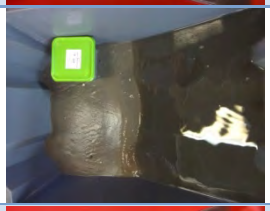
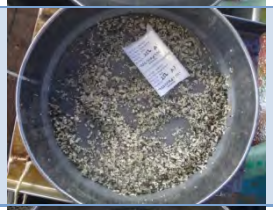
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B150_STN_184_A1				Sand
DGRB_CEND1014_B151_STN_185_A2				Sand
DGRB_CEND1014_B154_STN_190_A1				Sand
DGRB_CEND1014_B159_STN_191_A1				Sand
DGRB_CEND1014_B157_STN_193_A1				Sand
DGRB_CEND1014_B161_STN_194_A1				Sand
DGRB_CEND1014_B156_STN_196_A1				Sand
DGRB_CEND1014_B155_STN_197_A1				Sand

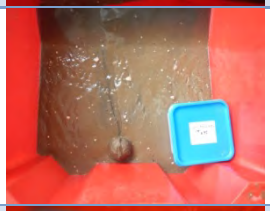
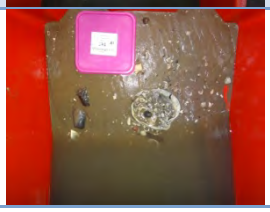
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B153_STN_199_A1				Sand
DGRB_CEND1014_B152_STN_200_A1				Sand
DGRB_CEND1014_B158_STN_202_A1				Sand
DGRB_CEND1014_B160_STN_204_A1				Sand
DGRB_CEND1014_B036_STN_206_A1				Sand
DGRB_CEND1014_B136_STN_207_A1				Sand
DGRB_CEND1014_B141_STN_209_A1				Coarse
DGRB_CEND1014_B137_STN_210_A1				Sand

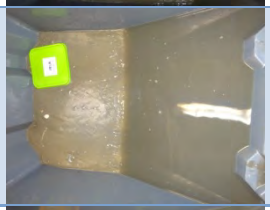
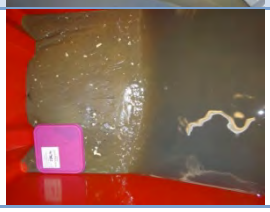
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B135_STN_212_A1				Sand
DGRB_CEND1014_B008_STN_213_A1				Sand
DGRB_CEND1014_B140_STN_215_A1				Coarse
DGRB_CEND1014_B139_STN_216_A3				Sand
DGRB_CEND1014_B138_STN_219_A1				Sand
DGRB_CEND1014_B134_STN_220_A1				Coarse
DGRB_CEND1014_B002_STN_222_A2				Sand
DGRB_CEND1014_B001_STN_224_A1				Sand

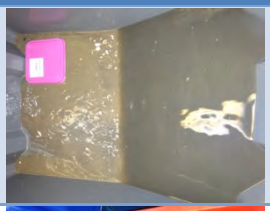
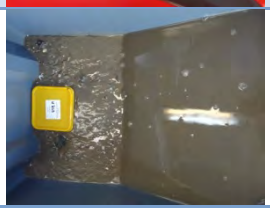
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B007_STN_225_A1				Coarse
DGRB_CEND1014_B006_STN_227_A1				Sand
DGRB_CEND1014_B005_STN_228_A1				Sand
DGRB_CEND1014_B004_STN_230_A1				Sand
DGRB_CEND1014_B094_STN_231_A1				Sand
DGRB_CEND1014_B003_STN_233_A1				Sand
DGRB_CEND1014_B097_STN_234_A1				Sand
DGRB_CEND1014_B096_STN_236_A1				Sand

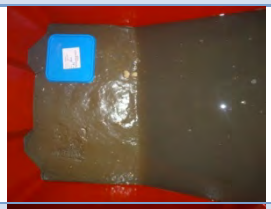
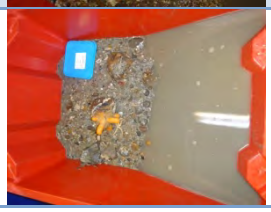
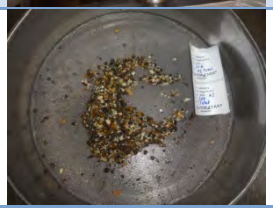
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B093_STN_238_A1				Sand
DGRB_CEND1014_B090_STN_239_A1				Sand
DGRB_CEND1014_B092_STN_241_A1				Sand
DGRB_CEND1014_B095_STN_242_A1				Sand
DGRB_CEND1014_B091_STN_244_A1				Sand
DGRB_CEND1014_B098_STN_245_A1				Sand
DGRB_CEND1014_B012_STN_247_A1				Sand
DGRB_CEND1014_B011_STN_248_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B010_STN_250_A1				Sand
DGRB_CEND1014_B132_STN_251_A1				Sand
DGRB_CEND1014_B131_STN_253_A1				Sand
DGRB_CEND1014_B129_STN_254_A1				Sand
DGRB_CEND1014_B133_STN_256_A1				Coarse
DGRB_CEND1014_B127_STN_258_A1				Sand
DGRB_CEND1014_B126_STN_260_A1				Sand
DGRB_CEND1014_B125_STN_261_A1				Sand

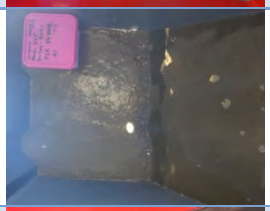
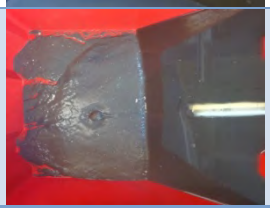
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B130_STN_263_A1				Mud
DGRB_CEND1014_B128_STN_264_A1				Sand
DGRB_CEND1014_B124_STN_266_A1				Sand
DGRB_CEND1014_B037_STN_267_A1				Sand
DGRB_CEND1014_WK05_41_STN_268_A1				Sand
DGRB_CEND1014_B039_STN_270_A1				Sand
DGRB_CEND1014_B040_STN_271_A1				Sand
DGRB_CEND1014_B015_STN_272_A1				Sand

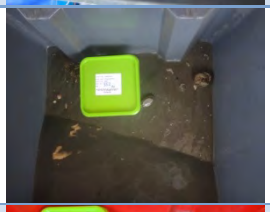
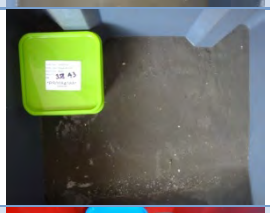
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B016_STN_274_A1				Sand
DGRB_CEND1014_B017_STN_276_A1				Sand
DGRB_CEND1014_B047_STN_277_A1				Sand
DGRB_CEND1014_B019_STN_279_A1				Sand
DGRB_CEND1014_B018_STN_281_A1				Sand
DGRB_CEND1014_B122_STN_282_A1				Sand
DGRB_CEND1014_B118_STN_284_A1				Sand
DGRB_CEND1014_B121_STN_286_A1				Sand

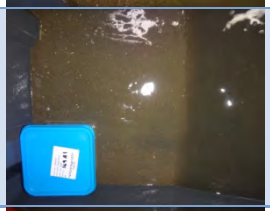
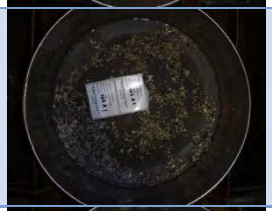
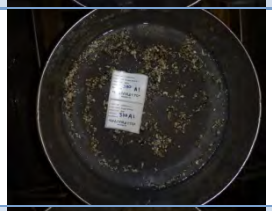
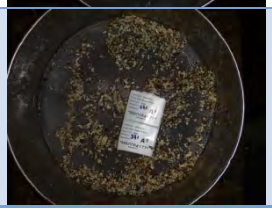
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B117_STN_287_A1				Sand
DGRB_CEND1014_B120_STN_289_A1				Sand
DGRB_CEND1014_B115_STN_290_A1				Sand
DGRB_CEND1014_B123_STN_292_A1				Coarse
DGRB_CEND1014_B046_STN_293_A1				Sand
DGRB_CEND1014_B119_STN_295_A1				Sand
DGRB_CEND1014_B116_STN_296_A1				Sand
DGRB_CEND1014_B054_STN_298_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK11_40_STN_299_A1				Sand
DGRB_CEND1014_WK17_T8_STN_320_A1				Sand
DGRB_CEND1014_B103_STN_321_A1	No photo available			Sand
DGRB_CEND1014_B102_STN_322_A1				Sand
DGRB_CEND1014_B104_STN_323_A1				Sand
DGRB_CEND1014_B031_STN_324_A1				Sand
DGRB_CEND1014_WK04_39_STN_325_A1				Coarse
DGRB_CEND1014_B105_STN_326_A1				Mixed

Name	Sample image	>5mm	1-5mm	Preliminary BSH
				
DGRB_CEND1014_B101_STN_327_A1				Sand
DGRB_CEND1014_B063_STN_328_A2				Sand
DGRB_CEND1014_B100_STN_329_A1				Mud
DGRB_CEND1014_B099_STN_330_A1				Sand
DGRB_CEND1014_B060_STN_331_A1				Sand
DGRB_CEND1014_B020_STN_332_A1				Sand
DGRB_CEND1014_B072_STN_334_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B021_STN_335_A1				Sand
DGRB_CEND1014_B076_STN_337_A1				Sand
DGRB_CEND1014_B073_STN_339_A1				Sand
DGRB_CEND1014_B075_STN_340_A1				Sand
DGRB_CEND1014_B074_STN_342_A1				Sand
DGRB_CEND1014_B078_STN_344_A1				Mixed
DGRB_CEND1014_B071_STN_345_A1				Sand
DGRB_CEND1014_B077_STN_346_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B079_STN_348_A1				Coarse
DGRB_CEND1014_B022_STN_350_A1				Sand
DGRB_CEND1014_B027_STN_352_A1				Sand
DGRB_CEND1014_B026_STN_353_A1				Sand
DGRB_CEND1014_B025_STN_355_A1				Sand
DGRB_CEND1014_B024_STN_357_A2				Mixed
DGRB_CEND1014_B023_STN_358_A3				Sand
DGRB_CEND1014_B032_STN_359_A1				Sand

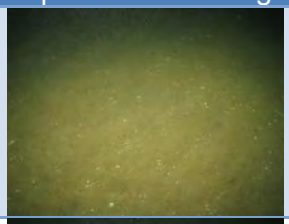
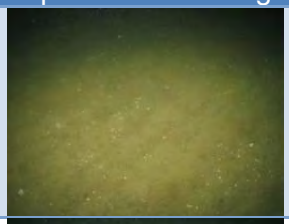
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B033_STN_361_A1				Sand
DGRB_CEND1014_B034_STN_363_A1				Sand
DGRB_CEND1014_B035_STN_365_A1				Sand
DGRB_CEND1014_B070_STN_366_A1				Sand
DGRB_CEND1014_B069_STN_367_A1				Sand
DGRB_CEND1014_B068_STN_369_A1				Sand
DGRB_CEND1014_B067_STN_370_A1				Sand
DGRB_CEND1014_B066_STN_371_A1				Sand

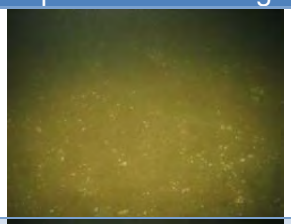
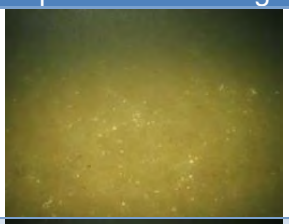
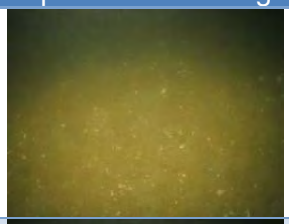
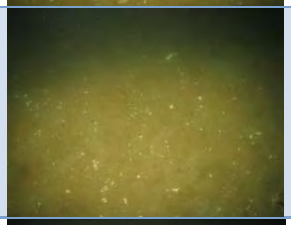
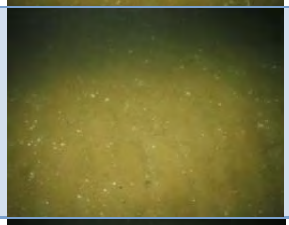
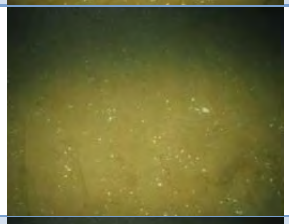
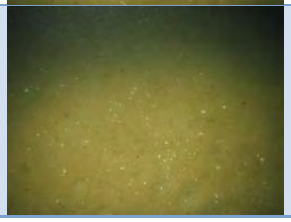
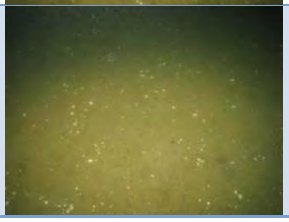
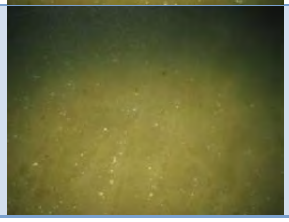
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B062_STN_372_A1				Sand

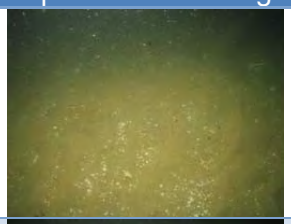
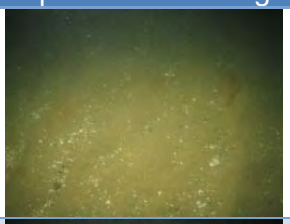
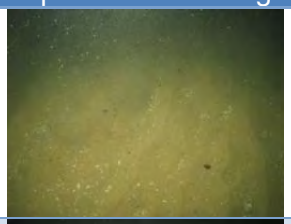
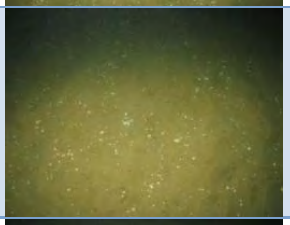
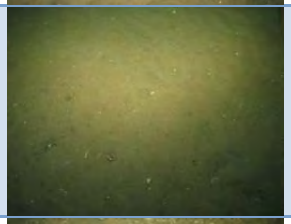
5.2.2 Camera sledge summaries

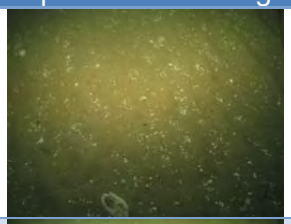
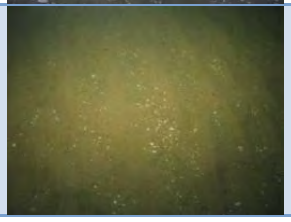
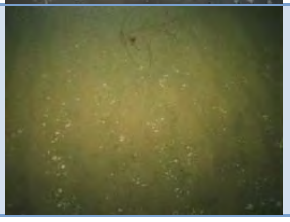
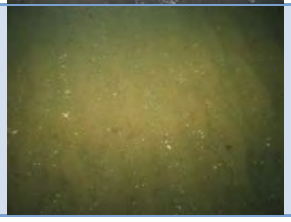
Preliminary observations of the video footage and still images acquired of the seabed in Block B indicated that rippled subtidal sand was the predominant broadscale habitat type present within the survey area with occasional patches of subtidal coarse sediments (Table 9).

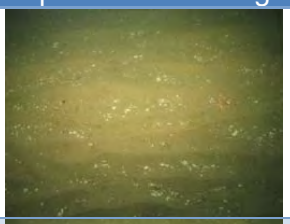
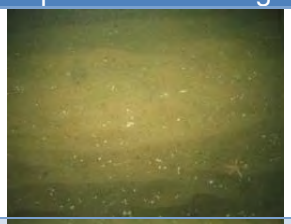
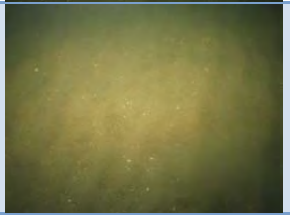
Table 8. Representative still images of the seabed sediment types acquired using a camera sledge from within Block B (UK 1081).

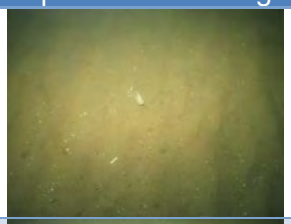
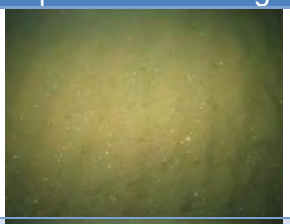
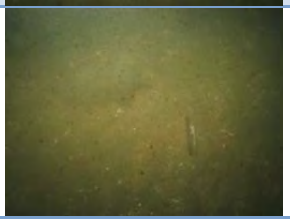
Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B029_STN_113_A1			
DGRB_CEND1014_B056_STN_118_A1			
DGRB_CEND1014_B110_STN_122_A1			
DGRB_CEND1014_B113_STN_128_A1			
DGRB_CEND1014_B108_STN_133_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B048_STN_144_A1			
DGRB_CEND1014_B088_STN_150_A1			
DGRB_CEND1014_B083_STN_156_A1			
DGRB_CEND1014_B085_STN_162_A1			
DGRB_CEND1014_B038_STN_172_A1			
DGRB_CEND1014_B145_STN_183_A1			
DGRB_CEND1014_B147_STN_187_A1			
DGRB_CEND1014_B142_STN_188_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B159_STN_192_A1			
DGRB_CEND1014_B161_STN_195_A1			
DGRB_CEND1014_B158_STN_203_A1			
DGRB_CEND1014_B136_STN_208_A1			
DGRB_CEND1014_B141_STN_211_A2			
DGRB_CEND1014_B134_STN_221_A1			
DGRB_CEND1014_B007_STN_226_A1			
DGRB_CEND1014_B094_STN_232_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B096_STN_237_A1			
DGRB_CEND1014_B095_STN_243_A1			
DGRB_CEND1014_B011_STN_249_A1			
DGRB_CEND1014_B129_STN_255_A1			
DGRB_CEND1014_B126_STN_259_A1			
DGRB_CEND1014_B128_STN_265_A1			
DGRB_CEND1014_B015_STN_273_A1			
DGRB_CEND1014_B019_STN_280_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B122_STN_283_A1			
DGRB_CEND1014_B117_STN_288_A1			
DGRB_CEND1014_B046_STN_294_A1			
DGRB_CEND1014_B099_STN_304_A1			
DGRB_CEND1014_B101_STN_309_A1			
DGRB_CEND1014_B105_STN_311_A1			
DGRB_CEND1014_B031_STN_314_A1			
DGRB_CEND1014_B021_STN_336_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_B074_STN_343_A1			
DGRB_CEND1014_B077_STN_347_A1			
DGRB_CEN1014_B026_STN_354_A1			
DGRB_CEN1014_B033_STN_362_A1			
DGRB_CEN1014_B069_STN_368_A1			

5.2.3 2m Beam trawl summaries

Photographs of the total beam trawl catches acquired from within Block B (UK 1081) are provided below in Table 10.

Table 9. Photographs of total catch acquired using the scientific 2m beam trawl from within survey Block B (UK 1081).

Station	A1	A2
DGRB_CEND1014_B065_STN_109		

Station	A1	A2
DGRB_CEND1014_B030_STN_115		
DGRB_CEND1014_B058_STN_124		
DGRB_CEND1014_B112_STN_130		
DGRB_CEND1014_B106_STN_135		
DGRB_CEND1014_B051_STN_140		
DGRB_CEND1014_B041_STN_146		
DGRB_CEND1014_B080_STN_152		
DGRB_CEND1014_B089_STN_160		

Station	A1	A2
DGRB_CEND1014_B081_STN_164		
DGRB_CEND1014_B045_STN_169		
DGRB_CEND1014_B143_STN_181		
DGRB_CEND1014_B151_STN_186		
DGRB_CEND1014_B144_STN_189		
DGRB_CEND1014_B155_STN_198		
DGRB_CEND1014_B152_STN_201		
DGRB_CEND1014_B160_STN_205		

Station	A1	A2
DGRB_CEND1014_B008_STN_214		
DGRB_CEND1014_B139_STN_218		
DGRB_CEND1014_B002_STN_223		
DGRB_CEND1014_B005_STN_229		
DGRB_CEND1014_B097_STN_235		
DGRB_CEND1014_B090_STN_240		
DGRB_CEND1014_B098_STN_246		
DGRB_CEND1014_B132_STN_252		

Station	A1	A2
DGRB_CEND1014_B133_STN_257		
DGRB_CEND1014_B125_STN_262		
DGRB_CEND1014_B016_STN_275	No photo available	
DGRB_CEND1014_B047_STN_278		
DGRB_CEND1014_B118_STN_285		
DGRB_CEND1014_B115_STN_291		
DGRB_CEND1014_B116_STN_297		
DGRB_CEND1014_B060_STN_302		

Station	A1	A2
DGRB_CEND1014_B063_STN_307		
DGRB_CEND1014_B103_STN_318		
DGRB_CEND1014_B020_STN_333		
DGRB_CEND1014_B076_STN_338		
DGRB_CEND1014_B075_STN_341		
DGRB_CEND1014_B079_STN_349		
DGRB_CEND1014_B022_STN_351		
DGRB_CEND1014_B025_STN_356		

Station	A1	A2
DGRB_CEND1014_B034_STN_364		
DGRB_CEND1014_B062_STN_373		

5.3 Preliminary habitat descriptions: Survey Block C, UK 375 (BACI Survey)

Sampling employing a combination of 0.1m^2 Hamon grab, scientific 2m beam trawling and seabed imagery techniques was successfully achieved at all planned stations located within survey Block C (Figure 14). It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

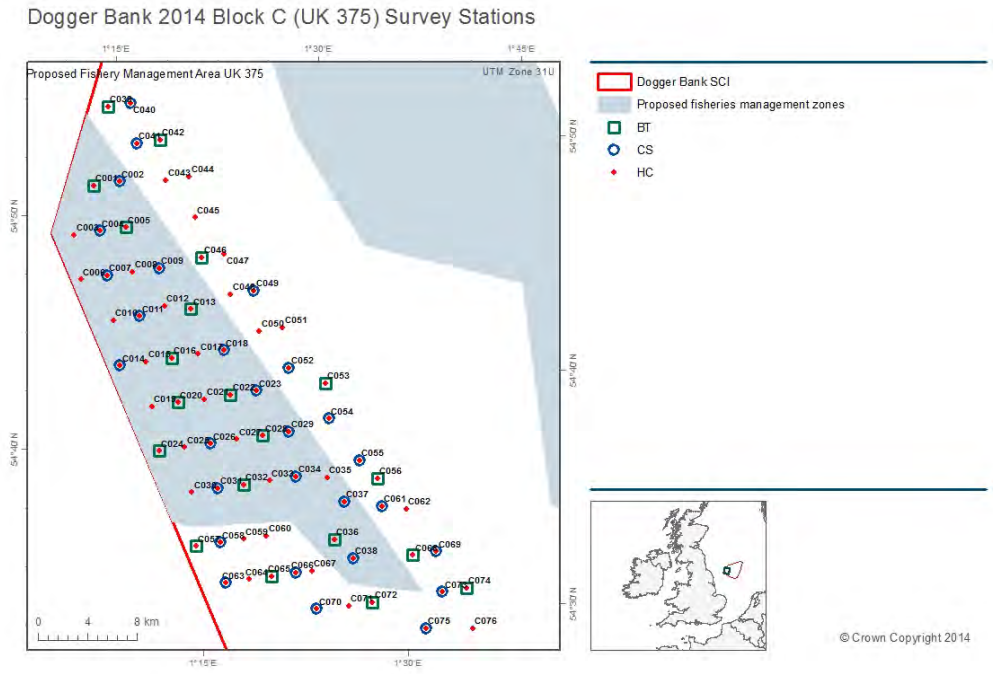
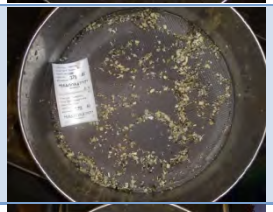


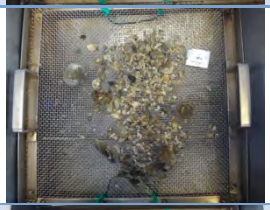
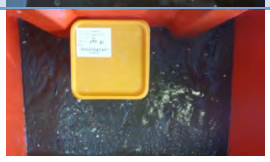
Figure 14. Stations sampled in Box C (UK 375) during Dogger Bank survey 2014.

5.3.1 Grab sample summaries

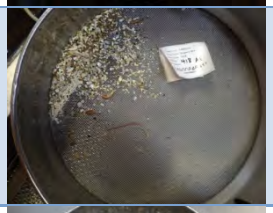
Preliminary field observations of the seabed sediment samples collected from within Block C (UK 375) indicated that subtidal sand is the predominant sediment type with occasional patches of subtidal coarse and mixed sediment also present within this survey area (Table 10Table 11).

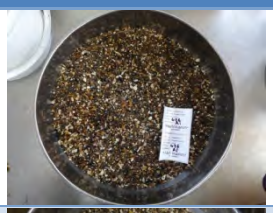
Table 10. Images of seabed sediment samples acquired using the 0.1m^2 Hamon grab from within Block C (UK 375).

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C040_STN_374_A1				Mud
DGRB_CEND1014_C039_STN_376_A1				Mixed
DGRB_CEND1014_C041_STN_378_A1				Mud
DGRB_CEND1014_C042_STN_380_A1				Sand
DGRB_CEND1014_C044_STN_382_A1				Sand
DGRB_CEND1014_C043_STN_383_A1				Mixed
DGRB_CEND1014_C002_STN_385_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C001_STN_387_A1				Coarse
DGRB_CEND1014_C003_STN_389_A1				Mud
DGRB_CEND1014_C004_STN_390_A1				Mixed
DGRB_CEND1014_C005_STN_392_A1				Sand
DGRB_CEND1014_C045_STN_394_A1				Sand
DGRB_CEND1014_C047_STN_396_A2				Sand
DGRB_CEND1014_C046_STN_397_A1				Sand
DGRB_CEND1014_C009_STN_399_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C008_STN_401_A1				Sand
DGRB_CEND1014_C007_STN_402_A1				Sand
DGRB_CEND1014_C006_STN_404_A2				Sand
DGRB_CEND1014_C010_STN_406_A1				Sand
DGRB_CEND1014_C011_STN_407_A1				Sand
DGRB_CEND1014_C012_STN_409_A1				Sand
DGRB_CEND1014_C013_STN_410_A1				Sand
DGRB_CEND1014_C048_STN_412_A1				Sand

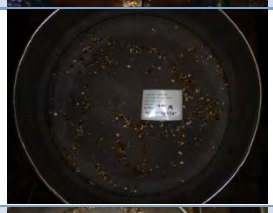
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C049_STN_413_A1				Sand
DGRB_CEND1014_C051_STN_415_A1				Sand
DGRB_CEND1014_C050_STN_416_A1				Sand
DGRB_CEND1014_C018_STN_418_A1				Sand
DGRB_CEND1014_C017_STN_420_A1				Mixed
DGRB_CEND1014_C016_STN_421_A1				Sand
DGRB_CEND1014_C015_STN_423_A1				Sand
DGRB_CEND1014_C014_STN_424_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C019_STN_426_A1				Coarse
DGRB_CEND1014_C020_STN_427_A1				Sand
DGRB_CEND1014_C021_STN_429_A1				Sand
DGRB_CEND1014_C022_STN_430_A1				Sand
DGRB_CEND1014_C023_STN_432_A1				Sand
DGRB_CEND1014_C052_STN_434_A1				Sand
DGRB_CEND1014_C053_STN_436_A1				Sand
DGRB_CEND1014_C054_STN_438_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C035_STN_439_A3				Coarse
DGRB_CEND1014_C034_STN_441_A2				Coarse
DGRB_CEND1014_C033_STN_442_A2				Coarse
DGRB_CEND1014_C032_STN_443_A1				Coarse
DGRB_CEND1014_C031_STN_445_A1				Coarse
DGRB_CEND1014_C030_STN_446_A1				Coarse
DGRB_CEND1014_C024_STN_447_A1				Mixed
DGRB_CEND1014_C025_STN_449_A1				Coarse

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C026_STN_450_A1				Coarse
DGRB_CEND1014_C027_STN_451_A1				Coarse
DGRB_CEND1014_C028_STN_452_A1				Coarse
DGRB_CEND1014_C029_STN_454_A1				Sand
DGRB_CEND1014_C055_STN_460_A1				Sand
DGRB_CEND1014_C056_STN_461_A1				Sand
DGRB_CEND1014_C037_STN_463_A1				Sand
DGRB_CEND1014_C061_STN_464_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C062_STN_465_A1				Sand
DGRB_CEND1014_C069_STN_466_A1				Sand
DGRB_CEND1014_C068_STN_467_A1				Sand
DGRB_CEND1014_C038_STN_469_A1				Coarse
DGRB_CEND1014_C036_STN_470_A1				Sand
DGRB_CEND1014_C060_STN_477_A2				Mixed
DGRB_CEND1014_C059_STN_478_A1				Coarse
DGRB_CEND1014_C058_STN_479_A1				Coarse

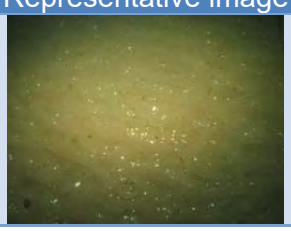
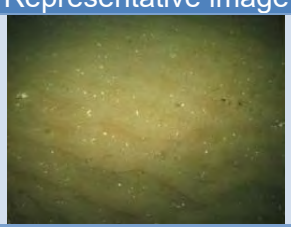
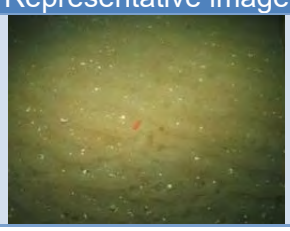
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C057_STN_481_A1				Sand
DGRB_CEND1014_C063_STN_483_A1				Sand
DGRB_CEND1014_C064_STN_485_A1				Coarse
DGRB_CEND1014_C065_STN_486_A1				Mixed
DGRB_CEND1014_C066_STN_488_A1				Sand
DGRB_CEND1014_C067_STN_490_A1				Mixed
DGRB_CEND1014_C070_STN_491_A1				Sand
DGRB_CEND1014_C071_STN_493_A1				Sand

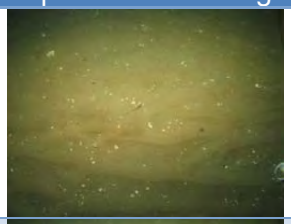
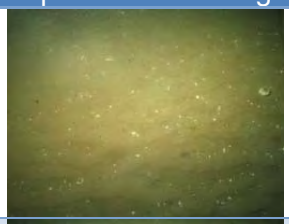
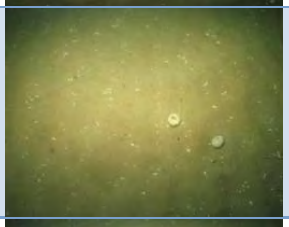
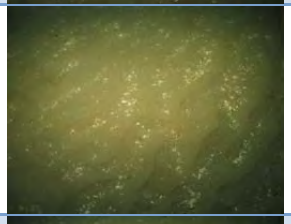
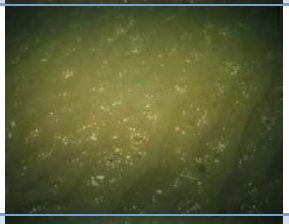
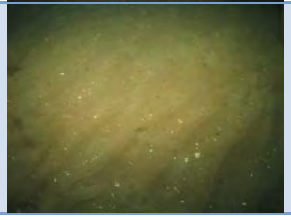
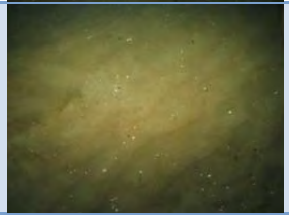
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_C072_STN_494_A1				Coarse
DGRB_CEND1014_C075_STN_496_A1				Sand
DGRB_CEND1014_C076_STN_498_A1				Mud
DGRB_CEND1014_C073_STN_499_A1				Sand
DGRB_CEND1014_C074_STN_501_A1				Sand

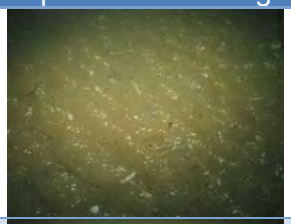
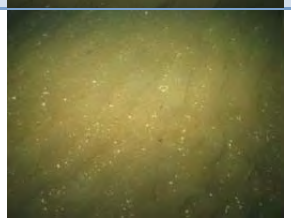
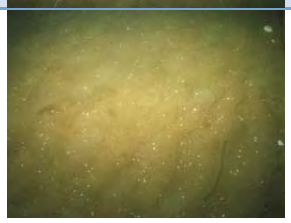
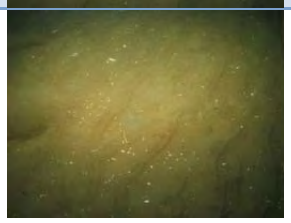
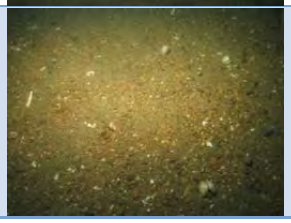
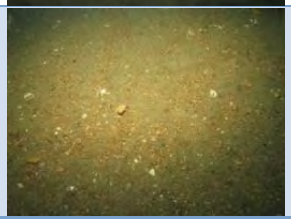
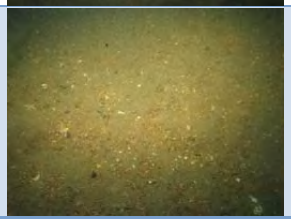
5.3.2 Camera sledge summaries

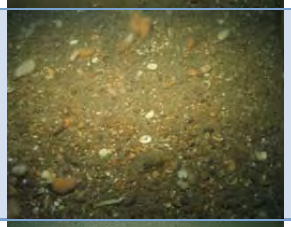
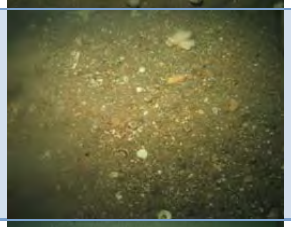
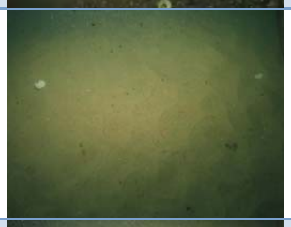
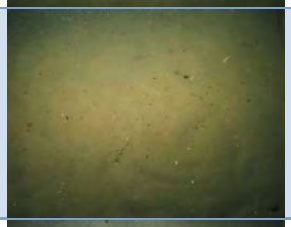
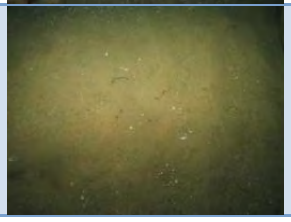
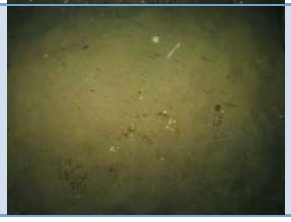
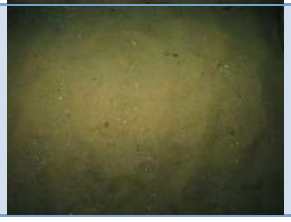
Preliminary observations of the video footage and still images acquired of the seabed in Block C indicated that rippled subtidal sand was the predominant broadscale habitat type present within the survey area with occasional patches of subtidal coarse sediments (Table 12).

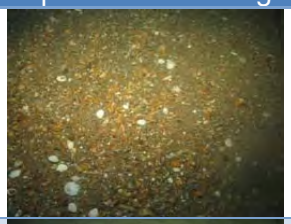
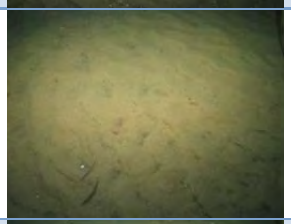
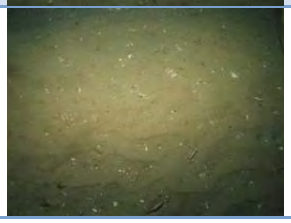
Table 11. Representative still images of the seabed sediment types acquired using a camera sledge from within Block C (UK 375).

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_C040_STN_375_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_C041_STN_379_A1			
DGRB_CEND1014_C043_STN_384_A1			
DGRB_CEND1014_C002_STN_386_A1			
DGRB_CEND1014_C004_STN_391_A1			
DGRB_CEND1014_C045_STN_395_A1			
DGRB_CEND1014_C009_STN_400_A1			
DGRB_CEND1014_C007_STN_403_A1			
DGRB_CEND1014_C011_STN_408_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_C049_STN_414_A1			
DGRB_CEND1014_C018_STN_419_A1			
DGRB_CEND1014_C014_STN_425_A1			
DGRB_CEND1014_C023_STN_433_A1			
DGRB_CEND1014_C052_STN_435_A1			
DGRB_CEND1014_C029_STN_455_A1			
DGRB_CEND1014_C054_STN_456_A1			
DGRB_CEND1014_C026_STN_457_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_C031_STN_458_A2			
DGRB_CEND1014_C034_STN_459_A1			
DGRB_CEND1014_C055_STN_472_A1			
DGRB_CEND1014_C037_STN_473_A1			
DGRB_CEND1014_C061_STN_474_A1			
DGRB_CEND1014_C069_STN_475_A1			
DGRB_CEND1014_C038_STN_476_A2			
DGRB_CEND1014_C058_STN_480_A1			

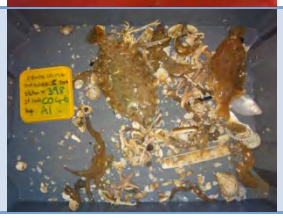
Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_C063_STN_484_A1			
DGRB_CEND1014_C066_STN_489_A1			
DGRB_CEND1014_C070_STN_492_A1			
DGRB_CEND1014_C075_STN_497_A1			
DGRB_CEND1014_C073_STN_500_A1			

5.3.3 2m Beam trawl summaries

Photographs of the total beam trawl catches acquired from within Block C (UK 375) are provided below in Table 13.

Table 12. Photographs of total catch acquired using the scientific 2m beam trawl from within survey Block C (UK 375).

Station Code	A1	A2
DGRB_CEND1014_C039_STN_377		

Station Code	A1	A2
DGRB_CEND1014_C042_STN_381		
DGRB_CEND1014_C001_STN_388		
DGRB_CEND1014_C005_STN_393		
DGRB_CEND1014_C046_STN_398		
DGRB_CEND1014_C006_STN_405	No photo available	
DGRB_CEND1014_C013_STN_411		
DGRB_CEND1014_C050_STN_417		
DGRB_CEND1014_C016_STN_422		

Station Code	A1	A2
DGRB_CEND1014_C020_STN_428		
DGRB_CEND1014_C022_STN_431		
DGRB_CEND1014_C053_STN_437		
DGRB_CEND1014_C035_STN_440		
DGRB_CEND1014_C032_STN_444		
DGRB_CEND1014_C024_STN_448		
DGRB_CEND1014_C028_STN_453		
DGRB_CEND1014_C056_STN_462		

Station Code	A1	A2
DGRB_CEND1014_C038_STN_468		
DGRB_CEND1014_C036_STN_471		
DGRB_CEND1014_C057_STN_482		
DGRB_CEND1014_C065_STN_487		
DGRB_CEND1014_C072_STN_495		
DGRB_CEND1014_C074_STN_502		

5.4 Preliminary habitat descriptions: Survey Block D, UK 2260 (BACI survey)

Sampling employing a combination of 0.1m^2 Hamon grab, scientific 2m beam trawling and seabed imagery techniques was successfully achieved at all planned stations located within survey Block D (Figure 15). It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

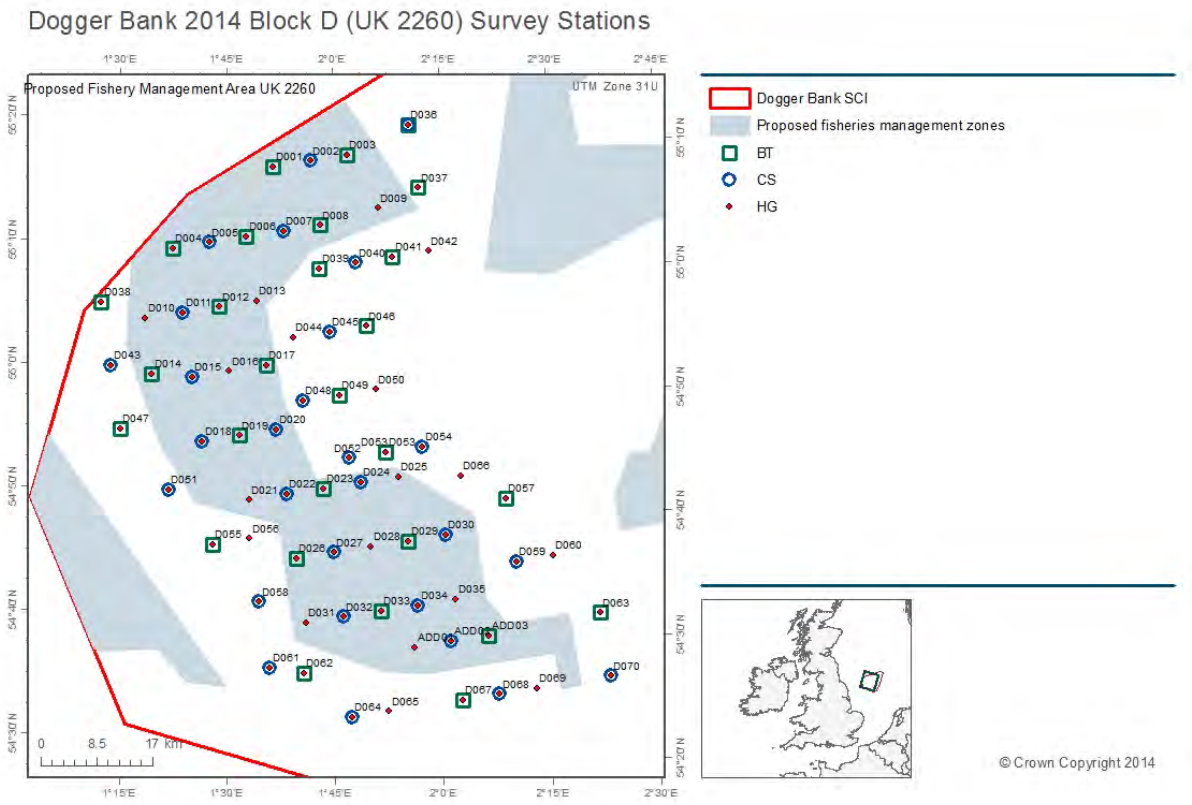


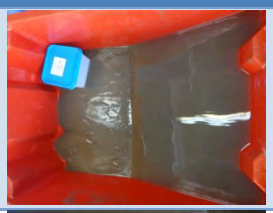
Figure 15. Stations sampled in Box D (UK 2260) during Dogger Bank survey 2014.

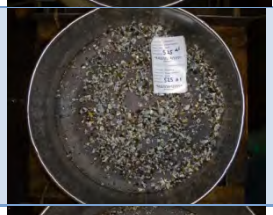
5.4.1 Grab sample summaries

Preliminary field observations of the seabed sediment samples collected from within Block D (UK 2260) indicated that subtidal sand is the predominant sediment type with occasional patches of subtidal coarse and mixed sediment also present within this survey area (Table 11).

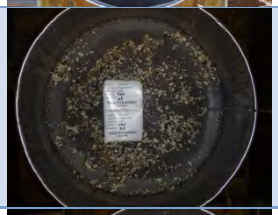
Table 13. Images of seabed sediment samples acquired using the 0.1m^2 Hamon grab from within Block D (UK 2260).

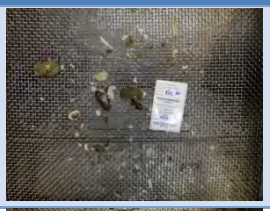
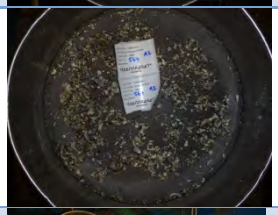
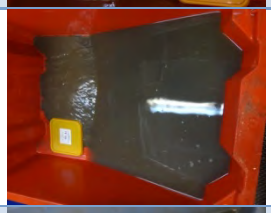
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK14_27_STN_503_A1				Sand
DGRB_CEND1014_D061_STN_505_A1				Sand

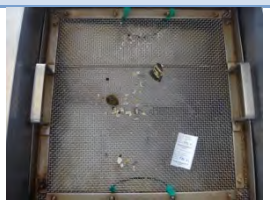
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D062_STN_507_A1				Sand
DGRB_CEND1014_D064_STN_509_A1				Sand
DGRB_CEND1014_D065_STN_511_A1				Sand
DGRB_CEND1014_D067_STN_512_A1				Sand
DGRB_CEND1014_D068_STN_514_A1				Sand
DGRB_CEND1014_D069_STN_516_A1				Sand
DGRB_CEND1014_WK08_34_STN_517_A1				Sand
DGRB_CEND1014_D070_STN_519_A1				Sand

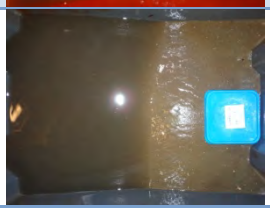
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D063_STN_521_A1				Sand
DGRB_CEND1014_WK02_35_STN_523_A1				Sand
DGRB_CEND1014_ADD03_STN_525_A1				Sand
DGRB_CEND1014_D035_STN_527_A1				Sand
DGRB_CEND1014_ADD02_STN_528_A1				Sand
DGRB_CEND1014_D034_STN_530_A1				Sand
DGRB_CEND1014_ADD01_STN_532_A1				Sand
DGRB_CEND1014_D033_STN_533_A1				Sand

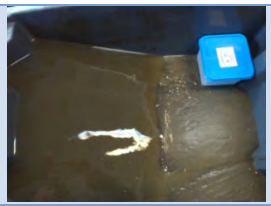
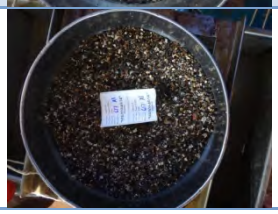
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D032_STN_535_A1				Sand
DGRB_CEND1014_D031_STN_537_A1				Sand
DGRB_CEND1014_D058_STN_538_A1				Sand
DGRB_CEND1014_D026_STN_540_A1				Sand
DGRB_CEND1014_D027_STN_542_A1				Sand
DGRB_CEND1014_D028_STN_544_A1				Sand
DGRB_CEND1014_D029_STN_545_A1				Mud
DGRB_CEND1014_D030_STN_547_A1				Coarse

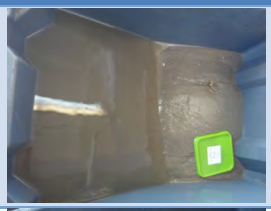
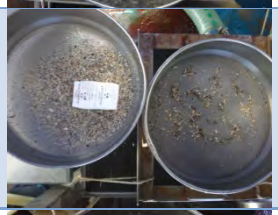
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D059_STN_549_A1				Sand
DGRB_CEND1014_D060_STN_551_A1				Sand
DGRB_CEND1014_WK09_36_STN_552_A2				Sand
DGRB_CEND1014_D057_STN_554_A1				Sand
DGRB_CEND1014_WK03_37_STN_556_A1				Sand
DGRB_CEND1014_WK10_38_STN_559_A1				Sand
DGRB_CEND1014_D066_STN_560_A1				Sand
DGRB_CEND1014_D054_STN_561_A1				Mud

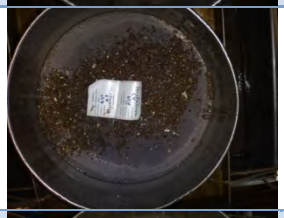
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D025_STN_563_A1				Sand
DGRB_CEND1014_D053_STN_564_A2				Sand
DGRB_CEND1014_D024_STN_566_A1				Coarse
DGRB_CEND1014_D052_STN_568_A1				Sand
DGRB_CEND1014_D023_STN_570				Sand
DGRB_CEND1014_D022_STN_572_A1				Sand
DGRB_CEND1014_WK13_45_STN_574_A1				Sand
DGRB_CEND1014_D021_STN_576_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D056_STN_577_A1				Coarse
DGRB_CEND1014_D055_STN_578_A1				Sand
DGRB_CEND1014_D051_STN_580_A1				Sand
DGRB_CEND1014_D018_STN_582_A1				Sand
DGRB_CEND1014_D019_STN_584_A1				Coarse
DGRB_CEND1014_D020_STN_586_A1				Sand
DGRB_CEND1014_D048_STN_588_A1				Sand
DGRB_CEND1014_D049_STN_590_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D050_STN_592_A1				Sand
DGRB_CEND1014_D046_STN_593_A1				Sand
DGRB_CEND1014_D045_STN_595_A1				Sand
DGRB_CEND1014_D044_STN_597_A1				Sand
DGRB_CEND1014_D017_STN_598_A1				Sand
DGRB_CEND1014_D016_STN_600_A1				Coarse
DGRB_CEND1014_D015_STN_601_A1				Sand
DGRB_CEND1014_D014_STN_603_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D047_STN_605_A1				Sand
DGRB_CEND1014_D043_STN_607_A1				Sand
DGRB_CEND1014_D038_STN_609_A1				Sand
DGRB_CEND1014_D010_STN_611_A1				Sand
DGRB_CEND1014_D011_STN_612_A1				Sand
DGRB_CEND1014_D012_STN_614_A1				Sand
DGRB_CEND1014_D013_STN_616_A1				Sand
DGRB_CEND1014_D039_STN_617_A1				Mixed

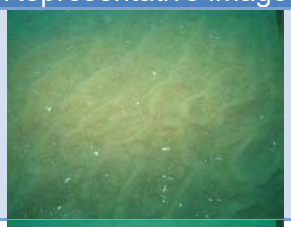
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D040_STN_619_A1				Sand
DGRB_CEND1014_D041_STN_621_A1				Coarse
DGRB_CEND1014_D042_STN_623_A1				Coarse
DGRB_CEND1014_D037_STN_624_A1				Mixed
DGRB_CEND1014_D009_STN_626_A1				Sand
DGRB_CEND1014_D008_STN_627_A1				Sand
DGRB_CEND1014_D007_STN_629_A1				Sand
DGRB_CEND1014_D006_STN_631_A1				Coarse

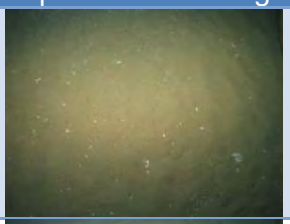
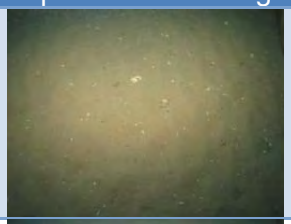
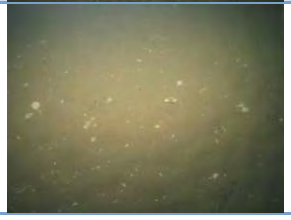
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_D005_STN_633_A1				Sand
DGRB_CEND1014_D004_STN_635_A1				Sand
DGRB_CEND1014_WK12_43_STN_637_A1				Sand
DGRB_CEND1014_D001_STN_639_A3				Mud
DGRB_CEND1014_D002_STN_641_A1				Sand
DGRB_CEND1014_D003_STN_643_A1				Sand
DGRB_CEND1014_D036_STN_645_A1				Coarse

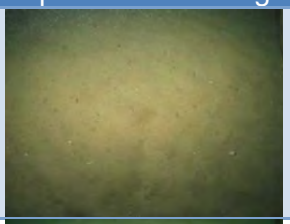
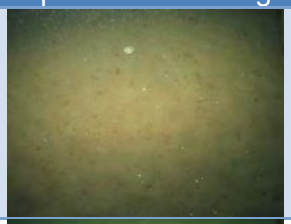
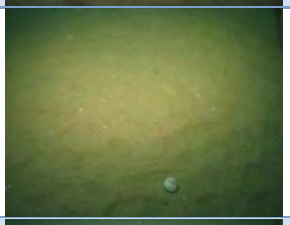
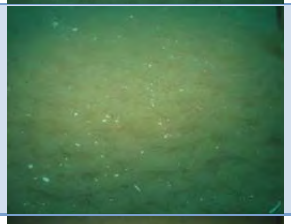
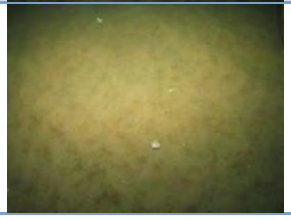
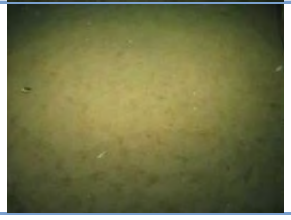
5.4.2 Camera sledge summaries

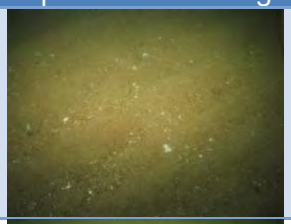
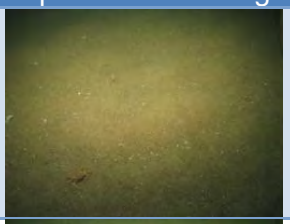
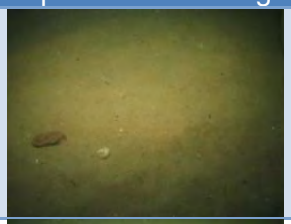
Preliminary observations of the video footage and still images acquired of the seabed in Block D indicated that rippled subtidal sand was the predominant broadscale habitat type present within the survey area with occasional patches of subtidal coarse sediments (Table 15).

Table 14. Representative still images of the seabed sediment types acquired using a camera sledge from within Block D (UK 2260).

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_D061_STN_506_A1			
DGRB_CEND1014_D064_STN_510_A1			
DGRB_CEND1014_D068_STN_515_A1			
DGRB_CEND1014_D070_STN_520_A1			
DGRB_CEND1014_ADD02_STN_529_A1			
DGRB_CEND1014_D034_STN_531_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_D032_STN_536_A1			
DGRB_CEND1014_D058_STN_539_A1			
DGRB_CEND1014_D027_STN_543_A1			
DGRB_CEND1014_D030_STN_548_A1			
DGRB_CEND1014_D059_STN_550_A1			
DGRB_CEND1014_D054_STN_562_A1			
DGRB_CEND1014_D024_STN_567_A1			
DGRB_CEND1014_D052_STN_569_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_D022_STN_573_A1			
DGRB_CEND1014_D051_STN_581_A1			
DGRB_CEND1014_D018_STN_583_A1			
DGRB_CEND1014_D020_STN_587_A1			
DGRB_CEND1014_D048_STN_589_A1			
DGRB_CEND1014_D045_STN_596_A1			
DGRB_CEND1014_D015_STN_602_A1			
DGRB_CEND1014_D043_STN_608_A1			

Station Code	Representative image 1	Representative image 2	Representative image 3
DGRB_CEND1014_D011_STN_613_A1			
DGRB_CEND1014_D040_STN_620_A1			
DGRB_CEND1014_D007_STN_630_A1			
DGRB_CEND1014_D005_STN_634_A1			
DGRB_CEND1014_D002_STN_642_A1			
DGRB_CEND1014_D036_STN_646_A1			

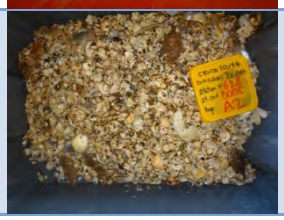
5.4.3 2m Beam trawl summaries

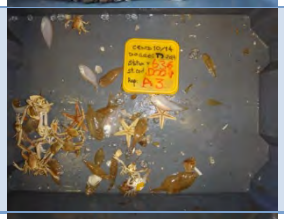
Photographs of the total beam trawl catches acquired from within Block D (UK 2260) are provided below in Table 16.

Table 15. Photographs of total catch acquired using the scientific 2m beam trawl from within survey Block D (UK 2260).

Station Code	A1	A2
DGRB_CEND1014_D062_STN_508		
DGRB_CEND1014_D067_STN_513		
DGRB_CEND1014_D063_STN_522		No photo available
DGRB_CEND1014_ADD03_STN_526		
DGRB_CEND1014_D033_STN_534		
DGRB_CEND1014_D026_STN_541		
DGRB_CEND1014_D029_STN_546		

Station Code	A1	A2
DGRB_CEND1014_D057_STN_555_A1*		
DGRB_CEND1014_D053_STN_565		
DGRB_CEND1014_D023_STN_571		
DGRB_CEND1014_D055_STN_579		
DGRB_CEND1014_D019_STN_585		No photo available
DGRB_CEND1014_D049_STN_591		
DGRB_CEND1014_D046_STN_594		
DGRB_CEND1014_D017_STN_599		

Station Code	A1	A2
DGRB_CEND1014_D014_STN_604		
DGRB_CEND1014_D047_STN_606		
DGRB_CEND1014_D038_STN_610		
DGRB_CEND1014_D012_STN_615		
DGRB_CEND1014_D039_STN_618		
DGRB_CEND1014_D041_STN_622		
DGRB_CEND1014_D037_STN_625		
DGRB_CEND1014_D008_STN_628		

Station Code	A1	A2
DGRB_CEND1014_D006_STN_632		
DGRB_CEND1014_D004_STN_636		
DGRB_CEND1014_D001_STN_640		
DGRB_CEND1014_D003_STN_644		
DGRB_CEND1014_D036_STN_647		

5.5 Preliminary habitat descriptions: Survey Block E, UK and NL 1275 (BACI survey)

Grab sampling employing a 0.1m^2 Hamon grab was successfully achieved at all planned 'contingency' stations located within survey Block E (Figure Figure 16). Due to limited survey time remaining for this contingency work, no seabed video transects and only one beam trawl sample was acquired within this survey block. It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

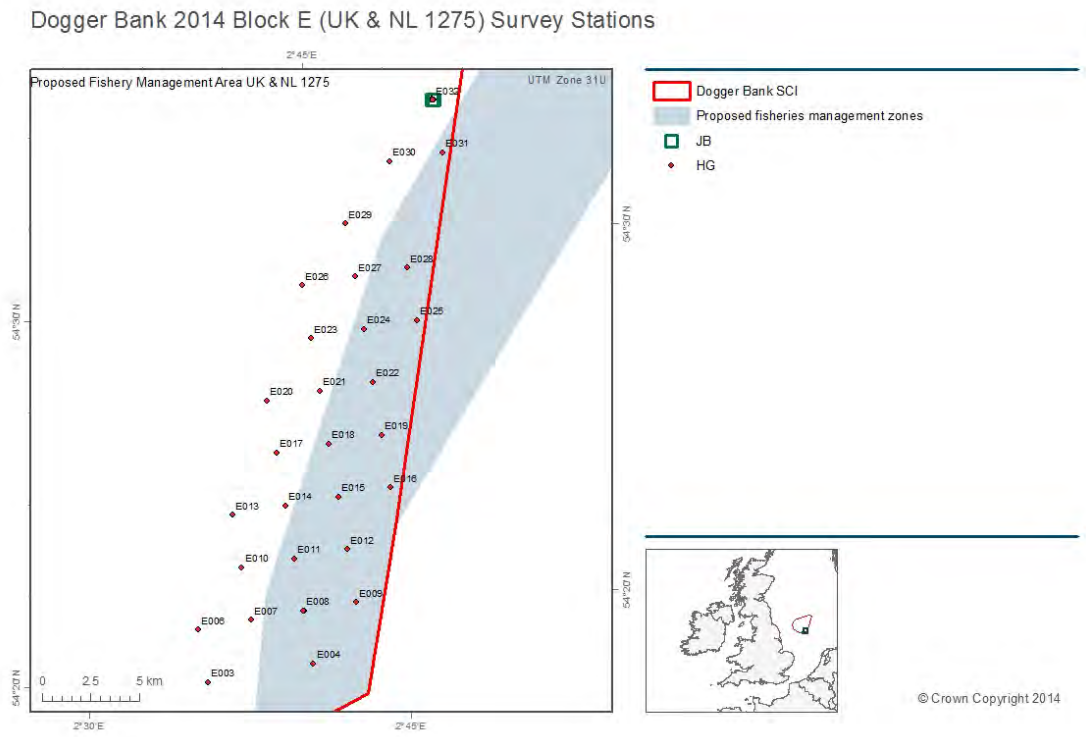
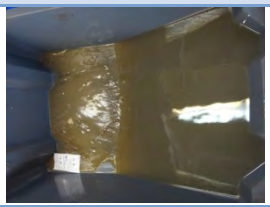


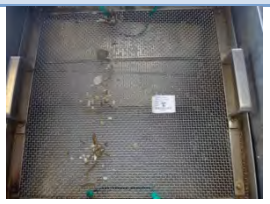
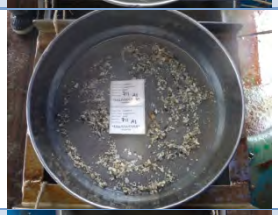
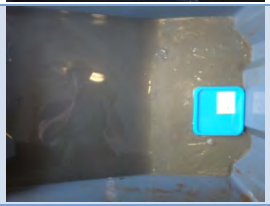
Figure 16. Stations sampled in Box E (UK & NL 1275) during Dogger Bank survey 2014.

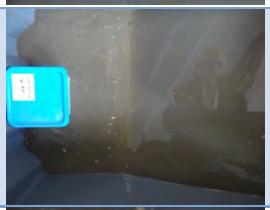
5.5.1 Grab sample summaries

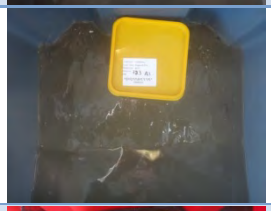
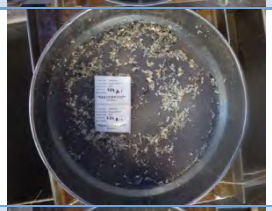
Preliminary field observations of the seabed sediment samples collected from within Block E (UK and NL 1275) indicated that subtidal sand is the predominant sediment type with in this survey area (Table 17).

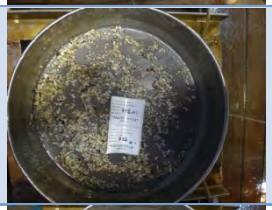
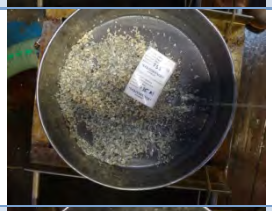
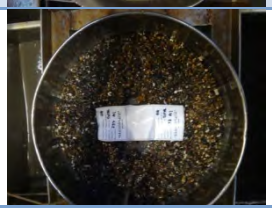
Table 16. Images of seabed sediment samples acquired using the 0.1m^2 Hamon grab from within Block E (UK + NL 1275).

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK06_23_STN_700_A1				Sand
DGRB_CEND1014_WK07_25_STN_701_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK16_T5_STN_704_A1				Sand
DGRB_CEND1014_WK15_T4_STN_705_A1				Sand
DGRB_CEND1014_E032_STN_707_A1				Sand
DGRB_CEND1014_E031_STN_709_A1				Sand
DGRB_CEND1014_E030_STN_710_A1				Sand
DGRB_CEND1014_E029_STN_711_A1				Sand
DGRB_CEND1014_E026_STN_712_A1				Sand
DGRB_CEND1014_E027_STN_713_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_E028_STN_714_A1				Sand
DGRB_CEND1014_E025_STN_715_A1				Sand
DGRB_CEND1014_E024_STN_716_A1				Sand
DGRB_CEND1014_E023_STN_717_A1				Sand
DGRB_CEND1014_E020_STN_718_A1				Sand
DGRB_CEND1014_E021_STN_719_A1				Sand
DGRB_CEND1014_E022_STN_720_A1				Sand
DGRB_CEND1014_E019_STN_721_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_E018_STN_722_A1				Sand
DGRB_CEND1014_E017_STN_723_A1				Sand
DGRB_CEND1014_E013_STN_724_A1				Sand
DGRB_CEND1014_E014_STN_725_A1				Sand
DGRB_CEND1014_E015_STN_726_A1				Sand
DGRB_CEND1014_E016_STN_727_A1				Sand
DGRB_CEND1014_E012_STN_728_A1				Sand
DGRB_CEND1014_E011_STN_729_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_E010_STN_730_A1				Sand
DGRB_CEND1014_E006_STN_731_A1				Sand
DGRB_CEND1014_E007_STN_732_A1				Sand
DGRB_CEND1014_E008_STN_733_A2				Sand
DGRB_CEND1014_E009_STN_734_A1				Sand
DGRB_CEND1014_E004_STN_735_A1				Sand
DGRB_CEND1014_E003_STN_736_A1				Sand
DGRB_CEND1014_WK01_33_STN_737_A1				Coarse

5.6 Preliminary habitat descriptions: Gear comparison study

Grab sampling employing a variety of seabed sediment sampling gears (0.1m^2 Hamon grab, 0.2m^2 Van Veen grab, 0.1m^2 Day grab, 0.25m^2 Hamon grab and the Shipek grab) was successfully completed across the 12 pre-planned stations (WK1, WK4, B31, B60, B63, B99, B100, B101, B102, B103, B104, B105) (Figure 17).

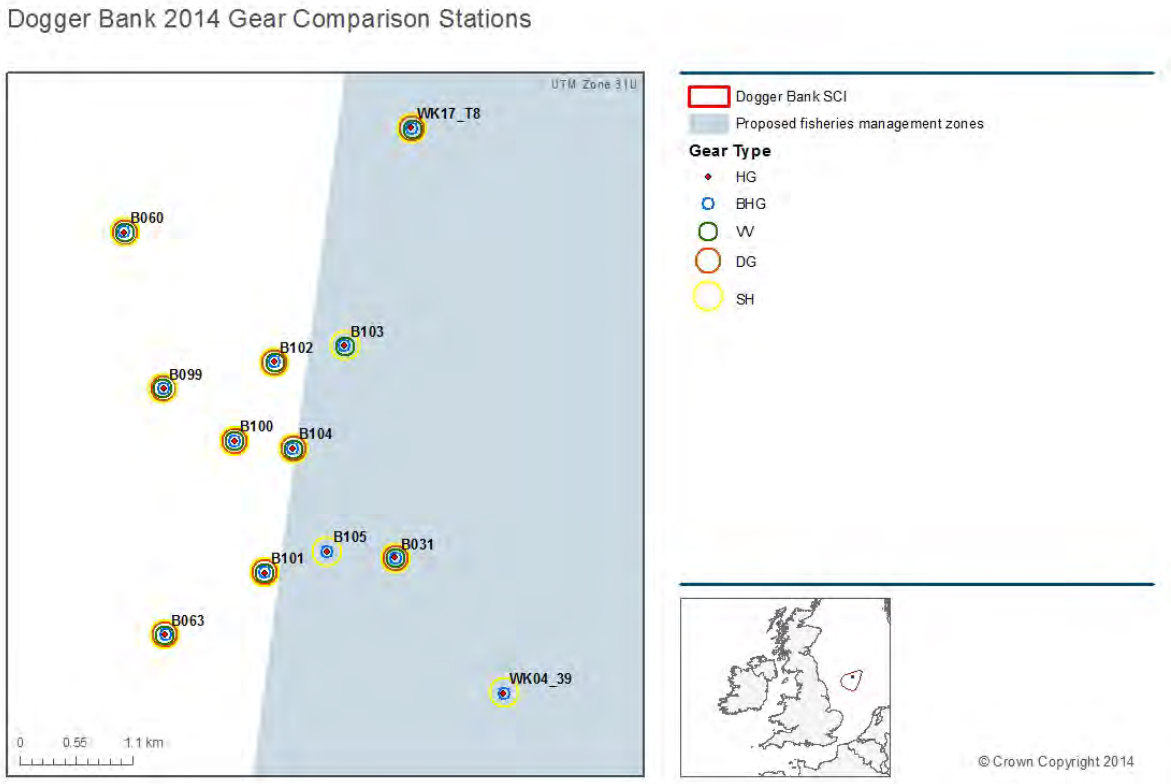


Figure 17. Gear comparison stations sampled in Block B during the Dogger Bank 2014 survey. (HG=0.1m^2 Hamon grab, BHG=0.25m^2 Hamon grab, VV=0.2m^2 Van Veen grab, DG=0.1m^2 Day grab and SH=Shipek grab).

Additional samples for the gear comparison study were also acquired (using only the 0.1m^2 Hamon grab and the 0.2m^2 Van Veen grab) across the historical 'time series' stations (WK1-WK17) (Fig ure 18). It must be emphasised that the preliminary BSH classifications presented here are based on field observations and therefore may change as a result of sample processing back at the laboratory.

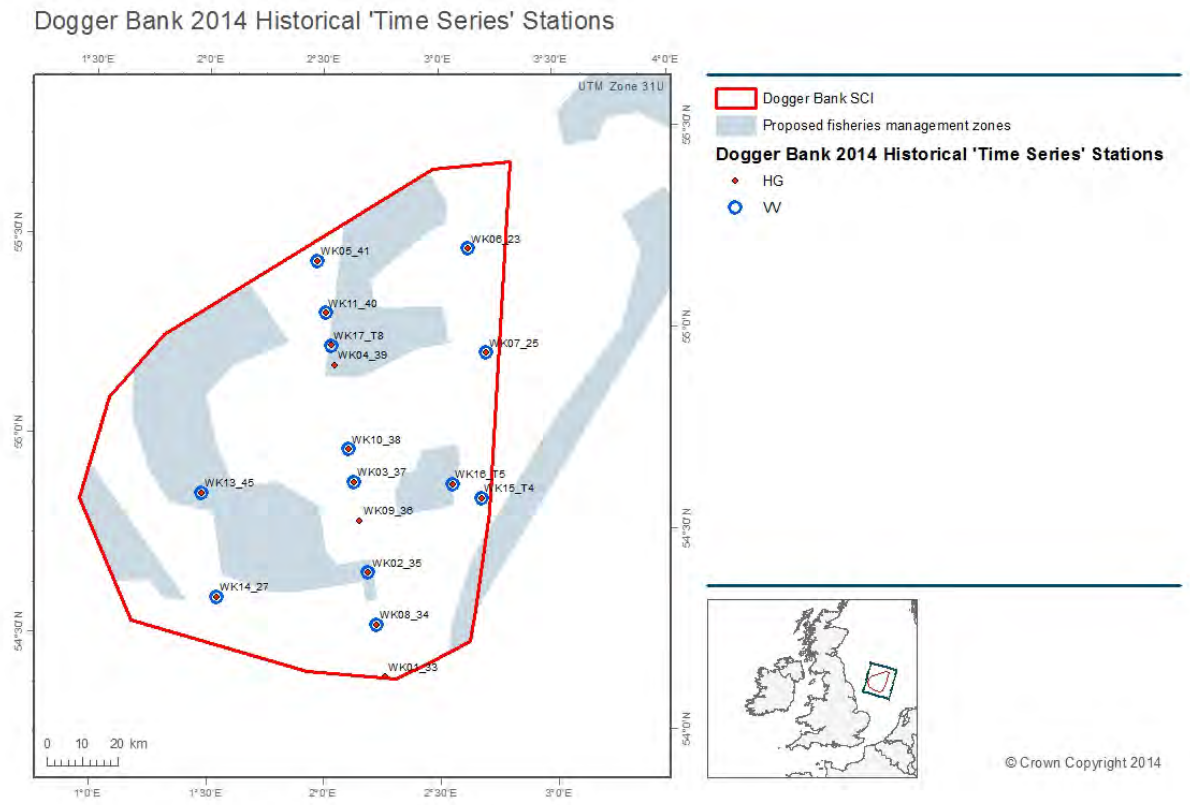
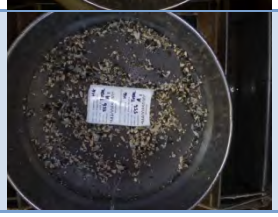
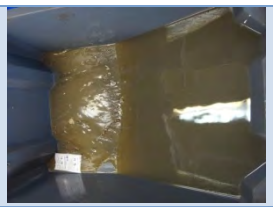


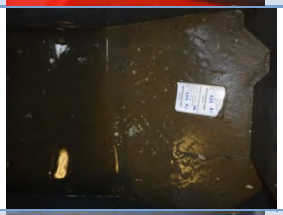
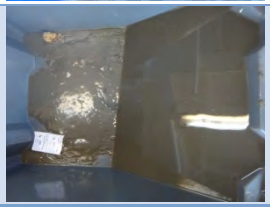
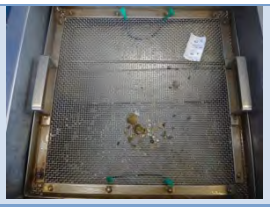
Figure 18. Location of the historical 'time series' stations sampled during the Dogger Bank 2014 survey.

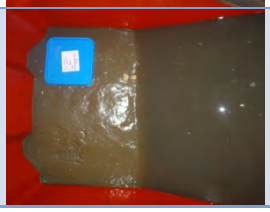
5.6.1 Grab sample summaries

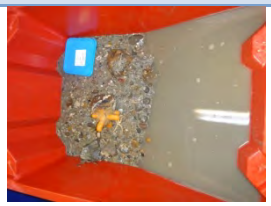
0.1m^2 Hamon grab

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK01_33_STN_737_A1				Coarse
DGRB_CEND1014_WK02_35_STN_523_A1				Sand
DGRB_CEND1014_WK03_37_STN_556_A1				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK04_39_STN_325_A1				Coarse
DGRB_CEND1014_WK05_41_STN_268_A1				Sand
DGRB_CEND1014_WK06_23_STN_170_A1				Sand
DGRB_CEND1014_WK06_23_STN_700_A1				Sand
DGRB_CEND1014_WK07_25_STN_107_A1				Sand
DGRB_CEND1014_WK07_25_STN_701_A1				Sand
DGRB_CEND1014_WK08_34_STN_517_A1				Sand
DGRB_CEND1014_WK09_36_STN_552_A2				Sand

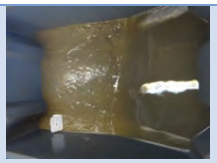
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK10_38_STN_559_A1				Sand
DGRB_CEND1014_WK11_40_STN_299_A1				Sand
DGRB_CEND1014_WK12_43_STN_637_A1				Sand
DGRB_CEND1014_WK13_45_STN_574_A1				Sand
DGRB_CEND1014_WK14_27_STN_503_A1				Sand
DGRB_CEND1014_WK15_T4_STN_705_A1				Sand
DGRB_CEND1014_WK16_T5_STN_043_A1	No photo available	No photo available	No photo available	Sand
DGRB_CEND1014_WK16_T5_STN_704_A1				Sand

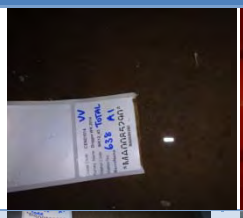
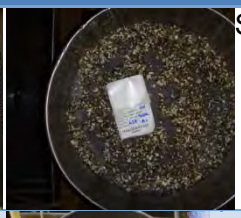
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK17_T8_STN_320_A1				Sand
DGRB_CEND1014_B031_STN_324_A1				Sand
DGRB_CEND1014_B060_STN_331_A1				Sand
DGRB_CEND1014_B063_STN_328_A2				Sand
DGRB_CEND1014_B099_STN_330_A1				Sand
DGRB_CEND1014_B100_STN_329_A1				Mud
DGRB_CEND1014_B101_STN_327_A1				Sand
DGRB_CEND1014_B102_STN_322_A1				Sand

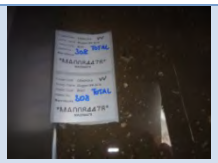
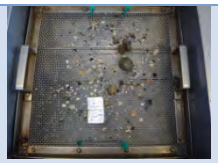
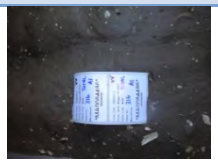
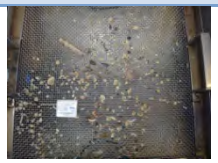
Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B103_STN_321_A1	No photo available			Sand
DGRB_CEND1014_B104_STN_323_A1				Sand
DGRB_CEND1014_B105_STN_326_A1			 	Mixed

0.2m^2 Van Veen grab

Name	Surface image	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK01_33	No Sample				
DGRB_CEND1014_WK02_35_STN_524_A1					Sand
DGRB_CEND1014_WK03_37_STN_557_A1					Sand

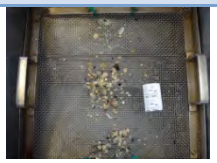
Name	Surface image	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK04_39	No Sample				
DGRB_CEND1014_WK05_41_STN_269_A1					Sand
DGRB_CEND1014_WK06_23_STN_699_A1					Sand
DGRB_CEND1014_WK07_25_STN_702_A1					Sand
DGRB_CEND1014_WK08_34_STN_518_A1					Sand
DGRB_CEND1014_WK09_36_STN_553_A1					Sand
DGRB_CEND1014_WK10_38_STN_558_A2					Sand
DGRB_CEND1014_WK11_40_STN_300_A1					Sand

Name	Surface image	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK12_43_STN_638_A1					Sand
DGRB_CEND1014_WK13_45_STN_575_A1					Sand
DGRB_CEND1014_WK14_27_STN_504_A1					Sand
DGRB_CEND1014_WK15_T4_STN_706_A1					Sand
DGRB_CEND1014_WK16_T5_STN_703_A1					Sand
DGRB_CEND1014_WK17_T8_STN_319_A1					Sand
DGRB_CEND1014_B031_STN_313_A3					Sand
DGRB_CEND1014_B060_STN_301_A1					Sand

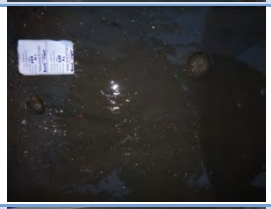
Name	Surface image	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B063_STN_306_A1					Sand
DGRB_CEND1014_B099_STN_303_A1					Sand
DGRB_CEND1014_B100_STN_305_A1					Sand
DGRB_CEND1014_B101_STN_308_A1					Sand
DGRB_CEND1014_B102_STN_316_A1					Sand
DGRB_CEND1014_B103_STN_317_A2					Sand
DGRB_CEND1014_B104_STN_315_A3					Sand
DGRB_CEND1014_B105	No Sample				

0.1m^2 Day grab

Name	Day Grab Surface	Day Grab >5mm	Day Grab 1-5mm	Preliminary BSH
DGRB_CEND1014_WK4_39_STN_669_A3_DG	No Sample			Coarse
DGRB_CEND1014_WK17_T8_STN_685_A1_DG				Sand
DGRB_CEND1014_B031_STN_673_A2_DG				Sand
DGRB_CEND1014_B060_STN_648_A1_DG				Sand
DGRB_CEND1014_B063_STN_658_A1_DG				Sand
DGRB_CEND1014_B099_STN_652_A1_DG				Sand
DGRB_CEND1014_B100_STN_654_A1_DG				Sand
DGRB_CEND1014_B101_STN_663_A1_DG				Sand

Name	Day Grab Surface	Day Grab >5mm	Day Grab 1-5mm	Preliminary BSH
DGRB_CEND1014_B102_STN_679_A1_DG				Sand
DGRB_CEND1014_B103_STN_681_A3_DG				Sand
DGRB_CEND1014_B104_STN_675_A1_DG				Sand
DGRB_CEND1014_B105_STN_667_A1_DG	No Sample			Coarse

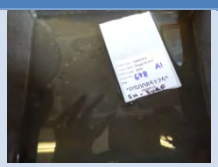
0.25m^2 Hamon grab

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_WK04_39_STN_698_A1_BHG				Coarse
DGRB_CEND1014_WK17_T8_STN_687_A1_BHG				Sand
DGRB_CEND1014_B031_STN_697_A1_BHG				Sand
DGRB_CEND1014_B060_STN_688_A1_BHG				Mud
DGRB_CEND1014_B063_STN_694_A1_BHG				Sand
DGRB_CEND1014_B099_STN_689_A1_BHG				Sand
DGRB_CEND1014_B100_STN_693_A1_BHG				Sand

Name	Sample image	>5mm	1-5mm	Preliminary BSH
DGRB_CEND1014_B101_STN_695_A1_BHG				Sand
DGRB_CEND1014_B102_STN_690_A1_BHG				Sand
DGRB_CEND1014_B103_STN_691_A1_BHG				Sand
DGRB_CEND1014_B104_STN_692_A1_BHG				Sand
DGRB_CEND1014_B105_STN_696_A1_BHG				Mixed

Shipek grab

Name	Shipek Surface	Preliminary BSH
DGRB_CEND1014_WK4_39_STN_670_A1_SH		Coarse
DGRB_CEND1014_WK17_T8_STN_684_A1_SH		Sand
DGRB_CEND1014_B031_STN_672_A1_SH		Sand
DGRB_CEND1014_B060_STN_660_A1_SH		Sand
DGRB_CEND1014_B063_STN_657_A1_SH		Sand
DGRB_CEND1014_B099_STN_661_A1_SH		Sand
DGRB_CEND1014_B100_STN_662_A1_SH		Sand
DGRB_CEND1014_B101_STN_664_A1_SH		Sand

Name	Shipek Surface	Preliminary BSH
DGRB_CEND1014_B102_STN_678_A1_SH		Sand
DGRB_CEND1014_B103_STN_682_A1_SH		Sand
DGRB_CEND1014_B104_STN_676_A2_SH		Sand
DGRB_CEND1014_B105_STN_666_A3_SH		Coarse

6 Quality Control (QC)

6.1 Positioning

GPS fixes were recorded using the Tower Navigation system on RV *Cefas Endeavour*. This records the positional coordinates of the gantry 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 was always deployed from the side gantry and the position recorded is taken to be the true position of the grab sample, as the grab typically drops directly down from the gantry. In strong tides an offset of up to about 10 metres may occur, but is not accounted for.

Positional fixes were made for the camera sledge at 10 second intervals during the transect. This allowed accurate positional fixing of each still image to be applied retrospectively by time matching the still image to the nearest positional fix. The camera sledge was always deployed over the stern of the vessel, so the fixes record the position of the stern gantry and, because the sledge is towed some distance behind the vessel (generally > 100m), such fixes are significantly offset from the true position of the camera at the time the images were taken. However the relative position of each image to its neighbours will be accurate. Improved accuracy of the positions assigned to the video footage and still images taken with the camera sledge was achieved through use of the positional data generated using the HiPAP system. Where positions derived from HiPAP were found to be erroneous (due to multipath reflections) a correction was applied to the stern offset steer point using a layback

calculation. The calculation requires inputs for position of the vessels GPS antenna, course over ground (COG), the water depth at the sampling location and the amount of cable paid out between the vessel and the sledge ('cable out'); it also uses constant values for the surveyed offsets between the GPS antenna and the stern towing point on the ship.

As the position of the GPS antenna was recorded on the video overlay, the video records were reviewed to extract this position at the instant each still image was taken. This is marked on the video record by a momentary loss of the image as the camera switches from video to still mode, leaving a black screen showing only the video overlay, from which the positional coordinates can be easily read. The information on water depth and 'cable out' were routinely recorded in the field metadata. COG for each tow was estimated from the uncorrected fix positions for the still images plotted in ArcGIS. It should be noted that the raw fix data is provided in the metadata records for the survey.

7 Evidence of human activity

Evidence of a number of offshore industries operating within the Dogger Bank SCI was observed during survey. These included a number of oil and gas installations and also the presence of a meteorological mast located to inform on the local wind regime to support the application for development of the Dogger Bank Round 3 windfarm. Shipping activity was frequently observed within the Dogger Bank SCI during survey as a number of shipping routes traverse the area. Vessels undertaking fishing activity were also frequently observed within the Dogger Bank SCI during the 2014 survey.

8 Health and safety events

An induction to the vessel for scientific staff was carried out at 16:00 on 17 May 2014, prior to vessel mobilisation. Three vessel safety drills were performed during the course of the survey. The first safety drill and muster occurred at 13:15 on the 19 May 2014 during which all crew were familiarised with the relevant safety equipment available onboard and the procedure for abandoning the ship. The second safety drill took place at 13:30 on the 25 May 2014 and comprised the scenario of an electrical fire occurring in the engineering compartment of the vessel resulting in the emergency helicopter evacuation of a crew member. All scientific staff mustered and a comprehensive demonstration of the methods for deploying the life rafts was provided. The third safety drill took place at 11:00 on the 1 June 2014 and involved a man overboard scenario. Scientists assisted in directing the rescue vessel towards the dummy resulting in a successful recovery within eight minutes.

No health and safety incidents occurred during the survey.

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10 Appendix

10.1 Vessel and equipment used, details of software (including version number) and operational parameters

10.1.1 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 tandom 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	8 networked laboratories designed for optimum flexibility of purpose 4 serviced deck locations for containerised laboratories
Special features	Dynamic positioning system Intering 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

10.1.2 Camera sledge

- Kongsberg Underwater Digital Stills Camera, model OE 14-208. Video and stills (5 Mega pixels)
- HD Video Camera, model 01166 HDV Sub Sea Laser Camera System
- Dedicated flash unit, model OE11-242
- Underwater lights – SeaLed LED lights
- Camera settings variable depending on underwater visibility and ambient light levels

10.1.3 Position logging software – Tower Navigation

Vessel offsets are defined from the pitch roll centre of the vessel – the Common Reference Point (CRP) used by the Tower CEMAP software to calculate offsets. Fields included in the logging file included:

- Date
- Time (GMT)
- Station Code
- Station Number
- Fix number
- Steerpoint Position
- Position Derived from HIPAP
- Cable Out
- Water Depth
- Ships Heading

11 Annexes

11.1 Survey metadata

Station metadata for the Dogger Bank SCI monitoring survey is provided below. All stations were sampled on Cruise CEND 10/14. Station Code is used to identify the location of the sampling station. Station Number is a sequential event number for the cruise, so changes each time a new gear is used or a new location is sampled. HG=0.1m^2 Hamon Grab, HC=0.1m^2 Hamon Grab (with camera), VV=0.2m^2 Van Veen Grab, BHG=0.25m^2 Hamon Grab, DG=0.1m^2 Day Grab, SH=Shipek Grab, CS=Camera Sledge, SOL = Start Of Line, EOL = End Of Line. All positions in decimal degrees, Lat/Long WGS84. Positional data provided for all grabbing gears (HG, HC, BHG, VV, DG and SH) relate to the side gantry steer point. Positional data provided for the towed gears (CS and JB) are uncorrected for layback and relate to the stern gantry steer point.

11.1.1 0.1m^2 Hamon grab samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
18/05/2014	Dogger A	1	A070	HG	26	A1	15:57	1	54.63910	2.78212
18/05/2014	Dogger A	2	A056	HG	21	A1	18:20	2	54.66402	2.78228
18/05/2014	Dogger A	4	A069	HG	24	A1	20:31	97	54.63932	2.75815
18/05/2014	Dogger A	6	A068	HG	21	A1	21:57	172	54.63908	2.73256
18/05/2014	Dogger A	8	A067	HG	20	A1	23:37	235	54.63927	2.70797
19/05/2014	Dogger A	10	A066	HG	19	A1	00:26	303	54.63931	2.68401
19/05/2014	Dogger A	11	A065	HG	19	A1	00:45	304	54.63931	2.65833
19/05/2014	Dogger A	12	A064	HG	19	A1	01:08	305	54.63916	2.63277
19/05/2014	Dogger A	14	A063	HG	19	A1	01:55	368	54.63908	2.60794
19/05/2014	Dogger A	15	A062	HG	19	A1	02:15	370	54.63898	2.58309
19/05/2014	Dogger A	16	A061	HG	19	A1	02:34	372	54.63900	2.55840
19/05/2014	Dogger A	18	A060	HG	20	A1	03:32	459	54.63920	2.53407
19/05/2014	Dogger A	19	A058	HG	20	A1	03:49	460	54.63926	2.50897
19/05/2014	Dogger A	20	A058	HG	20	A1	04:08	461	54.63922	2.48394
19/05/2014	Dogger A	22	A057	HG	20	A1	04:58	522	54.63914	2.45950
19/05/2014	Dogger A	23	A054	HG	21	A1	05:12	523	54.66398	2.45909
19/05/2014	Dogger A	25	A055	HG	21	A1	06:05	590	54.66392	2.48404
19/05/2014	Dogger A	26	A028	HG	21	A1	06:24	591	54.67359	2.52331
19/05/2014	Dogger A	28	A029	HG	21	A1	07:42	654	54.67383	2.55130
19/05/2014	Dogger A	29	A030	HG	21	A1	08:05	655	54.67381	2.57854

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
19/05/2014	Dogger A	30	A031	HG	21	A1	08:25	656	54.67406	2.60542
19/05/2014	Dogger A	32	A032	HG	20.8	A1	09:07	717	54.67388	2.63226
19/05/2014	Dogger A	33	A033	HG	21	A1	09:26	718	54.67402	2.66016
19/05/2014	Dogger A	34	A034	HG	20	A1	09:51	719	54.67387	2.68724
19/05/2014	Dogger A	36	A035	HG	20.5	A1	10:42	783	54.67366	2.71469
19/05/2014	Dogger A	36	A035	HG	20.5	A2	10:46	784	54.67372	2.71478
19/05/2014	Dogger A	38	A053	HG	20	A1	12:39	856	54.68908	2.78202
19/05/2014	Dogger A	39	A050	HG	20	A1	13:10	857	54.71369	2.80673
19/05/2014	Dogger A	41	A049	HG	20	A1	14:02	913	54.71375	2.78168
19/05/2014	Dogger A	43	WK16_T5	HG	19	A1	15:18	950	54.70284	2.75858
19/05/2014	Dogger A	44	A027	HG	19	A1	16:50	951	54.70075	2.71424
19/05/2014	Dogger A	46	A026	HG	20	A1	17:51	1013	54.70098	2.68709
19/05/2014	Dogger A	47	A025	HG	20	A1	18:11	1014	54.70076	2.65980
19/05/2014	Dogger A	48	A024	HG	20	A1	18:30	1015	54.70087	2.63282
19/05/2014	Dogger A	50	A023	HG	21	A1	19:25	1089	54.70115	2.60598
19/05/2014	Dogger A	52	A022	HG	22	A1	20:31	1156	54.70090	2.57882
19/05/2014	Dogger A	53	A021	HG	22	A1	20:52	1157	54.70072	2.55111
19/05/2014	Dogger A	55	A020	HG	23	A1	21:47	1226	54.70091	2.52382
19/05/2014	Dogger A	57	A052	HG	21	A1	22:59	1284	54.68882	2.48411
19/05/2014	Dogger A	58	A051	HG	21	A1	23:16	1285	54.68880	2.45937
20/05/2014	Dogger A	60	A048	HG	21	A1	00:09	1354	54.71372	2.48430
20/05/2014	Dogger A	61	A045	HG	22	A1	00:37	1355	54.73878	2.50877
20/05/2014	Dogger A	63	A012	HG	21	A1	01:30	1416	54.72799	2.55046
20/05/2014	Dogger A	64	A013	HG	21	A1	01:49	1417	54.72813	2.57780
20/05/2014	Dogger A	65	A014	HG	21	A1	02:08	1418	54.72817	2.60562
20/05/2014	Dogger A	67	A015	HG	21	A1	03:12	1479	54.72812	2.63275
20/05/2014	Dogger A	68	A016	HG	20	A1	03:30	1480	54.72804	2.65982
20/05/2014	Dogger A	69	A017	HG	20	A1	03:47	1481	54.72813	2.68688
20/05/2014	Dogger A	71	A018	HG	20	A1	04:24	1543	54.72813	2.71436
20/05/2014	Dogger A	72	A019	HG	20	A1	04:40	1544	54.72804	2.74157
20/05/2014	Dogger A	74	A046	HG	20	A1	05:35	1609	54.73852	2.80705

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
20/05/2014	Dogger A	75	A047	HG	21	A1	05:51	1610	54.73839	2.83184
20/05/2014	Dogger A	77	A044	HG	22	A1	07:03	1673	54.76331	2.85681
20/05/2014	Dogger A	78	A043	HG	21	A1	07:24	1674	54.76350	2.83189
20/05/2014	Dogger A	79	A042	HG	22	A1	07:57	1675	54.78822	2.85675
20/05/2014	Dogger A	81	A041	HG	21	A1	08:41	1738	54.78821	2.83215
20/05/2014	Dogger A	83	A011	HG	21	A1	10:03	1799	54.75553	2.76926
20/05/2014	Dogger A	84	A010	HG	21	A1	10:24	1800	54.75556	2.74219
20/05/2014	Dogger A	86	A009	HG	20	A1	11:31	1863	54.75559	2.71441
20/05/2014	Dogger A	87	A008	HG	21	A1	11:49	1864	54.75558	2.68730
20/05/2014	Dogger A	88	A007	HG	21	A1	12:07	1865	54.75553	2.65991
20/05/2014	Dogger A	90	A006	HG	21	A1	13:02	1934	54.75565	2.63243
20/05/2014	Dogger A	92	A001	HG	21	A1	14:08	1995	54.78277	2.65979
20/05/2014	Dogger A	93	A002	HG	20	A1	14:31	1996	54.78294	2.68711
20/05/2014	Dogger A	95	A003	HG	20	A1	15:19	2058	54.78275	2.71426
20/05/2014	Dogger A	96	A036	HG	20	A1	15:48	2059	54.81313	2.73242
20/05/2014	Dogger A	98	A004	HG	20	A1	18:07	2123	54.78268	2.74175
20/05/2014	Dogger A	99	A037	HG	21	A1	18:33	2124	54.81304	2.75734
20/05/2014	Dogger A	100	A005	HG	21	A1	18:59	2125	54.78264	2.76901
20/05/2014	Dogger A	102	A038	HG	21	A1	20:02	2194	54.81297	2.78234
20/05/2014	Dogger A	104	A039	HG	21	A1	20:57	2262	54.81333	2.80725
20/05/2014	Dogger A	105	A040	HG	22	A1	21:23	2265	54.81311	2.83205
20/05/2014	Dogger B	107	WK07_25	HG	25	A1	23:22	1	55.01665	3.00012
21/05/2014	Dogger B	108	B065	HG	25	A1	00:03	2	55.04864	2.88059
21/05/2014	Dogger B	110	B064	HG	25	A1	01:35	73	55.04883	2.70061
21/05/2014	Dogger B	111	B028	HG	26	A1	02:10	74	55.10658	2.68109
21/05/2014	Dogger B	112	B029	HG	26	A1	02:35	75	55.10641	2.73969
21/05/2014	Dogger B	114	B030	HG	25	A1	03:37	137	55.10643	2.79804
21/05/2014	Dogger B	116	B061	HG	27	A1	04:45	200	55.10836	2.88017
21/05/2014	Dogger B	117	B056	HG	28	A1	05:33	201	55.16850	2.76047
21/05/2014	Dogger B	119	B057	HG	30	A1	06:16	263	55.16838	2.82022
21/05/2014	Dogger B	120	B107	HG	29	A1	07:00	264	55.16483	2.84169

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
21/05/2014	Dogger B	121	B110	HG	29	A1	07:15	265	55.16338	2.84999
21/05/2014	Dogger B	123	B058	HG	29	A1	07:59	320	55.16941	2.86745
21/05/2014	Dogger B	125	B109	HG	30	A1	09:10	379	55.17137	2.84157
21/05/2014	Dogger B	126	B111	HG	30	A1	09:31	380	55.18250	2.84117
21/05/2014	Dogger B	127	B113	HG	30	A1	09:49	381	55.18323	2.85108
21/05/2014	Dogger B	129	B112	HG	30	A1	10:36	444	55.18237	2.86160
21/05/2014	Dogger B	131	B114	HG	29	A1	12:54	506	55.19352	2.83978
21/05/2014	Dogger B	132	B108	HG	29	A1	13:09	507	55.19365	2.85016
21/05/2014	Dogger B	134	B106	HG	29	A1	13:50	569	55.19191	2.86847
21/05/2014	Dogger B	136	B059	HG	30	A1	15:00	633	55.16847	2.94034
21/05/2014	Dogger B	137	B053	HG	32	A1	15:33	634	55.22830	2.94018
21/05/2014	Dogger B	138	B052	HG	31	A1	15:55	635	55.22837	2.88029
21/05/2014	Dogger B	139	B051	HG	30	A1	16:34	636	55.22823	2.81995
21/05/2014	Dogger B	141	B050	HG	30	A1	17:31	713	55.22843	2.76061
21/05/2014	Dogger B	142	B049	HG	30	A1	17:52	714	55.22833	2.70059
21/05/2014	Dogger B	143	B048	HG	34	A1	18:13	715	55.22826	2.64045
21/05/2014	Dogger B	145	B041	HG	34	A1	19:18	783	55.28801	2.70028
21/05/2014	Dogger B	147	B013	HG	37	A1	20:41	846	55.34078	2.68081
21/05/2014	Dogger B	148	B014	HG	36	A1	21:11	847	55.34076	2.73913
21/05/2014	Dogger B	149	B088	HG	34	A1	21:51	848	55.34292	2.80062
21/05/2014	Dogger B	151	B080	HG	34	A1	22:46	912	55.34311	2.81087
22/05/2014	Dogger B	153	B087	HG	34	A1	00:12	971	55.33237	2.81743
22/05/2014	Dogger B	154	B084	HG		A1	00:26	972	55.33123	2.80060
22/05/2014	Dogger B	155	B083	HG	34	A1	00:42	973	55.32566	2.78975
22/05/2014	Dogger B	157	B086	HG	34	A1	01:21	1036	55.32317	2.80039
22/05/2014	Dogger B	158	B082	HG	34	A1	01:33	1037	55.32219	2.80851
22/05/2014	Dogger B	159	B089	HG	33	A1	02:19	1038	55.32305	2.81860
22/05/2014	Dogger B	161	B085	HG	32	A1	03:21	1093	55.31349	2.80012
22/05/2014	Dogger B	163	B081	HG	32	A1	03:58	1154	55.31592	2.79083
22/05/2014	Dogger B	165	B042	HC	33	A1	05:03	1216	55.28819	2.76051
22/05/2014	Dogger B	166	B043	HC	32	A1	05:28	1217	55.28818	2.82015

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
22/05/2014	Dogger B	167	B044	HC	30	A1	05:53	1218	55.28820	2.88046
22/05/2014	Dogger B	168	B045	HC	34	A1	06:18	1219	55.28818	2.94037
22/05/2014	Dogger B	170	WK06_23	HC	30	A1	08:13	1279	55.28352	3.00011
22/05/2014	Dogger B	171	B038	HC	32	A1	09:21	1280	55.34815	2.93997
22/05/2014	Dogger B	173	B009	HC	35	A1	11:39	1342	55.39942	2.91496
22/05/2014	Dogger B	173	B009	HC	35	A2	11:46	1343	55.39940	2.91501
22/05/2014	Dogger B	173	B009	HC	35	A3	11:53	1344	55.39941	2.91499
22/05/2014	Dogger B	174	B142	HC	35	A1	12:23	1345	55.41473	2.95113
22/05/2014	Dogger B	175	B144	HC	35	A1	13:06	1346	55.41480	2.95842
22/05/2014	Dogger B	175	B144	HC	35	A2	13:06	1347	55.41477	2.95842
22/05/2014	Dogger B	176	B149	HC	36	A1	13:36	1348	55.42347	2.93978
22/05/2014	Dogger B	177	B148	HC	36	A1	14:01	1349	55.42503	2.95163
22/05/2014	Dogger B	178	B147	HG	36	A1	14:18	1350	55.42579	2.96001
22/05/2014	Dogger B	179	B146	HC	36	A1	14:42	1351	55.43182	2.95948
22/05/2014	Dogger B	179	B146	HC	36	A2	14:47	1352	55.43178	2.95949
22/05/2014	Dogger B	180	B143	HC	36	A1	15:11	1353	55.43329	2.94008
22/05/2014	Dogger B	182	B145	HC	36	A1	16:35	1418	55.44140	2.94110
22/05/2014	Dogger B	184	B150	HC	37	A1	17:23	1478	55.44240	2.96028
22/05/2014	Dogger B	185	B151	HC	36	A1	17:38	1480	55.44297	2.96741
22/05/2014	Dogger B	185	B151	HC	36	A2	17:42	1481	55.44307	2.96756
22/05/2014	Dogger B	190	B154	HC	33	A1	21:24	1733	55.42406	3.03961
22/05/2014	Dogger B	191	B159	HC	33	A1	21:48	1734	55.41559	3.05101
22/05/2014	Dogger B	193	B157	HC	32	A1	22:29	1791	55.41431	3.05860
22/05/2014	Dogger B	194	B161	HC	33	A1	22:51	1792	55.42149	3.06937
22/05/2014	Dogger B	196	B156	HC	33	A1	23:32	1853	55.42224	3.05994
22/05/2014	Dogger B	197	B155	HC	33	A1	23:45	1854	55.42446	3.05103
23/05/2014	Dogger B	199	B153	HC	33	A1	00:42	1914	55.43184	3.06072
23/05/2014	Dogger B	200	B152	HC	33	A1	00:56	1915	55.43126	3.06888
23/05/2014	Dogger B	202	B158	HC	34	A1	01:55	1991	55.44199	3.05093
22/05/2014	Dogger B	204	B160	HC	34	A1	03:10	2052	55.44288	3.04132
23/05/2014	Dogger B	206	B036	HC	39	A1	04:28	2112	55.46804	2.94025

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
23/05/2014	Dogger B	207	B136	HC	42	A1	05:00	2113	55.44145	2.86945
23/05/2014	Dogger B	209	B141	HC	38	A1	05:38	2178	55.43245	2.86710
23/05/2014	Dogger B	210	B137	HC	37	A1	05:53	2179	55.43147	2.86147
23/05/2014	Dogger B	212	B135	HC	42	A1	09:57	2986	55.42326	2.85850
23/05/2014	Dogger B	213	B008	HC	38	A1	10:54	2987	55.41071	2.85672
23/05/2014	Dogger B	215	B140	HC	40	A1	12:11	3050	55.41409	2.83888
23/05/2014	Dogger B	216	B139	HC	42	A1	12:27	3051	55.42136	2.83944
23/05/2014	Dogger B	216	B139	HC	42	A2	12:33	3052	55.42138	2.83945
23/05/2014	Dogger B	216	B139	HC	42	A3	12:39	3053	55.42134	2.83949
23/05/2014	Dogger B	219	B138	HG	41	A1	14:24	3154	55.42259	2.84939
23/05/2014	Dogger B	220	B134	HG	40	A1	14:42	3155	55.43273	2.84132
23/05/2014	Dogger B	222	B002	HG	42	A1	15:45	3215	55.44334	2.85555
23/05/2014	Dogger B	222	B002	HG	42	A2	15:50	3216	55.44330	2.85553
23/05/2014	Dogger B	224	B001	HC	43	A1	17:30	3281	55.45788	2.79817
23/05/2014	Dogger B	225	B007	HC	43	A1	18:10	3282	55.39917	2.79808
23/05/2014	Dogger B	227	B006	HC	37	A1	19:10	3345	55.39929	2.73938
23/05/2014	Dogger B	228	B005	HC	37	A1	19:40	3346	55.39917	2.68079
23/05/2014	Dogger B	230	B004	HC	39	A1	21:05	3409	55.39906	2.62293
23/05/2014	Dogger B	231	B094	HC	37	A1	21:39	3410	55.39224	2.56817
23/05/2014	Dogger B	233	B003	HC	38	A1	22:29	3484	55.39433	2.56363
23/05/2014	Dogger B	234	B097	HC	39	A1	23:10	3485	55.39246	2.55103
24/05/2014	Dogger B	236	B096	HC	39	A1	00:12	3539	55.38120	2.54036
24/05/2014	Dogger B	238	B093	HC	38	A1	01:51	3604	55.38107	2.55182
24/05/2014	Dogger B	239	B090	HC	38	A1	02:10	3605	55.38241	2.56035
24/05/2014	Dogger B	241	B092	HC	37	A1	03:44	3665	55.37355	2.56831
24/05/2014	Dogger B	242	B095	HC	37	A1		3666	55.37309	2.55980
24/05/2014	Dogger B	244	B091	HC	40	A1	04:35	3729	55.36601	2.53983
24/05/2014	Dogger B	245	B098	HC	39	A1	04:52	3730	55.36467	2.56163
24/05/2014	Dogger B	247	B012	HC	38	A1	05:56	3792	55.34058	2.62238
24/05/2014	Dogger B	248	B011	HC	37	A1	07:02	3793	55.34067	2.56382
24/05/2014	Dogger B	250	B010	HC	39	A1	08:06	3855	55.34061	2.50510

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
24/05/2014	Dogger B	251	B132	HC	38	A1	08:34	3856	55.32195	2.46791
24/05/2014	Dogger B	253	B131	HC	38	A1	09:33	3919	55.31529	2.45916
24/05/2014	Dogger B	254	B129	HC	38	A1	09:49	3920	55.31580	2.45002
24/05/2014	Dogger B	256	B133	HC	38	A1	10:31	3982	55.31387	2.43987
24/05/2014	Dogger B	258	B127	HC	40	A1	11:51	4046	55.32488	2.45139
24/05/2014	Dogger B	258	B127	HC	40	A2	11:56	4047	55.32489	2.45141
24/05/2014	Dogger B	260	B126	HC	39	A1	12:46	4108	55.32384	2.46093
24/05/2014	Dogger B	261	B125	HC	40	A1	13:05	4109	55.33128	2.45175
24/05/2014	Dogger B	263	B130	HC	40	A1	13:57	4170	55.34235	2.44946
24/05/2014	Dogger B	264	B128	HC	40	A1	14:10	4171	55.34119	2.44172
24/05/2014	Dogger B	266	B124	HC	40	A1	15:12	4237	55.33286	2.43939
24/05/2014	Dogger B	267	B037	HC	35	A1	15:37	4238	55.34820	2.40095
24/05/2014	Dogger B	268	WK05_41	HC	36	A1	16:42	4239	55.31668	2.33333
24/05/2014	Dogger B	270	B039	HC	34	A1	17:29	4241	55.28820	2.34119
24/05/2014	Dogger B	271	B040	HC	35	A1	17:57	4242	55.28812	2.40095
24/05/2014	Dogger B	272	B015	HG	35	A1	18:20	4243	55.28210	2.44670
24/05/2014	Dogger B	274	B016	HC	35	A1	19:19	4305	55.28235	2.50515
24/05/2014	Dogger B	276	B017	HC	35	A1	20:38	4380	55.28218	2.56338
24/05/2014	Dogger B	277	B047	HC	32	A1	21:18	4381	55.22831	2.58077
24/05/2014	Dogger B	279	B019	HC	33	A1	22:37	4443	55.22346	2.50541
24/05/2014	Dogger B	281	B018	HC	35	A1	23:36	4502	55.22345	2.44648
25/05/2014	Dogger B	282	B122	HC	33	A1	00:17	4503	55.22536	2.36951
25/05/2014	Dogger B	284	B118	HC	34	A1	00:52	4564	55.23174	2.36837
25/05/2014	Dogger B	286	B121	HC	34	A1	01:44	4647	55.24109	2.36727
25/05/2014	Dogger B	287	B117	HC	34	A1	01:56	4648	55.24192	2.35743
25/05/2014	Dogger B	289	B120	HC	33	A1	03:04	4709	55.24140	2.35158
25/05/2014	Dogger B	290	B115	HC	34	A1	03:16	4710	55.24204	2.34180
25/05/2014	Dogger B	292	B123	HC		A1	04:08	4779	55.23248	2.35035
25/05/2014	Dogger B	293	B046	HC	35	A1	04:23	4780	55.22840	2.34119
25/05/2014	Dogger B	295	B119	HC	33	A1	05:02	4842	55.22437	2.34941
25/05/2014	Dogger B	296	B116	HC	33	A1	05:16	4843	55.22404	2.35704

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
25/05/2014	Dogger B	298	B054	HC	34	A1	06:26	4900	55.16853	2.28114
25/05/2014	Dogger B	299	WK11_40	HC	33	A1	07:16	4901	55.18337	2.33331
25/05/2014	Dogger B	320	WK17_T8	HC	34	A1	20:16	5380	55.10000	2.33325
25/05/2014	Dogger B	321	B103	HC	32	A1	20:53	5381	55.08224	2.31792
25/05/2014	Dogger B	322	B102	HC	34	A1	21:16	5382	55.08180	2.30697
25/05/2014	Dogger B	323	B104	HC	37	A1	21:40	5383	55.07409	2.30764
25/05/2014	Dogger B	324	B031	HC	33	A1	22:07	5384	55.06325	2.32028
25/05/2014	Dogger B	325	WK04_39	HC	30	A1	22:37	5385	55.05006	2.33317
25/05/2014	Dogger B	326	B105	HC	35	A1	23:04	5386	55.06474	2.31019
25/05/2014	Dogger B	327	B101	HC	34	A1	23:21	5387	55.06379	2.30035
25/05/2014	Dogger B	328	B063	HC		A1	23:40	5388	55.05986	2.28388
25/05/2014	Dogger B	328	B063	HC		A2	23:45	5389	55.05987	2.28387
26/05/2014	Dogger B	329	B100	HC	37	A1	00:14	5390	55.07554	2.29908
26/05/2014	Dogger B	330	B099	HC	35	A1	00:30	5391	55.08108	2.28969
26/05/2014	Dogger B	331	B060	HC	34	A1	00:52	5392	55.09505	2.28768
26/05/2014	Dogger B	332	B020	HC	34	A1	01:55	5393	55.16491	2.38808
26/05/2014	Dogger B	334	B072	HC	36	A1	03:00	5457	55.16576	2.43974
26/05/2014	Dogger B	335	B021	HC		A1	03:13	5458	55.16507	2.44677
26/05/2014	Dogger B	337	B076	HC	36	A1	03:55	5522	55.17535	2.44104
26/05/2014	Dogger B	339	B073	HC	34	A1	04:48	5581	55.19122	2.44128
26/05/2014	Dogger B	340	B075	HC	35	A1	05:01	5582	55.19283	2.45165
26/05/2014	Dogger B	342	B074	HC	35	A1	05:55	5647	55.18341	2.46049
26/05/2014	Dogger B	344	B078	HC	35	A1	07:02	5709	55.18235	2.46691
26/05/2014	Dogger B	345	B071	HC	36	A1	07:19	5711	55.17598	2.46067
26/05/2014	Dogger B	346	B077	HC	37	A1	07:38	5712	55.17162	2.46721
26/05/2014	Dogger B	348	B079	HC	33	A1	08:21	5775	55.16393	2.45876
26/05/2014	Dogger B	350	B022	HC	34	A1	09:28	5839	55.16502	2.50511
26/05/2014	Dogger B	352	B027	HC	32	A1	11:28	5903	55.10654	2.62236
26/05/2014	Dogger B	353	B026	HC	31	A1	11:58	5904	55.10658	2.56377
26/05/2014	Dogger B	355	B025	HC	33	A1	12:54	5965	55.10638	2.50486
26/05/2014	Dogger B	357	B024	HC	37	A1	14:00	6025	55.10617	2.44688

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
26/05/2014	Dogger B	357	B024	HC	37	A2	14:07	6026	55.10619	2.44689
26/05/2014	Dogger B	358	B023	HC	37	A1	14:32	6027	55.10633	2.38789
26/05/2014	Dogger B	358	B023	HC	37	A2	14:37	6028	55.10634	2.38797
26/05/2014	Dogger B	358	B023	HC	37	A3	14:44	6029	55.10637	2.38803
26/05/2014	Dogger B	359	B032	HC	31	A1	15:19	6031	55.04779	2.38859
26/05/2014	Dogger B	360	B033	HC	33	A1	15:43	6032	55.04772	2.44618
26/05/2014	Dogger B	360	B033	HC	33	A2	15:50	6033	55.04778	2.44633
26/05/2014	Dogger B	361	B033	HC	33	A1	16:32	6034	55.04790	2.44706
26/05/2014	Dogger B	363	B034	HC	31	A1	17:32	6097	55.04789	2.50540
26/05/2014	Dogger B	365	B035	HC	28	A1	18:36	6163	55.04779	2.56376
26/05/2014	Dogger B	366	B070	HC	27	A1	19:21	6164	54.98869	2.52106
26/05/2014	Dogger B	367	B069	HC	28	A1	19:21	6165	54.98878	2.46119
26/05/2014	Dogger B	369	B068	HC	27	A1	20:48	6232	54.98878	2.40115
26/05/2014	Dogger B	370	B067	HC	28	A1	21:15	6233	54.98870	2.34136
26/05/2014	Dogger B	371	B066	HC	29	A1	21:43	6234	54.98870	2.28134
26/05/2014	Dogger B	372	B062	HC	29	A1	22:30	6235	55.04856	2.22108
27/05/2014	Dogger C	374	C040	HC	41	A1	02:18	1	54.90274	1.25951
27/05/2014	Dogger C	376	C039	HC	43	A1	03:07	63	54.90282	1.23065
27/05/2014	Dogger C	378	C041	HC	41	A1	04:20	126	54.87363	1.25957
27/05/2014	Dogger C	380	C042	HC	34	A1	05:07	183	54.87366	1.28897
27/05/2014	Dogger C	382	C044	HC	30	A1	06:14	244	54.84427	1.31837
27/05/2014	Dogger C	383	C043	HC	36	A1	06:29	245	54.84436	1.28896
27/05/2014	Dogger C	385	C002	HC	43	A1	07:47	308	54.84811	1.23153
27/05/2014	Dogger C	387	C001	HC	45	A1	08:40	369	54.84788	1.19834
27/05/2014	Dogger C	389	C003	HC	43	A1	09:59	436	54.81506	1.16567
27/05/2014	Dogger C	390	C004	HC	43	A1	10:24	437	54.81511	1.19832
27/05/2014	Dogger C	392	C005	HC	44	A1	11:31	499	54.81483	1.23093
27/05/2014	Dogger C	394	C045	HC	30	A1	12:50	560	54.81471	1.31817
27/05/2014	Dogger C	396	C047	HC	29	A1	13:48	623	54.78545	1.34748
27/05/2014	Dogger C	396	C047	HC	29	A2	13:54	625	54.78548	1.34753
27/05/2014	Dogger C	397	C046	HC	38	A1	14:18	626	54.78531	1.31885

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
27/05/2014	Dogger C	399	C009	HC	38	A1	15:32	687	54.78223	1.26432
27/05/2014	Dogger C	401	C008	HC	46	A1	16:39	737	54.78253	1.23124
27/05/2014	Dogger C	402	C007	HC	44	A1	16:57	738	54.78250	1.19869
27/05/2014	Dogger C	404	C006	HC	46	A1	17:44	800	54.78252	1.16586
27/05/2014	Dogger C	404	C006	HC	46	A2	17:51	801	54.78243	1.16584
27/05/2014	Dogger C	406	C010	HC	42	A1	19:04	865	54.74982	1.19863
27/05/2014	Dogger C	407	C011	HC	44	A1	19:27	866	54.75003	1.23102
27/05/2014	Dogger C	409	C012	HC	41	A1	20:23	928	54.75475	1.26436
27/05/2014	Dogger C	410	C013	HC	37	A1	20:51	929	54.74971	1.29625
27/05/2014	Dogger C	412	C048	HC	37	A1	22:07	991	54.75610	1.34752
27/05/2014	Dogger C	413	C049	HC	34	A1	22:36	992	54.75611	1.37689
27/05/2014	Dogger C	415	C051	HC	37	A1	23:38	1063	54.72676	1.40590
28/05/2014	Dogger C	416	C050	HC	32	A1	00:01	1064	54.72676	1.37652
28/05/2014	Dogger C	418	C018	HC	38	A1	01:06	1131	54.71684	1.32887
28/05/2014	Dogger C	420	C017	HC	36	A1	01:56	1193	54.71692	1.29677
28/05/2014	Dogger C	421	C016	HC	46	A1	02:49	1194	54.71695	1.26382
28/05/2014	Dogger C	423	C015	HC		A1	03:50	1252	54.71680	1.23145
28/05/2014	Dogger C	424	C014	HC	45	A1	04:11	1253	54.71677	1.19856
28/05/2014	Dogger C	426	C019	HC	44	A1	05:06	1314	54.68433	1.23063
28/05/2014	Dogger C	427	C020	HC	43	A1	05:29	1315	54.68457	1.26316
28/05/2014	Dogger C	429	C021	HC	40	A1	06:24	1377	54.68415	1.29643
28/05/2014	Dogger C	430	C022	HC	39	A1	07:55	1378	54.68454	1.32911
28/05/2014	Dogger C	432	C023	HC	33	A1	08:58	1442	54.68446	1.36179
28/05/2014	Dogger C	434	C052	HC	30	A1	10:00	1503	54.69756	1.40614
28/05/2014	Dogger C	436	C053	HC	33	A1	11:33	1565	54.68256	1.44806
28/05/2014	Dogger C	438	C054	HC	29	A1	13:10	1629	54.65697	1.44578
28/05/2014	Dogger C	439	C035	HC	32	A1	13:55	1630	54.61526	1.43294
28/05/2014	Dogger C	439	C035	HC	32	A2	14:00	1631	54.61528	1.43284
28/05/2014	Dogger C	439	C035	HC	32	A3	14:06	1632	54.61525	1.43282
28/05/2014	Dogger C	441	C034	HC	34	A1	15:19	1694	54.61905	1.39459
28/05/2014	Dogger C	441	C034	HC	34	A2	15:24	1695	54.61903	1.39461

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
28/05/2014	Dogger C	442	C033	HC	34	A1	15:47	1696	54.61909	1.36187
28/05/2014	Dogger C	442	C033	HC	34	A2	15:53	1697	54.61906	1.36181
28/05/2014	Dogger C	443	C032	HC	37	A1	16:46	1698	54.61911	1.32917
28/05/2014	Dogger C	445	C031	HC	35	A1	17:52	1765	54.61908	1.29666
28/05/2014	Dogger C	446	C030	HC	36	A1	18:15	1766	54.61907	1.26391
28/05/2014	Dogger C	447	C024	HC	42	A1	18:49	1767	54.65183	1.23107
28/05/2014	Dogger C	449	C025	HC	38	A1	20:02	1824	54.65188	1.26318
28/05/2014	Dogger C	450	C026	HC	39	A1	20:24	1825	54.65163	1.29624
28/05/2014	Dogger C	451	C027	HC	35	A1	20:45	1826	54.65195	1.32869
28/05/2014	Dogger C	452	C028	HC	37	A1	21:11	1827	54.65175	1.36158
28/05/2014	Dogger C	454	C029	HC	36	A1	22:25	1892	54.65178	1.39413
29/05/2014	Dogger C	460	C055	HC	28	A1	05:45	8087	54.62380	1.47574
29/05/2014	Dogger C	461	C056	HC	29	A1	06:05	8088	54.60931	1.49445
29/05/2014	Dogger C	463	C037	HC	37	A1	08:20	8150	54.59628	1.44901
29/05/2014	Dogger C	463	C037	HC	37	A2	08:25	8151	54.59631	1.44900
29/05/2014	Dogger C	463	C037	HC	37	A3	08:28	8152	54.59630	1.44900
29/05/2014	Dogger C	464	C061	HC	36	A1	09:05	8153	54.58885	1.49451
29/05/2014	Dogger C	465	C062	HC	24	A1	09:34	8154	54.58427	1.52362
29/05/2014	Dogger C	466	C069	HC	24	A1	10:18	8155	54.55060	1.55296
29/05/2014	Dogger C	467	C068	HC	33	A1	10:48	8156	54.55062	1.52372
29/05/2014	Dogger C	469	C038	HC	32	A1	12:38	8219	54.55466	1.44976
29/05/2014	Dogger C	470	C036	HC	31	A1	13:06	8220	54.57018	1.42996
29/05/2014	Dogger C	477	C060	HC	34	A1	19:54	8638	54.58005	1.34771
29/05/2014	Dogger C	477	C060	HC	34	A2	19:58	8639	54.58004	1.34772
29/05/2014	Dogger C	478	C059	HC	33	A1	20:30	8640	54.58017	1.31858
29/05/2014	Dogger C	479	C058	HC	35	A1	20:49	8641	54.58010	1.28931
29/05/2014	Dogger C	481	C057	HC	29	A1	21:45	8702	54.58002	1.25943
29/05/2014	Dogger C	483	C063	HC	30	A1	22:52	8762	54.55075	1.28872
29/05/2014	Dogger C	485	C064	HC	29	A1	23:42	8824	54.55090	1.31796
30/05/2014	Dogger C	486	C065	HC	30	A1	00:03	8825	54.55079	1.34711
30/05/2014	Dogger C	488	C066	HC	31	A1	00:55	8888	54.55066	1.37639

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
30/05/2014	Dogger C	490	C067	HC	32	A1	01:41	8950	54.55013	1.39659
30/05/2014	Dogger C	491	C070	HC	27	A1	02:08	8951	54.52256	1.39606
30/05/2014	Dogger C	493	C071	HC	33	A1	03:22	9013	54.52131	1.43580
30/05/2014	Dogger C	494	C072	HC	34	A1	03:41	9014	54.52132	1.46537
30/05/2014	Dogger C	496	C075	HC	38	A1	04:49	9074	54.49688	1.52608
30/05/2014	Dogger C	498	C076	HC	43	A1	05:37	9136	54.49197	1.58289
30/05/2014	Dogger C	499	C073	HC	38	A1	06:01	9138	54.52126	1.55316
30/05/2014	Dogger C	501	C074	HC	28	A1	07:02	9202	54.52131	1.58267
30/05/2014	Dogger D	503	WK14_27	HC	19	A1	08:26	1	54.51662	1.66648
30/05/2014	Dogger D	505	D061	HC	19	A1	09:19	3	54.53866	1.63682
30/05/2014	Dogger D	507	D062	HC	19	A1	10:26	64	54.52513	1.71425
30/05/2014	Dogger D	509	D064	HC	19	A1	11:58	122	54.45551	1.80970
30/05/2014	Dogger D	511	D065	HC	18	A1	13:04	188	54.45539	1.89716
30/05/2014	Dogger D	512	D067	HC	16	A1	14:06	189	54.45539	2.07191
30/05/2014	Dogger D	514	D068	HC	17	A1	15:11	584	54.45526	2.15960
30/05/2014	Dogger D	516	D069	HC	19	A1	16:38	653	54.45535	2.24694
30/05/2014	Dogger D	517	WK08_34	HC	34	A1	17:26	654	54.38338	2.33340
30/05/2014	Dogger D	519	D070	HC	20	A1	18:25	656	54.45536	2.42200
30/05/2014	Dogger D	521	D063	HC	22	A1	19:59	720	54.54279	2.42205
30/05/2014	Dogger D	523	WK02_35	HC	20	A1	21:10	784	54.51672	2.33345
30/05/2014	Dogger D	525	ADD03	HC	18	A1	22:21	786	54.53633	2.15643
30/05/2014	Dogger D	527	D035	HC	19	A1	23:40	852	54.59207	2.09273
31/05/2014	Dogger D	528	ADD02	HC	18	A1	00:23	853	54.53650	2.06723
31/05/2014	Dogger D	530	D034	HC	22	A1	01:30	914	54.59204	2.00365
31/05/2014	Dogger D	532	ADD01	HC	21	A1	02:33	980	54.53649	1.97922
31/05/2014	Dogger D	533	D033	HC	23	A1	03:17	981	54.59209	1.91523
31/05/2014	Dogger D	535	D032	HC	24	A1	04:20	1043	54.59228	1.82647
31/05/2014	Dogger D	537	D031	HC	23	A1	05:13	1105	54.59206	1.73739
31/05/2014	Dogger D	538	D058	HG	24	A1	05:52	1106	54.62997	1.63556
31/05/2014	Dogger D	540	D026	HC	25	A1	07:02	1167	54.68100	1.73758
31/05/2014	Dogger D	542	D027	HC	27	A1	08:24	1233	54.68118	1.82637

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
31/05/2014	Dogger D	544	D028	HC	27	A1	09:36	1295	54.68108	1.91528
31/05/2014	Dogger D	545	D029	HC	30	A1	10:12	1296	54.68106	2.00419
31/05/2014	Dogger D	547	D030	HC	29	A1	11:28	1362	54.68108	2.09257
31/05/2014	Dogger D	549	D059	HC	24	A1	13:01	1423	54.62996	2.24680
31/05/2014	Dogger D	551	D060	HC	22	A1	14:06	1485	54.63002	2.33444
31/05/2014	Dogger D	552	WK09_36	HC	20	A1	14:31	1486	54.64993	2.33302
31/05/2014	Dogger D	552	WK09_36	HC	20	A2	14:37	1487	54.64991	2.33312
31/05/2014	Dogger D	553	WK09_36	HC	21	A1	14:50	1488	54.64992	2.33311
31/05/2014	Dogger D	554	D057	HC	21	A1	15:40	1489	54.71743	2.24697
31/05/2014	Dogger D	556	WK03_37	HC	23	A1	17:17	1549	54.75000	2.33358
31/05/2014	Dogger D	559	WK10_38	HC	25	A1	18:48	1553	54.83331	2.33343
31/05/2014	Dogger D	560	D066	HC	24	A1	20:06	1554	54.75707	2.14967
31/05/2014	Dogger D	561	D054	HC	24	A1	20:52	1555	54.80489	2.07246
31/05/2014	Dogger D	561	D054	HC	24	A2	20:56	1556	54.80489	2.07245
31/05/2014	Dogger D	563	D025	HC	30	A1	22:09	1618	54.76986	2.00415
31/05/2014	Dogger D	564	D053	HC	27	A1	22:40	1619	54.80499	1.98501
31/05/2014	Dogger D	564	D053	HC	27	A2	22:45	1620	54.80499	1.98499
01/06/2014	Dogger D	566	D024	HC	29	A1	00:12	1687	54.76992	1.91524
01/06/2014	Dogger D	568	D052	HC	32	A1	01:07	1748	54.80502	1.89715
01/06/2014	Dogger D	570	D023	HC	25	A1	02:12	1812	54.76980	1.82612
01/06/2014	Dogger D	572	D022	HC	28	A1	03:20	1875	54.76977	1.73745
01/06/2014	Dogger D	574	WK13_45	HC	24	A1	04:11	1931	54.78329	1.66663
01/06/2014	Dogger D	576	D021	HC	32	A1	04:53	1933	54.76978	1.64851
01/06/2014	Dogger D	577	D056	HC	26	A1	05:22	1934	54.71750	1.63553
01/06/2014	Dogger D	578	D055	HC	27	A1	05:52	1935	54.71746	1.54830
01/06/2014	Dogger D	580	D051	HC	26	A1	09:16	1998	54.79984	1.46458
01/06/2014	Dogger D	582	D018	HC	31	A1	08:31	2060	54.85872	1.56002
01/06/2014	Dogger D	584	D019	HC	30	A1	09:33	2123	54.85873	1.64874
01/06/2014	Dogger D	586	D020	HC	26	A1	11:32	2187	54.85872	1.73746
01/06/2014	Dogger D	588	D048	HC	26	A1	12:41	2248	54.89231	1.80956
01/06/2014	Dogger D	590	D049	HC	22	A1	13:39	2310	54.89215	1.89754

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
01/06/2014	Dogger D	592	D050	HC	23	A1	14:41	2373	54.89212	1.98465
01/06/2014	Dogger D	593	D046	HC	26	A1	15:29	2374	54.97954	1.98481
01/06/2014	Dogger D	595	D045	HC	26	A1	16:39	2435	54.97945	1.89770
01/06/2014	Dogger D	597	D044	HC	26	A1	17:39	2498	54.97953	1.81025
01/06/2014	Dogger D	598	D017	HC	28	A1	18:13	2499	54.94749	1.73758
01/06/2014	Dogger D	600	D016	HC	28	A1	19:21	2564	54.94758	1.64881
01/06/2014	Dogger D	601	D015	HC	28	A1	20:02	2565	54.94752	1.55985
01/06/2014	Dogger D	603	D014	HC	36	A1	21:04	2636	54.95992	1.46679
01/06/2014	Dogger D	605	D047	HC	29	A1	22:29	2698	54.89222	1.37327
01/06/2014	Dogger D	607	D043	HC	28	A1	23:57	2763	54.97982	1.37332
02/06/2014	Dogger D	609	D038	HC	31	A1	01:13	2826	55.06682	1.37297
02/06/2014	Dogger D	611	D010	HC	31	A1	02:29	2887	55.03640	1.47085
02/06/2014	Dogger D	612	D011	HC	30	A1	03:09	2888	55.03607	1.55932
02/06/2014	Dogger D	614	D012	HC	29	A1	04:22	2954	55.03621	1.64861
02/06/2014	Dogger D	616	D013	HC	29	A1	05:25	3017	55.03614	1.73752
02/06/2014	Dogger D	617	D039	HC	35	A1	06:17	3018	55.06678	1.89775
02/06/2014	Dogger D	619	D040	HC	29	A1	08:00	3077	55.06676	1.98534
02/06/2014	Dogger D	621	D041	HC	33	A1	08:58	3137	55.06688	2.07299
02/06/2014	Dogger D	623	D042	HC	32	A1	10:13	3201	55.06692	2.15980
02/06/2014	Dogger D	624	D037	HC	35	A1	11:29	3202	55.15433	2.15981
02/06/2014	Dogger D	626	D009	HC	29	A1	13:04	3280	55.13598	2.05788
02/06/2014	Dogger D	627	D008	HC	32	A1	13:38	3281	55.12500	1.91517
02/06/2014	Dogger D	629	D007	HC	37	A1	14:55	3344	55.12500	1.82633
02/06/2014	Dogger D	631	D006	HC	33	A1	15:54	3409	55.12500	1.73750
02/06/2014	Dogger D	633	D005	HC	35	A1	17:38	3476	55.12500	1.64867
02/06/2014	Dogger D	635	D004	HC	37	A1	18:35	3547	55.12500	1.55983
02/06/2014	Dogger D	637	WK12_43	HC	36	A1	20:25	3639	55.18333	1.66667
02/06/2014	Dogger D	639	D001	HC	36	A1	21:32	3641	55.21383	1.82633
02/06/2014	Dogger D	639	D001	HC	36	A2	21:34	3642	55.21383	1.82633
02/06/2014	Dogger D	639	D001	HC	36	A3	21:38	3643	55.21383	1.82633
02/06/2014	Dogger D	641	D002	HC	36	A1	22:56	3708	55.21383	1.91517

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
02/06/2014	Dogger D	643	D003	HC	34	A1	23:54	3769	55.21383	2.00400
03/06/2014	Dogger D	645	D036	HC	36	A1	01:24	3829	55.24167	2.15967
04/06/2014	Dogger E	700	WK06_23	HG	30	A1	03:20	2	55.28337	2.99996
04/06/2014	Dogger E	701	WK07_25	HG	26	A1	04:56	3	55.01667	2.99994
04/06/2014	Dogger E	704	WK16_T5	HG	20	A1	07:22	6	54.70281	2.75878
04/06/2014	Dogger E	705	WK15_T4	HG	33	A1	08:10	8	54.65548	2.87217
04/06/2014	Dogger E	707	E032	HG	31	A1	09:07	10	54.57012	2.84796
04/06/2014	Dogger E	709	E031	HG	32	A1	10:12	73	54.54540	2.84832
04/06/2014	Dogger E	710	E030	HG	29	A1	10:48	74	54.54542	2.80569
04/06/2014	Dogger E	711	E029	HG	28	A1	11:37	75	54.52058	2.76320
04/06/2014	Dogger E	712	E026	HG	27	A1	12:10	76	54.49580	2.72106
04/06/2014	Dogger E	713	E027	HG	29	A1	12:34	77	54.49572	2.76340
04/06/2014	Dogger E	714	E028	HG	30	A1	12:58	78	54.49573	2.80579
04/06/2014	Dogger E	715	E025	HG	29	A1	13:21	79	54.47105	2.80594
04/06/2014	Dogger E	716	E024	HG	29	A1	13:46	80	54.47118	2.76387
04/06/2014	Dogger E	717	E023	HG	27	A1	14:10	81	54.47106	2.72092
04/06/2014	Dogger E	718	E020	HG	27	A1	14:41	82	54.44595	2.67846
04/06/2014	Dogger E	719	E021	HG	27	A1	15:05	83	54.44635	2.72074
04/06/2014	Dogger E	720	E022	HG	28	A1	15:32	84	54.44627	2.76363
04/06/2014	Dogger E	721	E019	HG	28	A1	15:54	85	54.42162	2.76349
04/06/2014	Dogger E	722	E018	HG	27	A1	16:41	86	54.42169	2.72127
04/06/2014	Dogger E	723	E017	HG	27	A1	17:04	87	54.42149	2.67890
04/06/2014	Dogger E	724	E013	HG	27	A1	17:37	88	54.39662	2.63675
04/06/2014	Dogger E	725	E014	HG	27	A1	18:00	89	54.39688	2.67905
04/06/2014	Dogger E	726	E015	HG	28	A1	18:22	90	54.39684	2.72142
04/06/2014	Dogger E	727	E016	HG	29	A1	18:43	91	54.39702	2.76373
04/06/2014	Dogger E	728	E012	HG	29	A1	19:10	92	54.37220	2.72166
04/06/2014	Dogger E	729	E011	HG	29	A1	19:36	93	54.37199	2.67933
04/06/2014	Dogger E	730	E010	HG	29	A1	20:00	94	54.37199	2.63702
04/06/2014	Dogger E	731	E006	HG	29	A1	20:28	95	54.34696	2.59493
04/06/2014	Dogger E	732	E007	HG	31	A1	20:50	96	54.34734	2.63735

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
04/06/2014	Dogger E	733	E008	HG	32	A1	21:10	97	54.34756	2.67963
04/06/2014	Dogger E	733	E008	HG	32	A2	21:20	98	54.34751	2.67944
04/06/2014	Dogger E	734	E009	HG	30	A1	21:41	99	54.34742	2.72174
04/06/2014	Dogger E	735	E004	HG	30	A1	22:13	100	54.32262	2.68016
04/06/2014	Dogger E	736	E003	HG	32	A1	22:46	101	54.32227	2.59554
05/06/2014	Dogger E	737	WK01_33	HG	35	A1	00:12	102	54.25003	2.33345

11.1.2 Van Veen grab samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
24/05/2014	Dogger B	269	WK05_41	VV	36	A1	16:54	4240	55.31667	2.33334
25/05/2014	Dogger B	300	WK11_40	VV	33	A1	07:29	4902	55.18336	2.33332
25/05/2014	Dogger B	301	B060	VV	33	A1	08:43	4903	55.09506	2.28774
25/05/2014	Dogger B	303	B099	VV	35	A1	09:53	4966	55.08107	2.28965
25/05/2014	Dogger B	305	B100	VV	37	A1	10:47	5034	55.07555	2.29912
25/05/2014	Dogger B	306	B063	VV	35	A1	11:43	5035	55.05981	2.28385
25/05/2014	Dogger B	308	B101	VV	34	A1	13:30	5098	55.06379	2.30035
25/05/2014	Dogger B	310	B105	VV	36	A1	14:24	5166	55.06476	2.31001
25/05/2014	Dogger B	310	B105	VV	36	A2	14:29	5167	55.06474	2.31008
25/05/2014	Dogger B	310	B105	VV	36	A3	14:34	5168	55.06474	2.31018
25/05/2014	Dogger B	312	WK04_39	VV	31	A1	15:32	5238	55.05003	2.33340
25/05/2014	Dogger B	312	WK04_39	VV	31	A2	15:39	5239	55.05003	2.33334
25/05/2014	Dogger B	312	WK04_39	VV	31	A3	15:44	5240	55.04999	2.33335
25/05/2014	Dogger B	313	B031	VV	35	A1	16:39	5241	55.06319	2.32041
25/05/2014	Dogger B	313	B031	VV	35	A2	16:43	5242	55.06319	2.32041
25/05/2014	Dogger B	313	B031	VV	35	A3	16:49	5243	55.06317	2.32036
25/05/2014	Dogger B	315	B104	VV	37	A1	17:41	5308	55.07401	2.30772
25/05/2014	Dogger B	315	B104	VV	37	A2	17:45	5309	55.07401	2.30773
25/05/2014	Dogger B	315	B104	VV	37	A3	17:54	5310	55.07396	2.30772
25/05/2014	Dogger B	316	B102	VV	34	A1	18:13	5311	55.08170	2.30705
25/05/2014	Dogger B	317	B103	VV	33	A2	18:42	5313	55.08214	2.31801
25/05/201	Dogger B	317	B103	VV	33	A1	18:37	5312	55.0821	2.31802

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
25/05/2014	Dogger B	319	WK17_T8	VV	33	A1	19:58	5379	55.09985	2.33348
30/05/2014	Dogger D	504	WK14_27	VV	19	A1	08:41	2	54.51661	1.66653
30/05/2014	Dogger D	518	WK08_34	VV	34	A1	17:38	655	54.38338	2.33339
30/05/2014	Dogger D	524	WK02_35	VV	20	A1	21:20	785	54.51671	2.33343
31/05/2014	Dogger D	557	WK03_37	VV	23	A1	17:27	1550	54.75000	2.33351
31/05/2014	Dogger D	558	WK10_38	VV	25	A1	18:16	1551	54.83331	2.33341
31/05/2014	Dogger D	558	WK10_38	VV	25	A2	18:20	1552	54.83330	2.33344
01/06/2014	Dogger D	575	WK13_45	VV	24	A1	04:21	1932	54.78331	1.66659
02/06/2014	Dogger D	638	WK12_43	VV	36	A1	20:34	3640	55.18333	1.66667
04/06/2014	Dogger E	699	WK06_23	VV	30	A1	02:59	1	55.28339	2.99995
04/06/2014	Dogger E	702	WK07_25	VV	26	A1	05:04	4	55.01668	2.99995
04/06/2014	Dogger E	703	WK16_T5	VV	20	A1	07:08	5	54.70281	2.75878
04/06/2014	Dogger E	706	WK15_T4	VV	33	A1	08:19	9	54.65548	2.87218
05/06/2014	Dogger E	738	WK01_33	VV	35	A1	00:21	103	54.25003	2.33344
05/06/2014	Dogger E	738	WK01_33	VV	35	A2	00:25	104	54.25003	2.33344
05/06/2014	Dogger E	738	WK01_33	VV	35	A3	00:30	105	54.24998	2.33331

11.1.3 Day grab samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
03/06/2014	Dogger B	648	B060	DG	33	A1	03:57	1	55.09506	2.28771
03/06/2014	Dogger B	652	B099	DG	35	A1	05:03	46	55.08105	2.28971
03/06/2014	Dogger B	654	B100	DG	38	A1	05:51	109	55.07556	2.29908
03/06/2014	Dogger B	658	B063	DG	36	A1	07:09	174	55.05986	2.28391
03/06/2014	Dogger B	663	B101	DG	35	A1	09:27	247	55.06380	2.30043
03/06/2014	Dogger B	667	B105	DG	36	A1	10:43	313	55.06474	2.31027
03/06/2014	Dogger B	667	B105	DG	36	A2	10:49	314	55.06472	2.31033
03/06/2014	Dogger B	667	B105	DG	36	A3	10:50	315	55.06472	2.31035
03/06/2014	Dogger B	669	WK4_39	DG	30	A1	12:18	387	55.05001	2.33328
03/06/2014	Dogger B	669	WK4_39	DG	30	A2	12:23	388	55.05005	2.33326
03/06/2014	Dogger B	669	WK4_39	DG	30	A3	12:26	389	55.05004	2.33326

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
03/06/2014	Dogger B	673	B031	DG	34	A1	13:43	462	55.06320	2.32033
03/06/2014	Dogger B	673	B031	DG	34	A2	13:49	463	55.06316	2.32035
03/06/2014	Dogger B	675	B104	DG	37	A1	14:38	529	55.07402	2.30771
03/06/2014	Dogger B	679	B102	DG	35	A1	15:47	601	55.08173	2.30698
03/06/2014	Dogger B	681	B103	DG	34	A1	17:06	670	55.08214	2.31796
03/06/2014	Dogger B	681	B103	DG	34	A2	17:09	671	55.08215	2.31795
03/06/2014	Dogger B	681	B103	DG	34	A3	17:14	672	55.08214	2.31796
03/06/2014	Dogger B	685	WK17_T8	DG	34	A1	18:23	739	55.09996	2.33331

11.1.4 0.25m^2 Hamon grab samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
03/06/2014	Dogger B	687	WK17_T8	BHG	34	A1	19:37	811	55.09998	2.33332
03/06/2014	Dogger B	688	B060	BHG	34	A1	20:07	812	55.09507	2.28768
03/06/2014	Dogger B	689	B099	BHG	35	A1	20:37	813	55.08106	2.28969
03/06/2014	Dogger B	690	B102	BHG	35	A1	21:05	814	55.08180	2.30696
03/06/2014	Dogger B	691	B103	BHG	34	A1	21:34	815	55.08220	2.31790
03/06/2014	Dogger B	692	B104	BHG	37	A1	22:04	816	55.07411	2.30766
03/06/2014	Dogger B	693	B100	BHG	35	A1	22:35	817	55.07558	2.29906
03/06/2014	Dogger B	694	B063	BHG	35	A1	23:05	818	55.05985	2.28399
03/06/2014	Dogger B	695	B101	BHG	34	A1	23:24	819	55.06384	2.30042
03/06/2014	Dogger B	696	B105	BHG	35	A1	23:44	820	55.06474	2.31026
04/06/2014	Dogger B	697	B031	BHG	35	A1	00:02	821	55.06321	2.32029
04/06/2014	Dogger B	698	WK04_39	BHG	30	A1	00:25	822	55.05006	2.33326

11.1.5 Shipek grab samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
03/06/2014	Dogger B	649	B060	SH	33	A1	04:11	2	55.09507	2.28773
03/06/2014	Dogger B	651	B099	SH	35	A1	04:58	45	55.08107	2.28967
03/06/2014	Dogger B	655	B100	SH	38	A1	05:59	110	55.07555	2.29909
03/06/2014	Dogger B	657	B063	SH	36	A1	07:04	173	55.05986	2.28391

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Attempt	Time	Fix	Latitude	Longitude
03/06/2014	Dogger B	660	B060	SH	34	A1	08:17	244	55.09507	2.28771
03/06/2014	Dogger B	661	B099	SH	35	A1	08:39	245	55.08110	2.28960
03/06/2014	Dogger B	662	B100	SH	38	A1	08:57	246	55.07558	2.29912
03/06/2014	Dogger B	664	B101	SH	35	A1	09:34	248	55.06381	2.30044
03/06/2014	Dogger B	666	B105	SH	36	A1	10:28	310	55.06474	2.31027
03/06/2014	Dogger B	666	B105	SH	36	A2	10:34	311	55.06474	2.31026
03/06/2014	Dogger B	666	B105	SH	36	A3	10:38	312	55.06473	2.31026
03/06/2014	Dogger B	670	WK4_39	SH	30	A1	12:36	390	55.05009	2.33326
03/06/2014	Dogger B	672	B031	SH	34	A1	13:36	461	55.06319	2.32035
03/06/2014	Dogger B	676	B104	SH	37	A1	14:47	530	55.07402	2.30772
03/06/2014	Dogger B	676	B104	SH	37	A2	14:53	531	55.07405	2.30768
03/06/2014	Dogger B	678	B102	SH	35	A1	15:38	600	55.08174	2.30698
03/06/2014	Dogger B	682	B103	SH	34	A1	17:25	673	55.08220	2.31795
03/06/2014	Dogger B	682	B103	SH	34	A2	17:29	674	55.08220	2.31795
03/06/2014	Dogger B	682	B103	SH	34	A3	17:33	675	55.08219	2.31794
03/06/2014	Dogger B	684	WK17_T8	SH	34	A1	18:21	738	55.09997	2.33329

11.1.6 Camera sledge

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
18/05/2014	Dogger A	3	A056	CS	22	19:29	19:45	47	54.66444	2.78128
18/05/2014	Dogger A	3	A056	CS	22	19:29	19:45	92	54.66482	2.78041
18/05/2014	Dogger A	7	A068	CS	20	22:44	22:54	175	54.63914	2.73249
18/05/2014	Dogger A	7	A068	CS	20	22:44	22:54	231	54.63919	2.73115
18/05/2014	Dogger A	9	A067	CS	20	23:54	00:05	258	54.63931	2.70823
18/05/2014	Dogger A	9	A067	CS	20	23:54	00:05	289	54.63917	2.70753
19/05/2014	Dogger A	13	A064	CS	19	01:20	01:31	313	54.63941	2.63290
19/05/2014	Dogger A	13	A064	CS	19	01:20	01:31	358	54.63896	2.63365
19/05/2014	Dogger A	17	A061	CS	20	02:46	02:56	380	54.63935	2.55844
19/05/2014	Dogger A	17	A061	CS	20	02:46	02:56	428	54.63905	2.55947
19/05/2014	Dogger A	21	A058	CS	20	04:20	04:30	469	54.63934	2.48394
19/05/2014	Dogger	21	A058	CS	20	04:20	04:30	514	54.63903	2.48486

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
	A									
19/05/2014	Dogger A	27	A028	CS	22	07:09	07:20	604	54.67374	2.52357
19/05/2014	Dogger A	27	A028	CS	22	07:09	07:20	649	54.67422	2.52288
19/05/2014	Dogger A	31	A031	CS	21	08:36	08:46	679	54.67389	2.60536
19/05/2014	Dogger A	31	A031	CS	21	08:36	08:46	688	54.67397	2.60519
19/05/2014	Dogger A	35	A034	CS	20	10:10	10:20	758	54.67375	2.68643
19/05/2014	Dogger A	35	A034	CS	20	10:10	10:20	774	54.67378	2.68605
19/05/2014	Dogger A	40	A050	CS	20	13:29	13:39	873	54.71359	2.80723
19/05/2014	Dogger A	40	A050	CS	20	13:29	13:39	910	54.71319	2.80778
19/05/2014	Dogger A	45	A027	CS	20	17:19	17:29	963	54.70074	2.71476
19/05/2014	Dogger A	45	A027	CS	20	17:19	17:29	1000	54.70052	2.71555
19/05/2014	Dogger A	49	A024	CS	20.9	18:48	18:58	1023	54.70092	2.63242
19/05/2014	Dogger A	49	A024	CS	20.9	18:48	18:58	1050	54.70103	2.63306
19/05/2014	Dogger A	54	A021	CS	22	21:07	21:18	1185	54.70080	2.55065
19/05/2014	Dogger A	54	A021	CS	22	21:07	21:18	1224	54.70115	2.54991
19/05/2014	Dogger A	59	A051	CS	21	23:31	23:41	1334	54.68868	2.45873
19/05/2014	Dogger A	59	A051	CS	21	23:31	23:41	1347	54.68868	2.45842
20/05/2014	Dogger A	62	A045	CS	23	00:50	01:01	1366	54.73870	2.50896
20/05/2014	Dogger A	62	A045	CS	23	00:50	01:01	1406	54.73824	2.50851
20/05/2014	Dogger A	66	A014	CS	21	02:20	02:30	1445	54.72824	2.60582
20/05/2014	Dogger A	66	A014	CS	21	02:20	02:30	1469	54.72821	2.60639
20/05/2014	Dogger A	70	A017	CS	20	03:59	04:09	1490	54.72825	2.68662
20/05/2014	Dogger A	70	A017	CS	20	03:59	04:09	1515	54.72823	2.68723
20/05/2014	Dogger A	76	A047	CS	21	06:00	06:10	1623	54.73850	2.83161
20/05/2014	Dogger A	76	A047	CS	21	06:00	06:10	1659	54.73848	2.83246
20/05/2014	Dogger A	80	A042	CS	22	08:09	08:19	1731	54.78814	2.85594
20/05/2014	Dogger A	80	A042	CS	22	08:09	08:19	1683	54.78814	2.85714
20/05/2014	Dogger A	85	A010	CS	21	10:37	10:47	1806	54.75538	2.74330
20/05/2014	Dogger A	85	A010	CS	21	10:37	10:47	1861	54.75549	2.74198
20/05/2014	Dogger A	89	A007	CS	21	12:22	12:33	1927	54.75534	2.65870
20/05/2014	Dogger A	89	A007	CS	21	12:22	12:33	1881	54.75543	2.65979

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
20/05/2014	Dogger A	94	A002	CS	20	14:46	14:56	2014	54.78277	2.68734
20/05/2014	Dogger A	94	A002	CS	20	14:46	14:56	2029	54.78259	2.68753
20/05/2014	Dogger A	97	A036	CS	20	16:42	16:53	2096	54.81285	2.73310
20/05/2014	Dogger A	97	A036	CS	20	16:42	16:53	2103	54.81281	2.73326
20/05/2014	Dogger A	101	A005	CS	21	19:11	19:21	2147	54.78261	2.76906
20/05/2014	Dogger A	101	A005	CS	21	19:11	19:21	2177	54.78262	2.76980
20/05/2014	Dogger A	106	A040	CS	21	21:38	21:49	2304	54.81303	2.83207
20/05/2014	Dogger A	106	A040	CS	21	21:38	21:49	2318	54.81308	2.83174
21/05/2014	Dogger B	113	B029	CS	26	02:46	02:56	106	55.10634	2.73945
21/05/2014	Dogger B	113	B029	CS	26	02:46	02:56	130	55.10612	2.73902
21/05/2014	Dogger B	118	B056	CS	28	05:44	05:53	230	55.16850	2.76050
21/05/2014	Dogger B	118	B056	CS	28	05:44	05:53	253	55.16852	2.76105
21/05/2014	Dogger B	122	B110	CS	29	07:30	07:40	305	55.16352	2.85003
21/05/2014	Dogger B	122	B110	CS	29	07:30	07:40	318	55.16357	2.85033
21/05/2014	Dogger B	128	B113	CS	30	10:05	10:15	391	55.18303	2.85203
21/05/2014	Dogger B	128	B113	CS	30	10:05	10:15	434	55.18318	2.85093
21/05/2014	Dogger B	133	B108	CS	29	13:21	13:32	530	55.19346	2.84983
21/05/2014	Dogger B	133	B108	CS	29	13:21	13:32	554	55.19333	2.84929
21/05/2014	Dogger B	144	B048	CS	34	18:25	18:37	731	55.22834	2.64062
21/05/2014	Dogger B	144	B048	CS	34	18:25	18:37	772	55.22824	2.64160
21/05/2014	Dogger B	150	B088	CS	34	22:12	22:22	873	55.34314	2.80118
21/05/2014	Dogger B	150	B088	CS	34	22:12	22:22	889	55.34317	2.80078
22/05/2014	Dogger B	156	B083	CS	34	00:55	01:06	978	55.32594	2.79033
22/05/2014	Dogger B	156	B083	CS	34	00:55	01:06	1014	55.32561	2.78964
22/05/2014	Dogger B	162	B085	CS	33	03:35	03:45	1099	55.31364	2.80031
22/05/2014	Dogger B	162	B085	CS	33	03:35	03:45	1138	55.31380	2.80125
22/05/2014	Dogger B	172	B038	CS	34	09:37	09:47	1296	55.34858	2.94002
22/05/2014	Dogger B	172	B038	CS	34	09:37	09:47	1335	55.34805	2.94026
22/05/2014	Dogger B	183	B145	CS	38	16:54	17:04	1470	55.44070	2.94055
22/05/2014	Dogger B	183	B145	CS	38	16:54	17:04	1435	55.44112	2.94099
22/05/2014	Dogger B	187	B147	CS	36	18:53	19:03	1566	55.42559	2.96028

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
22/05/2014	Dogger B	187	B147	CS	36	18:53	19:03	1577	55.42559	2.96056
22/05/2014	Dogger B	188	B142	CS	36	19:48	19:59	1628	55.41476	2.95128
22/05/2014	Dogger B	188	B142	CS	36	19:48	19:59	1636	55.41481	2.95144
22/05/2014	Dogger B	192	B159	CS	33	22:06	22:15	1753	55.41554	3.05061
22/05/2014	Dogger B	192	B159	CS	33	22:06	22:15	1765	55.41561	3.05098
22/05/2014	Dogger B	195	B161	CS	33	23:08	23:18	1814	55.42139	3.06966
22/05/2014	Dogger B	195	B161	CS	33	23:08	23:18	1847	55.42123	3.06888
23/05/2014	Dogger B	203	B158	CS	33	02:10	02:20	1995	55.44181	3.05117
23/05/2014	Dogger B	203	B158	CS	33	02:10	02:20	2046	55.44217	3.05011
23/05/2014	Dogger B	208	B136	CS	41	05:15	05:25	2121	55.44160	2.86890
23/05/2014	Dogger B	208	B136	CS	41	05:15	05:25	2174	55.44094	2.86831
23/05/2014	Dogger B	211	B141	CS	36	09:13	09:33	2890	55.43214	2.86697
23/05/2014	Dogger B	211	B141	CS	36	09:13	09:33	2951	55.43298	2.86743
23/05/2014	Dogger B	217	B139	CS	42	13:12	13:18	3070	55.42165	2.83897
23/05/2014	Dogger B	217	B139	CS	42	13:12	13:18	3080	55.42177	2.83884
23/05/2014	Dogger B	221	B134	CS	41	15:15	15:25	3166	55.43277	2.84080
23/05/2014	Dogger B	221	B134	CS	41	15:15	15:25	3189	55.43277	2.84023
23/05/2014	Dogger B	226	B007	CS	43	18:28	18:39	3304	55.39881	2.79834
23/05/2014	Dogger B	226	B007	CS	43	18:28	18:39	3318	55.39862	2.79841
23/05/2014	Dogger B	232	B094	CS	38	21:59	22:10	3443	55.39236	2.56814
23/05/2014	Dogger B	232	B094	CS	38	21:59	22:10	3482	55.39238	2.56911
24/05/2014	Dogger B	237	B096	CS	38	01:23	01:34	3583	55.38115	2.53962
24/05/2014	Dogger B	237	B096	CS	38	01:23	01:34	3603	55.38121	2.53914
24/05/2014	Dogger B	243	B095	CS	37	04:10	04:20	3694	55.37299	2.55961
24/05/2014	Dogger B	243	B095	CS	37	04:10	04:20	3672	55.37301	2.56015
24/05/2014	Dogger B	249	B011	CS	37	07:20	07:30	3796	55.34065	2.56244
24/05/2014	Dogger B	249	B011	CS	37	07:20	07:30	3845	55.34069	2.56365
24/05/2014	Dogger B	255	B129	CS	38	10:03	10:13	3929	55.31547	2.44865
24/05/2014	Dogger B	255	B129	CS	38	10:03	10:13	3955	55.31567	2.44922
24/05/2014	Dogger B	259	B126	CS	40	12:24	12:35	4057	55.32431	2.46136
24/05/2014	Dogger B	259	B126	CS	40	12:24	12:35	4074	55.32450	2.46161

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
24/05/2014	Dogger B	265	B128	CS	40	14:44	14:54	4186	55.34119	2.44119
24/05/2014	Dogger B	265	B128	CS	40	14:44	14:54	4211	55.34127	2.44059
24/05/2014	Dogger B	273	B015	CS	35	18:38	18:49	4246	55.28217	2.44684
24/05/2014	Dogger B	273	B015	CS	35	18:38	18:49	4301	55.28177	2.44798
24/05/2014	Dogger B	280	B019	CS	33	22:52	23:02	4450	55.22350	2.50434
24/05/2014	Dogger B	280	B019	CS	33	22:52	23:02	4500	55.22350	2.50568
25/05/2014	Dogger B	283	B122	CS	33	00:29	00:39	4512	55.22535	2.36924
25/05/2014	Dogger B	283	B122	CS	33	00:29	00:39	4545	55.22581	2.36913
25/05/2014	Dogger B	288	B117	CS	34	02:09	02:19	4661	55.24186	2.35708
25/05/2014	Dogger B	288	B117	CS	34	02:09	02:19	4686	55.24196	2.35649
25/05/2014	Dogger B	294	B046	CS	34	04:37	04:47	4808	55.22828	2.34109
25/05/2014	Dogger B	294	B046	CS	34	04:37	04:47	4834	55.22806	2.34059
25/05/2014	Dogger B	304	B099	CS	34	10:16	10:27	4973	55.08079	2.28813
25/05/2014	Dogger B	304	B099	CS	34	10:16	10:27	5022	55.08105	2.28933
25/05/2014	Dogger B	309	B101	CS	34	13:55	14:06	5110	55.06387	2.30014
25/05/2014	Dogger B	309	B101	CS	34	13:55	14:06	5149	55.06440	2.30009
25/05/2014	Dogger B	311	B105	CS	36	14:58	15:08	5195	55.06499	2.30993
25/05/2014	Dogger B	311	B105	CS	36	14:58	15:08	5169	55.06471	2.31032
25/05/2014	Dogger B	314	B031	CS	35	17:10	17:21	5283	55.06283	2.32005
25/05/2014	Dogger B	314	B031	CS	35	17:10	17:21	5301	55.06261	2.31971
26/05/2014	Dogger B	336	B021	CS	35	03:26	03:36	5478	55.16507	2.44724
26/05/2014	Dogger B	336	B021	CS	35	03:26	03:36	5513	55.16488	2.44643
26/05/2014	Dogger B	343	B074	CS	35	06:09	06:19	5656	55.18359	2.46068
26/05/2014	Dogger B	343	B074	CS	35	06:09	06:19	5680	55.18347	2.46014
26/05/2014	Dogger B	347	B077	CS	36	07:52	08:02	5739	55.17208	2.46705
26/05/2014	Dogger B	347	B077	CS	36	07:52	08:02	5767	55.17168	2.46732
26/05/2014	Dogger B	354	B026	CS	31	12:13	12:23	5924	55.10670	2.56390
26/05/2014	Dogger B	354	B026	CS	31	12:13	12:23	5950	55.10683	2.56450
26/05/2014	Dogger B	362	B033	CS	32	16:54	17:04	6042	55.04783	2.44692
26/05/2014	Dogger B	362	B033	CS	32	16:54	17:04	6065	55.04783	2.44636
26/05/2014	Dogger B	368	B069	CS	28	20:09	20:19	6176	54.98902	2.46247

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
26/05/2014	Dogger B	368	B069	CS	28	20:09	20:19	6225	54.98881	2.46132
27/05/2014	Dogger C	375	C040	CS	41	02:34	02:45	33	54.90345	1.25893
27/05/2014	Dogger C	375	C040	CS	41	02:34	02:45	53	54.90368	1.25867
27/05/2014	Dogger C	379	C041	CS	40	04:38	04:48	154	54.87354	1.25959
27/05/2014	Dogger C	379	C041	CS	40	04:38	04:48	168	54.87376	1.25952
27/05/2014	Dogger C	384	C043	CS	36	07:08	07:18	254	54.84440	1.28963
27/05/2014	Dogger C	384	C043	CS	36	07:08	07:18	293	54.84424	1.28872
27/05/2014	Dogger C	386	C002	CS	43	08:02	08:12	335	54.84807	1.23162
27/05/2014	Dogger C	386	C002	CS	43	08:02	08:12	349	54.84789	1.23148
27/05/2014	Dogger C	391	C004	CS	43	10:39	10:49	444	54.81521	1.19726
27/05/2014	Dogger C	391	C004	CS	43	10:39	10:49	496	54.81522	1.19860
27/05/2014	Dogger C	395	C045	CS	30	13:07	13:17	568	54.81520	1.31861
27/05/2014	Dogger C	395	C045	CS	30	13:07	13:17	615	54.81571	1.31930
27/05/2014	Dogger C	400	C009	CS	38	15:51	16:01	706	54.78270	1.26423
27/05/2014	Dogger C	400	C009	CS	38	15:51	16:01	723	54.78300	1.26441
27/05/2014	Dogger C	403	C007	CS	45	17:12	17:22	766	54.78249	1.19850
27/05/2014	Dogger C	403	C007	CS	45	17:12	17:22	773	54.78259	1.19851
27/05/2014	Dogger C	408	C011	CS	43	19:43	19:53	890	54.75023	1.23155
27/05/2014	Dogger C	408	C011	CS	43	19:43	19:53	920	54.74986	1.23119
27/05/2014	Dogger C	414	C049	CS	35	22:51	23:02	1027	54.75629	1.37649
27/05/2014	Dogger C	414	C049	CS	35	22:51	23:02	1030	54.75628	1.37656
28/05/2014	Dogger C	419	C018	CS	38	01:23	01:34	1140	54.71724	1.32923
28/05/2014	Dogger C	419	C018	CS	38	01:23	01:34	1185	54.71774	1.32996
28/05/2014	Dogger C	425	C014	CS	45	04:24	04:33	1269	54.71706	1.19845
28/05/2014	Dogger C	425	C014	CS	45	04:24	04:33	1305	54.71743	1.19900
28/05/2014	Dogger C	433	C023	CS	34	09:16	09:26	1464	54.68446	1.36085
28/05/2014	Dogger C	433	C023	CS	34	09:16	09:26	1474	54.68452	1.36107
28/05/2014	Dogger C	435	C052	CS	32	10:15	10:26	1508	54.69764	1.40499
28/05/2014	Dogger C	435	C052	CS	32	10:15	10:26	1533	54.69764	1.40560
28/05/2014	Dogger C	455	C029	CS	35	22:48	22:59	1921	54.65185	1.39436
28/05/2014	Dogger C	455	C029	CS	35	22:48	22:59	1942	54.65181	1.39472

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
28/05/2014	Dogger C	456	C054	CS	28	23:40	23:50	1965	54.65699	1.44573
28/05/2014	Dogger C	456	C054	CS	28	23:40	23:50	2017	54.65685	1.44694
29/05/2014	Dogger C	457	C026	CS	40	00:59	01:09	2038	54.65194	1.29662
29/05/2014	Dogger C	457	C026	CS	40	00:59	01:09	2070	54.65179	1.29733
29/05/2014	Dogger C	458	C031	CS	37	03:34	03:44	7967	54.61908	1.29601
29/05/2014	Dogger C	458	C031	CS	37	03:34	03:44	8000	54.61919	1.29674
29/05/2014	Dogger C	459	C034	CS	35	04:48	04:58	8030	54.61907	1.39418
29/05/2014	Dogger C	459	C034	CS	35	04:48	04:58	8038	54.61913	1.39436
29/05/2014	Dogger C	472	C055	CS	27	14:33	14:44	8322	54.62426	1.47609
29/05/2014	Dogger C	472	C055	CS	27	14:33	14:44	8342	54.62445	1.47640
29/05/2014	Dogger C	473	C037	CS	37	15:24	15:34	8368	54.59645	1.44914
29/05/2014	Dogger C	473	C037	CS	37	15:24	15:34	8380	54.59654	1.44940
29/05/2014	Dogger C	474	C061	CS	37	16:40	16:51	8430	54.58887	1.49520
29/05/2014	Dogger C	474	C061	CS	37	16:40	16:51	8454	54.58900	1.49572
29/05/2014	Dogger C	475	C069	CS	26	17:35	17:45	8504	54.55074	1.55354
29/05/2014	Dogger C	475	C069	CS	26	17:35	17:45	8517	54.55084	1.55379
29/05/2014	Dogger C	476	C038	CS	36	19:01	19:11	8594	54.55453	1.44990
29/05/2014	Dogger C	476	C038	CS	36	19:01	19:11	8632	54.55472	1.44904
29/05/2014	Dogger C	480	C058	CS	35	21:10	21:20	8661	54.58000	1.28959
29/05/2014	Dogger C	480	C058	CS	35	21:10	21:20	8687	54.57978	1.28907
29/05/2014	Dogger C	484	C063	CS	30	23:09	23:19	8790	54.55110	1.28823
29/05/2014	Dogger C	484	C063	CS	30	23:09	23:19	8817	54.55087	1.28877
30/05/2014	Dogger C	489	C066	CS	31	01:13	01:23	8893	54.55067	1.37684
30/05/2014	Dogger C	489	C066	CS	31	01:13	01:23	8915	54.55057	1.37732
30/05/2014	Dogger C	492	C070	CS	27	02:20	02:30	8958	54.52274	1.39649
30/05/2014	Dogger C	492	C070	CS	27	02:20	02:30	9004	54.52293	1.39754
30/05/2014	Dogger C	497	C075	CS	39	05:02	05:12	9113	54.49708	1.52579
30/05/2014	Dogger C	497	C075	CS	39	05:02	05:12	9134	54.49737	1.52569
30/05/2014	Dogger C	500	C073	CS	38	06:12	06:23	9147	54.52101	1.55355
30/05/2014	Dogger C	500	C073	CS	38	06:12	06:23	9193	54.52155	1.55295
30/05/2014	Dogger D	506	D061	CS	19	09:38	09:47	27	54.53846	1.63697

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
30/05/2014	Dogger D	506	D061	CS	19	09:38	09:47	59	54.53800	1.63683
30/05/2014	Dogger D	510	D064	CS	19	12:15	12:25	127	54.45548	1.81002
30/05/2014	Dogger D	510	D064	CS	19	12:15	12:25	176	54.45505	1.81094
30/05/2014	Dogger D	515	D068	CS	17	15:29	15:40	618	54.45535	2.16020
30/05/2014	Dogger D	515	D068	CS	17	15:29	15:40	645	54.45533	2.16084
30/05/2014	Dogger D	520	D070	CS	20	18:42	18:52	681	54.45535	2.42182
30/05/2014	Dogger D	520	D070	CS	20	18:42	18:52	703	54.45544	2.42132
31/05/2014	Dogger D	529	ADD02	CS	19	00:38	00:48	854	54.53653	2.06737
31/05/2014	Dogger D	529	ADD02	CS	19	00:38	00:48	862	54.53645	2.06750
31/05/2014	Dogger D	531	D034	CS	23	01:41	01:52	938	54.59227	2.00397
31/05/2014	Dogger D	531	D034	CS	23	01:41	01:52	944	54.59224	2.00411
31/05/2014	Dogger D	536	D032	CS	24	04:31	04:41	1046	54.59193	1.82598
31/05/2014	Dogger D	536	D032	CS	24	04:31	04:41	1083	54.59239	1.82640
31/05/2014	Dogger D	539	D058	CS	24	06:04	06:14	1131	54.63002	1.63542
31/05/2014	Dogger D	539	D058	CS	24	06:04	06:14	1139	54.63010	1.63529
31/05/2014	Dogger D	543	D027	CS	27	08:39	08:49	1244	54.68083	1.82720
31/05/2014	Dogger D	543	D027	CS	27	08:39	08:49	1293	54.68095	1.82605
31/05/2014	Dogger D	548	D030	CS	28	11:43	11:53	1379	54.68092	2.09280
31/05/2014	Dogger D	548	D030	CS	28	11:43	11:53	1385	54.68084	2.09283
31/05/2014	Dogger D	550	D059	CS	24	13:15	13:25	1465	54.63004	2.24681
31/05/2014	Dogger D	550	D059	CS	24	13:15	13:25	1476	54.62997	2.24708
31/05/2014	Dogger D	562	D054	CS	25	21:23	21:33	1575	54.80490	2.07278
31/05/2014	Dogger D	562	D054	CS	25	21:23	21:33	1588	54.80488	2.07247
01/06/2014	Dogger D	567	D024	CS	31	00:26	00:36	1698	54.76989	1.91534
01/06/2014	Dogger D	567	D024	CS	31	00:26	00:36	1700	54.76986	1.91535
01/06/2014	Dogger D	569	C052	CS	33	01:20	01:30	1756	54.80491	1.89754
01/06/2014	Dogger D	569	C052	CS	33	01:20	01:30	1807	54.80440	1.89841
01/06/2014	Dogger D	573	D022	CS	27	03:33	03:42	1895	54.76991	1.73757
01/06/2014	Dogger D	573	D022	CS	27	03:33	03:42	1902	54.76992	1.73774
01/06/2014	Dogger D	581	D051	CS	26	07:30	07:40	2054	54.79993	1.46414
01/06/2014	Dogger D	581	D051	CS	26	07:30	07:40	2058	54.79997	1.46408

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
01/06/2014	Dogger D	583	D018	CS	31	08:44	08:55	2078	54.85861	1.56008
01/06/2014	Dogger D	583	D018	CS	31	08:44	08:55	2117	54.85876	1.55906
01/06/2014	Dogger D	587	D020	CS	26	11:50	12:00	2228	54.85829	1.73767
01/06/2014	Dogger D	587	D020	CS	26	11:50	12:00	2229	54.85827	1.73767
01/06/2014	Dogger D	589	D048	CS	25	12:56	13:06	2253	54.89211	1.81012
01/06/2014	Dogger D	589	D048	CS	25	12:56	13:06	2296	54.89169	1.81085
01/06/2014	Dogger D	596	D045	CS	26	16:55	17:05	2441	54.97953	1.89771
01/06/2014	Dogger D	596	D045	CS	26	16:55	17:05	2496	54.98020	1.89836
01/06/2014	Dogger D	602	D015	CS	29	20:16	20:27	2582	54.94729	1.56037
01/06/2014	Dogger D	602	D015	CS	29	20:16	20:27	2601	54.94739	1.55994
02/06/2014	Dogger D	608	D043	CS	28	00:12	00:23	2779	54.97934	1.37354
02/06/2014	Dogger D	608	D043	CS	28	00:12	00:23	2800	54.97905	1.37355
02/06/2014	Dogger D	613	D011	CS	30	03:41	03:51	2910	55.03621	1.55998
02/06/2014	Dogger D	613	D011	CS	30	03:41	03:51	2932	55.03629	1.56050
02/06/2014	Dogger D	620	D040	CS	29	08:13	08:23	3127	55.06711	1.98476
02/06/2014	Dogger D	620	D040	CS	29	08:13	08:23	3135	55.06718	1.98461
02/06/2014	Dogger D	630	D007	CS	37	15:10	15:21	3345	55.12507	1.82635
02/06/2014	Dogger D	630	D007	CS	37	15:10	15:21	3408	55.12419	1.826367
02/06/2014	Dogger D	634	D005	CS	35	17:52	18:03	3477	55.12494	1.648693
02/06/2014	Dogger D	634	D005	CS	35	17:52	18:03	3546	55.12588	1.648503
02/06/2014	Dogger D	642	D002	CS	36	23:08	23:18	3768	55.21406	1.915184
02/06/2014	Dogger D	642	D002	CS	36	23:08	23:18	3709	55.21328	1.914737
03/06/2014	Dogger D	646	D036	CS	36	01:37	01:48	3829	55.24196	2.159315
03/06/2014	Dogger D	646	D036	CS	36	01:37	01:48	3889	55.24129	2.160145
03/06/2014	Dogger B	650	B060	CS	33	04:27	04:34	17	55.09494	2.28794
03/06/2014	Dogger B	650	B060	CS	33	04:27	04:34	32	55.09479	2.28817
03/06/2014	Dogger B	653	B099	CS	35	05:19	05:29	50	55.08108	2.28962
03/06/2014	Dogger B	653	B099	CS	35	05:19	05:29	85	55.08117	2.29046
03/06/2014	Dogger B	656	B100	CS	38	06:14	06:24	115	55.07552	2.29902
03/06/2014	Dogger B	656	B100	CS	38	06:14	06:24	167	55.07616	2.29967
03/06/2014	Dogger B	659	B063	CS	36	07:32	07:44	188	55.05939	2.28438

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Fix	Latitude	Longitude
03/06/2014	Dogger B	659	B063	CS	36	07:32	07:44	240	55.06001	2.28370
03/06/2014	Dogger B	665	B101	CS	35	09:54	10:04	251	55.06366	2.30100
03/06/2014	Dogger B	665	B101	CS	35	09:54	10:04	306	55.06397	2.29978
03/06/2014	Dogger B	668	B105	CS	35	11:39	11:50	322	55.06435	2.31025
03/06/2014	Dogger B	668	B105	CS	35	11:39	11:50	323	55.06434	2.31025
03/06/2014	Dogger B	671	WK04_39	CS	30	12:53	13:04	405	55.04994	2.33339
03/06/2014	Dogger B	671	WK04_39	CS	30	12:53	13:04	409	55.04989	2.33340
03/06/2014	Dogger B	674	B031	CS	34	14:04	14:14	493	55.06298	2.32056
03/06/2014	Dogger B	674	B031	CS	34	14:04	14:14	517	55.06266	2.32066
03/06/2014	Dogger B	677	B104	CS	37	15:06	15:17	560	55.07392	2.30800
03/06/2014	Dogger B	677	B104	CS	37	15:06	15:17	572	55.07378	2.30817
03/06/2014	Dogger B	680	B102	CS	35	16:40	16:51	651	55.08150	2.30801
03/06/2014	Dogger B	680	B102	CS	35	16:40	16:51	659	55.08147	2.30819
03/06/2014	Dogger B	683	B103	CS	34	17:49	17:59	697	55.08222	2.31798
03/06/2014	Dogger B	683	B103	CS	34	17:49	17:59	717	55.08239	2.31835
03/06/2014	Dogger B	686	WK17_T8	CS	34	18:58	19:09	754	55.10002	2.33327
03/06/2014	Dogger B	686	WK17_T8	CS	34	18:58	19:09	788	55.10038	2.33383

11.1.7 Beam trawl samples

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
18/05/2014	Dogger A	5	A069	JB	24	20:54	21:00	A1	98	54.63917	2.75732
18/05/2014	Dogger A	5	A069	JB	24	20:54	21:00	A1	138	54.63979	2.75474
18/05/2014	Dogger A	5	A069	JB	24	21:16	21:22	A2	139	54.63888	2.75854
18/05/2014	Dogger A	5	A069	JB	24	21:16	21:22	A2	171	54.63947	2.75620
19/05/2014	Dogger A	24	A054	JB	21	05:19	05:25	A1	524	54.66405	2.45878
19/05/2014	Dogger A	24	A054	JB	21	05:19	05:25	A1	558	54.66380	2.46118
19/05/2014	Dogger A	24	A054	JB	21	05:35	05:40	A2	559	54.66351	2.46362
19/05/2014	Dogger A	24	A054	JB	21	05:35	05:40	A2	589	54.66329	2.46575
19/05/2014	Dogger A	37	A035	JB	20	11:34	11:40	A1	785	54.67360	2.71468
19/05/2014	Dogger A	37	A035	JB	20	11:34	11:40	A1	820	54.67353	2.71190
19/05/201	Dogger	37	A035	JB	20	11:57	12:03	A2	821	54.67366	2.71474

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
4	A										
19/05/2014	Dogger A	37	A035	JB	20	11:57	12:03	A2	855	54.67360	2.71203
19/05/2014	Dogger A	42	A049	JB	19	14:15	14:20	A1	914	54.71314	2.78480
19/05/2014	Dogger A	42	A049	JB	19	14:34	14:39	A2	915	54.71384	2.78217
19/05/2014	Dogger A	42	A049	JB	19	14:34	14:39	A2	947	54.71328	2.78451
19/05/2014	Dogger A	51	A023	JB	21	19:38	19:44	A1	1090	54.70067	2.60607
19/05/2014	Dogger A	51	A023	JB	21	19:38	19:44	A1	1127	54.70185	2.60397
19/05/2014	Dogger A	51	A023	JB	21	19:58	20:03	A2	1128	54.70090	2.60550
19/05/2014	Dogger A	51	A023	JB	21	19:58	20:03	A2	1155	54.70176	2.60394
19/05/2014	Dogger A	56	A020	JB	22	22:01	22:06	A1	1227	54.70075	2.52486
19/05/2014	Dogger A	56	A020	JB	22	22:01	22:06	A1	1256	54.70091	2.52231
19/05/2014	Dogger A	56	A020	JB	22	22:20	22:25	A2	1257	54.70076	2.52432
19/05/2014	Dogger A	56	A020	JB	22	22:20	22:25	A2	1283	54.70090	2.52225
20/05/2014	Dogger A	73	A019	JB	20	04:48	04:53	A1	1545	54.72819	2.74122
20/05/2014	Dogger A	73	A019	JB	20	04:48	04:53	A1	1576	54.72798	2.74345
20/05/2014	Dogger A	73	A019	JB	20	05:02	05:07	A2	1577	54.72767	2.74664
20/05/2014	Dogger A	73	A019	JB	20	05:02	05:07	A2	1608	54.72746	2.74885
20/05/2014	Dogger A	82	A041	JB	22	08:55	09:00	A1	1739	54.78807	2.83272
20/05/2014	Dogger A	82	A041	JB	22	08:55	09:00	A1	1768	54.78823	2.83063
20/05/2014	Dogger A	82	A041	JB	22	09:18	09:23	A2	1769	54.78817	2.83266
20/05/2014	Dogger A	82	A041	JB	22	09:18	09:23	A2	1798	54.78832	2.83059
20/05/2014	Dogger A	91	A006	JB	21	13:14	13:19	A1	1935	54.75554	2.63288
20/05/2014	Dogger A	91	A006	JB	21	13:14	13:19	A1	1967	54.75544	2.63032
20/05/2014	Dogger A	91	A006	JB	21	13:29	13:35	A2	1969	54.75528	2.62631
20/05/2014	Dogger A	91	A006	JB	21	13:29	13:35	A2	1994	54.75520	2.62433
20/05/2014	Dogger A	103	A038	JB	21	20:14	20:19	A1	2195	54.81303	2.78172
20/05/2014	Dogger A	103	A038	JB	21	20:14	20:19	A1	2228	54.81311	2.78412
20/05/2014	Dogger A	103	A038	JB	21	20:30	20:35	A2	2229	54.81322	2.78790
20/05/2014	Dogger A	103	A038	JB	21	20:30	20:35	A2	2261	54.81329	2.79044
21/05/2014	Dogger B	109	B065	JB	21	00:13	00:19	A1	6	55.04856	2.87985
21/05/2014	Dogger B	109	B065	JB	21	00:13	00:19	A1	9	55.04856	2.87960

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
21/05/2014	Dogger B	109	B065	JB	21	00:36	00:41	A2	39	55.04864	2.87995
21/05/2014	Dogger B	109	B065	JB	21	00:36	00:41	A2	72	55.04866	2.87729
21/05/2014	Dogger B	115	B030	JB	25	03:47	03:53	A1	138	55.10651	2.79826
21/05/2014	Dogger B	115	B030	JB	25	03:47	03:53	A1	169	55.10626	2.80049
21/05/2014	Dogger B	115	B030	JB	25	04:10	04:15	A2	170	55.10670	2.79798
21/05/2014	Dogger B	115	B030	JB	25	04:10	04:15	A2	199	55.10648	2.80001
21/05/2014	Dogger B	124	B058	JB	29	08:12	08:17	A1	321	55.16935	2.86674
21/05/2014	Dogger B	124	B058	JB	29	08:12	08:17	A1	349	55.16972	2.86864
21/05/2014	Dogger B	124	B058	JB	29	08:38	08:42	A2	350	55.16945	2.86695
21/05/2014	Dogger B	124	B058	JB	29	08:38	08:42	A2	378	55.16990	2.86884
21/05/2014	Dogger B	130	B112	JB	29	12:13	12:18	A1	445	55.18249	2.86240
21/05/2014	Dogger B	130	B112	JB	29	12:13	12:18	A1	475	55.18229	2.85999
21/05/2014	Dogger B	130	B112	JB	29	12:30	12:35	A2	476	55.18246	2.86248
21/05/2014	Dogger B	130	B112	JB	29	12:30	12:35	A2	504	55.18229	2.86026
21/05/2014	Dogger B	135	B106	JB	29	14:00	14:06	A1	570	55.19192	2.86874
21/05/2014	Dogger B	135	B106	JB	29	14:00	14:06	A1	600	55.19179	2.86634
21/05/2014	Dogger B	135	B106	JB	29	14:18	14:24	A2	601	55.19206	2.86878
21/05/2014	Dogger B	135	B106	JB	29	14:18	14:24	A2	632	55.19193	2.86628
21/05/2014	Dogger B	140	B051	JB	30	16:44	16:49	A1	647	55.22831	2.81945
21/05/2014	Dogger B	140	B051	JB	30	16:44	16:49	A1	666	55.22834	2.82204
21/05/2014	Dogger B	140	B051	JB	30	16:59	17:07	A2	667	55.22815	2.81824
21/05/2014	Dogger B	140	B051	JB	30	16:59	17:07	A2	712	55.22819	2.82198
21/05/2014	Dogger B	146	B041	JB	34	19:31	19:36	A1	784	55.28796	2.70011
21/05/2014	Dogger B	146	B041	JB	34	19:31	19:36	A1	814	55.28819	2.70227
21/05/2014	Dogger B	146	B041	JB	34	19:55	20:00	A2	815	55.28802	2.69875
21/05/2014	Dogger B	146	B041	JB	34	19:55	20:00	A2	845	55.28822	2.70073
21/05/2014	Dogger B	152	B080	JB	34	23:02	23:07	A1	913	55.34298	2.81082
21/05/2014	Dogger B	152	B080	JB	34	23:02	23:07	A1	942	55.34328	2.80853
21/05/2014	Dogger B	152	B080	JB	34	23:45	23:50	A2	943	55.34293	2.81064
21/05/2014	Dogger B	152	B080	JB	34	23:45	23:50	A2	970	55.34330	2.80855
22/05/2014	Dogger B	160	B089	JB	33	02:32	02:37	A1	1039	55.32288	2.81778

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
22/05/2014	Dogger B	160	B089	JB	33	02:32	02:37	A1	1063	55.32271	2.81588
22/05/2014	Dogger B	160	B089	JB	33	02:32	02:37	A1	1064	55.32270	2.81579
22/05/2014	Dogger B	160	B089	JB	33	02:54	02:59	A2	1065	55.32264	2.81797
22/05/2014	Dogger B	160	B089	JB	33	02:54	02:59	A2	1092	55.32245	2.81582
22/05/2014	Dogger B	164	B081	JB	32	04:11	04:16	A1	1155	55.31596	2.79066
22/05/2014	Dogger B	164	B081	JB	32	04:11	04:16	A1	1185	55.31627	2.79276
22/05/2014	Dogger B	164	B081	JB	32	04:30	04:36	A2	1186	55.31578	2.79065
22/05/2014	Dogger B	164	B081	JB	32	04:30	04:36	A2	1215	55.31612	2.79266
22/05/2014	Dogger B	169	B045	JB	35	07:07	07:11	A1	1220	55.28772	2.94060
22/05/2014	Dogger B	169	B045	JB	35	07:07	07:11	A1	1246	55.28700	2.94127
22/05/2014	Dogger B	169	B045	JB	35	07:30	07:36	A2	1247	55.28798	2.94043
22/05/2014	Dogger B	169	B045	JB	35	07:30	07:36	A2	1278	55.28667	2.94172
22/05/2014	Dogger B	181	B143	JB	36	15:26	15:31	A1	1354	55.43347	2.94013
22/05/2014	Dogger B	181	B143	JB	36	15:26	15:31	A1	1385	55.43222	2.93894
22/05/2014	Dogger B	181	B143	JB	36	15:46	15:51	A2	1386	55.43362	2.93986
22/05/2014	Dogger B	181	B143	JB	36	15:46	15:51	A2	1417	55.43237	2.93861
22/05/2014	Dogger B	186	B151	JB	36	17:53	17:58	A1	1482	55.44318	2.96782
22/05/2014	Dogger B	186	B151	JB	36	17:53	17:58	A1	1512	55.44211	2.96639
22/05/2014	Dogger B	186	B151	JB	36	18:14	18:19	A2	1513	55.44305	2.96721
22/05/2014	Dogger B	186	B151	JB	36	18:14	18:19	A2	1539	55.44207	2.96599
22/05/2014	Dogger B	189	B144	JB	34	20:23	20:29	A1	1671	55.41452	2.95772
22/05/2014	Dogger B	189	B144	JB	34	20:23	20:29	A1	1702	55.41451	2.95996
22/05/2014	Dogger B	189	B144	JB	34	20:46	20:51	A2	1703	55.41462	2.95797
22/05/2014	Dogger B	189	B144	JB	34	20:46	20:51	A2	1732	55.41482	2.96006
22/05/2014	Dogger B	198	B155	JB	34	23:58	00:02	A1	1855	55.42436	3.05075
22/05/2014	Dogger B	198	B155	JB	34	23:58	00:02	A1	1884	55.42455	3.04842
22/05/2014	Dogger B	198	B155	JB	34	00:19	00:24	A2	1885	55.42452	3.05071
22/05/2014	Dogger B	198	B155	JB	34	00:19	00:24	A2	1913	55.42470	3.04845
23/05/2014	Dogger B	201	B152	JB	33	01:10	01:15	A1	1916	55.43116	3.06886
23/05/2014	Dogger B	201	B152	JB	33	01:10	01:15	A1	1946	55.43131	3.06644
23/05/2014	Dogger B	201	B152	JB	33	01:30	01:37	A2	1947	55.43125	3.06940

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
23/05/2014	Dogger B	201	B152	JB	33	01:30	01:37	A2	1990	55.43141	3.06590
23/05/2014	Dogger B	205	B160	JB	34	03:22	03:27	A1	2053	55.44271	3.04169
23/05/2014	Dogger B	205	B160	JB	34	03:22	03:27	A1	2083	55.44272	3.03926
23/05/2014	Dogger B	205	B160	JB	34	03:43	03:48	A2	2084	55.44281	3.04139
23/05/2014	Dogger B	205	B160	JB	34	03:43	03:48	A2	2111	55.44282	3.03917
23/05/2014	Dogger B	214	B008	JB	37	11:28	11:33	A1	2988	55.41036	2.85638
23/05/2014	Dogger B	214	B008	JB	37	11:28	11:33	A1	3019	55.41171	2.85721
23/05/2014	Dogger B	214	B008	JB	37	11:46	11:51	A2	3020	55.41031	2.85659
23/05/2014	Dogger B	214	B008	JB	37	11:46	11:51	A2	3049	55.41160	2.85728
23/05/2014	Dogger B	218	B139	JB	42	13:36	13:41	A1	3089	55.42102	2.83965
23/05/2014	Dogger B	218	B139	JB	42	13:36	13:41	A1	3120	55.42224	2.83837
23/05/2014	Dogger B	218	B139	JB	42	13:57	14:02	A2	3121	55.42117	2.83975
23/05/2014	Dogger B	218	B139	JB	42	13:57	14:02	A2	3152	55.42240	2.83845
23/05/2014	Dogger B	223	B002	JB	41	16:38	16:44	A1	3217	55.44329	2.85617
23/05/2014	Dogger B	223	B002	JB	41	16:38	16:44	A1	3250	55.44308	2.85349
23/05/2014	Dogger B	223	B002	JB	41	17:00	17:05	A2	3251	55.44347	2.85629
23/05/2014	Dogger B	223	B002	JB	41	17:00	17:05	A2	3280	55.44329	2.85388
23/05/2014	Dogger B	229	B005	JB	38	20:04	20:09	A1	3347	55.39912	2.68043
23/05/2014	Dogger B	229	B005	JB	38	20:04	20:09	A1	3377	55.39921	2.68262
23/05/2014	Dogger B	229	B005	JB	38	20:27	20:32	A2	3378	55.39916	2.68031
23/05/2014	Dogger B	229	B005	JB	38	20:27	20:32	A2	3408	55.39930	2.68247
23/05/2014	Dogger B	235	B097	JB	38	23:25	23:29	A1	3486	55.39270	2.55085
23/05/2014	Dogger B	235	B097	JB	38	23:25	23:29	A1	3511	55.39383	2.55132
23/05/2014	Dogger B	235	B097	JB	38	23:45	23:50	A2	3512	55.39255	2.55116
23/05/2014	Dogger B	235	B097	JB	38	23:45	23:50	A2	3538	55.39373	2.55169
24/05/2014	Dogger B	240	B090	JB	38	02:22	02:26	A1	3606	55.38231	2.56003
24/05/2014	Dogger B	240	B090	JB	38	02:22	02:26	A1	3633	55.38258	2.55789
24/05/2014	Dogger B	240	B090	JB	38	02:41	02:46	A2	3634	55.38253	2.56003
24/05/2014	Dogger B	240	B090	JB	38	02:41	02:46	A2	3664	55.38279	2.55765
24/05/2014	Dogger B	246	B098	JB	38	05:03	05:08	A1	3731	55.36489	2.56240
24/05/2014	Dogger B	246	B098	JB	38	05:03	05:08	A1	3760	55.36409	2.56051

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
24/05/2014	Dogger B	246	B098	JB	38	05:23	05:28	A2	3761	55.36506	2.56262
24/05/2014	Dogger B	246	B098	JB	38	05:23	05:28	A2	3791	55.36425	2.56064
24/05/2014	Dogger B	252	B132	JB	38	08:46	08:57	A1	3857	55.32208	2.46732
24/05/2014	Dogger B	252	B132	JB	38	08:46	08:57	A1	3887	55.32231	2.46948
24/05/2014	Dogger B	252	B132	JB	38	09:08	09:13	A2	3888	55.32202	2.46765
24/05/2014	Dogger B	252	B132	JB	38	09:08	09:13	A2	3918	55.32226	2.46979
24/05/2014	Dogger B	257	B133	JB	38	10:45	10:50	A1	3983	55.31369	2.43849
24/05/2014	Dogger B	257	B133	JB	38	10:45	10:50	A1	4013	55.31414	2.44052
24/05/2014	Dogger B	257	B133	JB	38	11:28	11:33	A2	4014	55.31368	2.43854
24/05/2014	Dogger B	257	B133	JB	38	11:28	11:33	A2	4045	55.31418	2.44090
24/05/2014	Dogger B	262	B125	JB	40	13:17	13:21	A1	4110	55.33095	2.45195
24/05/2014	Dogger B	262	B125	JB	40	13:17	13:21	A1	4137	55.33191	2.45056
24/05/2014	Dogger B	262	B125	JB	40	13:36	13:41	A2	4138	55.33091	2.45229
24/05/2014	Dogger B	262	B125	JB	40	13:36	13:41	A2	4169	55.33199	2.45061
24/05/2014	Dogger B	275	B016	JB	35	19:31	19:38	A1	4306	55.28237	2.50395
24/05/2014	Dogger B	275	B016	JB	35	19:31	19:38	A1	4347	55.28216	2.50694
24/05/2014	Dogger B	275	B016	JB	35	19:59	20:04	A2	4348	55.28230	2.50454
24/05/2014	Dogger B	275	B016	JB	35	19:59	20:04	A2	4379	55.28210	2.50676
24/05/2014	Dogger B	278	B047	JB	32	21:31	21:36	A1	4382	55.22839	2.57902
24/05/2014	Dogger B	278	B047	JB	32	21:31	21:36	A1	4412	55.22840	2.58123
24/05/2014	Dogger B	278	B047	JB	32	21:52	21:57	A2	4413	55.22831	2.58011
24/05/2014	Dogger B	278	B047	JB	32	21:52	21:57	A2	4442	55.22835	2.58221
25/05/2014	Dogger B	285	B118	JB	34	01:04	01:09	A1	4567	55.23134	2.36834
25/05/2014	Dogger B	285	B118	JB	34	01:04	01:09	A1	4594	55.23258	2.36779
25/05/2014	Dogger B	285	B118	JB	34	01:23	01:28	A2	4595	55.23125	2.36821
25/05/2014	Dogger B	285	B118	JB	34	01:23	01:28	A2	4626	55.23267	2.36763
25/05/2014	Dogger B	291	B115	JB	34	03:27	03:32	A1	4711	55.24196	2.34335
25/05/2014	Dogger B	291	B115	JB	34	03:27	03:32	A1	4745	55.24198	2.34059
25/05/2014	Dogger B	291	B115	JB	34	03:47	03:53	A2	4746	55.24205	2.34283
25/05/2014	Dogger B	291	B115	JB	34	03:47	03:53	A2	4778	55.24206	2.34024
25/05/2014	Dogger B	297	B116	JB	33	05:25	05:31	A1	4844	55.22422	2.35750

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
25/05/2014	Dogger B	297	B116	JB	33	05:25	05:31	A1	4866	55.22341	2.35640
25/05/2014	Dogger B	297	B116	JB	33	05:45	05:50	A2	4867	55.22476	2.35802
25/05/2014	Dogger B	297	B116	JB	33	05:45	05:50	A2	4899	55.22360	2.35639
25/05/2014	Dogger B	302	B060	JB	33	09:03	09:08	A1	4904	55.09531	2.28784
25/05/2014	Dogger B	302	B060	JB	33	09:03	09:08	A1	4934	55.09420	2.28895
25/05/2014	Dogger B	302	B060	JB	33	09:29	09:34	A2	4935	55.09568	2.28770
25/05/2014	Dogger B	302	B060	JB	33	09:29	09:34	A2	4965	55.09462	2.28889
25/05/2014	Dogger B	307	B036	JB	35	12:01	12:06	A1	5036	55.05961	2.28290
25/05/2014	Dogger B	307	B036	JB	35	12:01	12:06	A1	5065	55.06032	2.28487
25/05/2014	Dogger B	307	B036	JB	35	12:21	12:26	A2	5066	55.05954	2.28306
25/05/2014	Dogger B	307	B036	JB	35	12:21	12:26	A2	5095	55.06026	2.28504
25/05/2014	Dogger B	318	B103	JB	33	18:56	19:02	A1	5314	55.08326	2.31822
25/05/2014	Dogger B	318	B103	JB	33	18:56	19:02	A1	5346	55.08181	2.31814
25/05/2014	Dogger B	318	B103	JB	33	19:19	19:24	A2	5347	55.08305	2.31787
25/05/2014	Dogger B	318	B103	JB	33	19:19	19:24	A2	5378	55.08178	2.31773
26/05/2014	Dogger B	333	B020	JB	33	02:07	02:12	A1	5394	55.16480	2.38760
26/05/2014	Dogger B	333	B020	JB	33	02:07	02:12	A1	5426	55.16582	2.38936
26/05/2014	Dogger B	333	B020	JB	33	02:28	02:33	A2	5427	55.16476	2.38783
26/05/2014	Dogger B	333	B020	JB	33	02:28	02:33	A2	5456	55.16573	2.38947
26/05/2014	Dogger B	338	B076	JB	36	04:07	04:12	A1	5523	55.17546	2.44241
26/05/2014	Dogger B	338	B076	JB	36	04:07	04:12	A1	5551	55.17514	2.44020
26/05/2014	Dogger B	338	B076	JB	36	04:25	04:30	A2	5552	55.17559	2.44228
26/05/2014	Dogger B	338	B076	JB	36	04:25	04:30	A2	5580	55.17526	2.44008
26/05/2014	Dogger B	341	B075	JB	35	05:13	05:18	A1	5583	55.19300	2.45295
26/05/2014	Dogger B	341	B075	JB	35	05:13	05:18	A1	5614	55.19249	2.45053
26/05/2014	Dogger B	341	B075	JB	35	05:33	05:38	A2	5615	55.19318	2.45300
26/05/2014	Dogger B	341	B075	JB	35	05:33	05:38	A2	5646	55.19268	2.45058
26/05/2014	Dogger B	349	B079	JB	33	08:33	08:38	A1	5776	55.16410	2.45862
26/05/2014	Dogger B	349	B079	JB	33	08:33	08:38	A1	5805	55.16326	2.46013
26/05/2014	Dogger B	349	B079	JB	33	08:54	08:59	A2	5806	55.16410	2.45841
26/05/2014	Dogger B	349	B079	JB	33	08:54	08:59	A2	5838	55.16318	2.46007

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
26/05/2014	Dogger B	351	B022	JB	34	09:42	09:47	A1	5840	55.16507	2.50414
26/05/2014	Dogger B	351	B022	JB	34	09:42	09:47	A1	5869	55.16521	2.50624
26/05/2014	Dogger B	351	B022	JB	34	10:02	10:08	A2	5870	55.16499	2.50399
26/05/2014	Dogger B	351	B022	JB	34	10:02	10:08	A2	5902	55.16513	2.50629
26/05/2014	Dogger B	356	B025	JB	33	13:06	13:11	A1	5966	55.10641	2.50471
26/05/2014	Dogger B	356	B025	JB	33	13:06	13:11	A1	5994	55.10710	2.50664
26/05/2014	Dogger B	356	B025	JB	33	13:24	13:29	A2	5995	55.10624	2.50460
26/05/2014	Dogger B	356	B025	JB	33	13:24	13:29	A2	6024	55.10697	2.50657
26/05/2014	Dogger B	364	B034	JB	31	17:44	17:50	A1	6098	55.04784	2.50644
26/05/2014	Dogger B	364	B034	JB	31	17:44	17:50	A1	6130	55.04773	2.50387
26/05/2014	Dogger B	364	B034	JB	31	18:04	18:10	A2	6131	55.04797	2.50658
26/05/2014	Dogger B	364	B034	JB	31	18:04	18:10	A2	6162	55.04784	2.50407
26/05/2014	Dogger B	373	B062	JB	29	22:40	22:46	A1	6236	55.04861	2.22039
26/05/2014	Dogger B	373	B062	JB	29	22:40	22:46	A1	6264	55.04871	2.22254
26/05/2014	Dogger B	373	B062	JB	29	23:00	23:06	A2	6265	55.04853	2.22041
26/05/2014	Dogger B	373	B062	JB	29	23:00	23:06	A2	6295	55.04863	2.22256
27/05/2014	Dogger C	377	C039	JB	43	03:20	03:25	A1	64	54.90248	1.23102
27/05/2014	Dogger C	377	C039	JB	43	03:20	03:25	A1	94	54.90341	1.22922
27/05/2014	Dogger C	377	C039	JB	43	03:42	03:47	A2	100	54.90258	1.23105
27/05/2014	Dogger C	377	C039	JB	43	03:42	03:47	A2	99	54.90255	1.23111
27/05/2014	Dogger C	381	C042	JB	34	05:19	05:24	A1	184	54.87323	1.28981
27/05/2014	Dogger C	381	C042	JB	34	05:19	05:24	A1	213	54.87385	1.28776
27/05/2014	Dogger C	381	C042	JB	34	05:40	05:45	A2	214	54.87339	1.28987
27/05/2014	Dogger C	381	C042	JB	34	05:40	05:45	A2	243	54.87402	1.28782
27/05/2014	Dogger C	388	C001	JB	44	08:53	08:58	A1	370	54.84813	1.19808
27/05/2014	Dogger C	388	C001	JB	44	08:53	08:58	A1	402	54.84767	1.20026
27/05/2014	Dogger C	388	C001	JB	44	09:15	09:21	A2	403	54.84794	1.19815
27/05/2014	Dogger C	388	C001	JB	44	09:15	09:21	A2	435	54.84756	1.20036
27/05/2014	Dogger C	393	C005	JB	44	11:43	11:48	A1	500	54.81491	1.23113
27/05/2014	Dogger C	393	C005	JB	44	11:43	11:48	A1	528	54.81500	1.23338
27/05/2014	Dogger C	393	C005	JB	44	12:05	12:10	A2	529	54.81500	1.23099

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
27/05/2014	Dogger C	393	C005	JB	44	12:05	12:10	A2	559	54.81493	1.23341
27/05/2014	Dogger C	398	C046	JB	38	14:30	14:35	A1	627	54.78493	1.31764
27/05/2014	Dogger C	398	C046	JB	38	14:30	14:35	A1	655	54.78614	1.31840
27/05/2014	Dogger C	398	C046	JB	38	14:52	14:57	A2	656	54.78502	1.31769
27/05/2014	Dogger C	398	C046	JB	38	14:52	14:57	A2	686	54.78634	1.31846
27/05/2014	Dogger C	405	C006	JB	45	18:04	18:09	A1	802	54.78193	1.16570
27/05/2014	Dogger C	405	C006	JB	45	18:04	18:09	A1	832	54.78334	1.16562
27/05/2014	Dogger C	405	C006	JB	45	18:26	18:32	A2	833	54.78252	1.16586
27/05/2014	Dogger C	405	C006	JB	45	18:26	18:32	A2	864	54.78252	1.16586
27/05/2014	Dogger C	411	C013	JB	37	21:05	21:10	A1	930	54.75008	1.29586
27/05/2014	Dogger C	411	C013	JB	37	21:05	21:10	A1	959	54.74924	1.29736
27/05/2014	Dogger C	411	C013	JB	37	21:32	21:37	A2	960	54.75008	1.29623
27/05/2014	Dogger C	411	C013	JB	37	21:32	21:37	A2	990	54.74942	1.29807
28/05/2014	Dogger C	417	C050	JB	32	00:12	00:18	A1	1065	54.72686	1.37628
28/05/2014	Dogger C	417	C050	JB	32	00:12	00:18	A1	1100	54.72678	1.37910
28/05/2014	Dogger C	417	C050	JB	32	00:32	00:37	A2	1101	54.72675	1.37609
28/05/2014	Dogger C	417	C050	JB	32	00:32	00:37	A2	1130	54.72671	1.37842
28/05/2014	Dogger C	422	C016	JB	46	02:59	03:04	A1	1195	54.71671	1.26346
28/05/2014	Dogger C	422	C016	JB	46	02:59	03:04	A1	1221	54.71796	1.26432
28/05/2014	Dogger C	422	C016	JB	46	03:20	03:25	A2	1222	54.71678	1.26354
28/05/2014	Dogger C	422	C016	JB	46	03:20	03:25	A2	1251	54.71809	1.26450
28/05/2014	Dogger C	428	C020	JB	44	05:39	05:44	A1	1316	54.68424	1.26319
28/05/2014	Dogger C	428	C020	JB	44	05:39	05:44	A1	1345	54.68517	1.26492
28/05/2014	Dogger C	428	C020	JB	44	05:58	06:03	A2	1346	54.68444	1.26364
28/05/2014	Dogger C	428	C020	JB	44	05:58	06:03	A2	1376	54.68538	1.26540
28/05/2014	Dogger C	431	C022	JB	38	08:07	08:12	A1	1379	54.68456	1.32844
28/05/2014	Dogger C	431	C022	JB	38	08:07	08:12	A1	1409	54.68473	1.33065
28/05/2014	Dogger C	431	C022	JB	38	08:28	08:33	A2	1410	54.68444	1.32843
28/05/2014	Dogger C	431	C022	JB	38	08:28	08:33	A2	1441	54.68463	1.33063
28/05/2014	Dogger C	437	C053	JB	33	11:46	11:51	A1	1569	54.68287	1.44836
28/05/2014	Dogger C	437	C053	JB	33	11:46	11:51	A1	1598	54.68296	1.45069

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
28/05/2014	Dogger C	437	C053	JB	33	12:06	12:11	A2	1599	54.68270	1.44857
28/05/2014	Dogger C	437	C053	JB	33	12:06	12:11	A2	1628	54.68276	1.45081
28/05/2014	Dogger C	440	C035	JB	32	14:19	14:24	A1	1633	54.61530	1.43281
28/05/2014	Dogger C	440	C035	JB	32	14:19	14:24	A1	1664	54.61525	1.43528
28/05/2014	Dogger C	440	C035	JB	32	14:39	14:44	A2	1665	54.61514	1.43259
28/05/2014	Dogger C	440	C035	JB	32	14:39	14:44	A2	1693	54.61505	1.43483
28/05/2014	Dogger C	444	C032	JB	38	16:59	17:05	A1	1699	54.61858	1.32823
28/05/2014	Dogger C	444	C032	JB	38	16:59	17:05	A1	1734	54.61987	1.32991
28/05/2014	Dogger C	444	C032	JB	38	17:23	17:28	A2	1735	54.61864	1.32860
28/05/2014	Dogger C	444	C032	JB	38	17:23	17:28	A2	1764	54.61964	1.33020
28/05/2014	Dogger C	448	C024	JB	41	19:07	19:12	A1	1768	54.65190	1.23202
28/05/2014	Dogger C	448	C024	JB	41	19:07	19:12	A1	1794	54.65168	1.22968
28/05/2014	Dogger C	448	C024	JB	41	19:31	19:35	A2	1795	54.65177	1.23105
28/05/2014	Dogger C	448	C024	JB	41	19:31	19:35	A2	1823	54.65155	1.22879
28/05/2014	Dogger C	453	C028	JB	35	21:24	21:29	A1	1828	54.65188	1.36160
28/05/2014	Dogger C	453	C028	JB	35	21:24	21:29	A1	1859	54.65186	1.36380
28/05/2014	Dogger C	453	C028	JB	35	21:51	21:56	A2	1860	54.65174	1.36059
28/05/2014	Dogger C	453	C028	JB	35	21:51	21:56	A2	1890	54.65162	1.36273
29/05/2014	Dogger C	462	C056	JB	27	07:04	07:09	A1	8089	54.60938	1.49303
29/05/2014	Dogger C	462	C056	JB	27	07:04	07:09	A1	8119	54.60950	1.49544
29/05/2014	Dogger C	462	C056	JB	27	07:37	07:42	A2	8120	54.60936	1.49359
29/05/2014	Dogger C	462	C056	JB	27	07:37	07:42	A2	8149	54.60938	1.49594
29/05/2014	Dogger C	468	C068	JB	34	11:30	11:35	A1	8157	54.55075	1.52366
29/05/2014	Dogger C	468	C068	JB	34	11:30	11:35	A1	8185	54.55008	1.52555
29/05/2014	Dogger C	468	C068	JB	34	11:51	11:57	A2	8186	54.55054	1.52399
29/05/2014	Dogger C	468	C068	JB	34	11:51	11:57	A2	8218	54.54991	1.52616
29/05/2014	Dogger C	471	C036	JB	32	13:15	13:20	A1	8221	54.57034	1.42951
29/05/2014	Dogger C	471	C036	JB	32	13:15	13:20	A1	8249	54.57001	1.43172
29/05/2014	Dogger C	471	C036	JB	32	13:33	13:38	A2	8250	54.57028	1.42947
29/05/2014	Dogger C	471	C036	JB	32	13:33	13:38	A2	8280	54.57000	1.43186
29/05/2014	Dogger C	482	C057	JB	29	21:59	22:04	A1	8703	54.58045	1.25926

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
29/05/2014	Dogger C	482	C057	JB	29	21:59	22:04	A1	8732	54.57978	1.25982
29/05/2014	Dogger C	482	C057	JB	29	22:17	22:22	A2	8733	54.58073	1.25890
29/05/2014	Dogger C	482	C057	JB	29	22:17	22:22	A2	8761	54.57968	1.25975
30/05/2014	Dogger C	487	C065	JB	30	00:13	00:18	A1	8826	54.55112	1.34672
30/05/2014	Dogger C	487	C065	JB	30	00:13	00:18	A1	8854	54.55032	1.34842
30/05/2014	Dogger C	487	C065	JB	30	00:31	00:36	A2	8855	54.55092	1.34688
30/05/2014	Dogger C	487	C065	JB	30	00:31	00:36	A2	8887	54.55001	1.34888
30/05/2014	Dogger C	495	C072	JB	33	03:53	03:58	A1	9015	54.52079	1.46526
30/05/2014	Dogger C	495	C072	JB	33	03:53	03:58	A1	9044	54.52212	1.46523
30/05/2014	Dogger C	495	C072	JB	33	04:13	04:18	A2	9045	54.52052	1.46492
30/05/2014	Dogger C	495	C072	JB	33	04:13	04:18	A2	9073	54.52195	1.46490
30/05/2014	Dogger C	502	C074	JB	28	07:15	07:19	A1	9203	54.52097	1.58332
30/05/2014	Dogger C	502	C074	JB	28	07:15	07:19	A1	9232	54.52160	1.58154
30/05/2014	Dogger C	502	C074	JB	28	07:38	07:43	A2	9233	54.52105	1.58343
30/05/2014	Dogger C	502	C074	JB	28	07:38	07:43	A2	9262	54.52167	1.58166
30/05/2014	Dogger D	508	D062	JB	19	10:54	10:59	A1	100	54.52525	1.71456
30/05/2014	Dogger D	508	D062	JB	19	10:54	10:59	A1	99	54.52529	1.71454
30/05/2014	Dogger D	508	D062	JB	19	10:35	10:40	A2	65	54.52538	1.71431
30/05/2014	Dogger D	508	D062	JB	19	10:35	10:40	A2	90	54.52439	1.71491
30/05/2014	Dogger D	513	D067	JB	16	14:16	14:20	A1	190	54.45552	2.07163
30/05/2014	Dogger D	513	D067	JB	16	14:16	14:20	A1	339	54.45510	2.07354
30/05/2014	Dogger D	513	D067	JB	16	14:31	14:36	A2	341	54.45555	2.07111
30/05/2014	Dogger D	513	D067	JB	16	14:31	14:36	A2	580	54.45512	2.07331
30/05/2014	Dogger D	522	D063	JB	22	20:10	20:15	A1	721	54.54263	2.42296
30/05/2014	Dogger D	522	D063	JB	22	20:10	20:15	A1	751	54.54272	2.42079
30/05/2014	Dogger D	522	D063	JB	22	20:26	20:31	A2	752	54.54258	2.42308
30/05/2014	Dogger D	522	D063	JB	22	20:26	20:31	A2	783	54.54266	2.42085
30/05/2014	Dogger D	526	ADD03	JB	18	22:32	22:38	A1	787	54.53708	2.15711
30/05/2014	Dogger D	526	ADD03	JB	18	22:32	22:38	A1	819	54.53590	2.15600
30/05/2014	Dogger D	526	ADD03	JB	18	22:50	22:55	A2	820	54.53693	2.15715
30/05/2014	Dogger D	526	ADD03	JB	18	22:50	22:55	A2	851	54.53580	2.15608

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
31/05/2014	Dogger D	534	D033	JB	23	03:28	03:33	A1	1000	54.59217	1.91530
31/05/2014	Dogger D	534	D033	JB	23	03:28	03:33	A1	999	54.59216	1.91522
31/05/2014	Dogger D	534	D033	JB	23	03:44	03:49	A2	1013	54.59187	1.91402
31/05/2014	Dogger D	534	D033	JB	23	03:44	03:49	A2	1042	54.59223	1.91632
31/05/2014	Dogger D	541	D026	JB	25	07:12	07:18	A1	1168	54.68072	1.73822
31/05/2014	Dogger D	541	D026	JB	25	07:12	07:18	A1	1200	54.68130	1.73615
31/05/2014	Dogger D	541	D026	JB	25	07:33	07:38	A2	1201	54.68085	1.73822
31/05/2014	Dogger D	541	D026	JB	25	07:33	07:38	A2	1232	54.68139	1.73620
31/05/2014	Dogger D	546	D029	JB	29	10:23	10:29	A1	1297	54.68106	2.00456
31/05/2014	Dogger D	546	D029	JB	29	10:23	10:29	A1	1328	54.68008	2.00313
31/05/2014	Dogger D	546	D029	JB	29	10:43	10:49	A2	1329	54.68134	2.00460
31/05/2014	Dogger D	546	D029	JB	29	10:43	10:49	A2	1361	54.68032	2.00314
31/05/2014	Dogger D	555	D057	JB	21	15:47	15:52	A1	1490	54.71722	2.24535
31/05/2014	Dogger D	555	D057	JB	21	15:47	15:52	A1	1520	54.71757	2.24761
31/05/2014	Dogger D	555	D057	JB	21	16:36	16:41	A2	1521	54.71694	2.24618
31/05/2014	Dogger D	555	D057	JB	21	16:36	16:41	A2	1548	54.71788	2.24759
31/05/2014	Dogger D	565	D053	JB	27	22:57	23:02	A1	1621	54.80474	1.98500
31/05/2014	Dogger D	565	D053	JB	27	22:57	23:02	A1	1651	54.80360	1.98416
31/05/2014	Dogger D	565	D053	JB	27	23:16	23:18	A2	1652	54.80528	1.98509
31/05/2014	Dogger D	565	D053	JB	27	23:16	23:18	A2	1656	54.80511	1.98497
31/05/2014	Dogger D	565	D053	JB	27	23:34	23:39	A3	1657	54.80528	1.98538
31/05/2014	Dogger D	565	D053	JB	27	23:34	23:39	A3	1686	54.80401	1.98460
01/06/2014	Dogger D	571	D023	JB	26	02:21	02:26	A1	1813	54.77007	1.82568
01/06/2014	Dogger D	571	D023	JB	26	02:21	02:26	A1	1843	54.76936	1.82776
01/06/2014	Dogger D	571	D023	JB	26	02:38	02:43	A2	1844	54.76994	1.82559
01/06/2014	Dogger D	571	D023	JB	26	02:38	02:43	A2	1874	54.76925	1.82766
01/06/2014	Dogger D	579	D055	JB	27	06:01	06:06	A1	1936	54.71711	1.54849
01/06/2014	Dogger D	585	D019	JB	30	09:41	09:47	A1	2155	54.85863	1.64733
01/06/2014	Dogger D	585	D019	JB	30	10:02	10:07	A2	2156	54.85850	1.64929
01/06/2014	Dogger D	585	D019	JB	30	10:02	10:07	A2	2186	54.85817	1.64721
01/06/2014	Dogger D	591	D049	JB	22	13:48	13:53	A1	2311	54.89247	1.89693

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
01/06/2014	Dogger D	591	D049	JB	22	13:48	13:53	A1	2341	54.89174	1.89899
01/06/2014	Dogger D	591	D049	JB	22	14:05	14:10	A2	2342	54.89232	1.89688
01/06/2014	Dogger D	591	D049	JB	22	14:05	14:10	A2	2371	54.89164	1.89888
01/06/2014	Dogger D	594	D046	JB	26	15:38	15:43	A1	2375	54.97920	1.98446
01/06/2014	Dogger D	594	D046	JB	26	15:38	15:43	A1	2406	54.98046	1.98569
01/06/2014	Dogger D	594	D046	JB	26	15:55	16:00	A2	2407	54.97919	1.98446
01/06/2014	Dogger D	594	D046	JB	26	15:55	16:00	A2	2434	54.98048	1.98592
01/06/2014	Dogger D	599	D017	JB	28	18:23	18:28	A1	2500	54.94704	1.73828
01/06/2014	Dogger D	599	D017	JB	28	18:23	18:28	A1	2531	54.94798	1.73639
01/06/2014	Dogger D	599	D017	JB	28	18:43	18:48	A2	2532	54.94718	1.73836
01/06/2014	Dogger D	599	D017	JB	28	18:43	18:48	A2	2563	54.94813	1.73649
01/06/2014	Dogger D	604	D014	JB	36	21:15	21:20	A1	2637	54.95989	1.46713
01/06/2014	Dogger D	604	D014	JB	36	21:15	21:20	A1	2666	54.95949	1.46513
01/06/2014	Dogger D	604	D014	JB	36	21:36	21:47	A2	2667	54.95998	1.46722
01/06/2014	Dogger D	604	D014	JB	36	21:36	21:47	A2	2697	54.95955	1.46520
01/06/2014	Dogger D	606	D047	JB	29	22:42	22:47	A1	2699	54.89243	1.37365
01/06/2014	Dogger D	606	D047	JB	29	22:42	22:47	A1	2729	54.89130	1.37275
01/06/2014	Dogger D	606	D047	JB	29	23:02	23:07	A2	2730	54.89256	1.37357
01/06/2014	Dogger D	606	D047	JB	29	23:02	23:07	A2	2761	54.89140	1.37262
02/06/2014	Dogger D	610	D038	JB	31	01:24	01:29	A1	2827	55.06701	1.37283
02/06/2014	Dogger D	610	D038	JB	31	01:24	01:29	A1	2857	55.06652	1.37509
02/06/2014	Dogger D	610	D038	JB	31	01:42	01:46	A2	2858	55.06689	1.37253
02/06/2014	Dogger D	610	D038	JB	31	01:42	01:46	A2	2886	55.06643	1.37464
02/06/2014	Dogger D	615	D012	JB	29	04:34	04:39	A1	2955	55.03563	1.64665
02/06/2014	Dogger D	615	D012	JB	29	04:34	04:39	A1	2986	55.03638	1.64890
02/06/2014	Dogger D	615	D012	JB	29	04:51	04:56	A2	2987	55.03570	1.64734
02/06/2014	Dogger D	615	D012	JB	29	04:51	04:56	A2	3016	55.03637	1.64940
02/06/2014	Dogger D	618	D039	JB	35	07:05	07:10	A1	3019	55.06609	1.89827
02/06/2014	Dogger D	618	D039	JB	35	07:05	07:10	A1	3048	55.06726	1.89710
02/06/2014	Dogger D	618	D039	JB	35	07:23	07:28	A2	3049	55.06631	1.89817
02/06/2014	Dogger D	618	D039	JB	35	07:23	07:28	A2	3076	55.06749	1.89744

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
02/06/2014	Dogger D	622	D041	JB	34	09:08	09:13	A1	3138	55.06675	2.07261
02/06/2014	Dogger D	622	D041	JB	34	09:08	09:13	A1	3167	55.06642	2.07034
02/06/2014	Dogger D	622	D041	JB	34	09:31	09:37	A2	3168	55.06710	2.07285
02/06/2014	Dogger D	622	D041	JB	34	09:31	09:37	A2	3199	55.06609	2.07141
02/06/2014	Dogger D	625	D037	JB	34	11:39	11:44	A1	3204	55.15507	2.16000
02/06/2014	Dogger D	625	D037	JB	34	11:39	11:44	A1	3231	55.15376	2.16004
02/06/2014	Dogger D	625	D037	JB	34	11:57	12:04	A2	3232	55.15493	2.16011
02/06/2014	Dogger D	625	D037	JB	34	11:57	12:04	A2	3279	55.15276	2.16008
02/06/2014	Dogger D	628	D008	JB	33	13:49	13:54	A1	3282	55.12526	1.915345
02/06/2014	Dogger D	628	D008	JB	33	13:49	13:54	A1	3312	55.12386	1.915562
02/06/2014	Dogger D	628	D008	JB	33	14:13	14:18	A2	3313	55.12523	1.915066
02/06/2014	Dogger D	628	D008	JB	33	14:13	14:18	A2	3343	55.12385	1.91524
02/06/2014	Dogger D	632	D006	JB	37	16:37	16:43	A1	3410	55.12584	1.737178
02/06/2014	Dogger D	632	D006	JB	37	16:37	16:43	A1	3442	55.12441	1.738065
02/06/2014	Dogger D	632	D006	JB	37	16:57	17:03	A2	3443	55.1257	1.737028
02/06/2014	Dogger D	632	D006	JB	37	16:57	17:03	A2	3475	55.12428	1.737846
02/06/2014	Dogger D	636	D004	JB	37	18:46	18:51	A1	3548	55.12581	1.559588
02/06/2014	Dogger D	636	D004	JB	37	18:46	18:51	A1	3578	55.12447	1.560195
02/06/2014	Dogger D	636	D004	JB	37	19:05	19:10	A2	3579	55.12434	1.560153
02/06/2014	Dogger D	636	D004	JB	37	19:05	19:10	A2	3607	55.12559	1.559605
02/06/2014	Dogger D	636	D004	JB	37	19:25	19:30	A3	3608	55.12405	1.560099
02/06/2014	Dogger D	636	D004	JB	37	19:25	19:30	A3	3638	55.12526	1.559518
02/06/2014	Dogger D	640	D001	JB	37	21:50	21:55	A1	3644	55.2139	1.826928
02/06/2014	Dogger D	640	D001	JB	37	21:50	21:55	A1	3674	55.2133	1.825356
02/06/2014	Dogger D	640	D001	JB	37	22:09	22:16	A2	3675	55.21406	1.827187
02/06/2014	Dogger D	640	D001	JB	37	22:09	22:16	A2	3707	55.2132	1.825413
03/06/2014	Dogger D	644	D003	JB	34	00:06	00:11	A1	3770	55.21424	2.004047
03/06/2014	Dogger D	644	D003	JB	34	00:06	00:11	A1	3798	55.21296	2.004361
03/06/2014	Dogger D	644	D003	JB	34	00:25	00:30	A2	3799	55.21419	2.003815
03/06/2014	Dogger D	644	D003	JB	34	00:25	00:30	A2	3828	55.21287	2.004208
03/06/2014	Dogger D	647	D036	JB	36	01:58	02:03	A1	3890	55.24201	2.159314

Date	Area	Stn No.	Stn Code	Gear	Water Depth (m)	Time for SOL	Time for EOL	Rep	Fix	Latitude	Longitude
03/06/2014	Dogger D	647	D036	JB	36	01:58	02:03	A1	3920	55.2409	2.160756
03/06/2014	Dogger D	647	D036	JB	36	02:17	02:22	A2	3921	55.24191	2.159214
03/06/2014	Dogger D	647	D036	JB	36	02:17	02:22	A2	3950	55.24083	2.16061
04/06/2014	Dogger E	708	E032	JB	31	09:22	09:28	A1	11	54.57018	2.84886
04/06/2014	Dogger E	708	E032	JB	31	09:22	09:28	A1	40	54.57059	2.84691
04/06/2014	Dogger E	708	E032	JB	31	09:42	09:47	A2	41	54.57015	2.84872
04/06/2014	Dogger E	708	E032	JB	31	09:42	09:47	A2	72	54.57039	2.84654

11.2 Daily Progress Reports (DPRs)

Original content was created pre-GDPR and has been removed as it contained personal information. No scientific or technical content has been removed.

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