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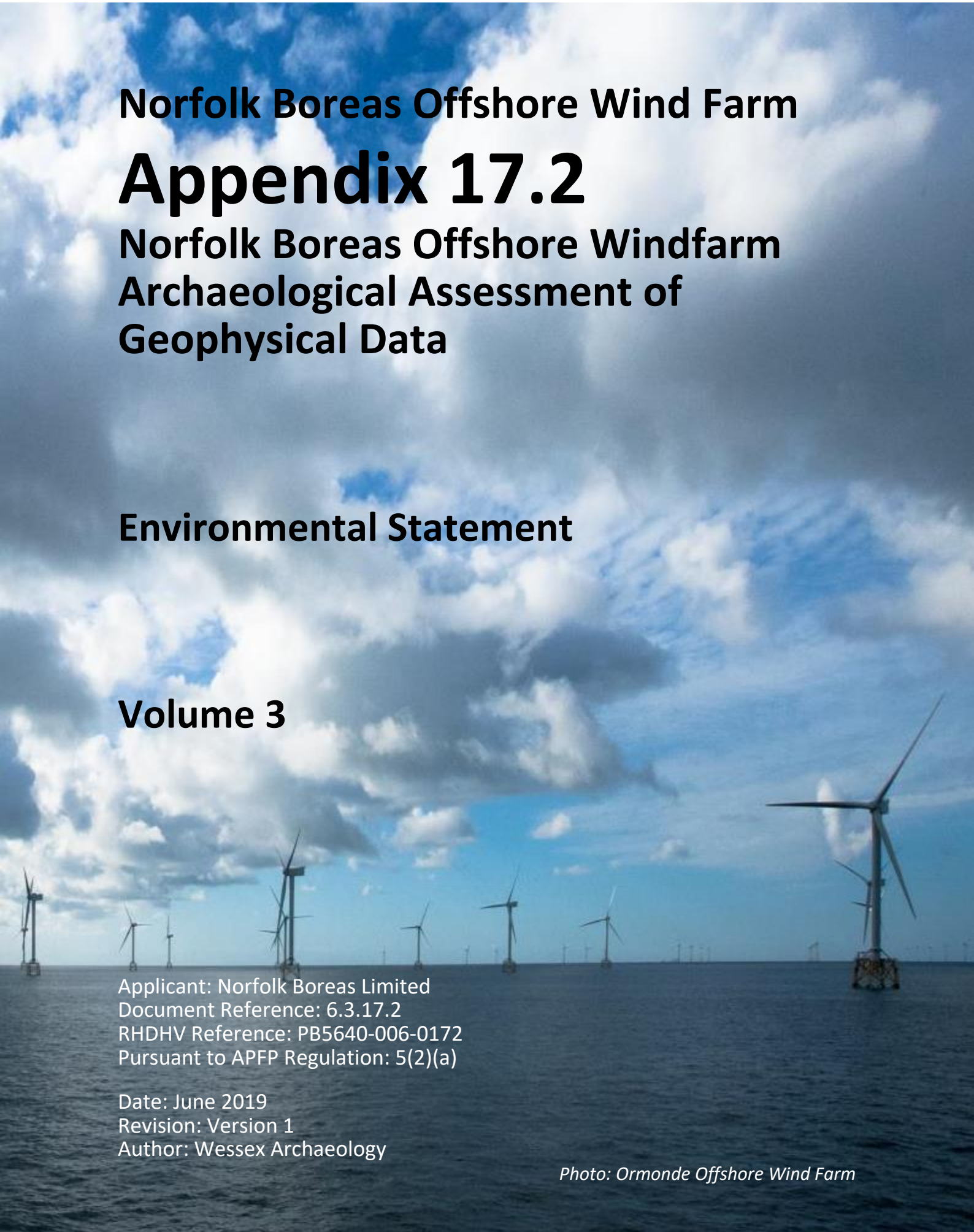
Norfolk Boreas Offshore Wind Farm

Appendix 17.2

Norfolk Boreas Offshore Windfarm Archaeological Assessment of Geophysical Data

Environmental Statement

Volume 3



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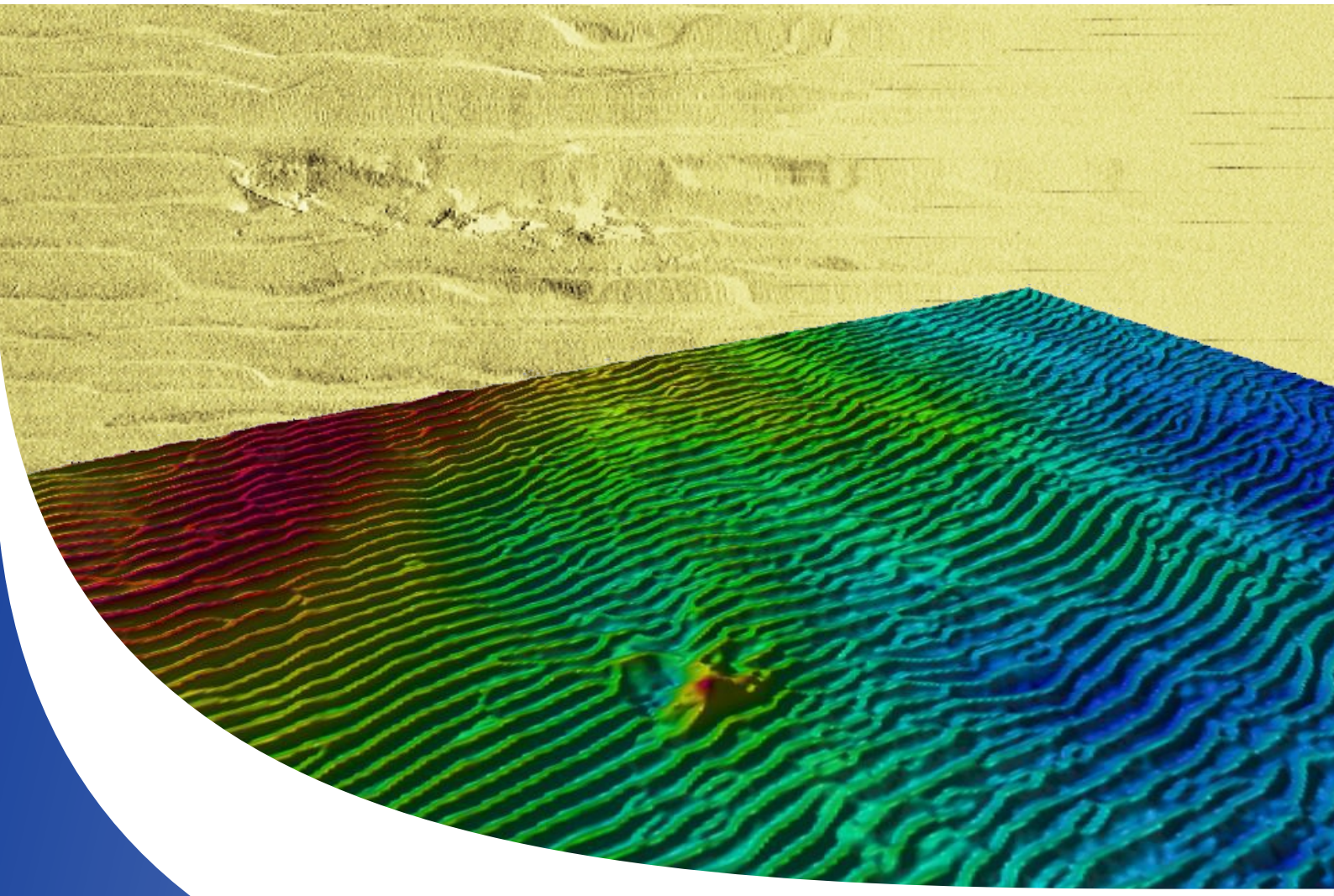
Norfolk Boreas Offshore Wind Farm

Archaeological Assessment of Geophysical Data



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Sheet 1 ID 7122 *Koningin Regentes* UKHO 11154
Sheet 2 ID 7143 Unknown UKHO 11146
Sheet 2 ID 7229 Unknown UKHO 11153
Sheet 2 ID 7419 Unknown UKHO 64124

Summary

Wessex Archaeology was commissioned by Royal HaskoningDHV, on behalf of Vattenfall, to undertake an archaeological assessment of geophysical data acquired from the proposed Norfolk Boreas offshore project area by Fugro Survey B. V. The assessed data comprised sidescan sonar, multibeam echosounder, marine magnetometer, and sub-bottom profiler datasets. The geophysical, and available geotechnical, data were used to assess for palaeolandscape features and seabed features of archaeological potential.

The interpreted stratigraphy of the site spans a period of time from the pre-Anglian to the present. A total of 190 individual palaeogeographic features, mainly dating from the Late Devensian to the Early Holocene, were identified within the study area. These included extensive areas of intermittent high amplitude reflectors, found by vibrocores to represent peat deposits, and associated buried palaeochannels. These are interpreted as of high archaeological potential, and have the potential to contain both *in situ* and derived archaeological artefacts, alongside preserved palaeoenvironmental material.

Additionally, a distinct, upstanding, channel feature has been identified on the seabed in the multibeam echosounder data. This is interpreted as a peat capped palaeochannel, and also has high archaeological potential – other similar features from Europe have contained *in situ* archaeology.

Should further ground investigation work be undertaken (for example, during the pre-construction phase) within the study area, it is recommended that the archaeological contractor be consulted to advise on potential samples to be acquired for archaeological purposes, particularly from the upstanding palaeochannel identified within the data and other identified units of archaeological interest. It is also recommended that any future geotechnical logs from within the study area be made available for geoarchaeological assessment. Following geoarchaeological assessment, recommendations have already been made for Stage 3 palaeoenvironmental analysis to be undertaken on five vibrocores (VC016, VC028, VC032, VC039 and VC047).

The assessment of the geophysical data within the study areas resulted in a total of 551 seabed anomalies identified as being of possible archaeological interest; 547 within the Norfolk Boreas site and 4 within the Offshore cable corridor.

A total of 14 anomalies were assigned the discrimination A1 (anthropogenic origin of archaeological interest), all of which are located within the Norfolk Boreas site. Four of these anomalies (**7122**, **7143**, **7229** and **7419**) were classified as wrecks, and ten as magnetic only anomalies (**7012**, **7153**, **7237**, **7295**, **7395**, **7407**, **7409**, **7411**, **7413** and **7486**).

A total of 529 anomalies have been discriminated as A2 (uncertain origin of possible archaeological interest), four of which (**7547**-**7550**) are located within the Offshore cable corridor. Three anomalies were assigned an A3 archaeological discrimination (**7089**, **7181** and **7502**) which relate to United Kingdom Hydrographic Office obstruction records for which no corresponding geophysical anomaly was identified.

Five anomalies (**7400**, **7401**, **7402**, **7403** and **7404**) have been discriminated as U2 (known non-archaeological feature / Feature of non-archaeological interest). All are located within the Norfolk Boreas site. A further five United Kingdom Hydrographic Office records have been identified within the Norfolk Boreas site and have been assigned a U3 (recorded loss) discrimination, and are not included in the gazetteer.

Archaeological Exclusion Zones are recommended for the four identified wreck sites, two of the three A3 locations, and isolated large magnetic anomalies. For any identified features not assigned an Archaeological Exclusion Zone, an avoidance strategy is recommended. Further work may be necessary to ascertain the precise nature and archaeological potential of individual features should avoidance prove unfeasible during future post-consent works.

It is recommended that if any objects of possible archaeological interest are recovered during any groundwork operations, that they should be reported using the established Offshore Renewables Protocol for Archaeological Discoveries. This will establish whether the recovered objects are of archaeological interest and recommend appropriate mitigation measures.

Acknowledgements

This assessment of geophysical data was commissioned by Royal HaskoningDHV, on behalf of Vattenfall, and the assistance of David Tarrant and Victoria Cooper is acknowledged in this respect.

The geophysical data were provided by Fugro Survey B.V. via Joseph Hine of Vattenfall, whose assistance is acknowledged in this respect.

Norfolk Boreas Offshore Wind Farm

Archaeological assessment of geophysical data

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Royal HaskoningDHV, on behalf of Vattenfall, to undertake an archaeological assessment of geophysical data acquired from the proposed Norfolk Boreas offshore project area by Fugro Survey B. V. (Fugro).

1.1.2 The proposed Norfolk Boreas site forms part of the former East Anglia Round 3 Zone, and is located approximately 72 km from the coast of Norfolk, within the southern North Sea. The Norfolk Boreas site is approximately 725 km^2 in size, and a small section (7 km^2) of the Offshore cable corridor (OCC) extending south from the southwest corner of the Norfolk Boreas site (Fig. 1).

1.1.3 Wessex Archaeology has previously undertaken a number of archaeological, geophysical and geoarchaeological assessments from within the East Anglia Round 3 Zone and in the vicinity of the proposed Norfolk Boreas site, including:

- Zonal assessment of the whole East Anglia Round 3 Zone (Wessex Archaeology 2012);
- Assessment of geophysical data from proposed Meteorological Mast (Met Mast) locations, including one currently installed within the proposed Norfolk Boreas site (Wessex Archaeology 2013a);
- Assessment of geophysical data from the proposed East Anglia THREE wind farm and the associated OCC, located to the south of the Norfolk Boreas site (Wessex Archaeology 2015);
- Assessment of geophysical data from the proposed Norfolk Vanguard sites (NV East and NV West), located to the west and south of the Norfolk Boreas site, and the associated Norfolk Vanguard OCC (which is planned to be shared with Norfolk Boreas) (Wessex Archaeology 2017a);
- Geoarchaeological assessment of geotechnical logs and samples acquired from both the proposed Norfolk Vanguard and Norfolk Boreas sites (Wessex Archaeology 2017b; 2018a; 2018b).

1.1.4 This report presents the results of an assessment of geophysical survey data comprising sub-bottom profiler (SBP), sidescan sonar (SSS), magnetometer and multibeam bathymetry (MBES) datasets.

1.1.5 The Norfolk Boreas study area has been defined by the client as the extents of the proposed wind farm site plus a small section of the OCC (together known as the offshore project area) (Fig. 1). The acquired geophysical data covers beyond these extents, but any geophysical anomalies identified outside of the defined study area are considered

beyond the scope of this report and area not included in the results or gazetteer of anomalies.

1.2 Aims and objectives

1.2.1 The aim of this assessment is to identify any geophysical anomalies within the provided data that may be of archaeological potential. This is to be achieved through the following objectives:

- assess the provided geophysical data to identify, locate and characterise any hitherto unrecorded marine sites of archaeological potential;
- confirm the presence of known or previously located marine sites of archaeological potential and to comment on their apparent character;
- identify any buried palaeolandscape features of possible archaeological potential;
- correlate the palaeolandscape interpretation with the results of Stage 1 and Stage 2 geoarchaeological assessment of the study area (Wessex Archaeology 2018a; 2018b);
- compare the results of the geophysical assessment with the results of previous assessments in the area, and with known records (e.g. from the United Kingdom Hydrographic Office (UKHO)), and;
- provide recommendations for archaeological mitigation where necessary.

1.3 Co-ordinate system

1.3.1 The survey data was acquired using ETRS89 UTM Zone 31N projected coordinates, and the results are presented using this coordinate system.

2 METHODOLOGY

2.1 Data sources

2.1.1 A number of data sources were analysed during this assessment, including:

- Geophysical survey datasets acquired by Fugro and provided to Wessex Archaeology by Vattenfall;
- geotechnical (vibrocore) logs acquired by Fugro, and assessed by Wessex Archaeology as part of geoarchaeological assessments associated with the same development scheme (Wessex Archaeology 2018a; 2018b);
- known wreck and obstruction locations and information for the study area provided by the UKHO, and;
- past reports and assessments undertaken by Wessex archaeology from the East Anglia Round 3 Zone (Section 1.1.3).

2.2 Geophysical data – technical specifications

2.2.1 The geophysical data were acquired from the Norfolk Boreas site by Fugro between 21 May and 30 August 2017, and comprised SBP, SSS, magnetometer and MBES datasets.

The data were acquired in blocks (A to G) for the purposes of the survey, but are presented as one single dataset in this report. Main survey lines were acquired at a spacing of 100 m along an approximately NNW-SSE orientation, and cross lines at a spacing of 1 km along an approximately ENE-WSW orientation. All geophysical data were acquired along all survey lines. Operations and interpretations reports were not provided with the data, but known further details on the equipment used are provided in Table 1:

Table 1 Summary of survey equipment (Norfolk Boreas site)

Survey Company	Survey Vessel	Data Type	Equipment	Data Format
Fugro	*Fugro Pioneer*	SBP	16 element Massa TR-1075 hull-mounted pinger	*.sgy*
		MBES	Kongsberg EM 2040 (400 kHz)	*.xyz*
		SSS	Edgetech 4200-FS (100 kHz/600 kHz, 125 m range)	*.xtf*
		Magnetometer	Geometrics G-882	*.csv*
		Positioning	Fugro StarFix DGNSS	N/A

2.2.2 For the OCC, the geophysical data were acquired by Fugro as part of surveys for the Norfolk Vanguard offshore wind farm, undertaken between 7 September and 14 November 2016. Survey lines were acquired along a N-S orientation, with a line spacing of 100 m. All geophysical datasets (SSS, MBES, SBP and magnetometer) were acquired along all survey lines. Further details of the equipment used are provided in Table 2:

Table 2 Summary of survey equipment (OCC)

Survey Company	Survey Vessel	Data Type	Equipment	Data Format
Fugro	*Fugro Pioneer*	SBP	16 element Massa TR-1075 hull-mounted pinger	*.sgy*
		MBES	Kongsberg EM2040	*.xyz*
		SSS	Edgetech 4200-FS (100 kHz/600 kHz, 125 m range)	*.xtf*
		Magnetometer	Geometrics G-882	*.csv*
		Positioning	Fugro StarFix DGNSS	N/A

2.3 Geophysical data – processing

2.3.1 Each of the provided geophysical datasets were processed separately by Wessex Archaeology using the following software (Table 3):

Table 3 Software used for geophysical assessment

Dataset	Processing Software	Interpretation and rationalisation
SBP	CodaOctopus Survey Engine v5.5	ArcMap v10.5
MBES	QPS Fledermaus v7.7.5	
SSS	CodaOctopus Survey Engine v5.5	
Mag.	MagPick v3.25	

2.3.2 The SBP and MBES data were used as the primary datasets for the palaeographic assessment, and the MBES, SSS and magnetometer were used as the primary datasets for the seabed features assessment.

2.3.3 The SBP data were processed using CodaOctopus Survey Engine Seismic+ software. This software allows the data to be visualised with user selected filters and gain settings in

order to optimise the appearance of the data for interpretation. The software then allows an interpretation to be applied to the data by identifying and selecting sedimentary boundaries and shallow geological features that might be of archaeological interest.

2.3.4 The SBP data were interpreted with a two-way travel time (TWTT) along the z-axis. In order to convert from TWTT to depth, the velocity of the seismic waves was estimated to be 1,600 ms^{-1}. This is a standard estimate for shallow, unconsolidated sediments.

2.3.5 Any small reflectors which appear to be buried material such as a wreck site covered by sediment were also recorded, the position and dimensions of any such objects noted in a gazetteer, and an image of each anomaly acquired. It should be noted that anomalies of this type are rare, as the sensors must pass directly over such an object in order to produce an anomaly.

2.3.6 The MBES data were analysed to identify any unusual seabed structures that could be shipwrecks or other anthropogenic debris. The data were gridded using a cell size of 1.0 m and analysed using QPS Fledermaus software, which enables a 3D visualisation of the acquired data and geo-picking of seabed anomalies. The MBES data were also used as part of the palaeogeographic assessment, to identify any possible palaeolandscape features visible on the seabed.

2.3.7 The high frequency *.xtf* SSS data files were processed using CodaOctopus Survey Engine Sidescan+ software. This allowed the data to be replayed with various gain settings in order to optimise the quality of the images. The data were interpreted for any objects of possible anthropogenic origin. This involves creating a database of anomalies within Coda by tagging individual features of possible archaeological potential, recording their positions and dimensions, and acquiring an image of each anomaly for future reference.

2.3.8 A mosaic of the SSS is produced during this process to assess the quality of the sonar towfish positioning. This process allows the position of anomalies to be checked between different survey lines and for the positioning to be further refined if necessary.

2.3.9 The form, size and/or extent of an anomaly is a guide to its potential to be an anthropogenic feature and therefore of archaeological interest. A single small but prominent anomaly may be part of a much more extensive feature that is largely buried. Similarly, a scatter of minor anomalies may be unrelated individual features, define the edges of a buried but intact feature, or it may be all that remains as a result of past impacts from, for example, dredging or fishing. Assessment is made of such groups of anomalies during data interpretation to determine which of these alternatives is the most likely.

2.3.10 The magnetometer data were processed using Geometrics MagPick software in order to identify any discreet magnetic contacts which could represent buried metallic debris or structures such as wrecks.

2.3.11 The software enables both the visualisation of individual lines of data and gridding of data to produce a magnetic anomaly map. The data were first smoothed to try and eliminate any spiking. A trend was then fitted to the resulting data, and the trend values subtracted from the smoothed values. This was carried out in an attempt to remove natural variations in the data (such as diurnal variation in magnetic field strength and changes in geology). The processed data were then gridded to produce a map of magnetic anomalies, and individual anomalies tagged based on the grid and individual profile lines. Images are taken in a similar process to that of the SSS data.

2.3.12 For the purposes of this report, magnetic anomalies have been classified as small (5 nT to 49 nT), medium (50 nT to 99 nT), large (100 nT to 499 nT), and very large (>500 nT).

2.3.13 To undertake the archaeological assessment, 100% of the MBES, SSS and magnetometer data were interpreted, and 25% (one in four) SBP lines were interpreted, with further infill lines assessed where features of archaeological potential were identified. Cross lines of SBP data were also interpreted over any identified palaeolandscape features of possible archaeological potential to aid in the interpretation of features and ensure consistency of interpretation between the main lines.

2.4 Geophysical data – data quality

2.4.1 Once processed, the geophysical datasets were individually assessed for quality and their suitability for archaeological purposes, and rated using the following criteria (Table 4).

Table 4 Criteria for assigning data quality rating

Data quality	Description
Good	Data which are clear and unaffected or only slightly affected by weather conditions, sea state, background noise or data artefacts. Seabed datasets are suitable for the interpretation of upstanding and partially buried wrecks, debris fields, and small individual anomalies. The structure of wrecks is clear, allowing assessments on wreck condition to be made. Subtle reflectors are clear within SBP data. These data provide the highest probability that anomalies of archaeological potential will be identified.
Average	Data which are moderately affected by weather conditions, sea state and noise. Seabed datasets are suitable for the identification of upstanding and partially buried wrecks, the larger elements of debris fields and dispersed sites, and larger individual anomalies. Dispersed and/or partially buried wrecks may be difficult to identify. Interpretation of continuous reflectors in SBP data is problematic. These data are not considered to be detrimentally affected to a significant degree.
Below Average	Data which are affected by weather conditions, sea state and noise to a significant degree. Seabed datasets are suitable for the identification of relatively intact, upstanding wrecks and large individual anomalies. Dispersed and/or partially buried wrecks or small isolated anomalies may not be clearly resolved. Small palaeogeographic features, or internal structure may not be resolved in SBP data.
Variable	This category contains datasets where the individual lines range in quality. Confidence of interpretation is subsequently likely to vary within the study area.

2.4.2 The quality of the SBP data has been rated as ‘Good’ using the above criteria. Some slight weather effects were visible, and large sand banks across the site limited data penetration in some areas. However, this is a site limitation, and where large sand dunes were not present small reflectors were clearly visible and good penetration was achieved.

2.4.3 The SSS data have been rated as ‘Average’ using the above criteria table. The SSS range was set to 125 m, however often only 75 m of this range was achieved. Overall the data were of good quality, however some lines were affected by poor weather conditions causing banding and noise throughout the files. However, this did not detrimentally affect the data to a significant degree.

2.4.4 The magnetometer data have been rated as ‘Average’ using the above criterial table. A number of data files contain noise thought to be the result of poor weather conditions experienced during survey. There is also evidence of strong background geological noise throughout the data files, although this is a natural site limitation. The files were of a good quality for archaeological assessment.

2.4.5 The MBES data were rated as ‘Good’ using the above criteria. The data quality and gridded resolution of 1.0 m was found to be of a good standard and suitable for archaeological assessment of objects and debris over 1 m in size.

2.5 Geophysical data – anomaly grouping and discrimination

2.5.1 The previous section describes the initial interpretation of all available geophysical datasets which were conducted independently of one another. This inevitably leads to the possibility of any one object being the cause of numerous anomalies in different datasets and apparently overstating the number of archaeological features in the exploration area.

2.5.2 To address this fact the anomalies were grouped together; allowing one ID number to be assigned to a single object for which there may be, for example, a UKHO record and multiple SSS anomalies.

2.5.3 Once all the geophysical anomalies and desk-based information have been grouped, a discrimination flag is added to the record in order to discriminate against those which are not thought to be of an archaeological concern. For anomalies located on the seabed, these flags are ascribed as follows (Table 5).

Table 5 Criteria discriminating relevance of identified features to proposed scheme

Overview classification	Discrimination	Criteria	Data type
Archaeological	P1	Feature of probable archaeological interest, either because of its palaeogeography or likelihood for producing palaeoenvironmental material	SBP, MBES
Archaeological	P2	Feature of possible archaeological interest	SBP, MBES
Archaeological	A1	Anthropogenic origin of archaeological interest	MBES, SSS, Mag.
Archaeological	A2	Uncertain origin of possible archaeological interest	MBES, SSS, Mag.
Archaeological	A3	Historic record of possible archaeological interest	Historic record
Non-archaeological	U2	Known non-archaeological feature / Feature of non-archaeological interest	MBES, SSS, Mag., SBP
Non-archaeological	U3	Position of a recorded loss at which no physical wreck remains have ever been identified	Historic record

2.5.4 The grouping and discrimination of information at this stage is based on all available information and is not definitive. It allows for all features of potential archaeological interest to be highlighted, while retaining all the information produced during the course of the geophysical interpretation and desk-based assessment for further evaluation should more information become available.

2.6 Geotechnical data

2.6.1 Vibrocores were acquired by Fugro from 50 locations within the Norfolk Boreas site. The logs were provided to Wessex Archaeology, and used to ground-truth the palaeogeographic interpretation.

2.6.2 Geoarchaeological assessments of the vibrocores and their associated logs were also undertaken, the full results of which are reported separately (Wessex Archaeology 2018a, 2018b).

3 PALAEOGEOGRAPHIC ASSESSMENT

3.1 Geological baseline and archaeological potential

3.1.1 The following is an overview of the geological and archaeological history of the wider region from the Pleistocene to the Holocene marine transgression. This is based on a range of secondary sources, including academic papers, monographs, geological information (e.g. BGS mapping), and previous work undertaken by Wessex Archaeology from the East Anglia area and the wider region. This serves as a baseline for the palaeogeographic assessment, and aids in producing a stratigraphy for the study area, assigning archaeological potential to identified units, and informing future sampling strategies.

3.1.2 The Norfolk Boreas offshore project area is situated within the southern North Sea Basin. The environment within the study area is currently fully marine, and a shallow marine basin has existed in the approximate location of the North Sea since the Early Tertiary (although the exact location and extent has altered over time), which is reflected in the geology of the region (Cameron *et al.* 1992).

3.1.3 The recent geological history of the southern North Sea is directly linked to glacial/interglacial cycles experienced by the area during the Pleistocene (2.5 million – 10 ka), which resulted in large areas of the southern North Sea being periodically exposed as a terrestrial environment. This is represented in the geological record, with distinct terrestrial landscape features being present, interspersed with deposits of marine and glacially derived sediments. Due to this fluctuating glacial cycle, the corresponding rises and falls in eustatic sea level, and major reconfigurations of the landscape during the last million years, the archaeological record is phased between periods of occupation and long periods of hiatus when environmental conditions or high sea levels restricted access to Britain (Fig. 2). These changes in relative sea level are recorded as marine Isotope Stages (MIS).

3.1.4 The background geology of the study area is dominated by a series of Pleistocene deposits, ranging in age from the Lower to Middle Pleistocene (Yarmouth Roads Formation) to the Upper Devensian (Twente Formation). These were deposited in a range of environments, from terrestrial to marine, and it is the terrestrial sediments, deposited during periods of low relative sea level, that are of the highest archaeological potential.

3.1.5 The southern North Sea off the east coast of East Anglia is known to contain relatively well preserved palaeolandscape features such as fluvial channels, created during periods of sea level lowstand but while the landscape was still free of ice. The remains of this terrestrial landscape are frequently recovered by dredging and fishing in numerous areas around the southern North Sea, generally in the form of the remains of extinct megafauna (e.g. mammoths, bison, horse etc.).

3.1.6 The discovery of actual human artefacts, such as hand axes and worked bone, is a rarer occurrence, but artefacts have been recovered. Reported finds from offshore activity has, to date, produced a range of early prehistoric lithic artefacts indicating early prehistoric activity in submerged palaeolandscapes from Lower, Middle, and Upper Palaeolithic periods (Tizzard *et al.* 2014; 2015; Wessex Archaeology 2011; 2013b), with notable collections of more recent Mesolithic artefacts from submerged palaeolandscape contexts (Momber *et al.* 2011; Wessex Archaeology 2013b).

Pre-Anglian (>478 ka; >MIS 12)

3.1.7 Prior to the Anglian glaciation, an extensive estuarine/deltaic landscape existed at the location of the current North Sea basin. This landscape, the Ur-Frisia delta (Cameron *et al.* 1992), drained many major European rivers, including the Bytham/Ingham palaeo-river (Rose 2009; Westaway 2009), the palaeo-Thames-Medway system, which drained northwards through Essex and East Anglia (Bridgland 1994), as well as the Rhine (Hijma *et al.* 2012).

3.1.8 At this time a chalk ridge along the axis of the Weald-Artois high, between southeast England and northern France, separated the North Sea and the English Channel into two distinct basins. Any river systems northeast of the ridge flowed northwards across the North Sea basin to the Ur-Frisia delta, whilst those southwest of the ridge flowed along the English Channel towards the Atlantic.

3.1.9 The pre-Anglian period represents a significant amount of the Lower Palaeolithic (*c.* 970,000 to 300,000 BP, >MIS 9). The earliest direct evidence for hominin activity in the UK has been identified at the Lower Palaeolithic sites of Happisburgh, on the Norfolk coast, and Pakefield, on the Suffolk coast, which date from *c.* 900,000 and 700,000 BP respectively (Parfitt *et al.* 2005; 2010). These sites would have been situated on the edge of an extensive landscape of low-lying estuaries, major river systems, plains and rolling hills. It was a rich, diverse and productive landscape like any contemporary example, and should not be considered as a temporary land-bridge or intermittent linkage to continental Europe (Coles 1998).

3.1.10 Whilst the archaeology at Pakefield was created during a more Mediterranean climate, around MIS 17 (Fig. 2), the remains at Happisburgh Site 3 are indicative of colder-than-present conditions at the edge the boreal zone (Candy *et al.* 2011), indicating that earlier hominins were capable of surviving in conditions previously thought to be too harsh for habitation (Parfitt *et al.* 2010).

3.1.11 The importance of these sites is international, as they are currently unique at this latitude for this early date (Wessex Archaeology 2013b). Cohen *et al.* (2012) have highlighted the North Sea basin as a key region for understanding Pleistocene hominins within a northerly, coastal environment. The east of England, particularly East Anglia, but also the southeast of England, are important regions for Lower Palaeolithic archaeology in the last 500,000 years during MIS 13 and 11 (Hoxnian interglacial, Fig. 2) (Wymer 1999; Pettitt and White 2012).

Anglian to Ipswichian (c. 478 ka – 115 ka; MIS 12 – 5e)

3.1.12 The Anglian glacial period was the most extensive glaciation of the Pleistocene, and saw ice sheets extending further south than at any time in the past 2.5 million years (Fig. 3). The exact southern extent of the Anglian glaciation is currently debated, although a series of enclosed bathymetric deeps identified within multibeam echo sounder data, most notably two large features located between the Shipwash and Inner Gabbard sand banks offshore Felixstowe, Suffolk, have been interpreted as being glacial in origin. This suggests at least a lobe of ice may have extended further south than the established main ice sheet limit (Emu 2009).

3.1.13 The advancing ice sheets gradually pushed the courses of major rivers, including the Thames-Medway system, further south, until they eventually reached their approximate current positions. During this period the study area will have been covered by ice, and the climate around the remaining ice-free areas of the UK would have been too cold for hominin habitation.

3.1.14 During deglaciation and retreat of the ice sheet at the end of the Anglian, it is thought that the emptying of an ice-dammed lake within the North Sea created a volume of water large enough to breach the chalk ridge along the Weald-Artois high. This connected the North Sea to the English Channel, incising the Lobourg Channel off the Kent coast and some of the English Channel palaeovalleys in the process (Gupta *et al.* 2017; Hamblin *et al.* 1992). This initial catastrophic breaching of the Weald-Artois ridge is thought to have been followed by further erosive events leading to the permanent breaching of the English Channel approximately 150 kya (Hijma *et al.* 2012).

3.1.15 The breaching of Weald-Artois ridge had a major impact on the palaeogeography of Britain, turning Britain from an island at times of high sea level, to a peninsula of Europe when sea levels dropped. In periods associated with lower sea levels since the Anglian, the Lobourg Channel is likely to have formed the main drainage route of the major northern European rivers flowing into the dry North Sea Basin (Cameron *et al.* 1992). During periods of lowered sea levels, these river systems, including the Thames, Medway, Great Stour, and palaeo-Yare, extended across these now submerged landscapes, resulting in cyclical deposition of associated terrace and flood plain deposits laid down in relation to relative sea level (Wessex Archaeology 2010).

3.1.16 As the area off East Anglia, including the study area, has only experienced at the most one glacial advance during the Pleistocene, these palaeolandscape features from periods of low relative sea level are more likely to be preserved here rather than further north (approximately north of the north Norfolk coast), where they have been removed during the subsequent Saalian and Devensian glacial advances. Any surviving Pleistocene deposits are likely to have been reworked or redeposited to a certain extent during subsequent marine transgressions (Hamblin *et al.* 1992), but some are likely to survive on the seabed.

3.1.17 During the interglacial periods between the Anglian and Devensian glaciations (Hoxnian and Ipswichian), warmer climate conditions meant the UK was again available to be recolonised by hominin communities. The foreshore, cliffs and hinterland at Clacton-on Sea (Essex) comprise an important Middle Pleistocene site and is a designated geological Site of Special Scientific Interest (SSSI). Channel sediments from the area are also an important site for the Lower Palaeolithic Clactonian flint industry, and have yielded a rare wooden spear alongside lithic artefacts. The site dates from the Hoxnian interglacial period (MIS 11, *c.* 423,000 - 380,000 BP, Fig. 2) (Sumbler 1996; Bridgland *et al.* 1999), and the type site for the Hoxnian (the Hoxne Brick Pit) is located a relatively short distance inland outside of Diss, Suffolk.

3.1.18 Artefactual evidence from Clacton suggests two phases of lithic technology; earlier Clactonian pebble tools in the earlier warming phase of MIS 11 (Fig. 2), and Acheulean-type tools in the later cooling phase of the Hoxnian, suggesting that at the same site two different groups of hominins were producing tools (Pettitt and White 2012).

3.1.19 During the Saalian glaciation (MIS 10, Fig. 2) there was a hiatus in hominin activity in Britain (Pettitt and White 2012). When hominins returned, *H. neanderthalensis*, they brought a new lithic technology: the Levallois prepared core technique developing from MIS 9, *c.* 300,000 BP (Scott and Ashton 2011). They were hunters adapted to a ‘mammoth steppe’ environment (Ashton and Lewis 2002).

3.1.20 The international importance of Early Middle Palaeolithic archaeology in the southern North Sea is highlighted by the numerous sites preserved within the Thames river terraces (White *et al.* 2006; Scott *et al.* 2011) and, in particular, by the submerged prehistoric

Levallois lithic assemblage from marine aggregates licence Area 240 in the palaeo-Yare catchment. Over 120 artefacts have now been recovered from this locale, some of which are identifiable as Levellois, with many recovered from *in situ* or near *in situ* contexts (Tizzard *et al*. 2014; 2015; Wessex Archaeology 2013b; 2013c).

3.1.21 The substantial, mixed assemblage of handaxes also recovered from Area 240 may be of older Lower Palaeolithic origin (e.g. >MIS 9, Fig. 2), or may date to the Later Middle Palaeolithic when technologically similar artefacts were made (*c.* MIS 3, Fig. 2) (Boismier *et al.* 2012). However, based on palaeoenvironmental and sedimentological evidence an Early Middle Palaeolithic date is most likely (Tizzard *et al.* 2015).

3.1.22 Palaeogeographically, Area 240 is one of the most northerly Neanderthal sites in northwest Europe and of primary archaeological importance for defining Middle Palaeolithic potential and the contemporary palaeogeography across the southern North Sea basin (Tizzard *et al.* 2014). The site highlights the archaeological potential of preserved Pleistocene fluvial deposits within the southern North Sea.

Devensian to Late Glacial Maximum (c. 115 ka – 18 ka; MIS 5d – 2)

3.1.23 Deterioration of the climate during the Late Pleistocene resulted in the most recent glaciation of the North Sea during the Devensian period. Currently there is no definitive evidence of a hominin presence in Britain during MIS 5 (Lewis *et al.* 2011).

3.1.24 Within the context of early prehistory and submerged palaeogeography, however, substantial areas of the southern North Sea basin would have been dry land during the warming and cooling limbs of the various sub-stages (MIS 5a to 5e, Fig. 2). Recent analysis has suggested that eight relatively brief phases of human activity within the UK are represented by the existing Upper Palaeolithic archaeological record (Jacobi and Higham 2011), with six occurring before the Devensian glacial maximum. Therefore, the potential exists for human activity to have occurred in Doggerland, the area of exposed terrestrial environment within the southern North Sea basin, during and after the Devensian glaciation.

3.1.25 Offshore locations may be the only source for testing this hypothesis (Wessex Archaeology 2013c), and the western European archaeological record is rich in comparison for MIS 5 (Lewis *et al.* 2011; Pettitt and White 2012). During the Late Glacial Maximum (LGM), the study area will have been close to the maximum Devensian ice margin (Fig. 3).

3.1.26 Again, East Anglia provides early evidence for Neanderthal recolonisation of Britain after the hiatus between MIS 6 to 4, around 60,000 BP (Fig. 2). The Lynford Quarry material highlights a new lithic technology visually similar to Lower Palaeolithic Acheulean lithics, so-called Mousterian of Acheulean Tradition handaxes and tools (Boismier *et al.* 2012).

3.1.27 Climatically, MIS 3 was significantly colder than now but did not attain the glacial conditions of later or earlier glacial periods (e.g. MIS 6 or 2, Fig. 2) (Pettitt and White 2012). For the Neanderthals that may have occupied the region at this time, surviving in Doggerland during this period may have been subject to a variety of technological and cultural adaptations (White 2006).

Post-Late Glacial Maximum and early Holocene (18,000 – 6000 BP; MIS 2 – 1)

3.1.28 Following the Devensian glacial maximum, ice sheet retreat once again left significant areas of the southern North Sea exposed as a terrestrial environment, with deposition of fluvially derived sediments continuing from the Late Pleistocene into the Early Holocene.

3.1.29 In the Early Upper Palaeolithic, at the end of the Late Pleistocene, there was a transition period for hominins. Neanderthals died out around 40,000 BP, and modern humans then colonised Doggerland, arriving in Britain around 34,000 BP (Jacobi and Higham 2011; Bicket and Tizzard 2015). Archaeological evidence for this period is relatively sparse, but submerged palaeolandscapes provide key contextual evidence for recovered artefacts, and provides a background landscape within which to place these human communities.

3.1.30 During the LGM, the environment within the southern North Sea was relatively poor for human colonisation, and was situated at the north-western extents of possible habitation. However, there was increasing human exploitation after 15,000 BP. Humans at this time were hunting game, such as mammoth and deer, and evidence of these animals has been reported through marine aggregate dredging, and the associated reporting requirements (Bicket and Tizzard 2015).

3.1.31 The onshore archaeological record of Upper Palaeolithic activity is relatively sparse, and offshore locations may provide unique and important context for coastal and lowland human activity during this period (Wessex Archaeology 2013c). For example, a Maglemosian harpoon artefact from trawled peat in the early 20th century was subsequently radiocarbon dated to around 12,000 years ago (Housely 1991), and archaeological and palaeoenvironmental material has been reported from North Sea contexts for over a century (Reid 1913; Godwin and Godwin 1933).

3.1.32 The Mesolithic period began in the early Holocene. Around 10,000 BP, sea levels were still more than 60 m below current levels, and during this period, an extremely large area of the southern North Sea and English Channel was dry land, suitable for human occupation. Evidence of this environment has been identified from the foreshore at Jaywick, Essex, where layers of peat dating from the Early Holocene are present along with a preserved land surface from which Mesolithic artefacts have been recovered (Wilkinson and Murphy 1995).

3.1.33 Considerable attention has been paid to Mesolithic Doggerland in the last decade (Gaffney *et al*. 2007; Tappin *et al.* 2011) and the geoarchaeology (Boomer *et al.* 2007), submerged forests (Hazell 2008), and palaeo-river systems around the current North Sea coast (Wessex Archaeology 2013b; Limpenny *et al.* 2011; EMU 2009). Increasingly, a maritime perspective has developed for understanding the early prehistoric archaeological record, where coasts, estuaries and wetlands are key landscape elements (Ransley *et al.* 2013).

3.1.34 It is clear from numerous research and development-led investigations that postglacial marine transgression has not destroyed Pleistocene and Holocene palaeogeography by default (Wessex Archaeology 2013c). Areas of preserved palaeogeographic features do remain, and detailed reconstructions of palaeoenvironments and palaeogeography can be acheived for large parts of the North Sea basin (Tappin *et al.*, 2011; Limpenny, 2011; Dix and Sturt, 2011). By the early Holocene, Mesolithic hunter-fisher-gatherers in Doggerland were active in a familiar ecosystem of mixed deciduous woodland with oak, elm, alder and lime populated by deer and a wide variety of other mammals (Tappin *et al.* 2011).

3.1.35 However, between 7,000 and 5,000 BP, much of the land was inundated by eustatically driven sea level change (Bicket and Tizzard 2015), and by 6,000 BP sea level was only approximately 7 m below the present level (Cameron *et al.* 1992). Around this time, Britain became an island again (Coles 1998). Settlements at the time were often transitory and seasonal, and therefore leave little trace in the archaeological record, however, new types of stone tools were introduced during this period. It is possible that the now submerged

environment of which the study area was a part was occupied up until the final marine transgression between 7,000 and 5,000 BP.

3.1.36 The marine transgression resulted in the deposition of sands, gravels and muds, which represent the modern marine sediment but can also incorporate reworked sediment from the underlying Pleistocene deposits. Holocene seabed features of note within the wider area are the sand banks known as the Great Yarmouth Banks, located off the Norfolk coast to the west of the study area. These are a system of ridges of reworked outwash sediments from the last glaciation, formed and maintained by tidal meander channels. These mostly overlie the pre-glacial Pleistocene sediments.

3.1.37 At present, the study area is a fully marine environment, and any archaeological potential post the marine transgression will relate directly to the maritime history of the UK.

3.2 Palaeogeographic assessment results

3.2.1 A number of palaeogeographic features of archaeological potential have been identified within the study area. These features are discussed below, individually described in gazetteer format in Appendix 1, and their distribution is illustrated in Figure 4.

3.2.2 Using the SBP data assessed for the Norfolk Boreas site, alongside geoarchaeological assessments undertaken for the same project and similar assessments carried out for Norfolk Vanguard, the identified shallow geology within the study area has been divided into 5 major units, plus additional subunits, as described below (Table 6):

Table 6 Shallow stratigraphy of the study area

Litho-stratigraphic Unit	Geological Unit	Geophysical Characteristics (1)	Sediment Type (2)	Archaeological Potential
Unit 5	Holocene seabed sediments (post-transgression, MIS 1)	Generally observed as a veneer or thickening into large sand wave and bank features up to 20 m thick. Boundary between surficial sediments and underlying units not always discernible.	Medium to coarse sand with frequent shell fragments – marine	Considered of low potential in itself, but possibly contains re-worked artefacts and can cover wreck sites and other cultural heritage
Unit 4c	Holocene (pre-transgression, MIS 2-1)	Not identified within the geophysical data	Coarsening upwards sequence of structureless clay overlain by laminated silt with evidence of crossbedding and organic laminations – transgression/intertidal	Potential to contain *in situ* and derived archaeological material, and palaeoenvironmental material
Unit 4b	Holocene (pre-transgression, MIS 2-1)	Extensive areas of intermittent, relatively flat, high amplitude reflectors. Often associated with shallow channelling	Peat ranging from strongly to weakly decomposed with plant fragments (reeds) roots and wood preserved – terrestrial land surface	Potential to contain *in situ* and derived archaeological material, and palaeoenvironmental material

Litho-stratigraphic Unit	Geological Unit	Geophysical Characteristics (1)	Sediment Type (2)	Archaeological Potential
Unit 4a	Holocene (pre-transgression, MIS 2-1)	Small, shallow, infilled channels with either seismically transparent fill, or fill characterised by sub-parallel internal reflectors	Fining upwards sequence of sand with silt laminations and plant/root fragments overlain by laminated to organic silt with roots and plant fragments – fluvial/intertidal	Potential to contain *in situ* and derived archaeological material, and palaeoenvironmental material
Undifferentiated	Holocene pre-transgression or Upper Brown Bank	Acoustically chaotic unit at the top of Brown Bank Formation, potentially comprising numerous phases of cross cutting channels	Interbedded sand and silty clay with shell fragments and silt laminations (occasionally organic) – unknown, possible fluvial/intertidal	Unknown – potential will depend on precise age and depositional environment of unit
Unit 3	Upper Brown Bank Formation (MIS 5d-3)	Observed as a blanket deposit across much of the area, either acoustically transparent or characterised by sub-horizontal layered reflectors. Contains numerous internal erosion surfaces, occasional fluid escape structures, and areas of acoustic blanking	Silty clay and clayey silt with closely spaced fine laminations. May be sandy in places or comprise sand partings/laminations – lagoon/intertidal	*In situ* Lower Palaeolithic artefacts may be protected. Middle Palaeolithic *in situ* and derived artefacts may be associated, particularly with channel edges dependent on the age of the fill. Palaeoenvironmental information. Basal contact may cover old land surfaces
Unit 2	Lower Brown Bank Formation (MIS 5e-5d)	Observed within large topographically controlled depressions. Characterised by low relief basal reflector and either an acoustically transparent or well-layered fill	Silty sand and sandy silt - possible intertidal/shallow marine	*In situ* Lower Palaeolithic artefacts may be protected. Middle Palaeolithic *in situ* and derived artefacts may be associated, particularly with channel edges dependent on the age of the fill. Palaeoenvironmental information. Basal contact may cover old land surfaces

Litho-stratigraphic Unit	Geological Unit	Geophysical Characteristics (1)	Sediment Type (2)	Archaeological Potential
Unit 1	Yarmouth Roads Formation (>MIS 13)	Thick unit either seismically chaotic or containing numerous areas of well-defined cross cutting channel complexes characterised by layered sub-parallel internal reflectors. Top of unit generally a well-defined regional erosion surface	Silty sand with occasional shell fragments and occasional layers of clay. Generally becoming silty with depth - deltaic	Possibility of *in situ* finds in later part of formation if not eroded. Contemporaneous with terrestrial Cromer Forest Bed Formation (Pakefield and Happisburgh). Has been found to contain plant debris, wood and peat in some areas of possible palaeoenvironmental importance. Potential greatest where associated with river valleys.

(1) Based on geophysical data

(2) Based on vibrocore data and Cameron *et al.* (1992)

3.2.3 Unit 1 is the oldest unit identified within the study area, and has been interpreted as the Yarmouth Roads Formation. This formation represents the pre-Anglian deltaic sediments deposited during sea level lowstand (Section 3.1.6), and is a thick, regional deposit within this part of the southern North Sea (Cameron *et al.* 1992).

3.2.4 Unit 1 has a variable acoustic character in the SBP data, and can be either a relatively featureless unit or characterised by numerous internal, cross-cutting channel features. Some of these features may actually be later cuts into Unit 1 rather than internal features, but these could not be differentiated with a satisfactory level of confidence and so have not been differentiated in this report.

3.2.5 The upper levels of the Yarmouth Roads Formation are contemporaneous with the terrestrial Cromer Forest Bed Formation, within which evidence for the earliest known occupation of the UK has been discovered at Pakefield and Happisburgh (Section 3.1.8). As such, there is the potential for *in situ* archaeological artefacts to be present within the upper layers of Unit 1, particularly in areas containing internal channelling. The Yarmouth Roads Formation has also been found to contain occasional organic remains (plant debris, wood and peat) (Cameron *et al.* 1992), and so Unit 1 also has the potential to contain *in situ* and derived palaeoenvironmental material. This potential is also greatest in areas where channels are observed.

3.2.6 This relatively high potential for Unit 1 is dependent upon which level of the Yarmouth Roads Formation is present within the study area, as only the upper layers are considered to be of archaeological potential which may have been removed by erosion. This cannot be determined using geophysical data alone, and geoarchaeological techniques would need to be applied to determine the age, and hence the archaeological potential, of the unit. However, vibrocores acquired from within the study area during the current phase of investigations did not penetrate deep enough to sample Unit 1.

3.2.7 Unit 2 and Unit 3 together comprise the dominant shallow geological unit within the study area, the Brown Bank Formation. This has been divided into two separate units based on acoustic character and previous work undertaken in the wider region (Wessex Archaeology 2017a).

3.2.8 Unit 2 has been classified as the Lower Brown Bank Formation, and is characterised in the SBP data by numerous sub-parallel internal reflectors. The unit generally has a well-defined, low-relief basal reflector, which, where present, serves as the upper erosional surface of Unit 1. The upper boundary is variable, appear well defined in areas and gradational in others. This has made the extents of Unit 2 difficult to determine definitively, but the approximate extents are illustrated in Figure 4.

3.2.9 The Lower Brown Bank Formation has previously been identified within Norfolk Vanguard East, where it was mainly restricted to a series of approximately NNW-SSE trending topographically controlled depressions in the upper surface of Unit 1 (Wessex Archaeology 2017a). Within the study area, however, the deposit appears more widespread, and comprises a relatively thin layer (approximately 2 m thick) where present. Only in the southeast of the study area does Unit 2 thicken into a large deposit more in common with that identified within Norfolk Vanguard East.

3.2.10 A number of internal features have been identified within Unit 2. In places the unit has strong internal reflectors, suggesting either possible depositional hiatuses or changes in sediment source. Three areas (**7600**, **7601** and **7689**) of poorly developed possible dune features have also been identified, situated just below the base of Unit 3 (Fig. 5). These are similar to, but much smaller than, other dune features from within the Brown Bank Formation identified at Norfolk Vanguard West and may be terrestrial in origin (Wessex Archaeology 2017a). If this is the case, it suggests they formed during a significant period of aerial exposure and may protect a buried land surface. As such, these features are classified as of high archaeological potential.

3.2.11 Although interpreted as Lower Brown Bank Formation for the purposes of this report, the actual age and nature of Unit 2 is currently undetermined. Vibrocores acquired from within the study area did not penetrate deep enough to sample Unit 2, but borehole data previously acquired from Norfolk Vanguard East suggests the unit comprises sandy silt and silty fine sand (borehole EA10-G-006, Gardline Geosurvey 2011).

3.2.12 Unit 2 could potentially be a lower unit of the Brown Bank Formation, or be the Eem Formation. The Eem Formation is Ipswichian in age, and is described as a shallow marine/intertidal deposit of shelly and muddy sands, whilst the Brown Bank Formation is a lagoon deposit of Lower Devensian Age (Cameron *et al.* 1992). Unit 2 could represent a gradual transition between the Eem and Brown Bank formations, and be either Upper Ipswichian or Lower Devensian in age (MIS 5e to 5d).

3.2.13 The archaeological potential of Unit 2 as a whole depends on its age. As a marine deposit, the archaeological potential of the Eem Formation is considered relatively low, although the unit may cover and protect earlier land surfaces. The potential of the Brown Bank Formation is interpreted to be higher, with the possibility of derived artefacts and intact organic material of palaeoenvironmental interest. However, human absence in the area during the development of the Lower Brown Bank indicates the unit is unlikely to contain *in situ* artefacts. Due to the poorly defined upper reflector of Unit 2 and its apparent grading into Unit 3, it has been classified as the Lower Brown Bank Formation. Further work would need to be undertaken, however, to determine the precise age of the unit.

3.2.14 Overlying Unit 2 is Unit 3, which is interpreted as the Upper Brown Bank Formation. This is a blanket deposit present across the whole study area, and is the dominant shallow geological unit in the region. In the SBP data, this unit is generally characterised as either acoustically unstructured or comprising sub-parallel internal reflectors. As with Unit 2, Unit

3 appears to contain a number of internal erosion surfaces and some potential channelling, suggesting a complex history of deposition.

3.2.15 A number of areas of acoustic blanking have also been identified within the Brown Bank Formation, which are found within both Unit 2 and Unit 3 (see Appendix I for full list). These areas of blanking are interpreted to be accumulations of shallow gas and, whilst they are not of archaeological potential in themselves, they suggest the presence of preserved organic material within the sediments that may be of value to palaeoenvironmental studies.

3.2.16 The Brown Bank Formation is generally interpreted as a lagoon deposit (Cameron *et al.* 1992), and vibrocore data have determined the Upper Brown Bank comprises silty clay and clayey silt with sand partings and laminations (VC016, VC047, Wessex Archaeology 2018b). However, the numbers of internal reflectors suggest it may have a much more complex history, including changes of sediment input and potential periods of drying out/exposure. If this is the case, these surfaces could be of high archaeological potential as they would represent buried land surfaces.

3.2.17 At the top of Unit 3 is a layer classified as 'undifferentiated' based on the geoarchaeological data (VC016, VC047, Wessex Archaeology 2018b), where samples revealed a layer of silty sand and silty clay with shell fragments not typical of the Brown Bank Formation.

3.2.18 In the geophysical data, these areas appear much more acoustically chaotic than the rest of Unit 3, with numerous possible poorly defined, cross-cutting channel features. These have been interpreted as possible Late Devensian/Early Holocene coastal or shallow water deposits, although it is possible reworking has occurred (Wessex Archaeology 2018b). These are poorly delineated within the SBP data and have not been mapped, but they could be of archaeological potential depending on their precise age and nature.

3.2.19 BGS data and vibrocores from Norfolk Vanguard (VC075, VC076 and VC088, Wessex Archaeology 2017b) have indicated the possible presence of the Twente Formation overlying areas of the Brown Bank Formation (Wessex Archaeology 2017a). However, the formation is relatively thin and could not be definitively identified within the previous geophysical data form Norfolk Vanguard, and so BGS data were used to map the extents of the unit.

3.2.20 BGS data also suggests the Twente Formation to be present within the Norfolk Boreas site, but neither the geophysical nor the vibrocore data have identified any evidence for this unit. Within Norfolk Vanguard, the deposit is described as a thin layer of dark grey, silty fine sand sealed by peat (Wessex Archaeology 2017b).

3.2.21 The Twente Formation is generally interpreted as a periglacial aeolian sand deposit of Upper Devensian age (Cameron *et al.* 1992). Following the LGM, the northward retreat of the Devensian ice sheet would have exposed fresh land surfaces. Without extensive vegetation to hold sediment in place, winds would have carried loose sediments southwards to be deposited as aeolian sand.

3.2.22 Such wind-blown deposits are also found in East Anglia and on continental Europe, where they have relatively high archaeological potential. In such low-lying, predominantly wetland, areas, even relatively small sand ridges such as these can produce an area of high ground which would be favourable for habitation. Sites such as Peacock's Farm in Cambridgeshire and the Great Coversand Ridge in northern Belgium show that

Prehistoric communities were using such features (Crombé *et al.* 2012). The surrounding (and underlying) Brown Bank Formation suggests a similar low-lying wetland landscape within the study area, and as such there is the potential for in situ archaeological material to be present within the Twente Formation should it be confirmed from further work in the study area.

3.2.23 Overlying and cutting into Unit 3 in some areas is Unit 4a, which is characterised by a series of small channel and cut and fill features (see Appendix I for full list). These are distinguished from the undifferentiated channels as they are better defined, and generally contain visible internal structure such as sub-parallel reflectors (Fig. 6). None of the identified channel features have been directly sampled by vibrocores, but thin (approx. 0.5 m) deposits (approx. 0.5 m thick) of potentially fluvial or alluvial related sediments were identified in VC028, VC032 and VC037, which are interpreted as potentially contemporaneous with the channel features based on their level within the stratigraphy.

3.2.24 These features are interpreted as Early Holocene fluvial channels that formed after the silting/drying up of the lagoon environment indicated by Unit 3. As terrestrial features of an Early Holocene date, these are considered to be of high archaeological potential and could contain in situ or derived artefacts and palaeoenvironmental material.

3.2.25 One extensive feature, represented by features **7620**, **7621** and **7622**, was visible within the MBES data as a meandering sediment ridge (Fig. 7). This is interpreted as a channel which had a peaty fill, the fibrous structure of which made it more resistant to erosion than the surrounding laminated Unit 3 sediments. Such features have been identified in other coastal and marine contexts (Bell and Brown 2013; Hansson *et al.* 2018), where they have found to contain *in situ* archaeological material and so be of high archaeological potential.

3.2.26 Overlying, and directly related to, Unit 4a is Unit 4b, which is characterised by extensive areas of shallow, sub-horizontal, high amplitude reflectors (see Appendix I for full list) (Fig. 7). These features have been found in vibrocores VC028, VC032 and VC039 (Wessex Archaeology 2018b) to represent peat deposits, indicative of a buried land surface. The identified peat layers are relatively thin (up to 0.3 m), but three separate types of peat (reed, amorphous and fibrous) have been identified within the vibrocores suggesting an evolution of the depositional environment over time.

3.2.27 These high amplitude reflectors are generally restricted to the northern part of the study area. They are often directly associated with the underlying channels (Unit 4a), and are often either present either side of a channel as potential flood plain deposits (Fig. 6), or partially or wholly overlaying a channel, potentially developing once the channel has completely silted up. One high amplitude reflector in the northeast of the study area (**7747**) is meandering in form, and may be a similar, buried, feature to the sediment ridge **7620**/**7621**/**7622**.

3.2.28 As buried land surfaces of Early Holocene age, Unit 4b is considered to be of high archaeological potential and may contain *in situ* archaeological material. As an organic deposit, it is also considered of high potential from a geoarchaeological perspective.

3.2.29 The geoarchaeological assessment has indicated a thin layer of clay and laminated silt (Unit 4c), interpreted as a transgression layer, overlies Unit 4a and Unit 4b (VC032, Wessex Archaeology 2018b). However, this appears to be too thin a layer to be resolved within the SBP data, and as such has not been identified or mapped.

3.2.30 The youngest deposit within the study area is Unit 5, a medium to coarse shelly sand deposit which represents the modern seabed sediment. This has been worked into a number of large, NNW-SSE trending banks, which appear to be relatively stable and are likely to be relict features from the Holocene marine transgression. Between the banks are eroded areas where the Brown Bank Formation outcrops at the seabed, and it is within one of these areas that the **7620**/**7621**/**7622** sediment ridge has been exposed (Fig. 7). Overlying the stable ridges are numerous areas of sandwaves, indicating mobile seabed sediment.

3.2.31 Unit 5 is not considered of archaeological potential in itself, but it has the potential to cover archaeological sites (e.g. wrecks) in areas of mobile sediment, and the stable ridges potentially cover and protect preserved early Holocene land surfaces.

4 SEABED FEATURES ASSESSMENT

4.1 Introduction

4.1.1 The results of this assessment are collated in gazetteer format detailed in Appendix 2 and illustrated in Figures 8a–8f and Sheets 1–4. These results are discussed below, separately for the Boreas site and the OCC.

4.1.2 Anomalies from the OCC assessment (Wessex Archaeology 2017a), which are included within the study areas have been grouped with the results from this most recent dataset.

4.1.3 After the grouping and discrimination phase as outlined in Section 2.5, a total of 551 geophysical anomalies were identified within the study areas, of which 546 features have been identified as being of possible archaeological potential. A further 5 anomalies were interpreted as non-archaeological features, but were retained within the gazetteer for positioning purposes. These are discriminated as shown in Table 7.

Table 7 Discrimination of features within the study areas

Feature discrimination	Quantity		Interpretation
	Wind farm	OCC	
A1	14	-	Anthropogenic origin of archaeological interest
A2	525	4	Uncertain origin of possible archaeological interest
A3	3	-	Historic record of possible archaeological interest with no corresponding geophysical anomaly
U2	5	-	Known non-archaeological feature / Feature of non-archaeological interest
Total	**547**	**4**	

4.1.4 Furthermore, these features can be classified by probable type, which can further aid in assigning archaeological potential and importance (Table 8).

Table 8 Types of feature identified

Feature classification	Definition	Number of anomalies	
		Wind farm	OCC
Wreck	Areas of coherent structure including wrecks of ships, submarines and some aircraft (where coherent structure survives)	5	-
Debris field	A discrete area containing numerous individual debris items that are potentially anthropogenic, and can include dispersed wreck sites for which no coherent structure remains	24	-

Feature classification	Definition	Number of anomalies	
		Wind farm	OCC
Debris	Distinct objects on the seabed, generally exhibiting height or with evidence of structure, that are potentially anthropogenic in origin	80	-
Seabed disturbance	An area of disturbance without individual, distinct objects. Potentially indicates wreck debris or other anthropogenic features buried just below the seabed.	46	-
Rope/chain	Curvilinear dark reflectors, often with a small amount of height, indicating rope or chain (if ferrous)	11	-
Bright reflector	Individual objects or areas of low reflectivity, characteristic of materials that absorb acoustic energy, such as waterlogged wood or synthetic materials. Precise nature is uncertain	19	-
Dark reflector	Individual objects or areas of high reflectivity, displaying some anthropogenic characteristics. Precise nature is uncertain	98	3
Mound	A mounded feature with height not considered to be natural. Mounds may form over wreck sites or other debris.	7	-
Magnetic	No associated seabed surface expression, and have the potential to represent possible buried ferrous debris or buried wreck sites	254	1
Recorded obstruction	Position of a recorded obstruction (e.g. foul ground, fisherman's fastener recorded by the UKHO), but for which no associated feature has been identified within the current data set	3	-
Total		**547**	**4**

4.2 Norfolk Boreas site

4.2.1 A total of 14 anomalies (for full list see Appendix 2) have been discriminated as A1 – Anthropogenic origin of archaeological interest.

4.2.2 Four anomalies (**7122**, **7143**, **7229** and **7419**) have been classified as wrecks.

4.2.3 Anomaly **7122** (Sheet 1) has been identified in the SSS data as a large, broken-up, but compact wreck with deck structure visible as slatted linear dark reflectors with shadows indicating height. The full extent of the wreck was not observed as it was situated on the edge of the sonar range. However, the minimum dimensions were measured as 61.1 x 23.0 x 4.4 m. It was observed in the MBES data lying at a general depth of 26.5 m below Lowest Astronomical Tide (LAT) as an angular area of mounds approximately 2 m in height, aligned east to west, with two mounds of significant height (4 m) at the north and south extents. Some scour was visible at the north-west and eastern extents. A large magnetic amplitude of 2440 nT is associated with this location, indicating the presence of a significant amount of ferrous material.

4.2.4 This wreck has an associated UKHO record (11154), positioned 24 m WNW of the central wreck location, which identifies the wreck as the Dutch steam ship *Koningin Regentes*, built in 1895, with original dimensions of 97.5 x 11.0 x 4.9 m. The vessel was in service as a hospital ship, repatriating prisoners of war when it was torpedoed and sunk by a German submarine on 6th June 1918. The wreck was dived in 2010; its identity was confirmed, and the structure was reported as broken and scattered, with the paddles still showing above the seabed (Sheet 1).

4.2.5 Anomaly **7143** (Sheet 2) has been identified in the SSS data as a sub-elongate outline, appearing upright and intact though partially buried in the seabed sediments, with some

internal superstructure visible. Due to the partial burial the wreck has minimum dimensions of 54.0 x 25.5 x 1.0 m. It was observed in the MBES data as an irregular mound with no obvious structure, lying at a general depth of 35 m below LAT. A small magnetic anomaly of 29 nT has been associated with this feature indicating the presence of some ferrous material. However, the wreck is located between two survey lines and therefore this amplitude is considered a minimum value.

4.2.6 This feature has an associated UKHO record (11146) for an unknown wreck, positioned 8 m NNE of the central wreck location. The wreck was last recorded in 1994 as a small sonar contact measuring 40 x 8 m with no height shadow visible, which indicates that the wreck has subsequently been uncovered by seabed sediment processes.

4.2.7 Anomaly **7229** (Sheet 3) has been identified in the SSS data as an elongate sub-angular outline, intact and upright with some internal structure and height shadow visible, measuring 42.6 x 9.7 x 2.5 m. It was observed in the MBES data as an elongate mound, aligned ENE to WSW, with some structure visible and lying at a general depth of 41 m below LAT. Some possible structure or debris is visible along the northern extents, and some sediment build-up is present to the north and south of the wreck. A large amount of scour is visible at the eastern extents and a long, deep scour extends some 100 m NNE from the western end. An associated magnetic amplitude of 97 nT indicates the presence of ferrous material at this location. A small linear anomaly (**7230**) has been identified to the east of this wreck which is likely associated.

4.2.8 This wreck has an associated UKHO record (11153) for an unknown wreck, positioned 8 m NNE of the central wreck location. This position was last surveyed in 2015 by Gardline Geosurvey and the wreck was recorded with measurements of 20 x 15 x 2 m. The most recent dimensions recorded from this dataset seem to indicate that parts of the wreck have been uncovered, possibly by the surrounding scour, while the decreasing width suggests that the sediment build-up along the length of the wreck is increasing. The surrounding sediment disturbance could obscure the identification of surrounding related debris.

4.2.9 Anomaly **7419** has been identified in the SSS data as an elongate outline of a vessel, although it was not seen in its entirety in either line of data (Sheet 4). The interpreted dimensions of 54.0 x 13.1 x 2.2 m should therefore be considered as a minimum. The wreck was observed in the MBES data as a distinct outline of a vessel, aligned north-west to south-east, lying at a general depth of 29.5 m below LAT. The wreck appears upright with some superstructure visible, and is assumed to be relatively intact, although it is partially covered by seabed sediments at the south-east end. A large magnetic amplitude of 5123 nT has been associated with this wreck, indicating the presence of a significant amount of ferrous material. A large flared scour was observed extending approximately 220 m north from the north-east extents of the wreck. There is no obvious related debris in the vicinity, although the sediment build-up to the south could obscure the identification of such features.

4.2.10 This wreck has an associated UKHO record (64124) positioned at the highest point, which indicates the wreck has been identified as an unknown “three-island” vessel by Gardline Geosurvey 2015, observed as upright and intact with the bows to the south-east and partially buried. It was surveyed with recorded dimensions of 68 x 10 x 3 m which appears to indicate the wreck is longer than was possible to measure using this most recent SSS dataset, or that the wreck has become further buried by the surrounding sediment.

4.2.11 A further UKHO record (28336) is positioned approximately 365 m north-west of the central location of wreck **7419** which pertains to the loss of the Dutch fishing vessel *Annie* (possibly) which sank after grounding in 1983. The original dimensions of this vessel (23.8 x 5.5 m) are very small in comparison to those identified within the geophysical data and therefore the record is unlikely to be related. However, due to the partial burial of the unknown wreck it is unclear whether the south-east extents are intact or broken up. No further anomalies which could be identified as a wreck have been located within the vicinity of this position and no features have ever been located at this position therefore the record has been discriminated as U3 - Position of a recorded loss at which no physical wreck remains have ever been identified, and is not included in the gazetteer.

4.2.12 The remaining ten anomalies (**7012**, **7153**, **7237**, **7295**, **7395**, **7407**, **7409**, **7411**, **7413** and **7486**) discriminated as A1 features are classified as magnetic only anomalies with no SSS or MBES contacts.

4.2.13 These anomalies are discriminated as A1 due to their high amplitudes which range from 973 nT (**7411**) up to 2790 nT (**7407**). All these anomalies have the potential to represent a significant amount of possible ferrous debris which may be buried or have no seabed surface expression. These anomalies could be isolated pieces of ferrous material, either of archaeological potential or modern, or be the buried remains of sites, such as wrecks or aircraft remains.

4.2.14 A total of 525 anomalies (for full list see Appendix 2) identified within the Norfolk Boreas site were discriminated as A2 – Uncertain origin of possible archaeological interest.

4.2.15 Twenty-two anomalies (for full list see Appendix 2) were classified as debris fields. Of these, only one (**7429**) was associated with a magnetic anomaly, indicating the presence of ferrous material.

4.2.16 Anomaly **7429** was observed in the SSS data as a large area of features measuring 26.0 x 25.0 m, with the largest individual feature measuring 3.5 x 1.0 x 0.3 m. No structure or form was apparent. This anomaly was observed in the MBES data as an elongate mound with varying heights. The associated magnetic amplitude (33 nT) indicates the presence of some ferrous material.

4.2.17 The remaining debris fields range in form and size from 7.1 x 3.4 x 0.5 m (**7315**), described as a discrete area of at least three objects situated in a slight depression, up to 40.4 x 13.9 x 0.4 m (**7242**). As none of these features were associated with magnetic anomalies, it is likely that any debris at these locations is non-ferrous in nature.

4.2.18 Anomaly **7242** (Fig. 9) is characterised by an area of conjoining angular and curvilinear objects with shadow and small associated individual object. This anomaly could be of archaeological interest or could be related to the emplacement of the charted cable.

4.2.19 Seventy-eight anomalies (see Appendix 2 for full list) have been classified as individual pieces of debris. Nine anomalies (**7125**, **7166**, **7177**, **7327**, **7368**, **7497**, **7503**, **7507** and **7520**) have been associated with magnetic amplitudes indicating the presence of ferrous material at these locations.

4.2.20 The associated magnetic amplitudes range from 11 nT (**7327**, measuring 2.1 x 0.3 x 0.2 m) up to 1588 nT (**7368**, measuring 4.5 x 3.7 x 0.5 m). These anomalies were discriminated as A2 based on their size and form, and have been interpreted as possible ferrous debris of uncertain origin.

4.2.21 Two of these pieces of debris (**7125** and **7182**) have an associated UKHO record. Anomaly **7125** was identified in the SSS data as a large curvilinear object measuring 13.4 x 6.7 m with no obvious shadow indicating height. This feature has an associated magnetic amplitude of 733 nT indicating the presence of ferrous material. The associated UKHO record (69901) pertains to equipment dropped from a vessel in 2007. However, the nature of the geophysical anomaly identified is unclear and has been retained as potential archaeology.

4.2.22 Anomaly **7182** (see Figure 9) was identified in the SSS data as an irregular object measuring 9.5 x 2.7 x 1.6 m. The UKHO record (60600) pertains to a report of a fisherman losing gear on a large anchor. There is no magnetic amplitude associated with this feature which would indicate the presence of ferrous material, and therefore the origin of this feature is uncertain, but is interpreted as debris.

4.2.23 All the anomalies classified as individual pieces of debris range in form and size from 1.7 x 0.6 m (**7507**); a small object with no obvious shadow and an associated magnetic amplitude of 14 nT, up to 17.5 x 5.6 x 0.4 m (**7239**); observed as an irregular object with an associated linear anomaly interpreted as rope (**7240**) and no associated magnetic amplitude. This anomaly has been interpreted as possible non-ferrous debris.

4.2.24 Forty-six anomalies (for full list see Appendix 2) have been classified as a seabed disturbance. These anomalies are not typically associated with magnetic amplitudes.

4.2.25 These anomalies range in form and size from 5.5 x 1.6 x 0.1 m (**7139**) up to 140.0 x 85.0 x 0.5 m (**7095**). This last anomaly was observed as one of two features close together (with **7093**; 65.0 x 33.0 x 0.5 m), both observed only in the MBES data as sub-angular raised mounds in the surrounding flat seabed covered with seabed sediments. These anomalies have been interpreted as possible partially buried debris or natural features. As no magnetic anomalies were associated with these features, any debris situated at these locations is likely to be non-ferrous in nature.

4.2.26 Eleven anomalies (**7027**, **7028**, **7230**, **7240**, **7320**, **7445**, **7487**, **7494**, **7515**, **7528** and **7546**) have been classified as lengths of rope or chain. None of these anomalies have an associated magnetic amplitude and are interpreted to be non-ferrous in origin (i.e. rope rather than chain).

4.2.27 These anomalies range in length from 2.9 x 0.5 x 0.1 m (**7230**; associated with wreck anomaly **7229**) up to 81.1 x 0.6 x 0.1 m (**7546**), identified a long curvilinear dark reflector with some shadow.

4.2.28 Nineteen anomalies (for full list see Appendix 2) have been classified as bright reflectors. None of these anomalies have an associated magnetic amplitude to indicate the presence of ferrous material.

4.2.29 These anomalies range in form and size from 3.3 x 2.6 m (**7188**), identified as an isolated small, rounded object; up to 15.8 x 0.8 m (**7344**), identified as a straight, thick linear anomaly. These anomalies are interpreted as possible non-ferrous debris or natural features.

4.2.30 A total of 101 anomalies (for full list see Appendix 2) have been classified as dark reflectors. These anomalies do not have an associated magnetic amplitude.

4.2.31 These anomalies range in form and size from 1.2 x 0.6 x 0.2 m (**7521**), a small curved object with slight shadow; up to 22.3 x 0.9 m (**7469**), observed as a straight edged object with possible slight scour and no obvious height. The precise nature of the anomalies is uncertain; they may represent possible pieces of non-ferrous debris or they may be natural features.

4.2.32 Seven anomalies (**7023**, **7091**, **7123**, **7137**, **7213**, **7215** and **7218**) have been classified as mound features. None of these anomalies have an associated magnetic value to indicate the presence of ferrous material.

4.2.33 These mounds range in size from 6.0 x 5.0 x 0.5 m (**7023**), a medium sized mound within a slight depression and scouring; up to 26.0 x 14.0 x 0.4 m (**7091**), identified as a sub-elongate mound with some possible but indistinct structure visible. All seven anomalies have been interpreted as possible debris covered by sediment or natural features.

4.2.34 A total of 244 anomalies (for full list see Appendix 2) were classified as magnetic anomalies with no associated SSS or MBES contacts.

4.2.35 These magnetic anomalies range in size from 5 nT (**7251**) up to 850 nT (**7377**). All these anomalies have the potential to represent possible ferrous debris which may be buried or have no seabed surface expression.

4.2.36 Three anomalies (**7089**, **7181** and **7502**) have been discriminated as A3 - Historic record of possible archaeological interest with no corresponding geophysical anomaly. All have been classified as recorded obstructions, according to the UKHO records but no associated geophysical features were identified at these locations.

4.2.37 Anomaly **7089** is the reported position of a fisherman's fastener (UKHO 9545) recorded on a Danish fishery chart. No geophysical anomalies have ever been identified at this location although the potential remains for a buried feature to be present at this location.

4.2.38 Anomaly **7181** is the reported position of an unknown obstruction (UKHO 11202), buried 4 to 5 ft below the seabed, which impeded the installation of a drilling rig and was thought to be possible wreckage material. This obstruction is situated at the location of a well-head installation, and an interpreted well head was identified within the geophysical data measuring 3.8 x 0.7 x 1.6 m, with an associated magnetic anomaly of 2664 nT. The Obstruction was identified during well-head installation, which may have disturbed any material buried at this location. The large magnetic anomaly associated with the well head would obscure the identification of any smaller magnetic anomalies representing possible buried ferrous debris within the vicinity. Therefore, the record has been retained within the gazetteer.

4.2.39 Anomaly **7502** is the reported position of an unknown obstruction (UKHO 64123) first identified in 2004. It has not been located on any subsequent surveys but the potential remains for a buried feature to be present within the vicinity.

4.2.40 Five anomalies (**7400**, **7401**, **7402**, **7403** and **7404**) have been discriminated as U2 – Known non-archaeological feature / Feature of non-archaeological interest.

4.2.41 Anomaly **7401** has been classified as a wreck; identified in the SSS data as a distinct vessel outline appearing intact and upright with some possible structure visible at a rounded end (interpreted as the bow), and more angular at the opposite end (interpreted as the stern), with measurements of 66.0 x 17.0 x 6.7 m. Some surrounding debris was

visible (anomalies **7400**, **7402**, **7403** and **7404**) which is discussed below. The wreck was observed in the MBES data as a distinct vessel, aligned NNE to SSW, lying at a general depth of 33 m below LAT. A very large magnetic amplitude of 20,718 nT is associated with this wreck, indicating the presence of a significant amount of ferrous material. The wreck is surrounded by scour, deeper to the south-west, and some debris is visible in the surrounding sediment.

4.2.42 This wreck has an associated UKHO record (28364), positioned 26 m NNW of the central wreck location, which identifies the wreck as the British supply vessel *Vulcan Service*, which sank in 1990 after colliding with a drilling rig. It was last surveyed in 2015 and reported to be upright and intact. The report also states that a locked radiation bunker was carried on board which does not present a general radiation hazard but salvers should be aware. This wreck is considered to be modern in origin and is not considered to be of archaeological interest. However, its position and extents have been retained in the gazetteer for positioning purposes.

4.2.43 Two anomalies (**7403** and **7404**) have been classified as debris fields and two anomalies (**7400** and **7402**) classified as individual pieces of debris. All have been interpreted as relating to the wreck **7401** based on their location and all are therefore considered to be modern in origin, but retained in the gazetteer for positional purposes. None of these anomalies have their own associated magnetic amplitude, potentially because the large amplitude associated with the nearby wreck structure masks identification of smaller magnetic anomalies nearby.

4.2.44 Anomaly **7403** is located along the eastern extents of wreck anomaly **7401** and is presumed to be associated debris material; covering an area of 33.0 x 14.9 m with a maximum height of 0.7 m.

4.2.45 Anomaly **7404** is located approximately 55 m south-west of the central wreck position, and was identified as a group of distinct objects; two small rectangular pieces and larger linear objects were visible in the SSS data, measuring 14.8 x 9.8 m with a maximum height of 1.0 m measured. Although situated apart from the wreck itself, this debris field is interpreted as likely to pertain to wreck **7401**.

4.2.46 Anomaly **7400** is located approximately 77 m north-west of the central position of wreck **7401**, and was identified as a distinct dark reflector with some possible structure discernible measuring 3.1 x 1.3 x 0.1 m. Although situated apart from the wreck itself, this debris field is interpreted as likely to pertain to wreck **7401**.

4.2.47 Anomaly **7402** was identified as a distinct anomaly within debris field **7403**, located approximately 23 m south-east of the central position, and was observed as a rounded and possibly hollow object measuring 5.8 x 5.1 x 0.4 m.

4.2.48 A further four UKHO records were identified within the study area and are described below, although none were identified within this geophysical dataset and were discriminated as U3 - Position of a recorded loss at which no physical wreck remains have ever been identified, and are not included in the gazetteer.

4.2.49 Record UKHO 9546 is the reported position of an unknown sailing vessel first identified in 1899. This vessel has never been identified during subsequent geophysical surveys and the position is considered to be unreliable and classified as a recorded loss.

4.2.50 Record UKHO 9623 is the reported position of a wreck from a Dutch chart. No geophysical anomalies have been found at this location and the record states the position was “disproved” in 1992 by SeaTeam UK Ltd; therefore, the position is considered unreliable and has been classified as a recorded loss.

4.2.51 Record UKHO 28260 pertains to the reported sinking of the Belgian fishing vessel *Eliane Andre*, which sank in 1957. The position is reported as being doubtful and the wreck has never been identified during subsequent surveys. Therefore, this record has been classified as a recorded loss.

4.2.52 Record UKHO 67747 is the reported position for the wreck of US supply vessel Florida Martin, which sank following a collision in 1974. The UKHO record states that the wreck was raised in 1974, but also that this was cancelled and the position was never charted. No geophysical anomalies have been identified at this location which could pertain to a wreck or associated debris and so this record has been classified as a recorded loss.

4.3 The OCC

4.3.1 Four anomalies (**7547**-**7550**) were identified within the OCC area and all were discriminated as A2 – Uncertain origin of possible archaeological interest.

4.3.2 Three of these anomalies (**7547**, **7549** and **7550**) have been classified as dark reflectors. Anomaly **7547** was observed in the SSS data as an elongate dark reflector with bright shadow, measuring 4.7 x 0.7 x 0.2 m.

4.3.3 Anomaly **7549** was observed in the SSS data as an irregular object with an angular shadow, measuring 4.5 x 3.1 x 0.3 m.

4.3.4 Anomaly **7550** was observed as an irregular object on the crest of a sand ripple, measuring 4.8 x 2.2 x 0.2 m.

4.3.5 All three of these anomalies have been interpreted as possible non-ferrous debris or natural features.

4.3.6 Anomaly **7548** has been classified as a magnetic only anomaly with an amplitude of 33 nT. This anomaly could represent possible ferrous debris that is buried or has no seabed surface expression.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Palaeogeographic features

5.1.1 The assessment of the geophysical data within the study area resulted in a total of 190 individual features of palaeogeographic interest. Of these, 132 have been assigned a P1 archaeological rating (high amplitude reflectors, shallow channels, sediment ridges and dune features), and 58 have been assigned a P2 archaeological rating (cut and fills and acoustic blanking).

5.1.2 These features of high archaeological interest are interpreted to date from the Late Devensian to the Early Holocene, and generally represent a buried palaeolandscape that will have been present post the LGM and prior to the Holocene marine transgression.

5.1.3 The data have also shown, along with previous work in the area, that the Brown Bank Formation is likely to have had a much more complex depositional history than previously

thought, with numerous internal reflectors suggesting periodic drying and exposure of these sediments as a terrestrial landscape.

5.1.4 Any potential further palaeolandscape work in the area should concentrate on the identified units of archaeological interest. Proposals have already been made in Wessex Archaeology (2018b) for Stage 3 palaeoenvironmental analysis to be undertaken on five vibrocores (VC016, VC028, VC032, VC039 and VC047), focussing on Unit 3, Unit 4a, Unit4b, and Unit4c deposits.

5.1.5 Should further ground investigation work be planned form within the study area, it is recommended that the archaeological contractor be consulted to advise on potential samples to be acquire for archaeological purposes, particularly from the sediment ridge feature **7620**/**7621**/**7622** identified within the data and other features of archaeological interest (P1). It is also recommended that all future geotechnical logs from within the study area be made available for geoarchaeological assessment.

5.2 Seabed features

5.2.1 The assessment of the geophysical data within the study areas resulted in a total of 546 anomalies identified as being of possible archaeological interest; 542 within the Norfolk Boreas site and 4 within the OCC.

5.2.2 A total of 14 anomalies were assigned the discrimination A1 - Anthropogenic origin of archaeological interest, all of which are located within the Norfolk Boreas site. Four of these anomalies (**7122**, **7142**, **7229** and **7419**) were classified as wrecks, and ten as magnetic only anomalies (**7012**, **7153**, **7237**, **7295**, **7395**, **7407**, **7409**, **7411**, **7413** and **7486**).

5.2.3 A total of 529 anomalies have been discriminated as A2 – Uncertain origin of possible archaeological interest, four of which (**7547**-**7550**) are located within the OCC.

5.2.4 Three anomalies were assigned an A3 archaeological discrimination (**7089**, **7181** and **7502**) which relate to UKHO obstruction records for which no corresponding geophysical anomaly was identified.

5.2.5 Five anomalies (**7400**, **7401**, **7402**, **7403** and **7404**) have been discriminated as U2 – Known non-archaeological feature / Feature of non-archaeological interest. All are located within the Norfolk Boreas site.

5.2.6 A further five UKHO records have been identified within the Norfolk Boreas site and have been assigned a U3 – Recorded loss, discrimination and are not included in the gazetteer.

5.2.7 As features of high archaeological potential, it is recommended that Archaeological Exclusion Zones (AEZs) are placed around all four identified wreck sites. All these AEZs are recommended to be a 50 m buffer around the extents of each wreck (see Table 9).

5.2.8 A 50 m AEZ is also recommended for each of the ten magnetic anomaly discriminated as A1. Although no surface anomalies were identified, the magnetic amplitudes suggest significant pieces of buried ferrous debris may be present at these locations (Table 9).

5.2.9 Additionally, there is still the potential for archaeological material to be buried within the vicinity of the three identified A3 locations. It is recommended that a 50 m AEZ be assigned to **7181** and **7502**, centred on their recorded positions (Table 9). However, as an

older record at which no geophysical anomalies have ever been identified, an AEZ is not recommended for **7089**.

Table 9 Recommended AEZs within the Offshore Project Area

ID	Classification	Archaeological Discrimination	Position (ETRS89 UTM31N)		Status	Buffer
			Easting	Northing		
7012	Magnetic	A1	484357	5874120	Recommended	50 m around position
7122	Wreck	A1	491726	5872289	Recommended	50 m around extents
7143	Wreck	A1	492758	5861316	Recommended	50 m around extents
7153	Magnetic	A1	491824	5885902	Recommended	50 m around position
7181	Recorded obstruction	A3	495427	5869436	Recommended	50 m around position
7229	Wreck	A1	499362	5868329	Recommended	50 m around extents
7237	Magnetic	A1	497859	5866964	Recommended	50 m around position
7295	Magnetic	A1	499266	5875753	Recommended	50 m around position
7395	Magnetic	A1	501554	5879165	Recommended	50 m around position
7407	Magnetic	A1	501685	5877229	Recommended	50 m around position
7409	Magnetic	A1	501698	5877152	Recommended	50 m around position
7411	Magnetic	A1	501493	5876942	Recommended	50 m around position
7413	Magnetic	A1	501800	5876555	Recommended	50 m around position
7419	Wreck	A1	504729	5875046	Recommended	50 m around extents
7486	Magnetic	A1	504114	5886610	Recommended	50 m around position
7502	Recorded obstruction	A3	506253	5880785	Recommended	50 m around position

5.2.10 AEZs of 50 m radius are considered a sufficient distance from individual wreck sites to include any further potential buried debris that may exist at these locations. They will also include any immediate scour, although significant scouring due to strong currents will extend beyond the boundaries of the AEZs.

5.2.11 Wreck anomaly **7401** is considered to be modern in origin and is discriminated as U2, and no AEZ is recommended. However, this anomaly has been retained in the gazetteer with a boundary around the extents for positional purposes and avoidance is recommended. Anomalies **7400**, **7402**, **7403** and **7404** are all interpreted to be debris relating to this wreck and therefore modern in origin. These have also been retained with a boundary around their extents but no recommended AEZ.

5.2.12 For features not assigned an AEZ, avoidance is recommended with further mitigation to be implemented (e.g. high resolution geophysical survey, visual inspection (divers or ROV)) if they are proposed to be directly impacted by development in the future.

5.2.13 It is recommended that if any objects of possible archaeological interest are recovered during any groundwork operations, that they should be reported using the established

Offshore Renewables Protocol for Archaeological Discoveries (ORPAD, The Crown Estate 2014). This will establish whether the recovered objects are of archaeological interest and recommend appropriate mitigation measures.

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APPENDICES

Appendix 1 Palaeogeographic features of archaeological potential

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7600	Erosion Surface	P1	Relatively poorly developed, asymmetrical dune features within the upper Brown Bank Formation, probably overlaying an erosion surface although this is poorly defined. Identified on a number of survey lines. Possibly indicates a significant period of exposure and a buried land surface. Depths taken to tops of dunes. Depth Range: 4.0 - 6.7 m BSB.	Unit 2	Devensian
7601	Erosion Surface	P1	Relatively poorly developed, asymmetrical individual dune feature within the upper Brown Bank Formation, probably overlaying an erosion surface although this is poorly defined. Only identified on one survey line, but likely an outlier of similar area of features 7600. Possibly indicates a significant period of exposure and a buried land surface. Depths taken to top of dune. Depth Range: 4.2 - 6.1 m BSB.	Unit 2	Devensian
7602	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector with single phase of acoustically layered fill. Possible buried fluvial channel. Depth Range: 1.2 - 9.2 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7603	High Amplitude Reflector	P1	Distinct area of relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.2 - 9.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7604	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.8 - 1.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7605	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.0 - 3.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7606	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.8 - 3.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7607	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.3 - 2.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7608	High Amplitude Reflector	P1	Distinct area of relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.7 - 5.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7609	High Amplitude Reflector	P1	Distinct area of relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 4.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7610	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.0 - 3.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7611	High Amplitude Reflector	P1	Distinct area of relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.0 - 5.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7612	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.9 - 2.5 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7613	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Associated with channel feature **7614**. Depth Range: 1.0 - 5.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7614	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector, with either an acoustically unstructured or layered fill, possibly of more than one phase. Possible buried fluvial channel, associated with, and often overlain by, high amplitude reflector **7613** indicating it is possibly part of the same landscape. Depth Range: 0.9 - 7.4 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7615	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 2.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7616	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.3 - 2.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7617	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.2 - 2.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7618	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 5.4 - 6.1 m BSB.	Unit 3	Devensian
7619	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.0 - 7.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7620	Sediment Ridge	P1	Long, curvilinear sediment ridge identified primarily within the MBES data. Varies in appearance from a single ridge to two parallel smaller ridges with a sunken centre. Visible in cross section in the SBP data as a small mound with a chaotic internal structure. Located within an area of little superficial sediment between two sand banks, and appears to be part of the same structure as **7621** and **7622**. Also appears to connect channels **7614** and **7625**, and is possibly related. Probable remnants of a meandering channel, potentially resistant channel fill (cemented sediment or stiff peat) that has remained whilst the surrounding sediments have been eroded away. Feature trends generally E-W, and is approximately 2.7 km long including meanders.	Unit 4a	Holocene (Pre-Transgression)
7621	Sediment Ridge	P1	Low, poorly defined sediment ridge identified primarily within the MBES data. Appears as two parallel small ridges with a sunken centre. Tentatively visible in cross section in the SBP data as a small mound with a chaotic internal structure. Located within an area of little superficial sediment between two sand banks, and appears to be part of the same structure as **7620** and **7622**. Probable remnants of a meandering channel, potentially resistant channel fill (cemented sediment or stiff peat) that has remained whilst the surrounding sediments have been eroded away. Feature trends generally E-W, and is approximately 600 m long including meanders.	Unit 4a	Holocene (Pre-Transgression)
7622	Sediment Ridge	P1	Long, curvilinear sediment ridge identified primarily within the MBES data. Varies in appearance from a single ridge to two parallel smaller ridges with a sunken centre. Visible in cross section in the SBP data as a small mound with a chaotic internal structure. Located within an area of little superficial sediment between two sand banks, and appears to be part of the same structure as **7620** and **7621**. Also appears to connect channels **7614** and **7625**, and high amplitude reflector **7619**, and is possibly related. Probable remnants of a meandering channel, potentially resistant channel fill (cemented sediment or stiff peat) that has remained whilst the surrounding sediments have been eroded away. Feature trends generally NNW-SSE, and is approximately 5.5 km long including meanders.	Unit 4a	Holocene (Pre-Transgression)
7623	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.9 - 7.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7624	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by cut and fill feature 4625. Depth Range: 4.1 - 6.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7625	Channel	P1	Small cut and fill feature cut into the upper Brown Bank Formation, only identified on two survey lines. Poorly defined basal reflector with single phase of layered fill. Possible remains of an eroded fluvial system, disrupts high amplitude reflectors **7624** and **7626**, and possibly related to the same buried land surface. Potentially associated with sediment ridge **7620** and originally part of the same channel. Depth Range: 5.4 - 10.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7626	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by cut and fill feature **7625**. Depth Range: 4.6 - 6.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7627	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.5 - 6.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7628	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.5 - 5.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7629	High Amplitude Reflector	P1	Extensive area of relatively flat, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.9 - 8.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7630	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, overlain by high amplitude reflector **7629**. Poorly defined basal reflector, with single phase of poorly defined dipping internal reflectors. Only identified on one survey line, and could be the remnants of an eroded fluvial system or an internal Brown Bank feature. Depth Range: 5.6 - 8.7 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7631	High Amplitude Reflector	P1	Distinct but intermittent, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.6 - 6.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7632	High Amplitude Reflector	P1	Distinct but intermittent, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.6 - 6.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7633	Channel	P1	Generally poorly defined channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Possible buried channel feature, disrupts high amplitude reflector **7634** and is possibly part of the same land surface. Depth Range: 6.6 - 15.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7634	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7633**. Depth Range: 6.8 - 8.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7635	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on two survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7636**. Depth Range: 6.0 - 7.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7636	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Present as a very distinct, relatively deep cut in the west, and shallows and broadens to the east. Relatively poorly defined basal reflector, with single phase of acoustically layered fill. Disrupts high amplitude reflectors **7635** and **7637**, and possibly related to the same buried land surface. Possibly filed with organic sediment at the eastern end. Depth Range: 7.0 - 11.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7637	High Amplitude Reflector	P1	Extensive area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel features **7636**, **7638** and **7639**, which are possibly part of the same buried landscape. Depth Range: 0.9 - 8.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7638	Channel	P1	Fairly distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Possible buried channel feature, disrupts high amplitude reflector **7637** and is possibly part of the same land surface. Depth Range: 6.6 - 10.5 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7639	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Possible buried channel feature, disrupts high amplitude reflectors **7637**, **7642** and **7643**, and possibly related to the same buried land surface. Trends approximately NE - SW, and continues beyond the study area extents to the north. Depth Range: 3.3 - 11.0 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7640	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on two survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.6 - 5.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7641	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.8 - 7.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7642	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.2 - 8.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7643	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.6 - 7.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7644	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.1 - 9.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7645	High Amplitude Reflector	P1	Area of distinct, relatively flat, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.8 - 9.9 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7646	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on two survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.2 - 8.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7647	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range 4.5 - 4.9 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7648	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on two survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.4 - 6.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7649	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector with single phase of acoustically layered fill. Possible buried fluvial feature. Depth Range: 2.8 - 8.6 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7650	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector with single phase of acoustically layered fill. Possible buried fluvial feature. Depth Range: 2.7 - 8.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7651	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector with single phase of acoustically layered fill. Possible buried fluvial feature. Depth Range: 2.0 - 10.4 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7652	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector with single phase of acoustically layered fill. Possible buried fluvial feature, overlain by high amplitude reflector **7654** at its eastern end. Depth Range: 3.0 - 8.5 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7653	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 3.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7654	High Amplitude Reflector	P1	Extensive area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Vibrocore VC032 was acquired from within the feature and clayey peat recovered from 4.0 m BSB, indicating the features represents a possible buried land surface. Depth Range: 0.6 - 7.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7655	Simple Cut and Fill	P2	Distinct cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey lines. Relatively poorly defined basal reflector with a single phase of acoustically layered fill. Possible remnants of an eroded fluvial system. Depth Range: 3.7 - 6.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7656	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Feature is disrupted by channel feature **7658**, and is potentially part of the same buried land surface. Depth Range: 1.8 - 5.5 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7657	High Amplitude Reflector	P1	Area of relatively flat, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Feature is disrupted by channel feature **7658**, and is potentially part of the same buried land surface. Depth Range: 1.6 - 5.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7658	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Generally distinct basal reflector with single phase of acoustically layered fill. Possible buried fluvial feature, associated with (and cuts) high amplitude reflectors **7656** and **7657**, and potentially part of the same landscape. Depth Range: 0.9 - 7.7 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7659	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7658**. Depth Range: 1.6 - 3.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7660	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7658**. Depth Range: 2.7 - 3.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7661	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7658**. Depth Range: 1.0 - 3.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7662	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7658**. Depth Range: 2.0 - 2.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7663	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 2.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7664	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7666**. Depth Range: 1.4 - 2.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7665	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7666**. Depth Range: 1.0 - 1.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7666	Channel	P1	Fairly distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Possible buried channel feature, disrupts high amplitude reflectors **7664** and **7665** and is possibly part of the same land surface. Depth Range: 1.3 - 4.2 m BSB.	Unit 4a	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7667	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Feature is disrupted by channel feature **7668**, and is potentially part of the same buried land surface. Depth Range: 1.5 - 8.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7668	Channel	P1	Fairly distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Possible buried channel feature, disrupts high amplitude reflector **7667** and is possibly part of the same land surface. Depth Range: 2.4 - 6.8 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7669	Simple Cut and Fill	P2	Possible, poorly defined cut and fill feature cut into the upper Brown Bank Formation, only identified on one survey line. Poorly defined basal reflector with faint layered fill. Could be the remains of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 2.5 - 7.5 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7670	Simple Cut and Fill	P2	Small cut and fill feature cut into the upper Brown Bank Formation, only identified on one survey line. Poorly defined basal reflector with single phase of layered fill. Possible remains of an eroded fluvial system, disrupts high amplitude reflector **7671**, and possibly related to the same buried land surface. Depth Range: 1.8 - 7.0 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7671	High Amplitude Reflector	P1	Extensive area of relatively flat, high amplitude reflectors located at the top of the upper Brown Bank Formation, identified on numerous survey lines. Vibrocore VC039 was acquired from within the feature and clayey peat recovered from 3.0 m BSB, indicating the features represents an extensive are possible buried, preserved land surface. The feature appears bowl shaped, with a gradual gradient from the edges towards a central depression, suggesting any surviving terrestrial deposits may be thickest towards the centre. Depth Range: 1.1 - 10.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7672	Simple Cut and Fill	P2	Small cut and fill feature cut into the upper Brown Bank Formation, only identified on one survey line. Poorly defined basal reflector with single phase of layered fill. Possible remains of an eroded fluvial system, disrupts high amplitude reflector **7671**, and possibly related to the same buried land surface. Depth Range: 4.9 - 6.6 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7673	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on two survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 3.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7674	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.1 - 3.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7675	High Amplitude Reflector	P1	Very small but distinct high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.4 - 3.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7676	Simple Cut and Fill	P2	Possible, poorly defined cut and fill feature cut into the upper Brown Bank Formation, only identified on two survey lines. Poorly defined basal reflector with faint layered fill. Could be the remains of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 2.7 - 7.5 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7677	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.4 - 4.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7678	Acoustic Blanking	P2	Small area of acoustic blanking within the upper Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 7.3 - 9.2 m BSB.	Unit 3	Holocene (Pre-Transgression)
7679	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.8 - 4.6 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7680	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on two survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.2 - 4.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7681	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.7 - 3.8 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7682	High Amplitude Reflector	P1	Area of high amplitude reflectors located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.2 - 4.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7683	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.8 - 3.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7684	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.5 - 2.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7685	High Amplitude Reflector	P1	Distinct relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.0 - 4.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7686	Acoustic Blanking	P2	Distinct area of acoustic blanking within the Brown Bank Formation, identified on more than one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 6.4 - 7.6 m BSB.	Unit 2 / Unit 3	Devensian

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7687	Acoustic Blanking	P2	Distinct area of acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 5.0 - 8.6 m BSB.	Unit 2 / Unit 3	Devensian
7688	High Amplitude Reflector	P1	Distinct high amplitude reflector located relatively deep within the upper Brown Bank Formation, identified on two survey lines. Possibly indicative of a peat or highly organic layer, but situated at a much lower level within the stratigraphy than other similar layers across the study area. Depth Range: 12.1 - 16.9 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7689	Erosion Surface	P1	Relatively poorly developed, asymmetrical dune features within the upper Brown Bank Formation, probably overlaying an erosion surface although this is poorly defined. Identified on a number of survey lines. Possibly indicates a significant period of exposure and a buried land surface. Depths taken to tops of dunes. Depth Range: 4.6 - 9.1 m BSB.	Unit 2	Devensian
7690	Acoustic Blanking	P2	Distinct area of acoustic blanking within Brown Bank, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Actually part of feature 7695, but they join outside of the study area. Depth Range: 5.5 - 12.1 m BSB.	Unit 2 / Unit 3	Devensian
7691	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 4.8 - 5.2 m BSB.	Unit 2 / Unit 3	Devensian
7692	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 5.0 - 6.6 m BSB.	Unit 2 / Unit 3	Devensian
7693	High Amplitude Reflector	P1	Area of high amplitude reflectors located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.7 - 4.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7694	High Amplitude Reflector	P1	Area of high amplitude reflectors located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.2 - 3.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7695	Acoustic Blanking	P2	Extensive area of intermittent acoustic blanking within the Brown Bank Formation, identified on numerous survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 3.0 - 12.5 m BSB.	Unit 2 / Unit 3	Devensian
7696	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on two survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 0.6 - 3.3 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7697	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.0 - 6.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7698	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.8 - 6.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7699	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.1 - 3.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7700	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.0 - 2.9 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7701	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 0.7 - 7.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7702	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 4.1 - 5.1 m BSB.	Unit 2 / Unit 3	Devensian
7703	Acoustic Blanking	P2	Area of intermittent acoustic blanking within the Brown Bank Formation, identified on more than one survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 9.2 - 13.5 m BSB.	Unit 2 / Unit 3	Devensian
7704	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, identified on more than one survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 11.3 - 14.9 m BSB.	Unit 2 / Unit 3	Devensian
7705	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 10.2 - 15.0 m BSB.	Unit 2 / Unit 3	Devensian
7706	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, identified on more than one survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 9.3 - 10.4 m BSB.	Unit 2 / Unit 3	Devensian
7707	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 4.3 - 7.8 m BSB.	Unit 2 / Unit 3	Devensian
7708	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material.	Unit 2 / Unit 3	Devensian

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7709	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 4.3 - 8.7 m BSB.	Unit 2 / Unit 3	Devensian
7710	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 8.7 - 12.2 m BSB.	Unit 2 / Unit 3	Devensian
7711	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 7.1 - 9.5 m BSB.	Unit 2 / Unit 3	Devensian
7712	Simple Cut and Fill	P2	Possible large cut and fill feature cut into the upper Brown Bank Formation, identified on more than one survey line. Relatively poorly defined basal reflector with single phase of layered fill. Possible remnants of a fluvial feature, but could be an internal Brown Bank feature. Depth Range: 1.9 - 6.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7713	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 14.1 - 15.1 m BSB.	Unit 2 / Unit 3	Devensian
7714	Acoustic Blanking	P2	Distinct area of intermittent acoustic blanking within the Brown Bank Formation, identified on a number of survey lines. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 8.6 - 14.0 m BSB.	Unit 2 / Unit 3	Devensian
7715	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 2.2 - 6.1 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7716	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 8.6 - 9.7 m BSB.	Unit 2 / Unit 3	Devensian
7717	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature. Depth Range: 1.0 - 3.1 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7718	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 2.8 - 5.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7719	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.2 - 3.2 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7720	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.0 - 8.3 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7721	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.2 - 2.8 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7722	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 0.7 - 6.6 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7723	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.2 - 3.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7724	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.9 - 4.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7725	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.4 - 4.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7726	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.9 - 4.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7727	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.4 - 4.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7728	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 3.2 - 4.7 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7729	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 3.4 - 5.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7730	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 3.2 - 6.7 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7731	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 2.6 - 5.7 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7732	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.6 - 3.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7733	Channel	P1	Possible shallow channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector, with single phase of acoustically layered fill. Depth Range: 3.1 - 6.0 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7734	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.6 - 7.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7735	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 6.8 - 8.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7736	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 6.0 - 7.6 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7737	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 5.1 - 6.8 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7738	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.4 - 6.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7739	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.0 - 3.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7740	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.0 - 4.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7741	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Partially disrupts high amplitude reflector **7742**. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 5.0 - 9.8 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7742	High Amplitude Reflector	P1	Extensive area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.0 - 10.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7743	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.9 - 8.1 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7744	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.8 - 2.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7745	Simple Cut and Fill	P2	Small, shallow cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, possibly associated with high amplitude reflector **7747**. Depth Range: 9.6 - 11.2 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7746	Simple Cut and Fill	P2	Small, shallow cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, possibly associated with high amplitude reflector **7747**. Depth Range: 9.5 - 11.5 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7747	High Amplitude Reflector	P1	Long but relatively narrow, distinct, meandering high amplitude reflector at the top of the upper Brown Bank Formation, trending approximately NNW - SSE. Has the plan appearance of a channel feature, but the cut of a channel is not readily evident in the data. Possible shallow channel feature filled with organic sediment or peat. Depth Range: 8.2 - 10.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7748	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.2 - 2.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7749	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 0.9 - 6.5 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7750	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 3.7 - 6.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7751	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 9.7 - 10.2 m BSB.	Unit 2 / Unit 3	Devensian
7752	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 9.7 - 10.6 m BSB.	Unit 2 / Unit 3	Devensian
7753	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.8 - 2.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7754	Simple Cut and Fill	P2	Possible small simple cut and fill feature cut into the upper Brown Bank Formation, but only identified on one survey line. Well defined basal reflector with acoustically transparent fill. Could be infilled depression and/or part of a buried erosion surface. Depth Range: 5.1 - 7.0 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7755	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.7 - 6.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7756	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.0 - 2.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7757	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.5 - 5.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7758	High Amplitude Reflector	P1	Small but distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Partially overlies cut and fill feature **7759**. Depth Range: 2.7 - 3.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7759	Simple Cut and Fill	P2	Relatively poorly defined cut and fill feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Poorly defined basal reflector with a single phase of either layered or transparent fill. Possible fluvial feature, but could be an internal feature of the Brown Bank. Depth range: 3.6 - 9.6 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7760	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.1 - 5.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7761	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.2 - 6.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7762	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 5.2 - 6.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7763	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.1 - 3.9 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7764	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.4 - 3.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7765	Simple Cut and Fill	P2	Possible small simple cut and fill feature cut into the upper Brown Bank Formation, but only identified on one survey line. Well defined basal reflector with acoustically transparent fill. Could be infilled depression and/or part of a buried erosion surface. Depth Range: 2.1 - 4.2 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7766	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.9 - 5.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7767	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.6 - 4.3 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7768	Acoustic Blanking	P2	Small area of acoustic blanking within the Brown Bank Formation, only identified on one survey line. Possible area of shallow gas. Not of archaeological potential in itself, but potentially indicative of preserved organic material. Depth Range: 2.7 - 5.2 m BSB.	Unit 2 / Unit 3	Devensian
7769	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.4 - 3.5 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7770	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.1 - 8.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7771	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.9 - 6.4 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7772	Channel	P1	Distinct channel feature cut into the upper Brown Bank Formation, identified on a number of survey lines. Relatively poorly defined basal reflector, but with distinct acoustically layered fill. Probable buried fluvial channel. Disrupts areas of high amplitude reflectors **7773**, **7774** and **7775** and probably part of the same landscape. Depth Range: 2.6 - 13.4 m BSB.	Unit 4a	Holocene (Pre-Transgression)
7773	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7772**, and probably part of the same landscape. Depth Range: 4.2 - 4.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7774	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7772**, and probably part of the same landscape. Depth Range: 3.4 - 4.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7775	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Disrupted by channel feature **7772**, and probably part of the same landscape. Depth Range: 3.9 - 5.1 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7776	Simple Cut and Fill	P2	Possible cut and fill feature cut into the upper Brown Bank Formation, although only identified on one survey line. Poorly defined basal reflector with single phase of acoustically layered fill. Could be the remnants of an eroded fluvial feature, or be an internal Brown Bank feature. Depth Range: 1.5 - 4.4 m BSB.	Unit 3 / Unit 4a	Devensian or Holocene
7777	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.4 - 2.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7778	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.5 - 4.6 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7779	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.3 - 3.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)

ID	Classification	Archaeological Discrimination	Description	Unit	Age
7780	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.3 - 3.5 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7781	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.4 - 3.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7782	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.1 - 2.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7783	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.5 - 2.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7784	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, identified on more than one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 1.4 - 1.7 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7785	High Amplitude Reflector	P1	Extensive area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.6 - 7.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7786	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 4.0 - 5.8 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7787	High Amplitude Reflector	P1	Distinct, relatively flat, high amplitude reflector located at top of the upper Brown Bank Formation, but only identified on one survey line. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 2.8 - 3.0 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7788	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.7 - 7.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)
7789	High Amplitude Reflector	P1	Area of relatively flat, intermittent, high amplitude reflectors located at top of the upper Brown Bank Formation, identified on a number of survey lines. Peat recovered from vibrocores from similar features indicates a possible buried land surface. Depth Range: 3.7 - 7.2 m BSB.	Unit 4b	Holocene (Pre-Transgression)

Appendix 2 Seabed features of archaeological potential

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7000	Seabed disturbance	486113	5881234	A2	6.1	4.4	0.2	-	A medium sized possible seabed disturbance comprising approximately three thin linear dark reflector objects. The feature is partially obscured by sand waves. Two indistinct curvilinear bright reflectors are also discernible in the SSS data. Could indicate buried debris. No associated magnetic anomaly indicating non-ferrous in origin.	-	Wind farm
7001	Magnetic	485654	5880287	A2	-	-	-	26	Small dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7002	Magnetic	486252	5879693	A2	-	-	-	151	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7003	Magnetic	485800	5879433	A2	-	-	-	9	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7004	Bright reflector	484634	5879079	A2	4.5	0.8	0.0	-	An irregularly shaped bright reflector anomaly. This is a medium sized feature that is quite distinct on a sand wave rich area of seabed. Could be debris or a natural seabed feature.	-	Wind farm
7005	Seabed disturbance	484383	5878810	A2	16.9	4.8	0.0	-	A large and irregularly shaped bright reflector that is located within sand waves, this is a possible seabed disturbance. The feature is larger and more distinct than the surrounding seabed anomalies caused by the sand waves. A possibly partially buried anthropogenic feature or a natural feature.	-	Wind farm
7006	Seabed disturbance	486092	5878711	A2	14.7	5.7	0.7	-	An area of disturbed seabed situated within sand waves with a large item of debris or debris field beneath. The exposed, distinct dark reflector object looks partially broken up or buried by sands. Possibly indicates buried debris.	-	Wind farm
7007	Bright reflector	485420	5877873	A2	4.0	1.6	0.0	-	A slightly figure of eight shaped bright reflector or two bright reflector anomalies. This medium sized feature is located within sand waves and may be partially buried. A possible debris object	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7008	Debris field	486070	5877646	A2	28.0	25.0	0.4	-	A large spread of broken up possible debris objects, there are tens of dark reflector objects, both with and without shadows. The anomalies are small with the largest measuring 3.2 m length. This debris field is situated within sand waves and the full extent of the feature may be buried. In the MBES data this is visible as an irregular area of disturbed seabed, possibly comprising debris objects that appear to disrupt the sand ripple pattern	-	Wind farm
7009	Debris	486575	5876973	A2	3.2	1.5	0.3	-	A distinct possible debris object, the debris appears to be a slightly triangular shaped dark reflector with a bright, pointed shadow. This is situated within a depression and within sand waves. The full extent of this feature may be buried	-	Wind farm
7010	Debris	485762	5875290	A2	3.0	0.5	0.2	-	A slightly curvilinear shaped dark reflector with a bright shadow. This is a very indistinct feature that may be an item of debris lying on an area of sand waves	-	Wind farm
7011	Magnetic	484977	5875095	A2	-	-	-	34	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7012	Magnetic	484357	5874120	A1	-	-	-	2538	Very large dipole identified on more than one survey line with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7013	Magnetic	485091	5873841	A2	-	-	-	11	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7014	Debris	483917	5873725	A2	16.0	9.0	1.0	-	A large possible item of debris. This is visible in the SSS data as a thick, curvilinear shaped dark reflector with a bright shadow. This feature is situated within sand waves and is possibly partially buried. In the MBES data this is visible as a slightly elongated mound that disrupts the sand ripple pattern. The debris has caused some scouring to the west.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7015	Seabed disturbance	483968	5872942	A2	13.0	8.3	0.8	-	A large area of disturbed seabed comprising a dark reflector object that is poorly defined and partially buried by sand waves. There appears to be a thick curvilinear shaped dark reflector with a large and bright shadow in the SSS data. In the MBES data this feature is visible as a slightly sub-rounded mound with some scour associated orientated to the west and north	-	Wind farm
7016	Debris field	483981	5872864	A2	20.9	2.8	0.4	-	A large oval shaped area of seabed containing debris objects. The debris field comprises distinct dark and bright reflectors. There appears to be one large main feature which is possibly partially buried debris lying perpendicular to the sand waves with smaller anomalies associated. In the MBES data this is visible as an elongate mound within sand ripples with some slight scour associated orientated to the north.	-	Wind farm
7017	Debris	487180	5871820	A2	15.1	1.2	0.3	-	A long and thick curvilinear shaped dark reflector with a shadow in places across its extent. This may be a length of rope or chain or a long and thick item of debris	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7018	Debris	485203	5871589	A2	4.9	1.4	0.1	-	A medium sized possible item of debris situated within large sand waves. The feature is made up of two slightly curvilinear shaped dark reflectors parallel to one another on the seabed with an internal shadow or bright reflector visible	-	Wind farm
7019	Seabed disturbance	485664	5871276	A2	13.1	8.0	0.8	-	An area of disturbed seabed comprising an irregularly shaped dark reflector feature that is partially exposed within sand waves. There are a number of small dark reflector objects visible, some with shadows and some without. There appears to be some sediment build up around feature. In the MBES data this anomaly is visible as an isolated sub-rounded object with some scour to the north.	-	Wind farm
7020	Dark reflector	487071	5870294	A2	3.3	0.2	0.0	-	A long, thin and curvilinear shaped dark reflector with a short shadow. This is situated next to a similar anomaly and displays some anthropogenic characteristics	-	Wind farm
7021	Dark reflector	487073	5870294	A2	3.9	0.2	0.1	-	A long, thin and straight linear dark reflector object with a short shadow. This feature is situated directly next to a similar anomaly and is possibly related, the object displays some anthropogenic characteristics	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7022	Dark reflector	484412	5870265	A2	5.8	0.6	0.1	-	A long, thin and distinct linear dark reflector with a short and bright shadow. This feature displays some anthropogenic characteristics.	-	Wind farm
7023	Mound	485191	5869293	A2	6.0	5.0	0.5	-	In the MBES data this is visible as a medium sized mound within a slight depression. The feature has scouring to the north and west with some sediment disturbance visible to the north. This feature is not clear in the SSS data	-	Wind farm
7024	Bright reflector	484467	5869107	A2	13.6	0.4	0.0	-	A very long and thin bright reflector feature. This is a distinct anomaly that may be debris or a scar on the seabed	-	Wind farm
7025	Dark reflector	485969	5869086	A2	4.8	0.4	0.2	-	A long and thin curvilinear shaped dark reflector with a slight shadow. This is a very distinct possible item of debris situated on a sand wave rich area of seabed	-	Wind farm
7026	Magnetic	487680	5869041	A2	-	-	-	28	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7027	Rope/chain	486159	5868970	A2	18.2	0.5	0.0	-	A long, thin and distinct linear shaped dark reflector with no shadow, the long object is possibly situated within a slight depression. This may be a piece of rope or chain located close to a similar feature (7028) and on the edge of a sand wave. This man made object is partially buried at one end	-	Wind farm
7028	Rope/chain	486193	5868956	A2	16.6	0.8	0.0	-	A long, thin and distinct linear shaped dark reflector with no shadow, this long object is possibly situated in a depression. A possible piece of rope or chain situated close to a similar feature (7027) and located on the edge of a sand wave	-	Wind farm
7029	Debris	484823	5868414	A2	5.8	0.4	0.1	-	A long, thin and distinct linear dark reflector anomaly with a bright shadow, the feature appears to have some sediment build up around it. This is a distinct piece of debris on a sandy and even area of seabed	-	Wind farm
7030	Debris	484857	5868244	A2	4.7	1.4	0.2	-	A thick and very distinct dark reflector with a bright, bulbous shadow. This is a medium sized item of debris likely to be anthropogenic	-	Wind farm
7031	Debris	484206	5868100	A2	6.9	1.4	0.2	-	A medium sized and distinct dark reflector with a bright shadow. This is a rounded object with a linear piece attached, situated within sand waves and a possible item of debris	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7032	Bright reflector	485505	5868018	A2	8.0	6.0	0.2	-	A medium sized and indistinct circular bright reflector feature situated within sand waves. In the MBES data this is visible as a small and elongate depression with a slight mound or object in its northwest extent. The feature has some sediment build up to the north and the whole area measures 22 x 13 x 0.2 m.	-	Wind farm
7033	Bright reflector	484986	5867727	A2	3.8	2.4	0.0	-	A rounded bright reflector with a hollow centre. This is an indistinct anomaly that may be a piece of debris	-	Wind farm
7034	Debris	484998	5867521	A2	6.2	2.3	0.0	-	A very indistinct, medium sized possible item of debris, the main bulbous body of the feature is a bright reflector, with dark reflectors attached to this. There is also a thin and indistinct linear dark reflector attached to the debris with a slight shadow	-	Wind farm
7035	Seabed disturbance	485665	5867243	A2	8.6	6.0	0.7	-	A medium sized area of disturbed seabed comprising an indistinct scattering of small dark reflectors with bright shadows situated within large sand waves. This feature is visible in the MBES data as a small, elongate mound within sand ripples	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7036	Magnetic	486837	5866937	A2	-	-	-	44	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7037	Magnetic	486319	5866578	A2	-	-	-	30	Small irregular dipole over two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7038	Magnetic	486465	5866477	A2	-	-	-	45	Small dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7039	Debris	485311	5865809	A2	7.8	0.3	0.0	-	A long, very thin and slightly curvilinear dark reflector with a bright shadow. This is an isolated possible item of debris situated on a sandy seabed	-	Wind farm
7040	Dark reflector	485005	5865411	A2	2.0	1.1	0.2	-	A dark reflector with a rounded main body and a small, short and thin linear piece attached to one side, with a shadow. This is quite an indistinct feature situated within a depression. The anomaly is situated within sand waves and displays some anthropogenic characteristics.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7041	Magnetic	486371	5865028	A2	-	-	-	22	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7042	Dark reflector	487523	5864995	A2	3.1	2.1	0.3	-	A small and slightly rounded, distinct dark reflector with a shadow. This feature has some anthropogenic characteristics and may be partially buried by sand waves	-	Wind farm
7043	Debris	485932	5864619	A2	4.2	0.5	0.2	-	A long and thick linear piece of debris with a large and bright shadow. This object is slightly angular shaped and is situated in a depression within sand waves	-	Wind farm
7044	Magnetic	486778	5864530	A2	-	-	-	128	Large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7045	Magnetic	486457	5864515	A2	-	-	-	20	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7046	Debris	485472	5864331	A2	17.2	2.6	0.2	-	A large and indistinct possible item of debris that appears to be buried in parts by sand waves, a thin curvilinear dark reflector object is visible with smaller dark reflectors or sediment build up surrounding it	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7047	Magnetic	487381	5864305	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7048	Dark reflector	488021	5864232	A2	3.5	0.4	0.1	-	A very indistinct, long and thin linear dark reflector with a shadow. This feature is situated between sand waves and is possibly an anthropogenic object	-	Wind farm
7049	Bright reflector	485939	5864189	A2	7.2	1.9	0.0	-	A large bright reflector feature, this is visible in the SSS data as a long and thick curvilinear shaped bright reflector feature lying perpendicular to the sand waves. This is a possible item of debris	-	Wind farm
7050	Dark reflector	484901	5864179	A2	3.0	0.1	0.1	-	A long and thin linear dark reflector with a bright shadow. This feature is situated within sand waves and is a possible anthropogenic linear object	-	Wind farm
7051	Dark reflector	486602	5864005	A2	3.5	2.0	0.1	-	A small and quite indistinct slightly curvilinear shaped dark reflector feature with a bright shadow. This feature is located within sand waves and displays some anthropogenic characteristics	-	Wind farm
7052	Debris field	489282	5863956	A2	12.0	8.0	0.5	-	A medium sized possible debris field consisting of approximately four rounded dark reflector objects with shadows with smaller indistinct anomalies surrounding these. The feature is located within sand waves and the full extent may be buried	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7053	Dark reflector	485920	5863883	A2	3.7	1.2	0.4	-	A small and oval shaped distinct dark reflector with a short, bright shadow situated within a slight depression. The object has scouring orientated north and measuring 11 m associated with it. In the MBES data this is visible as a medium sized isolated sub-rounded mound (mound measures 10 x 8 m in MBES) situated within sand ripples	-	Wind farm
7054	Magnetic	483836	5862756	A2	-	-	-	23	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7055	Magnetic	487130	5862578	A2	-	-	-	24	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7056	Seabed disturbance	485569	5862223	A2	10.8	8.9	0.5	-	A large area of disturbed seabed comprising indistinct dark reflector anomalies with shadows. This feature is located within an area of sand waves which are covering the full extent of the disturbance	-	Wind farm
7057	Magnetic	488702	5861151	A2	-	-	-	14	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7058	Debris	485786	5860965	A2	2.8	0.8	0.1	-	A possible item of debris visible in the SSS data as a right angled and thin, linear dark reflector with a very bright shadow. This is an isolated feature situated within sand waves	-	Wind farm
7059	Magnetic	486428	5860820	A2	-	-	-	18	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7060	Seabed disturbance	486299	5860145	A2	17.0	15.0	0.3	-	A large area of possible seabed disturbance comprising indistinct dark reflectors with some shadows, this anomaly is possibly anthropogenic and situated within sand waves. This feature is visible in the MBES data as an irregular mound within sand ripples with some deep scour to north and east.	-	Wind farm
7061	Dark reflector	489753	5859961	A2	2.3	0.8	0.2	-	A long and thin linear dark reflector feature with no shadow and situated in a slight depression. This object is situated within sand waves and may be related to the two other linear dark reflectors close to it on the seabed. The feature displays some anthropogenic characteristics	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7062	Dark reflector	489747	5859947	A2	3.1	0.9	0.2	-	A long and thin linear dark reflector with no shadow and situated in a slight depression. This object is situated within sand waves and may be related to the two other linear dark reflectors close to it on the seabed. The feature displays some anthropogenic characteristics	-	Wind farm
7063	Dark reflector	489745	5859934	A2	3.0	1.3	0.0	-	A long and thin linear dark reflector with no shadow and situated in a slight depression. This object is situated within sand waves and may be related to the two other linear dark reflectors close to it on the seabed. The feature displays some anthropogenic characteristics	-	Wind farm
7064	Debris field	483851	5858411	A2	25.0	20.0	0.7	-	A medium sized possible debris field comprising a group of dark reflectors with shadows of various shapes and sizes, the largest visible object measures 2.1 x 3.5 m. This debris field is situated within sand waves and the full extent may be partially buried. In the MBES data this is visible as an irregular mound feature within two sand waves that appears to disrupt sand ripples	-	Wind farm
7065	Magnetic	488372	5888435	A2	-	-	-	18	Small dipole, possibly noise but distinct, with no associated SSS or MBES contacts. Approximately 100 m WNW of 7066. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7066	Magnetic	488472	5888425	A2	-	-	-	23	Small irregular anomaly with no associated SSS or MBES contacts. Approximately 100 m ESE of 7065 Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7067	Magnetic	488808	5887849	A2	-	-	-	9	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7068	Magnetic	487744	5887483	A2	-	-	-	6	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7069	Magnetic	489140	5887331	A2	-	-	-	16	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7070	Magnetic	487002	5886615	A2	-	-	-	28	Small dipole on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7071	Magnetic	489208	5885551	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7072	Magnetic	486530	5885539	A2	-	-	-	7	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7073	Magnetic	487772	5885343	A2	-	-	-	10	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7074	Magnetic	488018	5885261	A2	-	-	-	10	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7075	Magnetic	489034	5885149	A2	-	-	-	12	Small dipole in noisy area with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7076	Magnetic	487816	5885057	A2	-	-	-	35	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7077	Magnetic	486764	5884727	A2	-	-	-	13	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7078	Magnetic	487132	5884649	A2	-	-	-	62	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7079	Seabed disturbance	486855	5884474	A2	14.0	7.0	0.5	-	Seabed disturbance consisting of several indistinct dark reflectors with height, isolated on the seabed.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7080	Magnetic	486184	5884273	A2	-	-	-	21	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7081	Magnetic	487424	5884205	A2	-	-	-	17	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7082	Dark reflector	486746	5883679	A2	7.3	0.6	0.4	-	Small linear dark reflector with height. Located in an area of sand waves.	-	Wind farm
7083	Dark reflector	488700	5882770	A2	6.2	0.6	0.3	-	Small linear dark reflector with height, isolated on the seabed.	-	Wind farm
7084	Magnetic	487472	5882699	A2	-	-	-	19	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7085	Magnetic	487836	5882535	A2	-	-	-	32	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7086	Debris field	486371	5882120	A2	8.7	8.5	0.3	-	Small Seabed disturbance consisting of some dark reflectors and shadows, possibly debris. Located in an area of sand waves.	-	Wind farm
7087	Magnetic	487140	5881993	A2	-	-	-	19	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7088	Seabed disturbance	487667	5881057	A2	7.6	5.4	0.5	-	Circular Seabed disturbance with dark reflectors and height. Scour extends to the west measuring 26m.	-	Wind farm
7089	Recorded obstruction	488745	5880534	A3	-	-	-	-	Recorded position of a Fisherman's fastener on Danish fishery chart. Nothing found in subsequent surveys, last reported survey in 1992. No associated geophysical anomalies identified within this dataset, although the potential remains for a buried feature to be present at this location.	UKHO 9545	Wind farm
7090	Seabed disturbance	488891	5879804	A2	12.7	11.6	0.0	-	Seabed disturbance with dark and bright reflectors, isolated on the seabed.	-	Wind farm
7091	Mound	489126	5879291	A2	26.0	14.0	0.4	-	Sub angular elongate mound with some possible structure visible. Dimpled. No obvious scour visible.	-	Wind farm
7092	Seabed disturbance	487905	5879217	A2	16.9	6.0	0.4	-	Isolated slightly elongate mound on the edge of sand ripples and flat seabed. Could be seabed sediment disturbance. Scour to north, encroaching on flat seabed. Seen as a seabed disturbance in the sonar.	-	Wind farm
7093	Seabed disturbance	487007	5878994	A2	65.0	33.0	0.5	-	Sub-angular outcrop from seabed. Could be debris, could be rocky plateau. Appears to be in two parts with 7095 to south. Could be related to a nearby marker buoy recorded on the Admiralty Chart, but this is uncertain.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7094	Dark reflector	486904	5878966	A2	10.8	4.0	0.7	-	Observed in the SSS data as an irregular object with some irregular bright shadow and surrounding scour. Identified within the MBES data as a rounded mound on the crest of a sand wave (7.0 x 7.0 x 0.3 m) with deep flared scour to the south. Possible piece of debris of a natural feature. Could be related to a nearby marker buoy recorded on the Admiralty Chart, but this is uncertain.	-	Wind farm
7095	Seabed disturbance	486998	5878918	A2	140.0	85.0	0.5	-	Appears similar to 7093 to north. Sub-angular outcrop from seabed appears partially buried beneath ripples. Could be related to a nearby marker buoy recorded on the Admiralty Chart, but this is uncertain.	-	Wind farm
7096	Magnetic	487454	5878907	A2	-	-	-	20	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7097	Dark reflector	487881	5878546	A2	22.1	1.3	0.3	-	Curvilinear dark reflector with indistinct height. Isolated on the seabed.	-	Wind farm
7098	Magnetic	488526	5878383	A2	-	-	-	23	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7099	Magnetic	488786	5878267	A2	-	-	-	41	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7100	Magnetic	488750	5877923	A2	-	-	-	35	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7101	Seabed disturbance	488370	5877756	A2	17.6	10.0	1.1	-	Seabed disturbance consisting of an irregular faint dark reflector with height, isolated in an area of sand waves. Seen in the bathy as an isolated mound with some scour around the western extents and a flare scour to the north.	-	Wind farm
7102	Dark reflector	489411	5877329	A2	3.5	1.8	0.8	-	Faint dark reflector with height, isolated on the seabed.	-	Wind farm
7103	Magnetic	490426	5877079	A2	-	-	-	56	Medium asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7104	Seabed disturbance	488702	5876992	A2	5.5	4.5	0.0	-	Seabed disturbance isolated in an area of sand waves.	-	Wind farm
7105	Dark reflector	489619	5876797	A2	3.3	0.4	0.0	-	Small linear dark reflector isolated in an area of sand waves.	-	Wind farm
7106	Magnetic	488370	5876651	A2	-	-	-	13	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7107	Dark reflector	488782	5876530	A2	4.9	0.5	0.1	-	Small dark reflector with height, isolated in an area of sand waves.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7108	Dark reflector	488719	5876304	A2	15.0	2.9	0.8	-	Isolated rounded mound with flared scour to north. In a small area of smooth seabed surrounded by sand ripples. Dark reflector with height, isolated on the Seabed.	-	Wind farm
7109	Dark reflector	489637	5876005	A2	4.8	0.2	0.2	-	Small linear dark reflector with height, isolated in an area of sand waves.	-	Wind farm
7110	Magnetic	490630	5875949	A2	-	-	-	14	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7111	Seabed disturbance	488859	5875757	A2	30.0	21.0	0.2	-	Angular disturbance; two diverging elongate mounds with apex at south. Tapering and sloping to north. Seen in the SSS data as a faint dark reflector with height, isolated on the seabed.	-	Wind farm
7112	Magnetic	490244	5875469	A2	-	-	-	43	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7113	Seabed disturbance	488098	5875295	A2	17.0	7.0	0.4	-	Seabed disturbance with height, isolated on the seabed. Seen in the bathy as an elongated mound aligned NW to SE appears to cross sand ripples.	-	Wind farm
7114	Seabed disturbance	490204	5874777	A2	17.2	12.7	0.5	-	Seabed disturbance with bright and dark reflectors. Seen as an elongated mound with slight scour to the north. Isolated in an area of sand waves.	-	Wind farm

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7115	Magnetic	488226	5874375	A2	-	-	-	31	Small dipole not part of Pipe with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7116	Seabed disturbance	490113	5874056	A2	9.2	2.5	0.0	-	Seabed disturbance seen as a bright reflector with scour, isolated on the seabed.	-	Wind farm
7117	Seabed disturbance	490126	5874000	A2	12.2	10.2	0.3	-	Small mound within rounded depression, deeper to north and east. Seen in the sonar as a seabed disturbance with dark and bright reflectors isolated on the seabed.	-	Wind farm
7118	Magnetic	491064	5873945	A2	-	-	-	7	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7119	Seabed disturbance	490287	5873741	A2	33.4	14.0	0.5	-	Irregular, possibly two peaked mound within sand ripples with scour to north. Seabed disturbance with dark and bright reflectors. Isolated in an area of sand waves.	-	Wind farm
7120	Seabed disturbance	489012	5872828	A2	26.9	13.6	0.5	-	Small irregular tapering elongate mound within larger angular disturbance measuring 40.0 x 31.0 x 0.5 m; could be associated with exposed channel feature. Seen as seabed disturbance with dark reflector with height in an area of flat seabed.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7121	Seabed disturbance	490398	5872784	A2	24.0	18.0	0.4	-	Angular seabed disturbance with an apex at south (width here 7 m). Location at apex. Flares out as two elongate mounds with scour in between to 18 m in width total.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7122	Wreck	491727	5872289	A1	61.1	23.0	4.4	2440	A large broken up wreck isolated on the seabed, deck structure can be seen as slatted linear dark reflectors with shadows. The full extent of the wreck is distorted by the edge of the sonar range and it is buried by large sand waves. In the MBES data this is visible as an irregular depression at the edge of the data area. Located in an area of sand waves. In the MBES data observed as an angular area of mounds approx. 2 m in height, aligned ENE to WSW, with two mounds of significant height (4 m) at the north and south extents. Appears to be partially buried in the surrounding sediment. Has a large negative monopole associated. In the UKHO database this is the *Koningin Regentes*, a steam ship built in 1895 with build dimensions of 97.5 x 11.0 x 4.9 m. The vessel was in service as a hospital ship repatriating prisoners of war, it was torpedoed and sunk by German submarine in 1918. The wreck was dived in 2010 and described as being broken up and scattered with the paddles still showing above the seabed.	UKHO 11154	Wind farm
7123	Mound	489794	5871759	A2	8.0	7.0	0.5	-	Sub-rounded mound within sand ripples and a deep depression to the north. Could be displaced sediment, could be scour.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7124	Debris field	490317	5870281	A2	12.3	4.6	0.0	-	Seabed disturbance with dark and bright reflectors. Isolated on the seabed.	-	Wind farm
7125	Debris	490165	5869753	A2	13.4	6.7	0.0	733	Identified in the SSS data as a large curvilinear dark reflector with some slight height shadow and some surrounding disturbance. Located in the vicinity of a well head on admiralty chart. Anomaly is associated with a large magnetic anomaly which is consistent with presence of a well head but may obscure identification of further ferrous debris. This anomaly is associated with the UKHO record (69901) pertaining to dropped equipment in 2007. This is not of archaeological interest but the nature of this anomaly is unclear and may not be related.	UKHO 69901	Wind farm
7126	Magnetic	489350	5869649	A2	-	-	-	24	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7127	Seabed disturbance	489974	5869595	A2	17.2	5.6	0.0	-	Irregular dark reflector with height, isolated in an area of sand waves. Scour extends to the north of the feature. Seen as irregular mounds with varying height and some slight scour to the north	-	Wind farm
7128	Seabed disturbance	490061	5869140	A2	11.4	9.1	0.0	-	Seabed disturbance with dark reflectors and shadows. Scour extends to the North of the feature.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7129	Magnetic	489930	5868421	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7130	Seabed disturbance	490723	5868384	A2	43.0	10.0	0.4	-	Possibly exposed bedrock. Mound with varying height with slight scour to west, could be debris as surrounded by similar mounds of varying forms and sizes	-	Wind farm
7131	Seabed disturbance	490646	5867891	A2	13.6	10.7	0.5	-	Seabed disturbance with bright and dark reflectors isolated on the seabed. Scour is evident to the north of the object. Rounded mound with some slight disturbance extending to north-east with scour to north-west.	-	Wind farm
7132	Magnetic	489810	5868035	A2	-	-	-	19	Small dipole possibly over two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7133	Magnetic	491630	5866807	A2	-	-	-	509	Very large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7134	Magnetic	492552	5866169	A2	-	-	-	89	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7135	Seabed disturbance	490758	5865801	A2	16.3	12.4	0.3	-	Seabed disturbance with dark reflectors and shadows, isolated on the seabed. Sub-rounded mound within sand ripples and a flared scour to the north.	-	Wind farm
7136	Magnetic	489770	5865291	A2	-	-	-	12	Small positive monopole, slightly large than background with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7137	Mound	490996	5864759	A2	11.0	7.0	0.5	-	Double topped mound of varying heights between sand ripples and some flared shadow to the north	-	Wind farm
7138	Seabed disturbance	490980	5864538	A2	12.4	6.5	0.0	-	Seabed disturbance isolated in an area of sand waves.	-	Wind farm
7139	Seabed disturbance	490618	5863378	A2	5.5	1.6	0.1	-	Small dark reflector with height located in an area of sand waves.	-	Wind farm
7140	Magnetic	492336	5862867	A2	-	-	-	30	Small dipole, in a slight alignment but much larger with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7141	Seabed disturbance	490594	5862660	A2	9.2	6.8	0.2	-	Seabed disturbance with dark reflectors and height in an area of sand waves.	-	Wind farm
7142	Dark reflector	490953	5861507	A2	4.3	1.2	0.2	-	Small indistinct dark reflector with height, located near to several similar objects.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7143	Wreck	492759	5861314	A1	54.0	25.5	1.0	29	Appears in the SSS data as an elongate outline, with some structure visible, partially covered by sediments and appears embedded in the seabed. Observed in the MBES data as an irregular area of mounds with some height, and a large depression to west and north-west. A small magnetic anomaly is associated but as the wreck is located between two survey lines, this amplitude is considered a minimum possible value. Associated with UKHO record 11146, of an unknown wreck, previously identified in 1994 with measurements 40 x 8 m.	UKHO 11146	Wind farm
7144	Magnetic	491922	5860633	A2	-	-	-	42	Small dipole on two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7145	Dark reflector	490634	5860617	A2	3.3	1.4	0.1	-	Small dark reflector with rounded shadow, isolated in an area of sand waves.	-	Wind farm
7146	Magnetic	492098	5889440	A2	-	-	-	11	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7147	Magnetic	490123	5889281	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7148	Magnetic	489406	5888351	A2	-	-	-	47	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7149	Debris	491451	5888243	A2	11.4	0.3	0.2	-	A long and thin linear dark reflector with height that appears to be slightly bulbous at one end. Possible item of debris isolated on the seabed that is potentially anthropogenic in origin.		Wind farm
7150	Dark reflector	491987	5887466	A2	4.5	0.4	0.4	-	A medium sized linear dark reflector with height, isolated in an area of textured seabed. The feature displays some anthropogenic characteristics.		Wind farm
7151	Dark reflector	491953	5887414	A2	4.0	0.4	0.5	-	A medium sized linear dark reflector with height, isolated in an area of textured seabed. The feature displays some anthropogenic characteristics.		Wind farm
7152	Magnetic	491678	5887372	A2	-	-	-	10	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7153	Magnetic	491824	5885902	A1	-	-	-	2487	Very large dipole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7154	Magnetic	491713	5884499	A2	-	-	-	29	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7155	Dark reflector	491921	5883172	A2	9.2	2.1	0.0	-	A large dark reflector with no discernible height, isolated in an area of sand waves. The feature displays some anthropogenic characteristics.		Wind farm
7156	Debris	493227	5883042	A2	3.8	2.0	0.3	-	A small and irregular shaped dark reflector with an internal shadow, the item of debris appears to be partially buried by sand waves and is potentially anthropogenic in origin. In the MBES data this is visible as a small but distinct rounded mound within an area of sand waves.	-	Wind farm
7157	Magnetic	490761	5882958	A2	-	-	-	229	Large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7158	Magnetic	492513	5881102	A2	-	-	-	9	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7159	Bright reflector	493039	5880966	A2	6.2	2.2	0.0	-	A medium sized, angular bright reflector located near to another similar object (7160). This feature is a possible area of low reflectivity from a debris object.		Wind farm
7160	Bright reflector	493036	5880964	A2	5.7	2.1	0.0	-	A medium sized, angular bright reflector located near to another similar object (7159). This feature is a possible area of low reflectivity from a debris object.		Wind farm
7161	Magnetic	491349	5880181	A2	-	-	-	21	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7162	Magnetic	490822	5880075	A2	-	-	-	38	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7163	Magnetic	493595	5880006	A2	-	-	-	19	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7164	Magnetic	493629	5879818	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7165	Debris	492531	5879256	A2	5.7	1.6	0.7	-	A long and thick linear dark reflector with height, isolated in an area of sand waves. The debris feature is potentially anthropogenic in origin. In the MBES data this is visible as a small linear mound in an area of sand waves with some scour evident to the north of the feature.	-	Wind farm
7166	Debris	492268	5879041	A2	3.6	0.3	0.3	86	A small but distinct linear dark reflector with a small shadow, an isolated debris feature in an area of sand waves that is potentially anthropogenic in origin. In the MBES data this is visible as a small rounded mound in an area of sand waves. Has a medium magnetic dipole associated indicating presence of ferrous material.	-	Wind farm
7167	Magnetic	492011	5878864	A2	-	-	-	59	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7168	Magnetic	492875	5877768	A2	-	-	-	30	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7169	Magnetic	491570	5877665	A2	-	-	-	18	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7170	Magnetic	493013	5876389	A2	-	-	-	22	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7171	Bright reflector	492061	5875771	A2	4.2	1.2	0.0	-	An oval shaped bright reflector in an area of indistinct sand waves. This is a possible area of low reflectivity from a debris object.		Wind farm
7172	Magnetic	491542	5875194	A2	-	-	-	17	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7173	Magnetic	491672	5873737	A2	-	-	-	197	Large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7174	Magnetic	491748	5872589	A2	-	-	-	14	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7175	Magnetic	492100	5872584	A2	-	-	-	16	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7176	Magnetic	495073	5872242	A2	-	-	-	22	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7177	Debris	493731	5872080	A2	7.0	2.8	0.6	337	A medium sized dark reflector feature with a bright shadow, the feature is isolated in an area of sand waves and may be covered by fine sediments. A debris feature that is potentially anthropogenic in origin. In the MBES data this is visible as a mound that appears to be partially buried by a sand wave. There is an area of scour to the north of the feature which extends around the sides of the mound. Has a large dipole associated indicating ferrous debris	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7178	Magnetic	495437	5871413	A2	-	-	-	20	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7179	Magnetic	493362	5870993	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7180	Magnetic	495414	5870820	A2	-	-	-	14	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7181	Recorded obstruction	495427	5869436	A3	-	-	-	-	Object observed in the geophysical data (3.8 x 0.7 x 1.6 m) with a very large magnetic anomaly (2664 nT) consistent with a well head as recorded on chart. However, this position has an associated UKHO record that states that the installation of the drilling rig was impeded by unknown obstruction buried 4-5 ft below the seabed, thought to be possible wreckage. No anomaly of archaeological potential has been identified within this dataset, however it is possible that debris may be buried within the vicinity as the size of the magnetic anomaly would obscure smaller anomalies.	UKHO 11202	Wind farm
7182	Debris	494962	5867475	A2	9.5	2.7	1.6	-	An irregularly shaped dark reflector with a large and bright shadow. A very distinct possible item of debris that appears to be partially buried and is potentially anthropogenic in origin. Situated in an area of sand waves. In the MBES data this is visible as a small rounded mound within sand waves with scouring evident to the west of the feature. Located 17 m NW from the UKHO position of a recorded obstruction (60600). Fisherman reported losing gear on large anchor in 2002. Not surveyed since.	UKHO 60600	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7183	Dark reflector	494939	5867438	A2	5.8	0.3	0.1	-	A small and curvilinear dark reflector with height, isolated in an area of sand waves. A distinct feature that displays some anthropogenic characteristics.	-	Wind farm
7184	Magnetic	496072	5866435	A2	-	-	-	12	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7185	Debris	492923	5866022	A2	5.1	1.5	0.1	-	A distinct and slightly rounded dark reflector with a shadow, the debris feature appears to be broken up or partially buried across its centre. A possible item of debris that is located in an area of sand waves and is potentially anthropogenic in origin.	-	Wind farm
7186	Debris	496159	5865283	A2	6.1	0.9	0.0	-	A medium sized, angular bright reflector object with sediment build up around it. The debris is situated within an area of sand waves and is possibly partially buried. Possible area of low reflectivity from a debris object.	-	Wind farm
7187	Debris	494958	5865240	A2	2.5	1.6	0.2	-	Small circular dark reflector with height, isolated in an area of sand waves. The feature displays some anthropogenic characteristics.	-	Wind farm
7188	Bright reflector	495618	5862804	A2	3.3	2.6	0.0	-	A small and rounded bright reflector isolated in an area of sand waves. A distinct feature that is a possible area of low reflectivity from a debris object.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7189	Debris	494430	5861505	A2	2.5	1.2	0.3	-	A small but distinct curvilinear shaped dark reflector with height isolated in an area of sand waves. This item of debris is potentially anthropogenic in origin.	-	Wind farm
7190	Dark reflector	495029	5892220	A2	6.2	1.5	0.5	-	Straight edge of a dark angular reflector with height, isolated on the seabed. Data stretched so measurements may be exaggerated.	-	Wind farm
7191	Magnetic	493858	5889715	A2	-	-	-	10	Small but distinct dipole observed on one line. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7192	Magnetic	493508	5889139	A2	-	-	-	13	Small negative monopole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7193	Dark reflector	492550	5889035	A2	4.3	0.6	0.0	-	Small linear dark reflector with no discernible shadow. Isolated on the seabed.	-	Wind farm
7194	Magnetic	494518	5889002	A2	-	-	-	12	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7195	Magnetic	494789	5888652	A2	-	-	-	31	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7196	Magnetic	495608	5887862	A2	-	-	-	17	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7197	Magnetic	495047	5887801	A2	-	-	-	15	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7198	Magnetic	495764	5887701	A2	-	-	-	13	Small positive monopole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7199	Magnetic	493361	5886561	A2	-	-	-	14	Small negative monopole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7200	Dark reflector	494013	5886532	A2	4.7	0.5	0.2	-	Slightly curved edge of an object with some corresponding bright shadow, isolated on the seabed.	-	Wind farm
7201	Dark reflector	494908	5885796	A2	4.8	0.6	0.4	-	Small linear dark reflector with height, isolated in an area of sand waves.	-	Wind farm
7202	Seabed disturbance	495383	5885713	A2	7.0	6.1	0.3	-	Sub-rounded mound with possible dark and bright reflectors, with irregular bright shadow. Some slight scour visible. Observed as a rounded mound, measuring 7.2 x 6.0 x 0.3 m, isolated in an area of sand waves with some scour to the north.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7203	Magnetic	496276	5885352	A2	-	-	-	10	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7204	Dark reflector	493574	5883953	A2	5.9	0.4	0.2	-	Small curved dark reflector with height, stretched on the seabed.	-	Wind farm
7205	Dark reflector	494112	5883953	A2	9.1	2.1	0.5	-	Irregular object, sub-rounded with some angular edges. Corresponding bright shadow and some slight scour. Isolated on the seabed.	-	Wind farm
7206	Magnetic	494156	5883323	A2	-	-	-	10	Small dipole in a noisy area observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7207	Magnetic	496809	5881629	A2	-	-	-	18	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7208	Magnetic	494862	5879238	A2	-	-	-	19	Small dipole in a noisy area observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7209	Dark reflector	496732	5878475	A2	5.8	3.3	0.3	-	Small seabed disturbance, possibly an object within a depression. Isolated on the seabed.	-	Wind farm
7210	Dark reflector	494658	5876279	A2	3.8	0.9	0.4	-	Small faint dark reflector with height. Isolated in an area of sand waves.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7211	Magnetic	497610	5876121	A2	-	-	-	18	Small negative monopole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7212	Dark reflector	496578	5875465	A2	8.5	6.5	0.6	-	Faint dark reflector with height, isolated on the seabed in an area of sand waves. Observed in the MBES data as an isolated rounded mound, just breaking sand wave (7.6 x 5.0 x 0.6 m). Could be natural feature or possible debris	-	Wind farm
7213	Mound	498006	5874988	A2	13.0	5.8	0.9	-	Seabed disturbance with large faint dark reflector and associated height, isolated on the seabed. Observed in the MBES data as an irregular mound measuring 12.0 x 7.5 x 0.4 m).	-	Wind farm
7214	Magnetic	498318	5873335	A2	-	-	-	41	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7215	Mound	497844	5872766	A2	8.5	2.3	0.4	-	Straight thin dark reflector with thin bright shadow which sharply angles into a larger shadow caused by indistinct object. Could be one whole object or two separate. Isolated on the seabed. Observed in the MBES data as a small mound within a depression measuring 4.0 x 4.0 x 0.1 m.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7216	Magnetic	495492	5872390	A2	-	-	-	29	Small positive monopole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7217	Magnetic	497826	5872309	A2	-	-	-	33	Small dipole observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7218	Mound	498523	5872098	A2	21.8	7.0	0.4	-	Observed in the SSS data as a curved object with irregular bright shadow. Appears to be in two pieces. Could be debris. Observed in the MBES data as a sharp elongated mound with a smaller section on the edge of a larger mound extending 36 m to the north-east, approx. 0.2 m in width and tapering in height from 0.2 m. Isolated on the seabed. Feature aligned NE to SW with tallest mound in south-west. Feature has some scour extending round the north.	-	Wind farm
7219	Seabed disturbance	497578	5872063	A2	13.1	4.1	0.4	-	Irregular object with sub-rounded edges with corresponding height shadow. No obvious surrounding disturbance. Observed as a slightly elongated irregular mound which appears to straddle sand waves.	-	Wind farm
7220	Dark reflector	496016	5871970	A2	3.5	0.6	0.4	-	Faint dark reflector with height, isolated on the seabed.	-	Wind farm

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7221	Dark reflector	496451	5870880	A2	4.0	0.9	0.2	-	Small angular object with a curved bright shadow. Located within sand waves.	-	Wind farm
7222	Dark reflector	498619	5870769	A2	3.9	1.7	0.3	-	Faint dark reflector with height, isolated on the seabed. Very angular with some slight disturbance visible. Observed as a small mound within the MBES data.	-	Wind farm
7223	Dark reflector	497694	5870176	A2	5.1	3.2	0.4	-	Isolated, angular object with angular bright shadow. No obvious disturbance to sand waves. Observed as a small mound within two sand waves, measuring 5.0 x 4.0 x 0.1 m.	-	Wind farm
7224	Magnetic	495927	5869888	A2	-	-	-	20	Small dipole in a noisy area observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7225	Dark reflector	499225	5869665	A2	4.5	0.1	0.2	-	Small linear dark reflector with associated height, isolated on the seabed.	-	Wind farm
7226	Magnetic	496283	5869597	A2	-	-	-	15	Small dipole in a noisy area observed on one line only. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7227	Seabed disturbance	498746	5868661	A2	11.5	10.5	0.5	-	Sub-rounded area of small dark reflectors with some bright shadow. Observed as an isolated mound in the MBES data as Small rounded mound isolated in an area of flat seabed (10.5 x 10.5 x 0.5 m). Located in the vicinity of a charted well head and may be related, but this is uncertain.	-	Wind farm
7228	Dark reflector	498894	5868448	A2	9.5	3.1	0.8	-	Sub-rounded large object with bright shadow. Observed in the MBES data as a small mound within a slight depression. Situated between a charted wreck and a charted well head, and may be related to either one.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7229	Wreck	499363	5868328	A1	42.6	9.7	2.5	97	Outline of a wreck, appears to have intact structure and is upright. Some superstructure visible as dark reflectors and associated height. Appears to be some linear debris to the north and at NE tip (7230), Observed in the MBES data as a distinct upright wreck with some visible structure. The wreck appears to be intact in an area of flat seabed. There is evidence of some scour to the east and to the north west of the wreck. Main structure measures 36.6 x 13.4 x 1.9 m. An associated magnetic anomaly indicates the presence of ferrous material. This anomaly is associated with a UKHO report for an unknown wreck, previously observed by Gardline Geosurvey in 2014 measuring 20 x 15 x 2 m.	UKHO 11153	Wind farm
7230	Rope/chain	499380	5868335	A2	2.9	0.5	0.1	-	Small linear dark reflector with associated height. Located at north-east tip of wreck 7229 extending to the north. Likely associated linear debris, possibly rope or chain. Discriminated A2 as rope or chain, rather than structural debris.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7231	Debris field	498568	5867661	A2	14.5	4.5	0.7	-	Compact, irregular group of objects comprising several dark reflectors with height, isolated on the seabed. Some look straight and angular.. Observed in the MBES data as a rounded mound within sand waves measuring 10 x 7.5 x 0.3 m.	-	Wind farm
7232	Seabed disturbance	498453	5867522	A2	21.7	2.2	0.7	-	Slightly curved linear mound with slight height and seems to have more height in the centre. Observed as mound (7 x 5 x 0.3 m) which seems to have caused some disturbance. Some possible smaller mounds directly to the north.	-	Wind farm
7233	Seabed disturbance	498586	5867440	A2	7.3	6.5	0.4	-	Faint dark reflector with height, isolated on the seabed. Observed in the MBES data as mound measuring 14 x 9 x 0.3 m.	-	Wind farm
7234	Seabed disturbance	498398	5867344	A2	10.7	6.9	0.6	-	Irregular compact area of dark reflectors with height and possible bright reflectors. Appears to have an angular edge. Seabed disturbance with dark reflector and bright reflector, isolated on the seabed. Observed as a slightly elongate mound in the MBES data measuring 7.5 x 5 x 0.3 m.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7235	Dark reflector	499126	5867035	A2	7.2	2.2	0.5	-	Irregular mound, sub-rounded with corresponding bright shadow, however seems to have a straight linear dark reflector with height protruding. Observed in the MBES data as an irregular mound, rounded with protruding linears (7.7 x 5.9 x 0.2 m).	-	Wind farm
7236	Dark reflector	498340	5867014	A2	3.8	3.6	0.5	-	Faint dark reflector with height, isolated on the seabed.	-	Wind farm
7237	Magnetic	497859	5866964	A1	-	-	-	1718	Very large dipole observed on only one line with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression. Kept in as line spacing 100 m but as such a large anomaly was observed on only one line it may be spurious. Possibly caused by a passing vessel.	-	Wind farm
7238	Dark reflector	498502	5866711	A2	3.7	2.2	0.4	-	Faint dark reflector with height, isolated on the seabed	-	Wind farm
7239	Debris	499334	5865096	A2	17.5	5.6	0.4	-	Irregular object with some bright shadow Observed as an elongate mound of varying height measuring 20 x 6 x 0.4 m. Possible piece of debris with associated curvilinear linear feature (7240).	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7240	Rope/chain	499340	5865070	A2	39.5	0.4	0.3	-	Faint curvilinear dark reflector with distinct height which could be rope or chain. Appears associated with object 7230.	-	Wind farm
7241	Seabed disturbance	500080	5864909	A2	10.7	5.0	0.4	-	Irregular dark reflector, with possible straight protrusion and corresponding height shadow, situated in a slight depression. The anomaly looks like it may be partially buried or broken up with small, circular dark reflectors visible as well as a main thick curvilinear dark reflector piece. This item of debris is potentially anthropogenic in origin. Observed in the MBS data as a slight mound with scour to north measuring 9 x 6 x 0.1 m.	-	Wind farm
7242	Debris field	499977	5863409	A2	40.4	13.9	0.4	-	Area of conjoining angular and curvilinear objects with bright shadow. A small associated object to the side. Could be related to cable on admiralty chart. Could also be debris. No associated magnetic anomaly so may be non-ferrous in origin. Identified in the MBES data as an angular elongated mound possibly joins in a hollow triangle. Measuring 46 x 10 x 0.5 m.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7243	Debris field	499282	5863346	A2	8.7	5.9	0.4	-	Indistinct object, possibly sub-rounded with some shadow visible. Identified in MBES data as a small rounded mound within a depression in an area of sand waves, measuring 7.5 x 7.1 x 0.4 m. No infrastructure visible on Admiralty chart.	-	Wind farm
7244	Magnetic	498202	5894909	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7245	Magnetic	498447	5893453	A2	-	-	-	20	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7246	Magnetic	498292	5892923	A2	-	-	-	382	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7247	Seabed disturbance	498692	5892296	A2	10.0	6.6	0.3	-	A small but very distinct dark reflector measuring 1.4 x 0.6 x 0.3 m with a bright shadow situated within a larger object. Possibly a mound. The anomaly appears to be covered by sands in places and have some anthropogenic characteristics	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7248	Dark reflector	498688	5892251	A2	10.0	4.9	0.0	-	A large, rounded dark reflector feature with no height off the seabed. The edges of the feature are quite indistinct and may be part of a natural sand wave. The feature displays some anthropogenic characteristics.	-	Wind farm
7249	Magnetic	497992	5892070	A2	-	-	-	22	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7250	Magnetic	495973	5891642	A2	-	-	-	12	Small positive monopole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7251	Magnetic	498291	5891179	A2	-	-	-	5	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7252	Magnetic	498418	5890970	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7253	Debris	498970	5890035	A2	8.0	0.9	0.2	-	A long, thin and distinct linear dark reflector with a bright shadow. This is a possible item of debris located within sand waves that is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7254	Magnetic	496314	5889676	A2	-	-	-	10	Small dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7255	Bright reflector	496355	5889543	A2	6.7	4.1	0.0	-	A large and distinct bright reflector, the anomaly has an oval shaped profile with a thin linear piece coming off this. Possible area of low reflectivity from a debris object that is potentially anthropogenic in origin.	-	Wind farm
7256	Magnetic	497920	5889473	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7257	Magnetic	497109	5889439	A2	-	-	-	15	Small negative monopole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7258	Magnetic	496168	5889094	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7259	Debris	496557	5888985	A2	3.4	2.8	0.9	-	An indistinct medium sized dark reflector with a long, thin and bright shadow located within sand waves, possible partially buried item of debris. This feature is visible in the MBES data as a small, rounded and isolated mound with a slight depression visible directly next to it. This feature is potentially anthropogenic in origin	-	Wind farm
7260	Magnetic	498102	5888431	A2	-	-	-	16	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7261	Debris	496254	5888267	A2	14.9	3.8	0.6	-	A large possible item of debris visible as an oval shaped dark reflector measuring 3.8 x 3 m with a possible rope or chain attached to it, all elements have height off the seabed (column measurements are the entire feature). This is situated on a rough and uneven area of seabed and is potentially anthropogenic in origin.	-	Wind farm
7262	Magnetic	498532	5887727	A2	-	-	-	6	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7263	Magnetic	497349	5887579	A2	-	-	-	87	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7264	Magnetic	497641	5887145	A2	-	-	-	112	Large negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7265	Magnetic	497803	5886173	A2	-	-	-	37	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7266	Magnetic	498439	5885731	A2	-	-	-	29	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7267	Debris	498281	5885554	A2	7.2	1.0	0.3	-	A large and slightly curvilinear shaped dark reflector with a bright shadow that is lying perpendicular to the sand waves, a possible item of debris.	-	Wind farm
7268	Magnetic	498057	5884052	A2	-	-	-	11	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7269	Magnetic	499845	5883914	A2	-	-	-	22	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7270	Magnetic	499348	5883619	A2	-	-	-	17	Small anomaly identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7271	Magnetic	498708	5883556	A2	-	-	-	33	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7272	Magnetic	498717	5883502	A2	-	-	-	15	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7273	Debris	498537	5883419	A2	9.2	0.5	0.2	-	A long and thin linear dark reflector with a bright shadow. Distinct possible item of debris lying perpendicular to the sand waves.	-	Wind farm
7274	Dark reflector	498918	5883092	A2	4.0	1.1	0.4	-	A medium sized, rounded dark reflector with a bright shadow. This is a very distinct feature within sand waves, situated within a depression with scouring associated orientated north and measuring 7.3 m. The feature displays some anthropogenic characteristics.	-	Wind farm
7275	Magnetic	499848	5882152	A2	-	-	-	8	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7276	Magnetic	498669	5881787	A2	-	-	-	28	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7277	Debris	500073	5880282	A2	10.8	5.8	1.0	-	A large possible item of debris, a rectangular shaped dark reflector with a very bright and large shadow. The feature is situated within sand waves and may be partially buried, it has associated scouring orientated north and measuring 12.5 m. This feature is potentially anthropogenic in origin.	-	Wind farm
7278	Debris	497892	5879507	A2	5.8	5.3	0.7	-	A very distinct slightly diamond shaped dark reflector with a large and bright pointed shadow. The dark reflector looks like it has a bright reflector cross shape across it. This possible item of debris is located within sand waves and has scouring associated orientated northeast and measuring 20 m.	-	Wind farm
7279	Magnetic	499744	5878873	A2	-	-	-	36	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7280	Debris	498522	5878575	A2	4.4	0.2	0.5	-	A slightly angular dark reflector with a very bright and large shadow. Possible item of debris that is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7281	Debris	498425	5878510	A2	11.6	2.1	0.6	-	A large rectangular shaped dark reflector with a bright shadow, some dark reflectors making up the feature are more distinct than others suggesting it may be partially buried. There is some faint scouring orientated southwest and measuring 39 m associated. The feature is potentially anthropogenic in origin	-	Wind farm
7282	Magnetic	500293	5877536	A2	-	-	-	64	Medium dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7283	Magnetic	500893	5877322	A2	-	-	-	94	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7284	Magnetic	498985	5877212	A2	-	-	-	49	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7285	Bright reflector	499383	5877202	A2	7.7	0.7	0.0	-	A long and thick linear bright reflector visible in the SSS data as an isolated and distinct feature on a sandy area of seabed. Possible area of low reflectivity from a debris object that is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7286	Debris	499671	5877108	A2	4.4	0.4	0.2	-	A very thin and slightly right angled linear dark reflector with a dull shadow, a possible item of debris.	-	Wind farm
7287	Debris	498882	5877017	A2	11.3	2.2	0.6	-	A large and irregularly shaped dark reflector with a bright shadow, distinct possible debris feature with scouring orientated north and measuring 50 m. This feature is potentially anthropogenic in origin.	-	Wind farm
7288	Debris	498995	5876754	A2	13.9	5.7	0.4	-	A large possible debris feature visible as a distinct right angled and thick dark reflector with shadows, possibly has some small linear pieces attached. The feature may be broken up or partially buried and is potentially anthropogenic in origin.	-	Wind farm
7289	Dark reflector	498337	5876651	A2	3.4	2.0	0.5	-	A medium sized rectangular shaped dark reflector that is possibly broken into two pieces or partially buried. The anomaly has a dull but large bulbous shadow and is situated on a rough and uneven area of seabed.	-	Wind farm
7290	Debris field	499486	5876505	A2	20.0	18.5	0.3	-	A large spread of debris features, over 10 small, dark reflectors, some with shadows and some without. The largest feature measures 1.5 x 0.7 m and the full extent of the debris field may be buried (measurements in columns are the entire feature). In the MBES data this is visible as an irregularly shaped mound. This debris field is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7291	Magnetic	501393	5876395	A2	-	-	-	25	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7292	Dark reflector	499416	5876352	A2	6.0	0.2	0.1	-	A long, thin and slightly curvilinear shaped dark reflector with a dull shadow, this is an indistinct feature that displays some anthropogenic characteristics.	-	Wind farm
7293	Debris	499442	5876269	A2	3.8	3.2	0.2	-	A debris feature comprising three rounded dark reflectors with shadows in a triangular shape, this is a possibly partially buried or broken up feature that is potentially anthropogenic in origin.	-	Wind farm
7294	Magnetic	500761	5876020	A2	-	-	-	10	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7295	Magnetic	499266	5875753	A1	-	-	-	2587	Very large asymmetric dipole identified on more than one survey line with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7296	Magnetic	500806	5875759	A2	-	-	-	45	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7297	Debris field	498704	5875452	A2	10.7	1.3	0.1	-	A large spread of dark reflectors in a linear alignment. The debris field comprises two circular anomalies, approximately four small linear dark reflectors with shadows and is situated within a depression. This feature is potentially anthropogenic in origin	-	Wind farm
7298	Magnetic	501253	5875249	A2	-	-	-	9	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7299	Debris	499983	5875116	A2	11.3	10.9	0.4	-	A large dark reflector that may be partially buried or broken up. This is visible as curvilinear shaped dark reflectors with bright shadows situated in a depression within sand waves. The feature has scouring orientated north and measuring 35 m associated. This is visible in the MBES data as a small elongated mound that is isolated and situated within a depression.	-	Wind farm
7300	Magnetic	499591	5874974	A2	-	-	-	20	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7301	Debris	498377	5874887	A2	9.6	4.4	0.3	-	A large, rounded possible item of debris visible as an irregularly shaped circular dark and bright reflector. The feature has a bright shadow and sediment build up surrounding it. This is a distinct anomaly situated on a sandy area of seabed and is potentially anthropogenic in origin.	-	Wind farm
7302	Dark reflector	499162	5874648	A2	3.5	0.5	0.0	-	A linear shaped dark reflector with no shadow and situated in a depression, a distinct and isolated feature that displays some anthropogenic characteristics.	-	Wind farm
7303	Debris	498996	5874321	A2	8.3	3.3	0.1	-	A very distinct piece of possible debris, a large and slightly angular dark reflector anomaly with a bright shadow, situated in a depression. This is an isolated feature that is potentially anthropogenic in origin.	-	Wind farm
7304	Debris field	498480	5874153	A2	31.9	5.1	0.0	-	Possible debris field comprising five oval shaped dark reflector anomalies with no shadows. The features appear to be in a slight depression and the largest object measures 4.2 x 1 m (measurements in the columns are the entire feature). This debris field is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7305	Debris	499832	5873919	A2	13.2	6.3	0.7	-	A large possible debris feature, an oval shaped dark reflector measuring 5.2 x 2.2 m with a looped possible rope or chain attached (measurements in columns are the entire feature). The feature has a bright shadow and is situated within a slight depression. In the MBES data this is visible as a small rounded mound isolated on an area of flat seabed.	-	Wind farm
7306	Magnetic	499083	5873626	A2	-	-	-	37	Small asymmetric dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7307	Seabed disturbance	500103	5873354	A2	25.0	13.0	0.2	-	A large area of seabed disturbance containing a partially buried angular object which appears to have four tall corners. This is only visible in the MBES data and may be modern infrastructure or related to modern activities on the seabed or anthropogenic features buried just below the seabed.	-	Wind farm
7308	Magnetic	501453	5873225	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7309	Magnetic	501390	5873182	A2	-	-	-	23	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7310	Magnetic	499000	5873020	A2	-	-	-	431	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7311	Debris	498778	5872962	A2	6.8	2.8	0.8	-	A medium sized dark reflector anomaly with a bright and tapered shadow. The feature is not very well defined but has distinct scouring orientated north and measuring 30 m associated. In the MBES data this is visible as a small, isolated and rounded mound. This item of debris is potentially anthropogenic in origin.	-	Wind farm
7312	Debris	500500	5872790	A2	8.4	1.1	0.3	-	A large possible item of debris, a small rectangular dark reflector measuring 2 x 1.1 m, with a thin linear piece coming off this (column measurements are the entire feature). This debris feature is situated within a depression with scouring orientated north and measuring 5 m associated.	-	Wind farm
7313	Magnetic	500212	5872783	A2	-	-	-	29	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7314	Debris	499267	5872749	A2	3.3	3.0	0.1	-	A small but distinct dark reflector with a shadow and possible small bright reflector anomalies within this. This is a slightly rounded anomaly that is isolated on a sandy and even area of seabed, possibly a piece of debris that is potentially anthropogenic in origin.	-	Wind farm
7315	Debris field	500550	5872461	A2	7.1	3.4	0.5	-	A small possible debris field, there are at least three very small dark reflectors with shadows visible situated in a slight depression. The debris field is isolated and distinct on a sandy area of seabed. In the MBES data this is visible as an elongated mound with scouring to the north.	-	Wind farm
7316	Magnetic	501636	5872153	A2	-	-	-	27	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7317	Magnetic	501813	5871989	A2	-	-	-	16	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7318	Dark reflector	500375	5871874	A2	8.3	3.4	0.0	-	A very indistinct and rounded medium sized dark reflector, this has been interpreted to be possibly anthropogenic given its size and shape.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7319	Debris field	500585	5870993	A2	9.9	9.2	0.3	-	A medium sized debris field comprising indistinct dark reflector and bright reflector objects, within the feature small circular and linear anomalies are discernible. This is situated on a sandy and even area of the seabed and has associated scouring orientated north and measuring 24 m. This debris field is potentially anthropogenic in origin.	-	Wind farm
7320	Rope/chain	499405	5870211	A2	41.2	0.2	0.0	-	A long length of rope or chain, a thin curvilinear dark reflector with no shadow is visible on a sandy and even area of seabed. The possible rope/chain appears to be situated in a slight depression.	-	Wind farm
7321	Magnetic	501975	5870194	A2	-	-	-	29	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7322	Debris	501955	5870030	A2	6.1	4.6	0.3	-	A distinct and slightly angular shaped dark reflector with a bright shadow that may be broken up slightly. This is a very distinct debris object, situated within sand waves with associated scouring orientated north and measuring 7 m. The feature is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7323	Debris	499487	5869996	A2	9.6	7.0	1.1	-	A medium sized object or area of disturbed seabed visible as an indistinct area of dark and bright reflectors with significant height off the seabed. In the MBES data this is visible as an isolated mound with some seabed sediment build-up surrounding it and situated within a depression. A possible item of debris within a depression.	-	Wind farm
7324	Magnetic	502392	5869892	A2	-	-	-	23	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7325	Debris	500947	5869394	A2	9.2	0.4	0.3	-	A long and thick linear dark reflector with a shadow and one slightly bulbous end. This is a distinct feature located within sand waves, a possible debris feature that is potentially anthropogenic in origin.	-	Wind farm
7326	Debris	500603	5868993	A2	12.9	5.3	0.5	-	A large possible debris feature visible in the SSS data as an indistinct, slightly curvilinear shaped dark reflector with a bright and bulbous shadow. This is located on a rough and gravelly area of seabed and is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7327	Debris	500661	5868963	A2	2.1	0.3	0.2	11	A thin and slightly curvilinear dark reflector with a small but bright shadow, a distinct anomaly on a sandy and even area of seabed. This has a small magnetic anomaly associated indicating ferrous material.	-	Wind farm
7328	Magnetic	500634	5868925	A2	-	-	-	12	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7329	Magnetic	499455	5868631	A2	-	-	-	11	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7330	Magnetic	502527	5868320	A2	-	-	-	23	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7331	Magnetic	500086	5868214	A2	-	-	-	12	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7332	Debris	501202	5867904	A2	10.0	9.0	0.5	-	A large debris object, a square shaped dark reflector is visible in the SSS data with a large and bright shadow, the feature has scouring orientated north and measuring 24 m associated. In the MBES data this is visible as an isolated mound situated within sand waves with some scour visible to the north. This item of debris is potentially anthropogenic in origin.	-	Wind farm
7333	Debris field	499836	5867544	A2	11.3	5.0	0.4	-	A large possible debris field comprising some curvilinear shaped dark reflectors and a smaller dark reflector, all with shadows in a hollow, circular shape on the seabed. The anomalies appear to be partially covered by sediments and situated within a slight depression.	-	Wind farm
7334	Bright reflector	501262	5867253	A2	11.5	1.8	0.0	-	A large and thick curvilinear shaped bright reflector located within sand waves, this is an isolated feature with scouring visible in the SSS data. Possible area of low reflectivity from a debris object that is potentially anthropogenic in origin. In the MBES data this is visible as an isolated mound within sand waves with some fanned scour to the north visible.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7335	Debris	500749	5867237	A2	9.6	4.7	0.1	-	A large rectangular shaped dark reflector feature in a depression, isolated and distinct possible item of debris with scouring orientated north and measuring 7.6 m. This is potentially anthropogenic in origin	-	Wind farm
7336	Debris	501031	5867093	A2	7.9	1.4	0.2	-	An oval shaped dark reflector with a bright and tapered shadow, the possible item of debris has scouring associated orientated north and measuring 32 m.	-	Wind farm
7337	Magnetic	502203	5866981	A2	-	-	-	14	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7338	Debris	499915	5866802	A2	6.2	2.4	1.4	-	A large slightly oval shaped dark reflector with a bright and tapered shadow. A distinct possible item of debris situated on a sandy area of seabed with some associated scouring orientated north and measuring 35 m. In the MBES data this is visible as an elongated mound. This is potentially anthropogenic in origin.	-	Wind farm
7339	Debris	500811	5866450	A2	3.7	1.5	0.3	-	A slightly curvilinear shaped dark reflector with a large and bright shadow. The feature has some sediment build up surrounding it, a possible item of debris or buried debris feature that is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7340	Dark reflector	500479	5866441	A2	4.7	0.6	0.0	-	A long and thick slightly right angled linear dark reflector within a depression, this is an isolated and distinct anomaly that displays some anthropogenic characteristics.	-	Wind farm
7341	Bright reflector	500587	5866369	A2	4.4	0.7	0.0	-	A distinct and thick curvilinear shaped bright reflector, the feature is isolated on a sandy and even area of seabed. Possible area of low reflectivity from a debris object and is potentially anthropogenic in origin.	-	Wind farm
7342	Magnetic	500847	5865811	A2	-	-	-	32	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7343	Magnetic	502083	5865800	A2	-	-	-	260	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7344	Bright reflector	499936	5865697	A2	15.8	0.8	0.0	-	A long, thick and straight bright reflector anomaly. This is an isolated and distinct feature situated on a sandy and even area of seabed. Possible area of low reflectivity from a debris object that is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7345	Seabed disturbance	500589	5865683	A2	12.2	7.8	0.4	-	A medium sized possible seabed disturbance comprising thin, curvilinear dark reflector anomalies, possible bright reflector feature or shadows are visible. The feature appears to be partially buried by sandy sediments. This feature potentially indicates wreck debris or other anthropogenic features buried just below the seabed.	-	Wind farm
7346	Debris	502200	5865277	A2	3.5	3.1	0.3	-	An indistinct, thin and curvilinear shaped dark reflector with a bright shadow, or possibly two curvilinear features aligned on the seabed. This item of debris is located in an area of sand waves and may be partially buried with sediment build up around it. This feature is potentially anthropogenic in origin.	-	Wind farm
7347	Magnetic	501273	5865212	A2	-	-	-	9	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7348	Dark reflector	501352	5865152	A2	11.7	7.7	0.9	-	A large item of debris, visible as a distinct and slightly triangular shaped dark reflector with an indistinct linear piece attached to it. The feature has a very bright shadow and is situated in a slight depression within sand waves, it is potentially anthropogenic in origin. This is visible in the MBES data as a small sub-rounded mound with some scour and slight mounded disturbance extending 45 m to the north.	-	Wind farm
7349	Magnetic	502728	5864663	A2	-	-	-	16	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7350	Debris	501035	5864411	A2	7.7	0.5	0.3	-	A long and thin linear dark reflector with a large, bright shadow, possible item of debris located on a rough and uneven area of seabed that is potentially anthropogenic in origin.	-	Wind farm
7351	Dark reflector	500750	5864395	A2	13.1	2.9	0.7	-	A large dark reflector object with a dull and tapered shadow, the object is quite indistinct and may be partially buried or possibly broken up. This feature is potentially anthropogenic in origin. In the MBES data this is visible as a sub-rounded mound within outcropping geology.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7352	Debris	501920	5864326	A2	17.4	4.6	1.5	-	An oval shaped distinct dark reflector feature measuring 2.4 x 1.6 m with a possible length of rope or chain attached, both with shadows (the column measurements are the entire feature). The debris is situated within sand waves and the full extent may be buried. There is scouring orientated north and measuring 24 m associated. In the MBES data this is visible as a very tall and isolated sub-rounded mound within a rounded depression. This item of debris is potentially anthropogenic in origin.	-	Wind farm
7353	Magnetic	501006	5864180	A2	-	-	-	49	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7354	Dark reflector	500986	5863489	A2	5.1	0.7	0.0	-	A long and thick right angled dark reflector within a slight depression, this is a distinct and isolated anomaly that displays some anthropogenic characteristics.	-	Wind farm
7355	Bright reflector	501068	5863312	A2	7.9	0.6	0.0	-	An indistinct and thin linear bright reflector with one right angled end. Possible area of low reflectivity from a debris object and is potentially anthropogenic in origin.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7356	Debris field	501014	5863295	A2	28.0	17.2	0.4	-	A large spread of indistinct dark and bright reflector anomalies on a sandy and even area of seabed, possible debris field that is potentially anthropogenic in origin.	-	Wind farm
7357	Magnetic	499175	5895652	A2	-	-	-	15	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7358	Magnetic	499223	5895365	A2	-	-	-	68	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7359	Magnetic	498785	5895272	A2	-	-	-	12	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7360	Magnetic	499621	5893852	A2	-	-	-	19	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7361	Magnetic	500324	5893655	A2	-	-	-	16	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7362	Magnetic	499277	5893205	A2	-	-	-	18	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7363	Magnetic	499879	5892842	A2	-	-	-	11	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7364	Magnetic	498781	5892697	A2	-	-	-	25	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7365	Magnetic	499373	5892650	A2	-	-	-	13	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7366	Magnetic	499541	5892301	A2	-	-	-	32	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7367	Magnetic	501089	5892286	A2	-	-	-	26	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7368	Debris	501453	5892212	A2	4.5	3.7	0.5	1588	An indistinct sub-rounded object within a depression. The possible item of debris could be hollow and has anthropogenic characteristics. In the MBES data this is visible as a small mound within a depression of flared scour that is orientated to the northeast. There is a very large magnetic anomaly associated indicating ferrous debris	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7369	Magnetic	500216	5892169	A2	-	-	-	12	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7370	Bright reflector	499534	5891977	A2	4.1	1.0	0.0	-	A slightly oval shaped medium sized bright reflector located in sand waves. This feature has some anthropogenic characteristics	-	Wind farm
7371	Magnetic	501952	5891962	A2	-	-	-	63	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7372	Magnetic	502046	5891425	A2	-	-	-	50	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7373	Dark reflector	501942	5890690	A2	5.2	1.5	0.0	-	Small curvilinear object visible in an area of data blanking. Could be data artefact but could be tall object, although no obvious shadow visible	-	Wind farm
7374	Magnetic	499675	5890087	A2	-	-	-	41	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7375	Magnetic	502439	5889134	A2	-	-	-	79	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7376	Magnetic	499702	5888759	A2	-	-	-	40	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7377	Magnetic	500801	5888731	A2	-	-	-	850	Very large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7378	Dark reflector	502336	5887931	A2	1.4	0.8	0.2	-	A small and slight curved object with a bright shadow, indistinct anomaly with some anthropogenic characteristics	-	Wind farm
7379	Dark reflector	501708	5887768	A2	3.0	0.8	0.2	-	A disjointed looking dark reflector with an internal shadow or bright reflector. This is a small rounded object with a linear piece attached that has anthropogenic characteristics	-	Wind farm
7380	Dark reflector	501000	5887760	A2	4.1	3.8	0.3	-	A distinct dark reflector that is either broken in two or partially buried by sands, has a bright internal shadow and a smaller outer shadow	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7381	Debris	502681	5887786	A2	2.4	2.2	1.7	-	Small dark reflector, appearing in a possible depression, with tall height shadow. Observed in the MBES data as an elongated mound within sand wave measuring 6.5 x 3.5 x 1.0 m within a depression (measuring 16 x 8 x -0.8 m). Located 135m SW of gas pipeline cover (template) on admiralty chart and could be associated but is separate so interpreted as possible piece of unrelated non-ferrous debris	-	Wind farm
7382	Magnetic	502579	5887549	A2	-	-	-	55	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7383	Debris	500962	5886837	A2	6.5	4.2	0.3	-	A possible item of debris, a dark reflector with three parts and with a slight shadow is visible in the SSS data. This feature looks anthropogenic and appears to be partially buried anomaly	-	Wind farm
7384	Seabed disturbance	502417	5885632	A2	16.1	9.6	0.0	-	Irregular area of small dark reflectors with possible height. Could be natural but could be possible debris.	-	Wind farm
7385	Debris field	501455	5885242	A2	7.2	6.5	0.2	-	A small group of possible debris object, very distinct, small and angular dark reflectors with shadows. This feature is located in sand waves and may be partially buried. The largest object measures 4.1 x 0.8 m	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7386	Debris field	500503	5885039	A2	8.8	7.5	0.5	-	A large oval shaped possible debris field with a dull but large and tapered shadow. This is a very indistinct group of objects that display some anthropogenic characteristics	-	Wind farm
7387	Dark reflector	502452	5884820	A2	5.5	2.2	0.1	-	Two small parallel dark reflectors feature with some slight shadow visible within the sand waves. This feature displays some anthropogenic characteristics	-	Wind farm
7388	Magnetic	500866	5883917	A2	-	-	-	12	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7389	Debris field	501435	5882797	A2	12.7	5.6	0.6	-	A debris field that appears to be partially buried, one side of the feature has a thick pointed dark reflector edge and thick linear coming off this. The feature have large shadows and possibly a further linear object exposed. This debris field is situated within a depression and within sand waves	-	Wind farm
7390	Dark reflector	501073	5881724	A2	2.1	1.6	0.1	-	A distinct slightly curvilinear shaped dark reflector with a bright shadow. Located within sand wave. This is a possible item of debris	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7391	Magnetic	502007	5880503	A2	-	-	-	55	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7392	Debris field	503118	5880246	A2	14.7	8.9	0.4	-	A large spread of possible debris items comprising two rounded dark reflectors with shadows, the largest measures 2 x 0.8 m. There is an indistinct curvilinear dark reflector and smaller dark reflectors associated with these. This feature is distinct and situated within sand waves, a possibly debris field	-	Wind farm
7393	Magnetic	500960	5880031	A2	-	-	-	12	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7394	Magnetic	503527	5879498	A2	-	-	-	122	Large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7395	Magnetic	501554	5879165	A1	-	-	-	1166	Very large positive monopole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7396	Dark reflector	501891	5878231	A2	4.1	0.7	0.1	-	A small and slightly curvilinear shaped dark reflector with a bright shadow, isolated and distinct anomaly that show some anthropogenic characteristics	-	Wind farm
7397	Magnetic	501730	5878151	A2	-	-	-	85	Medium asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7398	Magnetic	501772	5877917	A2	-	-	-	820	Very large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7399	Magnetic	501931	5877704	A2	-	-	-	257	Large asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7400	Debris	501670	5877665	U2	3.1	1.3	0.1	-	A medium sized distinct dark reflector or two short linear dark reflectors directly next to one another with a short shadow, possible associated wreck debris from wreck **7401** lying 50 m to southeast. Interpreted as asssociated so non-archaeological but retained.	UKHO 28364	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7401	Wreck	501728	5877615	U2	66.0	17.0	6.7	20718	A very large wreck with either the bow or stern intact, one end of the vessel appears to be buried by sands. The wreck stands high above the seabed and appears to be upright. Some deck structure is visible on one side of the hull as distinct linear dark reflectors with shadows. The wreck appears to be quite degraded with debris fields in the vicinity, these may be possible structure or cargo spread across the seabed. More wreckage is possibly buried in sand waves. In the MBES data a distinct outline of the wreck is visible with a pointed bow to the south-southwest and straight aft. The vessel may be damaged on the portside bow. The wreck is situated within a large depression with long scour visible 200 m orientated to the north-northwest. There is a large 1 m depth dip in the centre of the wreck. This has a very large magnetic anomaly associated indicating a ferrous composition. Associated with the UKHO report for the British supply vessel *Vulcan Service* which sunk in 1990. This wreck has been retained for positioning purposes, although it is not of archaeological interest and has not been assigned an Archaeological Exclusion Zone.	UKHO 28364	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7402	Debris	501749	5877606	U2	5.8	5.1	0.4	-	This is a very distinct, medium sized, curvilinear object with a bright shadow. Situated close to the hull of wreck **7401** and is likely associated debris. In the MBES data this is visible as a small mound within a depression . Interpreted as associated so non-archaeological but retained.	UKHO 28364	Wind farm
7403	Debris field	501739	5877595	U2	33.0	14.9	0.7	-	A medium sized debris field associated with wreck **7401**; a long, thin and distinct linear dark reflector measuring 8.5 m length is visible with a smaller rounded dark reflector object with a bright and tapered shadow. The debris field is situated in the wreck's shadow and may be larger. In the MBES data this is visible as an irregular area of indistinct mounds immediately adjacent to the east side of wreck. Interpreted as associated so non-archaeological but retained.	UKHO 28364	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7404	Debris field	501684	5877582	U2	14.8	9.8	1.0	-	A spread of debris objects visible in the SSS data as distinct dark reflectors, two small rectangular pieces and larger linear features with bright shadows are discernible. The debris field appears to be within large sand waves and the full extent may be buried. This debris field is interpreted to be associated with wreck **7401** situated 33 m to the east. This is visible in the MBES data as an irregularly shaped mound. Interpreted as associated so non-archaeological but retained.	UKHO 28364	Wind farm
7405	Magnetic	501740	5877455	A2	-	-	-	298	Large anomaly with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7406	Magnetic	501671	5877304	A2	-	-	-	635	Very large dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7407	Magnetic	501685	5877229	A1	-	-	-	2790	Very large dipole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7408	Magnetic	501793	5877160	A2	-	-	-	408	Large positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7409	Magnetic	501698	5877152	A1	-	-	-	2141	Very large negative monopole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7410	Magnetic	502311	5877092	A2	-	-	-	119	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7411	Magnetic	501493	5876942	A1	-	-	-	973	Very large dipole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7412	Magnetic	502595	5876561	A2	-	-	-	29	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7413	Magnetic	501800	5876555	A1	-	-	-	2215	Very large negative monopole with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7414	Magnetic	502010	5876527	A2	-	-	-	24	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7415	Dark reflector	502653	5876517	A2	3.1	0.7	0.1	-	A small but distinct dark reflector with a very bright shadow, the feature may be two curvilinear dark reflectors directly next to one another. This is an isolated feature on a sandy area of seabed	-	Wind farm
7416	Magnetic	504332	5876053	A2	-	-	-	57	Medium negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7417	Magnetic	504671	5876044	A2	-	-	-	9	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7418	Magnetic	502579	5875316	A2	-	-	-	15	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7419	Wreck	504730	5875044	A1	54.0	13.1	2.2	5123	A large wreck orientated northwest to southeast. The outline of hull is visible with structure though it appears buried in the southeast. There is a large flared scour to the north so more of the outline of the wreck is visible and the southern edge disappears below seabed at 29 m in length. The height to the northwest edge of the bow or stern is 2 m with possible boilers or mast visible in the centre (2 m height). The wreck has a large magnetic anomaly associated indicating ferrous debris. Associated with UKHO report for unknown wreck, thought to be "three-island" steamer vessel. Last surveyed in 2015 as 68 x 10 x 3 m. Identified as upright, slightly broken with the bows to south-east.	UKHO 64124	Wind farm
7420	Debris	502398	5874699	A2	7.2	2.7	0.3	-	A distinct and isolated rounded dark reflector object with a bright and tapered shadow. This feature is situated within a depression and is a possible debris object	-	Wind farm
7421	Magnetic	503591	5874563	A2	-	-	-	64	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7422	Dark reflector	504650	5874049	A2	3.4	1.9	0.3	-	A small and indistinct angular dark reflector object with some possible scour, a possible anthropogenic feature on a sand wave rich area of seabed	-	Wind farm
7423	Magnetic	503596	5873900	A2	-	-	-	18	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7424	Magnetic	503272	5873897	A2	-	-	-	73	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7425	Magnetic	503191	5873666	A2	-	-	-	12	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7426	Magnetic	503320	5873611	A2	-	-	-	37	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7427	Dark reflector	504030	5873568	A2	5.5	0.9	0.1	-	An irregularly shaped dark reflector with a bright shadow and situated within a slight depression. This feature is located within sand waves and has anthropogenic characteristics	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7428	Magnetic	504770	5873515	A2	-	-	-	13	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7429	Debris field	503254	5873478	A2	26.0	25.0	0.3	33	A large area of debris features, there are a number of dark reflector objects visible, some with shadows. The largest debris feature is a linear measuring 3.55 x 1 m. Very broken up anomalies that are possibly buried. In the MBES data this is visible as an irregular elongate mound with pointed heights. There is no apparent structure, but appears to extend to the northeast and could be partially buried. There is a small magnetic anomaly associated with this debris field indicating ferrous material	-	Wind farm
7430	Dark reflector	503308	5873363	A2	2.4	0.3	0.1	-	A very small and indistinct dark reflector with a bright shadow, isolated anomaly located within sand waves	-	Wind farm
7431	Magnetic	503366	5873348	A2	-	-	-	63	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7432	Magnetic	504344	5873319	A2	-	-	-	14	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7433	Magnetic	503264	5873239	A2	-	-	-	21	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7434	Magnetic	503182	5873140	A2	-	-	-	83	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7435	Magnetic	503191	5873090	A2	-	-	-	19	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7436	Seabed disturbance	504441	5872883	A2	7.7	4.8	0.2	-	Possible area of disturbed seabed, there are indistinct and small dark reflector object with shadows visible within the sand waves. The feature has an anthropogenic appearance	-	Wind farm
7437	Dark reflector	505210	5872732	A2	4.8	0.7	0.8	-	A long and thin linear dark reflector that may be hollow, the feature has some bright shadow and anthropogenic characteristics	-	Wind farm
7438	Bright reflector	503782	5872522	A2	6.0	2.2	0.0	-	A long and thin bright reflector anomaly situated within sand waves, has some anthropogenic characteristics	-	Wind farm
7439	Magnetic	504967	5872394	A2	-	-	-	15	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7440	Magnetic	503645	5872258	A2	-	-	-	95	Medium dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7441	Debris	504060	5872062	A2	9.2	3.7	0.1	-	A large oval shaped anomaly that appears to be buried by sands, this is visible as an indistinct curvilinear dark reflectors, a distinct curvilinear bright reflector and two pointed ends	-	Wind farm
7442	Magnetic	504800	5872045	A2	-	-	-	14	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7443	Dark reflector	504071	5872027	A2	2.5	1.2	0.0	-	A small and indistinct, slightly curvilinear shaped dark reflector with no shadow, possibly in a slight depression	-	Wind farm
7444	Seabed disturbance	503771	5871872	A2	13.8	10.8	0.2	-	A very indistinct area of disturbed seabed, a curvilinear medium sized disturbance is visible as well as some indistinct dark reflectors with shadows partially exposed under sandy sediments. This is situated on a sand wave rich area of the seabed	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7445	Rope/chain	505366	5871054	A2	25.6	0.2	0.1	-	A long and thin length of possible rope or chain with an object attached at one end (object measures 3.2 x 1.9 x 0.5 m), this may be an anchor attached. The feature is very indistinct in the SSS data and may be covered by sands. This is visible in the MBES data as a small mound.	-	Wind farm
7446	Debris field	504837	5870566	A2	12.4	11.7	0.6	-	A very distinct debris field comprising a curvilinear shaped dark reflector with a bright shadow. The feature appears to be partially buried or broken up within the sand waves. It has scouring associated orientated north and measuring 14.3 m	-	Wind farm
7447	Magnetic	503096	5870234	A2	-	-	-	77	Medium dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7448	Magnetic	503888	5869615	A2	-	-	-	33	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7449	Magnetic	502681	5869550	A2	-	-	-	19	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7450	Magnetic	503575	5869507	A2	-	-	-	30	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7451	Magnetic	503887	5869024	A2	-	-	-	8	Small asymmetric dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7452	Magnetic	504962	5868539	A2	-	-	-	29	Small dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7453	Magnetic	504740	5868141	A2	-	-	-	151	Large dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7454	Magnetic	505066	5867954	A2	-	-	-	11	Small asymmetric dipole identified on more than one survey line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7455	Magnetic	504184	5867876	A2	-	-	-	11	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7456	Magnetic	504226	5867645	A2	-	-	-	15	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7457	Debris	503497	5867543	A2	5.0	4.7	0.4	-	A medium sized debris object, this is a distinct curvilinear shaped dark reflector with a point in the middle and a large shadow. This feature is situated in a depression and within sand waves. In the MBES data this is visible as a rounded mound within a rounded depression (depression measuring 15 x 10 x -0.4 m)	-	Wind farm
7458	Dark reflector	505440	5867415	A2	2.8	1.6	0.6	-	A very indistinct Irregular dark reflectors anomaly or possibly two features close together. The anomaly is situated within a disturbance in the sand waves. This feature is possibly anthropogenic	-	Wind farm
7459	Magnetic	506233	5866955	A2	-	-	-	18	Small negative monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7460	Magnetic	505004	5866841	A2	-	-	-	37	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7461	Debris	505675	5866162	A2	9.2	6.6	0.8	-	A medium sized item of debris that is broken up or partially buried by sand waves. The dark reflector anomaly is distinct on the seabed and possibly in a slight depression	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7462	Dark reflector	506001	5864915	A2	5.3	2.1	0.6	-	Sub-angular object with irregular height shadow. Could be distorted in data	-	Wind farm
7463	Dark reflector	506161	5864733	A2	12.0	5.0	0.3	-	An indistinct, Irregularly shaped dark reflector object with a bright shadow and some slight seabed disturbance surrounding the feature. In the MBES data this is visible as an elongated mound cutting across two sand waves. Possibly an anthropogenic feature	-	Wind farm
7464	Magnetic	503632	5864521	A2	-	-	-	9	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7465	Bright reflector	504405	5864402	A2	5.1	0.6	0.0	-	A long and curvilinear shaped bright reflector, quite distinct anomaly located within sand waves, possibly has a very small dark reflector object attached to one end measuring 0.7 x 0.4 m, this has an anthropogenic appearance	-	Wind farm
7466	Magnetic	503981	5863855	A2	-	-	-	31	Small dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7467	Dark reflector	504015	5898232	A2	5.8	0.5	0.1	-	Straight object that appears to cross sand waves with a slight shadow. Not seen on another line but tempted to keep in.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7468	Magnetic	503370	5897790	A2	-	-	-	17	Small but sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7469	Dark reflector	501756	5895878	A2	22.3	0.9	0.0	-	Straight edge of an object with possible slight scour, no obvious height	-	Wind farm
7470	Magnetic	502608	5895326	A2	-	-	-	45	Small but sharp positive monopole observed only on one line. No associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7471	Debris	502345	5895279	A2	5.4	1.9	0.5	-	Irregular object with elongate end and corresponding bright shadow. Observed as an elongate mound in the MBES data measuring 13 x 7 x 0.5 m, with bulbous end to the north and narrows to the south to 4.5 m.	-	Wind farm
7472	Magnetic	502294	5894336	A2	-	-	-	23	Small but sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7473	Magnetic	504656	5894230	A2	-	-	-	13	Small positive monopole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7474	Magnetic	502860	5893866	A2	-	-	-	42	Small but sharp dipole observed on one line adjacent to positive anomaly with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7475	Magnetic	502872	5893800	A2	-	-	-	57	Medium positive dipole observed on one line adjacent to a dipole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7476	Dark reflector	504723	5892166	A2	10.6	6.2	0.7	-	Irregular object, appears cross shaped, with shadow that tapers at the end. Could be a rock but looks unnatural. Possible non-ferrous debris.	-	Wind farm
7477	Magnetic	502222	5891648	A2	-	-	-	19	Small dipole seen on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7478	Dark reflector	505310	5889350	A2	2.3	1.9	0.9	-	Small object with seemingly flared shadow. Could be data artefact and on the edge of visible data.	-	Wind farm
7479	Dark reflector	505558	5889281	A2	2.5	1.2	0.0	-	Two small straight objects with slight scour and possible shadow	-	Wind farm
7480	Magnetic	505512	5888588	A2	-	-	-	20	Small but sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7481	Magnetic	505422	5888472	A2	-	-	-	16	Sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7482	Magnetic	504796	5888368	A2	-	-	-	19	Small but sharp negative monopole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7483	Dark reflector	502624	5888066	A2	18.1	0.7	0.2	-	Three short straight objects with slight bright shadow, possible partially buried linear object. Each separate anomaly measures (from north to south) 4.8 x 0.5 x 0.2 m; 5.0 x 0.5 x 0.1 m and 5.1 x 0.7 x 0.1 m. Could be associated with Template marked on Admiralty chart but not clear from the dataset.	-	Wind farm
7484	Dark reflector	504325	5888020	A2	4.3	1.8	0.0	-	Small rounded object. No height discernible but could be hollow. Appears to have caused slight disturbance.	-	Wind farm
7485	Magnetic	505000	5887190	A2	-	-	-	26	Small dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7486	Magnetic	504114	5886610	A1	-	-	-	2474	Large anomaly observed on only one line with no associated SSS or MBES contacts. Considered A1 due to size of magnetic amplitude and could represent a significant amount of possible ferrous debris that is buried or has no seabed surface expression. Kept in as line spacing 100 m but as such a large anomaly was observed on only one line it may be spurious. Possibly caused by a passing vessel.	-	Wind farm
7487	Rope/chain	505497	5886569	A2	41.2	0.4	0.1	-	Intermittent and distinct straight dark reflectors with some bright shadow. Could be a scar, could be partly buried rope or chain. Aligned NNW to SSE. 3.5 x 0.4 x 0.1 m; 2.9 x 0.2 x 0.1 m and 2.6 x 0.3 x 0.1 m.	-	Wind farm
7488	Magnetic	503006	5886304	A2	-	-	-	109	Large dipole observed on two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7489	Magnetic	504016	5885666	A2	-	-	-	39	Small monopole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7490	Dark reflector	505454	5885297	A2	6.7	0.8	0.2	-	Data looks stretched here. Possibly three small objects within a Seabed disturbance. Scour and height shadow visible. May be natural. Very distinct.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7491	Magnetic	504226	5885244	A2	-	-	-	31	Small dipole observed on two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7492	Dark reflector	504143	5885130	A2	4.6	0.3	0.4	-	Straight object with some shadow. Appear at the edge of data disturbance	-	Wind farm
7493	Magnetic	504796	5885014	A2	-	-	-	23	Small dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7494	Rope/chain	505068	5883710	A2	57.4	0.7	0.2	-	Indistinct curvilinear, but visible. May be intermittent across sand waves. Could be scar. Could be related to cable 230 W on admiralty chart but can't be certain so keeping in as possible linear debris such as rope or chain.	-	Wind farm
7495	Debris	503980	5882609	A2	2.1	1.7	0.4	-	Angular object with possible slight scour and slight shadow. Possible non-ferrous debris.	-	Wind farm
7496	Magnetic	504798	5882596	A2	-	-	-	111	Large sharp positive monopole observed on one line but could be spurious with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7497	Debris	506456	5882029	A2	4.4	0.7	0.1	20	Dark edge of an object with some slight shadow, within sand ripples. Associated with a magnetic dipole observed within a geological background, indicating presence of ferrous material.	-	Wind farm
7498	Magnetic	505336	5881906	A2	-	-	-	8	Small positive anomaly observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7499	Debris	503997	5881717	A2	5.1	1.6	0.3	-	Straight edge of an object with some scour and slight shadow. Could be partially buried non-ferrous debris.	-	Wind farm
7500	Magnetic	504712	5881568	A2	-	-	-	9	Small dipole, could be natural but looks very sharp with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7501	Magnetic	506726	5880892	A2	-	-	-	44	Small but sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7502	Recorded obstruction	506253	5880785	A3	-	-	-	-	Position of the UKHO record for an obstruction first identified in 2004. Position surveyed but not located in 2015. No associated seabed features from within this dataset but is in an area of sand waves so could be buried.	UKHO 64123	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7503	Debris	506894	5880477	A2	6.6	3.8	0.7	32	Irregular object with some rounded dark reflectors and a straight section, some scour visible and slight shadow. Associated with a sharp, negative monopole observed on one line.	-	Wind farm
7504	Magnetic	504558	5879972	A2	-	-	-	16	Small sharp dipole observed next to data jump with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7505	Magnetic	505390	5879744	A2	-	-	-	13	Small but sharp dipole observed over two lines and as one of two close together with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7506	Magnetic	505406	5879660	A2	-	-	-	10	Small but sharp dipole observed over two lines and as one of two close together with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7507	Debris	505395	5878994	A2	1.7	0.6	0.0	14	Small object with slight scour and no obvious shadow. Tentatively grouped with an associated sharp magnetic anomaly and possibly observed as a disturbance in the MBES data (but not tagged)	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7508	Magnetic	505978	5878864	A2	-	-	-	13	Small sharp positive monopole and observed as small dipole on adjacent line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7509	Magnetic	507330	5878666	A2	-	-	-	19	Small sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7510	Magnetic	504926	5877246	A2	-	-	-	34	Small but sharp positive monopole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7511	Dark reflector	507631	5877212	A2	2.9	0.5	0.0	-	Straight edge of an object with slight scour and no discernible shadow	-	Wind farm
7512	Magnetic	507589	5877145	A2	-	-	-	8	Small positive monopole with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7513	Dark reflector	505113	5874974	A2	3.8	0.9	0.4	-	Sub-rounded edge of an object with angular bright shadow	-	Wind farm
7514	Dark reflector	507872	5873969	A2	3.8	1.1	0.1	-	Small straight object with slight bright shadow	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7515	Rope/chain	506134	5873516	A2	75.5	0.2	0.0	-	Curvilinear dark reflector with some slight scour but no obvious height shadow	-	Wind farm
7516	Debris	505981	5873246	A2	4.5	3.6	0.3	-	Irregular object with curved and straight edges with some slight scour and some shadow	-	Wind farm
7517	Magnetic	507912	5872876	A2	-	-	-	11	Small but sharp dipole within geological background with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7518	Dark reflector	506205	5872133	A2	5.8	1.3	0.2	-	Elliptical object with some slight shadow. On the cusp of visible data	-	Wind farm
7519	Magnetic	505648	5871680	A2	-	-	-	245	Large dipole observed on two lines with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7520	Debris	505881	5870237	A2	4.3	1.1	0.4	109	Angular object with some slight shadow and some scour. Could be part of seabed ripple but looks anomalous to pattern. Associated with a distinct magnetic anomaly indicating the presence of ferrous material.	-	Wind farm
7521	Dark reflector	506991	5870107	A2	1.2	0.6	0.2	-	Small curved object with some slight shadow	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7522	Debris	506938	5869565	A2	6.8	2.2	0.6	-	Irregular object with possible curvilinear attached, extending 12.6 m to the north and curving to the west. Some slight shadow visible. Probable non-ferrous debris	-	Wind farm
7523	Dark reflector	508766	5869425	A2	8.0	2.9	0.8	-	Angular object with slight scour and angular bright shadow that is interrupted by sand ripples. Could be debris but could be a rock	-	Wind farm
7524	Dark reflector	508709	5869209	A2	3.0	2.7	0.3	-	Small straight dark reflectors forming angular object with slight bright shadow and some slight scour	-	Wind farm
7525	Magnetic	508552	5868504	A2	-	-	-	13	Small sharp dipole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7526	Magnetic	506082	5868414	A2	-	-	-	76	Medium sharp dipole tagged on one line and observed smaller on adjacent with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7527	Dark reflector	508016	5867885	A2	7.2	5.5	0.5	-	Angular object with corresponding bright shadow	-	Wind farm
7528	Rope/chain	507827	5867691	A2	24.8	0.3	0.1	-	Curvilinear dark reflector with some bright shadow, maybe attached to object 7529, tentatively observed in the MBES data as extending 24.8 m north from the object.	-	Wind farm

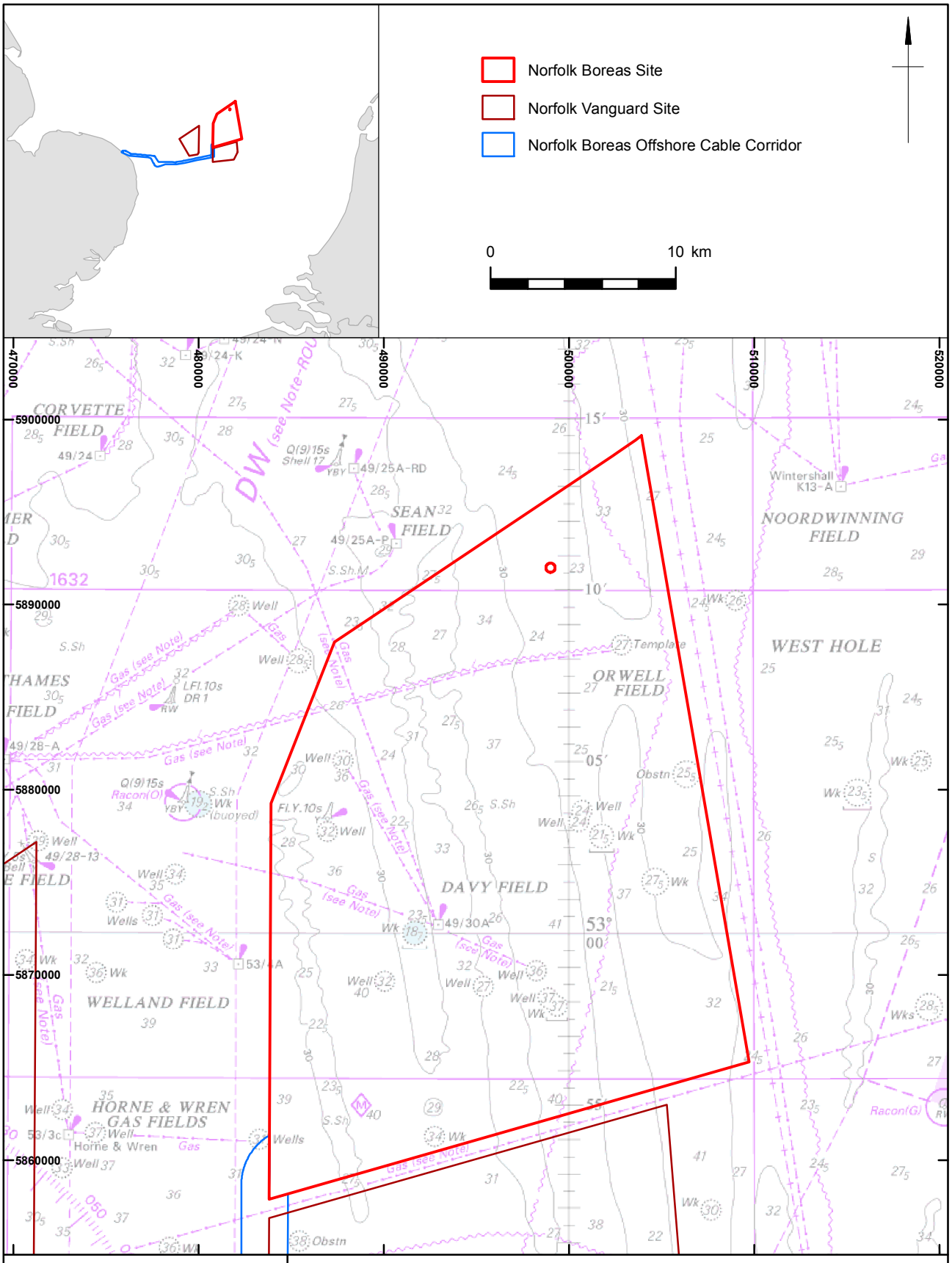
ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7529	Debris	507825	5867680	A2	3.0	2.8	0.5	-	Small irregular object with angular bright shadow and some scour. Observed as an elongate mound measuring 10 x 6 x 0.3 m in the MBES data, crossing sand waves and aligned NW-SE. Possible linear (7528) attached.	-	Wind farm
7530	Dark reflector	507763	5867638	A2	5.0	4.2	0.8	-	Possibly two angular objects close together with some angular shadow and causing a seabed disturbance	-	Wind farm
7531	Dark reflector	507616	5867626	A2	12.5	3.4	0.8	-	Irregular object with some possible disturbance. Quite large and could be debris but reluctant to call it due to tapered shadow. Nothing on charts. Observed in the MBES data as a slightly curved mound within sand waves and scour to the North (6.5 x 5.5 x 0.5 m).	-	Wind farm
7532	Seabed disturbance	508303	5867600	A2	9.1	3.1	0.4	-	Irregular area of seabed disturbance. Some angular shadow but appears to be segmented. Observed as an elongate mound aligned NE-SW measuring 17 x 6 x 0.3 m. Could be natural based on QC but kept in for now.	-	Wind farm
7533	Magnetic	507926	5866876	A2	-	-	-	11	Small sharp dipole observed on one line only with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7534	Debris	506876	5866801	A2	4.8	2.9	0.4	-	Angular object with some scour and angular bright shadow. Could possibly be two smaller features or a partially buried object.	-	Wind farm
7535	Dark reflector	507025	5866743	A2	9.1	0.8	0.3	-	Curved object visible as an edge with corresponding bright shadow, although object only visible through half shadow, assumed edge present as shadow continues.	-	Wind farm
7536	Debris	507201	5866286	A2	9.2	3.1	0.9	-	Sub-angular object with some scour and irregular bright shadow. Observed in MBES data as a slight elongated mound (measuring 6 x 4 x 0.3 m) surrounded by scour which is deeper to the North.	-	Wind farm
7537	Dark reflector	506536	5866143	A2	5.3	1.5	0.6	-	Irregular object with irregular bright shadow and some possible scour. Could be partially buried object	-	Wind farm
7538	Magnetic	506476	5866124	A2	-	-	-	16	Small dipole observed on one line only with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7539	Debris	506718	5865957	A2	4.1	3.8	0.6	-	Angular object with irregular bright shadow. Observed in MBES data as a small elongate mound measuring 7 x 5 x 0.4 m, within a depression and some scour to the north	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7540	Dark reflector	507107	5865937	A2	7.0	3.5	0.9	-	Irregular object with some varying bright shadow and slight scour. Observed in the MBES data as a small elongate mound measuring 13 x 7 x 0.3 m with some scour to the North.	-	Wind farm
7541	Dark reflector	509610	5865803	A2	3.7	1.1	0.0	-	Irregular dark reflector with some bright scour. Doesn't appear to be a bright reflector	-	Wind farm
7542	Dark reflector	507154	5865715	A2	7.9	1.2	0.1	-	Straight edge of an object with some slight shadow. The object is indistinct due to stretched data.	-	Wind farm
7543	Magnetic	509462	5865704	A2	-	-	-	16	Small negative monopole observed on one line with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	Wind farm
7544	Dark reflector	507218	5865598	A2	4.3	0.6	0.3	-	Elongate object with slight dark edge and irregular bright shadow. One of many objects, but most distinct from seabed	-	Wind farm
7545	Dark reflector	508284	5865532	A2	5.5	1.9	0.6	-	Indistinct object with possible scour and disturbance to one side. With irregular height. At data limits. Observed in MBES data as a small mound, measuring 8 x 6 x 0.3 m, with scour and sediment build-up to the north.	-	Wind farm
7546	Rope/chain	507231	5865379	A2	81.1	0.6	0.1	-	Curvilinear dark reflector with some shadow. Could be rope or chain but could be scar.	-	Wind farm

ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Magnetic Amplitude (nT)	Description	External References	Area
7547	Dark reflector	483661	5858103	A2	4.7	0.7	0.2	-	A distinct and elongate dark reflector with an irregular bright shadow, isolated in an area of sand waves. Could be possible piece of debris or a natural feature.	-	OCC
7548	Magnetic	483719	5858251	A2	-	-	-	33	Small asymmetric dipole observed on one line only with no associated SSS or MBES contacts. Could represent possible ferrous debris that is buried or has no seabed surface expression.	-	OCC
7549	Dark reflector	483758	5858173	A2	4.5	3.1	0.3	-	An irregular dark reflector with an angular shadow, situated in a rounded depression within sand waves. Not observed in the MBES data. Could be possible piece of debris or a natural feature.	-	OCC
7550	Dark reflector	484320	5857190	A2	4.8	2.2	0.2	-	Irregular shaped object on crest of sand ripple, with slightly flared bright shadow. Appears partially buried. Could be piece of debris or could be a natural feature.	-	OCC

1. Co-ordinates are in ETRS89 UTM31N
2. Positional accuracy estimated ±10 m



Coordinate system:
ETRS1989 UTM Z31N

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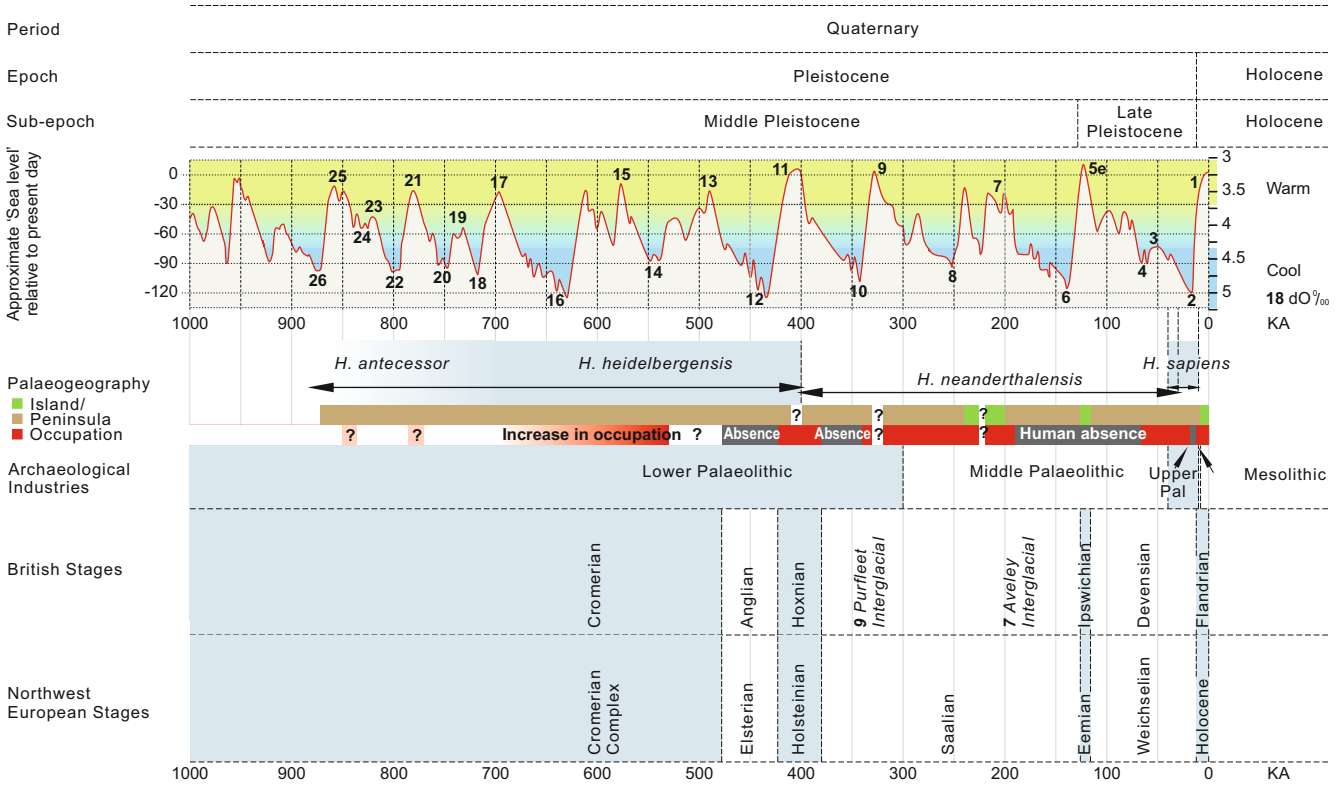
Norfolk Boreas location map

Figure 1



The figure presents information derived from several references: the global sea-level curve is from Lisiecki and Raymo (2005) and Jelgersma (1979). Details on the geology and archaeology were provided by Dix and Westley (2004); Funnel (1995); Gibbard and van Kolfschoten (2004); Kukla et al. (2002); Lee et al. (2006); Lowe and Walker (1997) and Wymer (1999).

Date:	28/02/2018	Revision Number:	0
Scale:	NTS	Illustrator:	KJF
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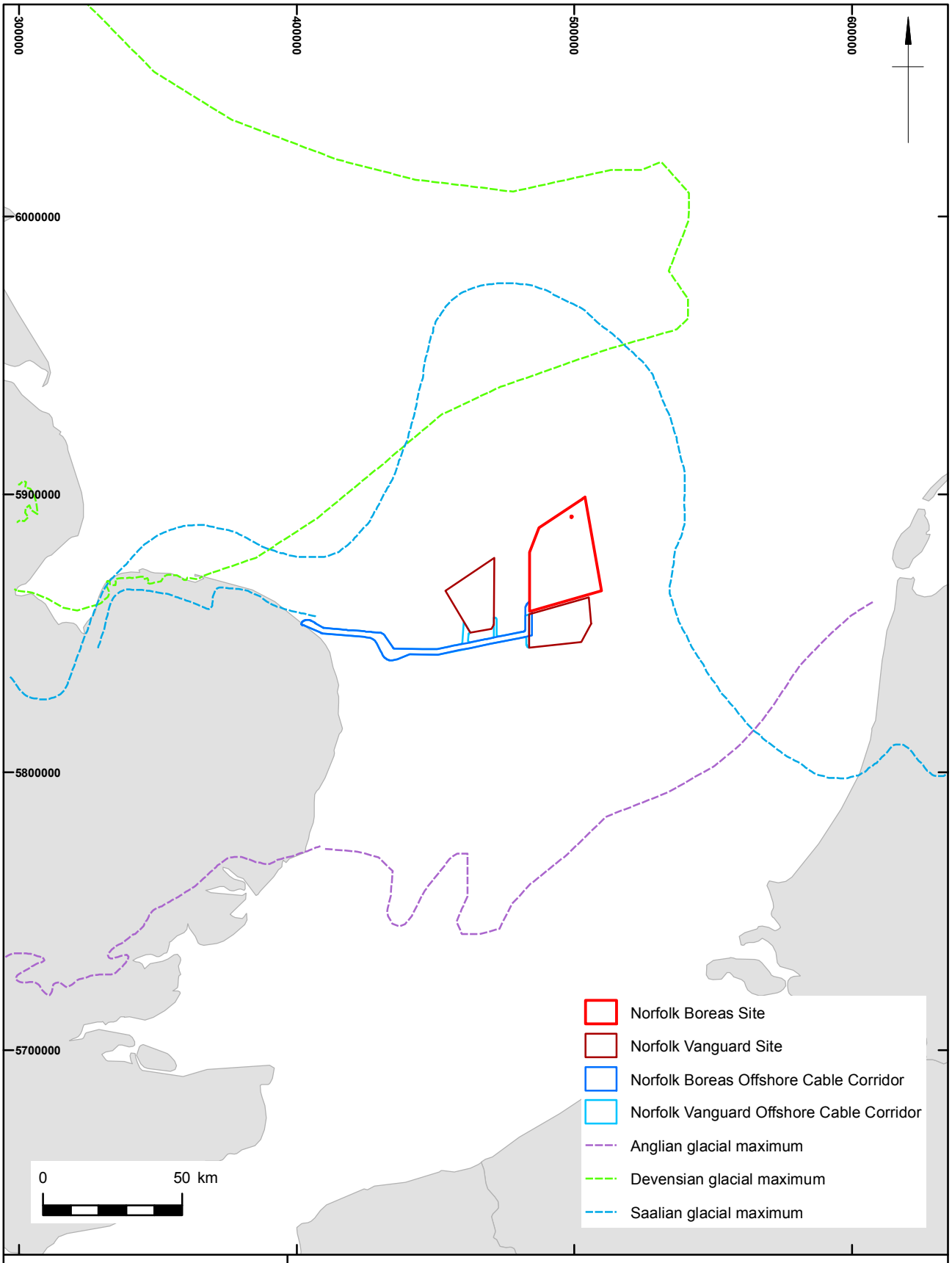
Sea level curve and chronology of the southern North Sea landscape

Figure 2



Made with Natural Earth. Free vector and raster map data @ naturalearthdata.com.

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Path:	W:\Projects\117120\GIS\FigsMXD\Geophys\2018_05_25		

Coordinate system:
ETRS1989 UTM Z31N

Pleistocene ice limits

Figure 3

Norfolk Boreas Site

Norfolk Vanguard Site

Norfolk Boreas Offshore Cable Corridor

Vibrocore Locations

Transect locations

Possible Twente Formation extents (from BGS 1984)

Approx. Unit 2 Extents

Features of archaeological potential

Holocene (Pre-Transgression), Channel

Holocene (Pre-Transgression), Simple Cut and Fill

Holocene (Pre-Transgression), High Amplitude Reflector

Holocene (Pre-Transgression), Sediment Ridge

Devensian or Holocene, Simple Cut and Fill

Devensian, Acoustic Blanking

Devensian, Erosion Surface

Coordinate system:
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0 5 km

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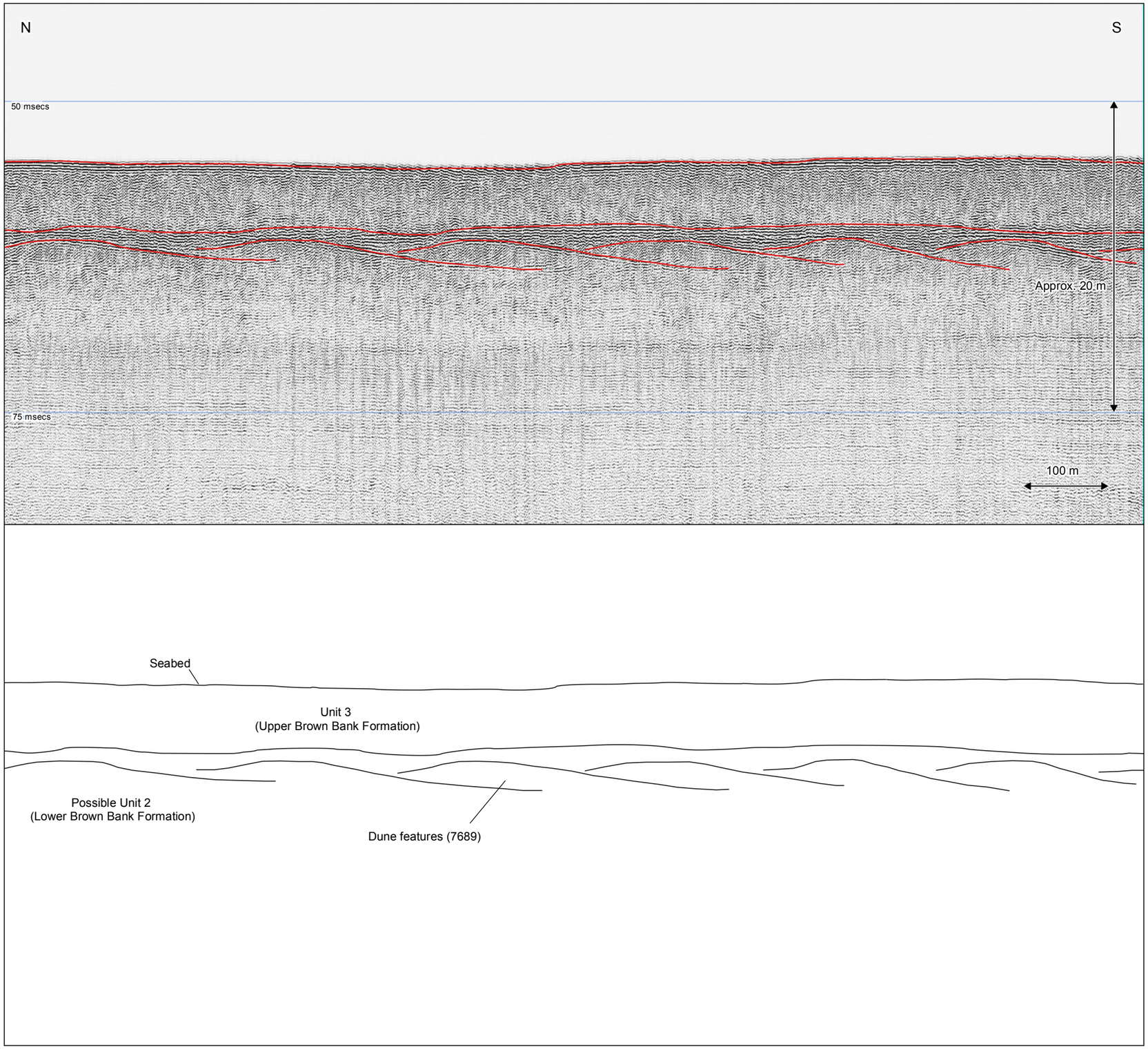
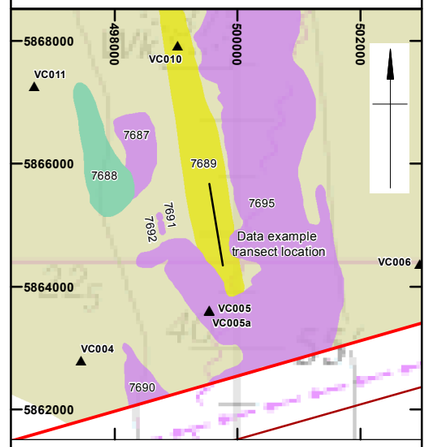
Palaeogeographic features of archaeological potential

Figure 4





Norfolk Boreas Site

Norfolk Vanguard Site

Vibrocore Locations

Transect locations

Approx. Unit 2 Extents

Features of archaeological potential

Holocene (Pre-Transgression), High Amplitude Reflector

Devensian, Acoustic Blanking

Devensian, Erosion Surface

0 2.5 km

Coordinate system:
ETRS1989 UTM Z31N

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Revision Number:	1
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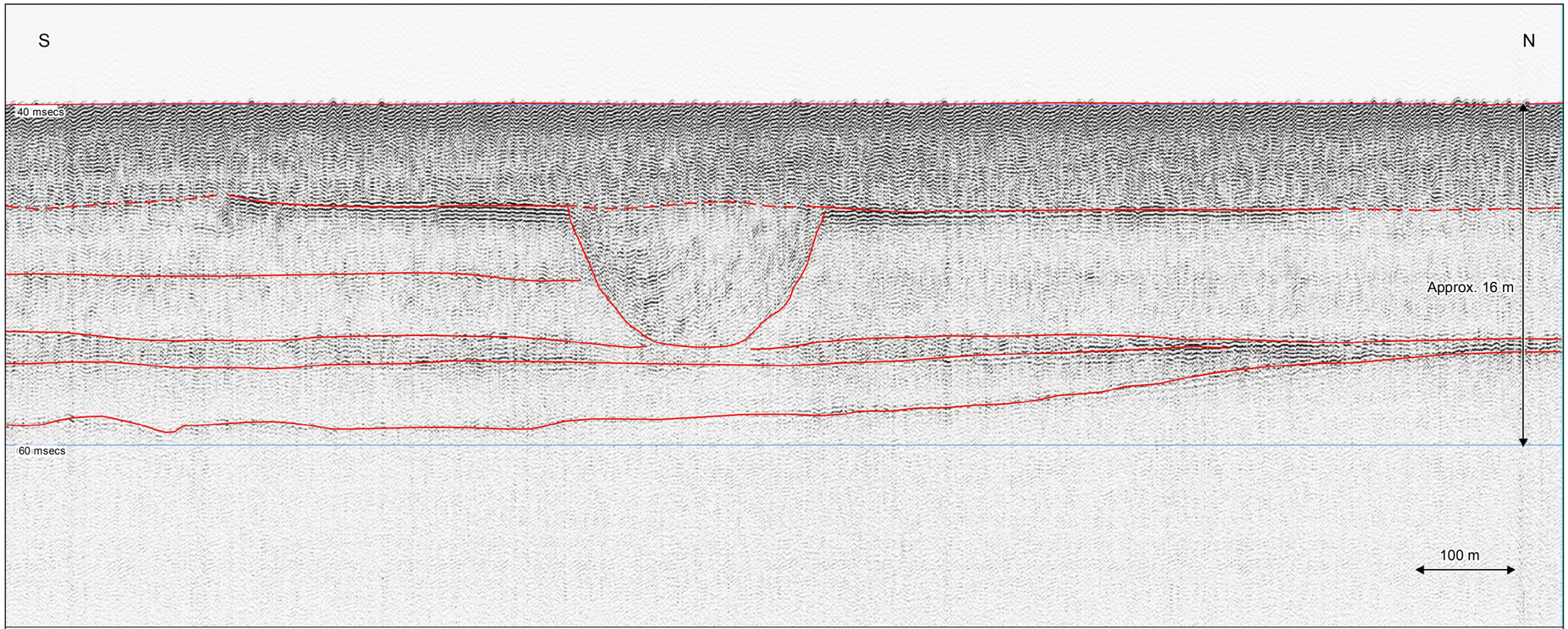
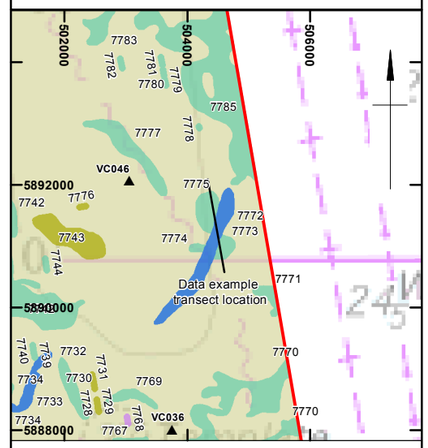
FigsMXD\Geophys\2018_04_04	

SBP data example – dune features

Figure 5





Norfolk Boreas Site

Vibrocore Locations

Transect locations

Approx. Unit 2 Extents

Features of archaeological potential

Holocene (Pre-Transgression), Channel

Holocene (Pre-Transgression), High Amplitude Reflector

Devensian or Holocene, Simple Cut and Fill

0 2.5 km

Coordinate system:
ETRS1989 UTM Z31N

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Revision Number:	1
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Illustrator:	KJF
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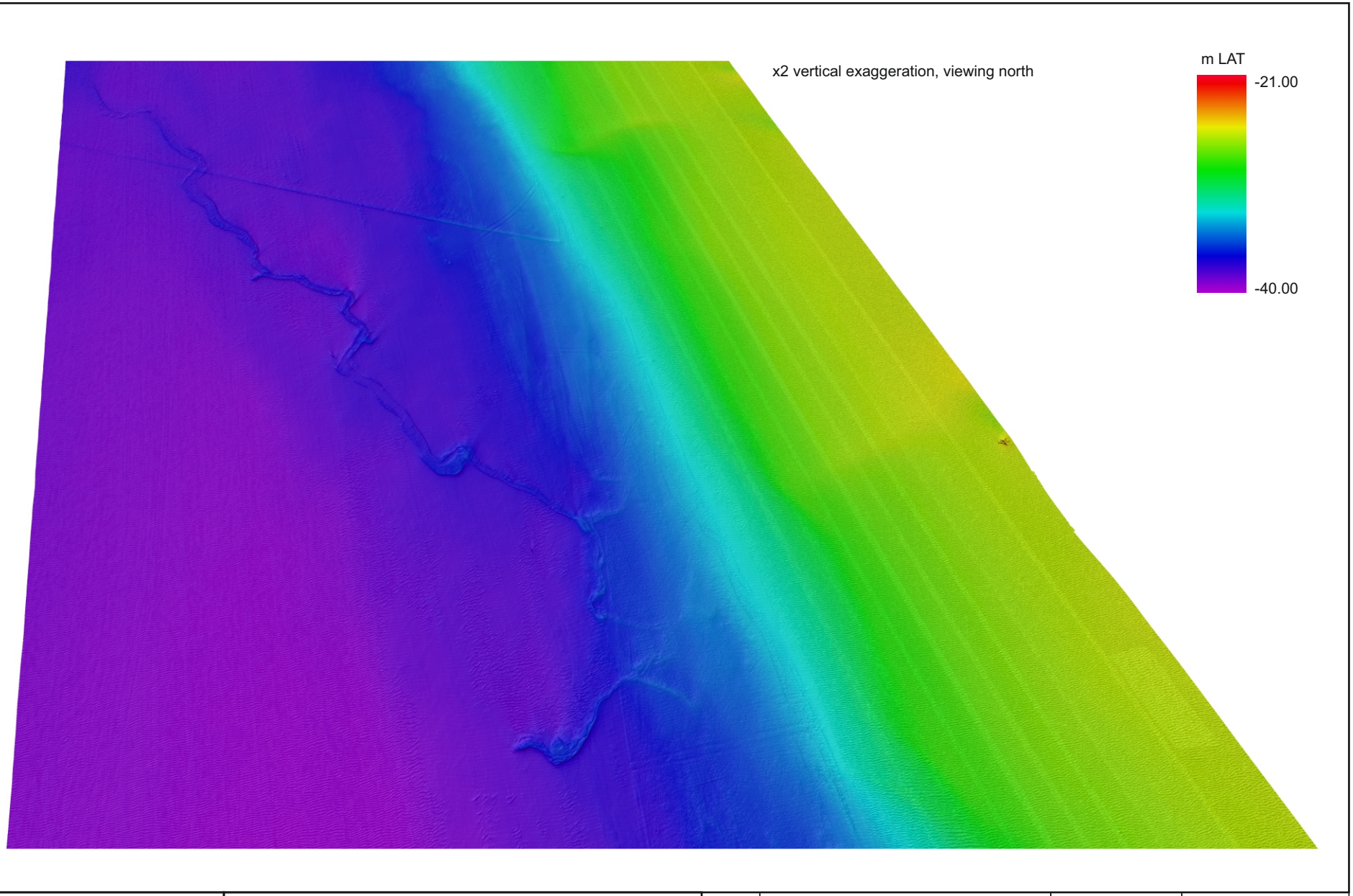
SBP data example – channel and high amplitude reflectors

Figure 6



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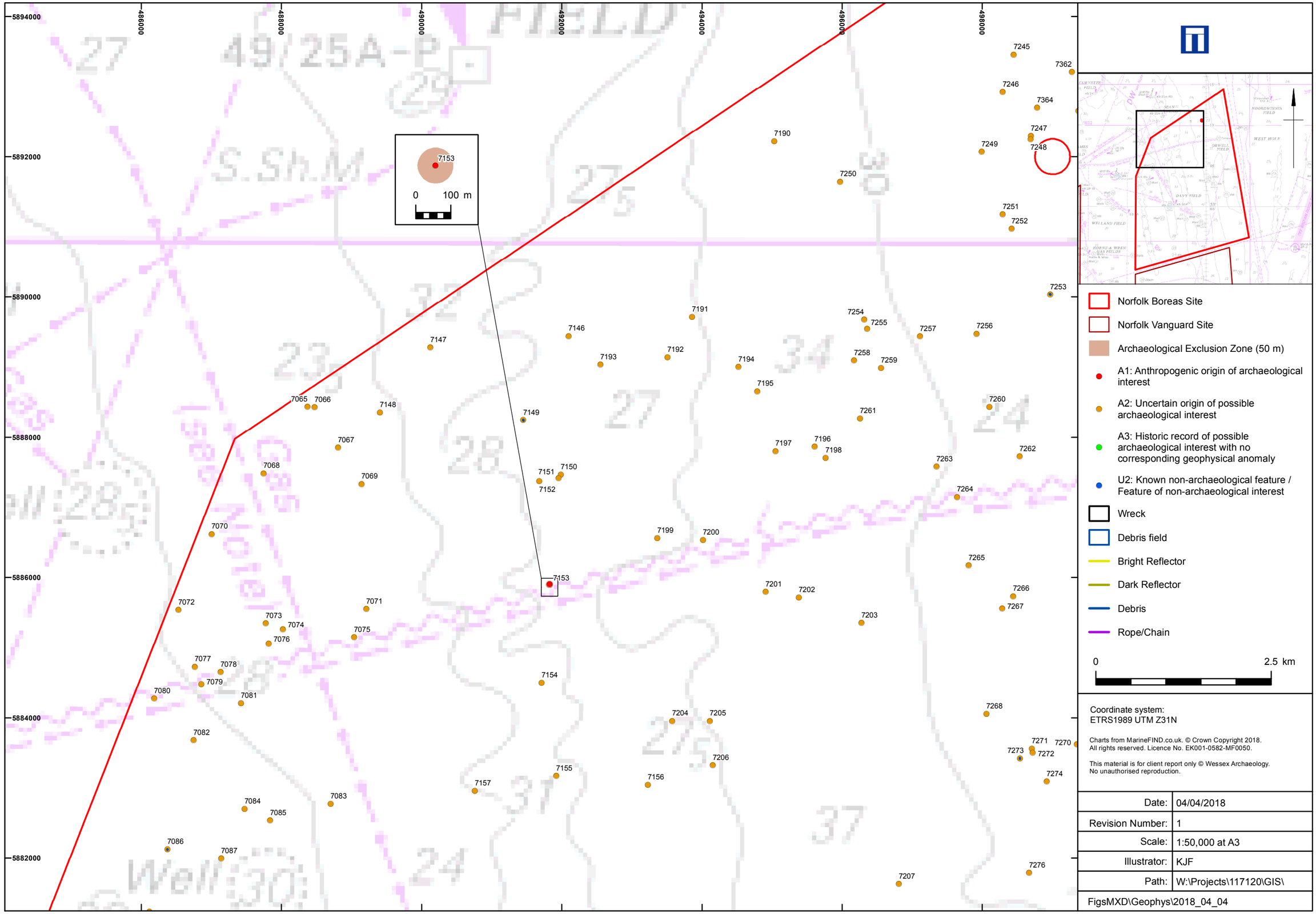
MBES data example – sediment ridge

Figure 7



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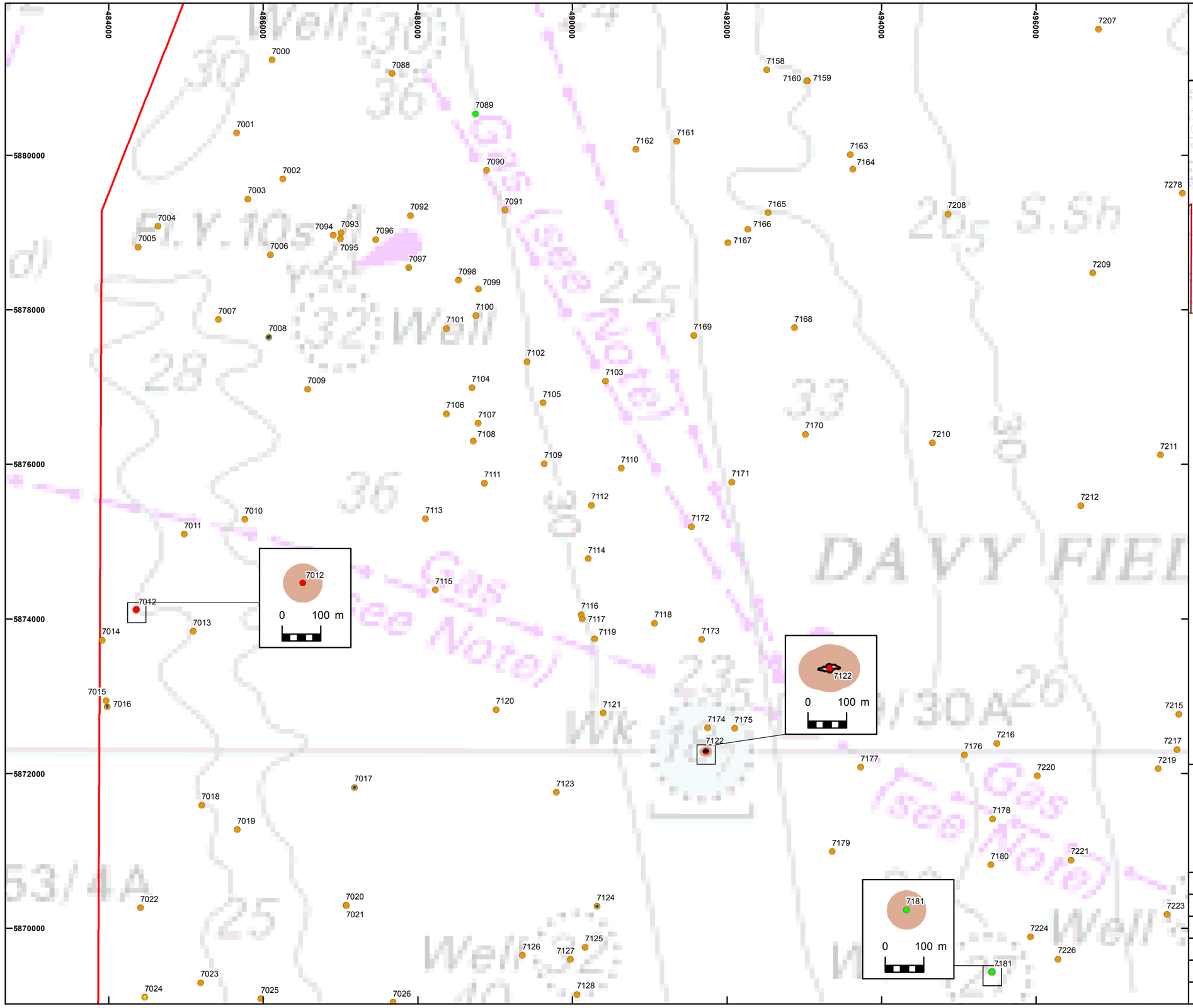
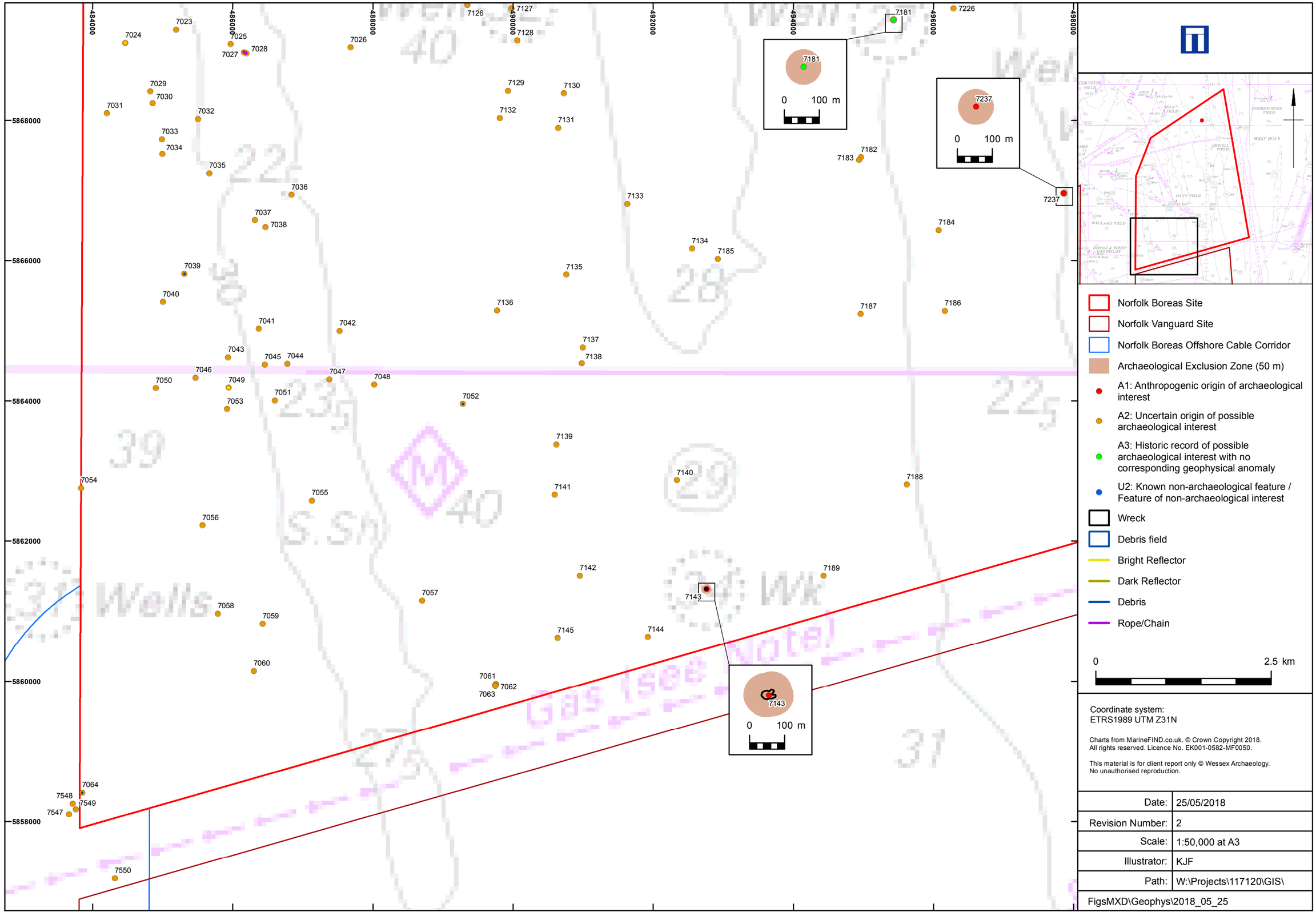
Geophysical anomalies and exclusion zones

Figure 8a



Geophysical anomalies and exclusion zones

Figure 8b



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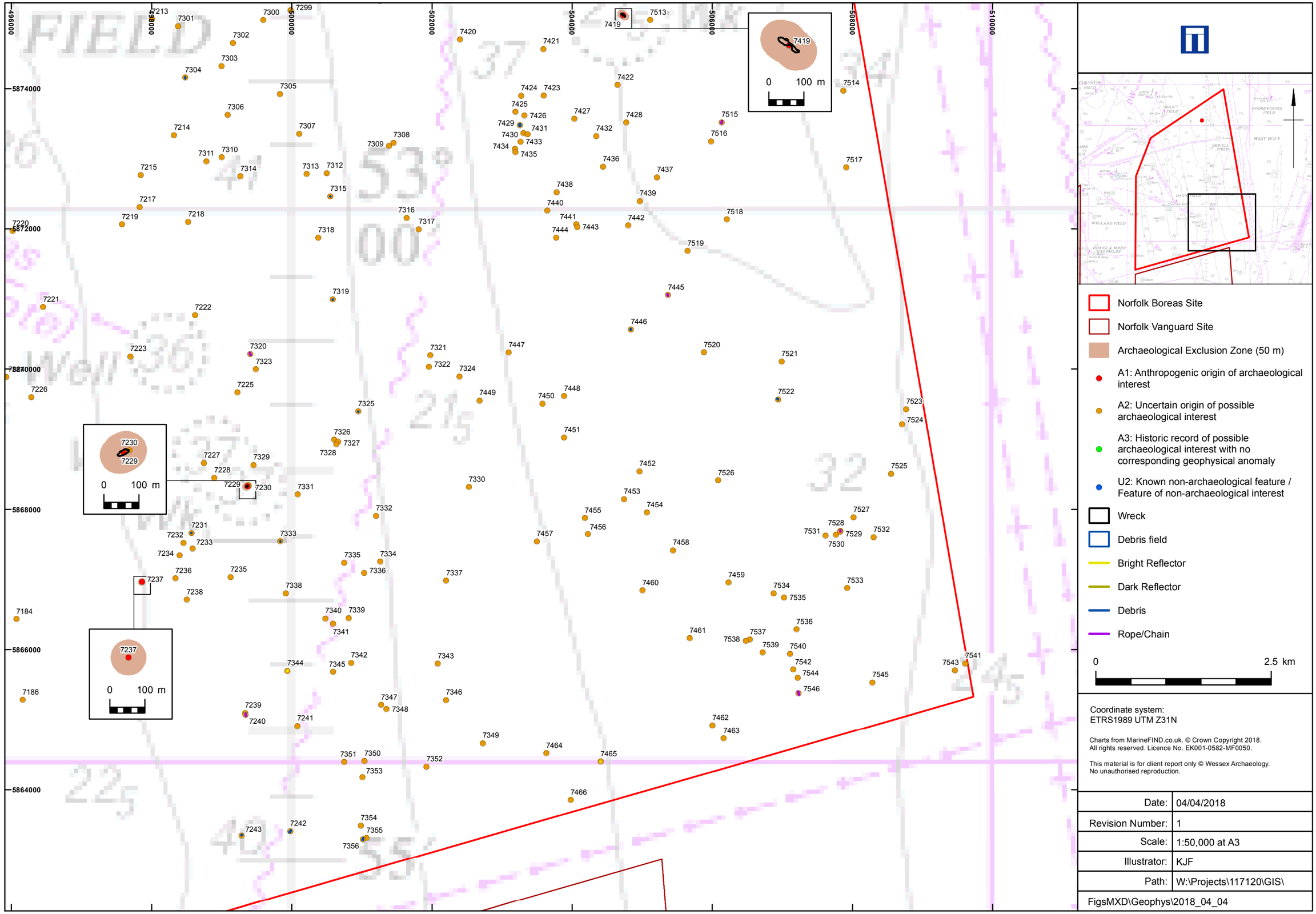
Geophysical anomalies and exclusion zones

Figure 8c



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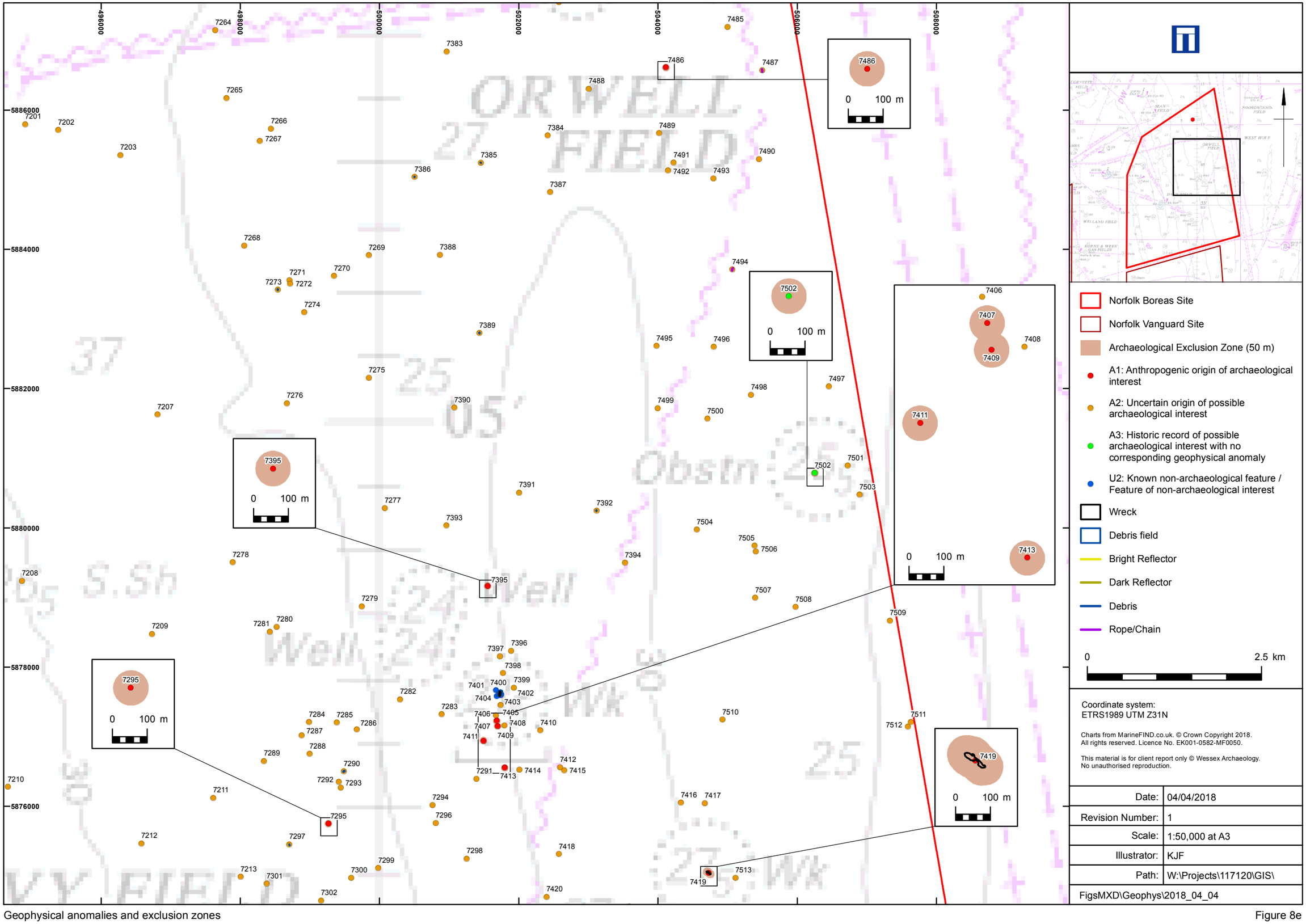
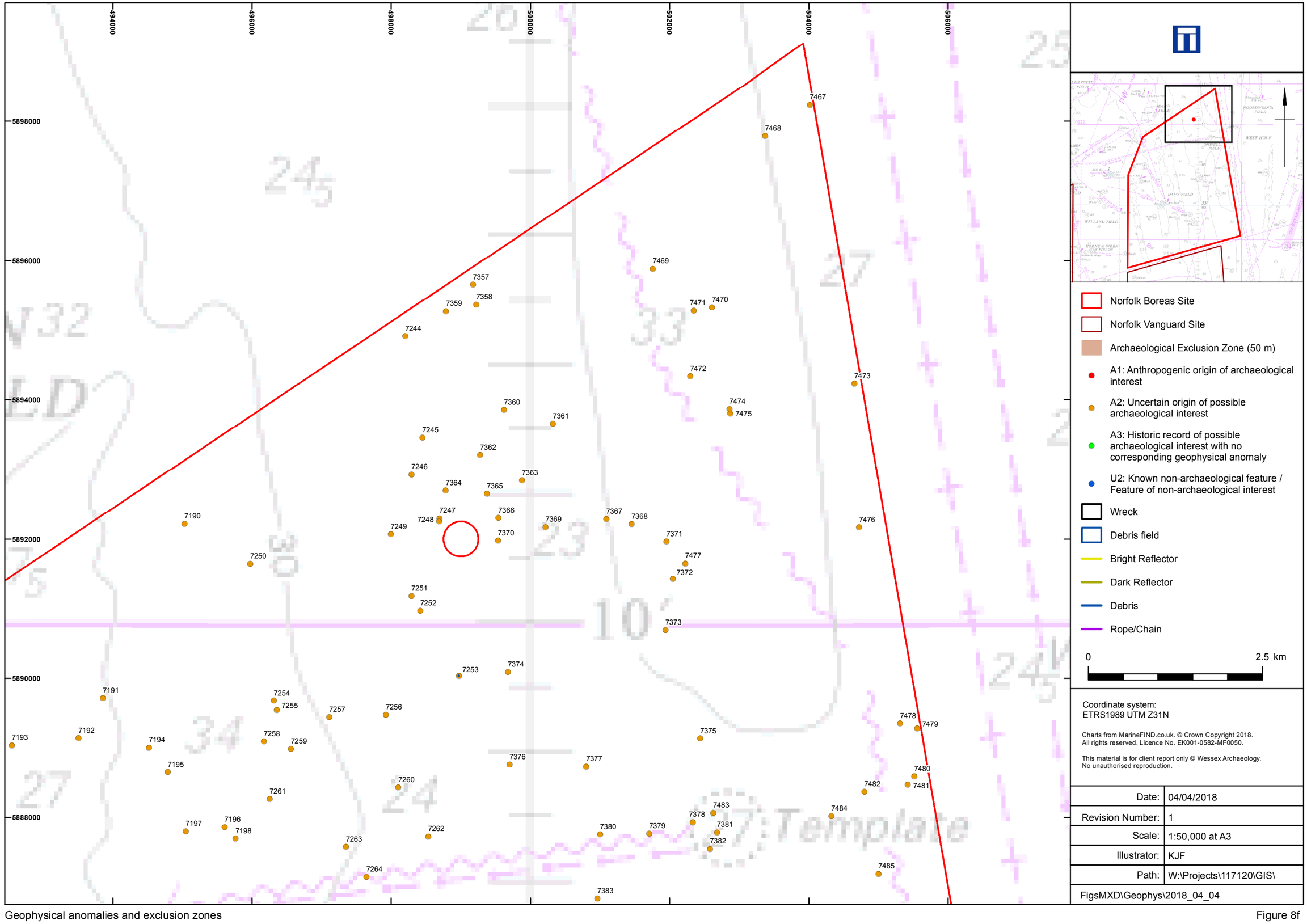
Geophysical anomalies and exclusion zones

Figure 8d



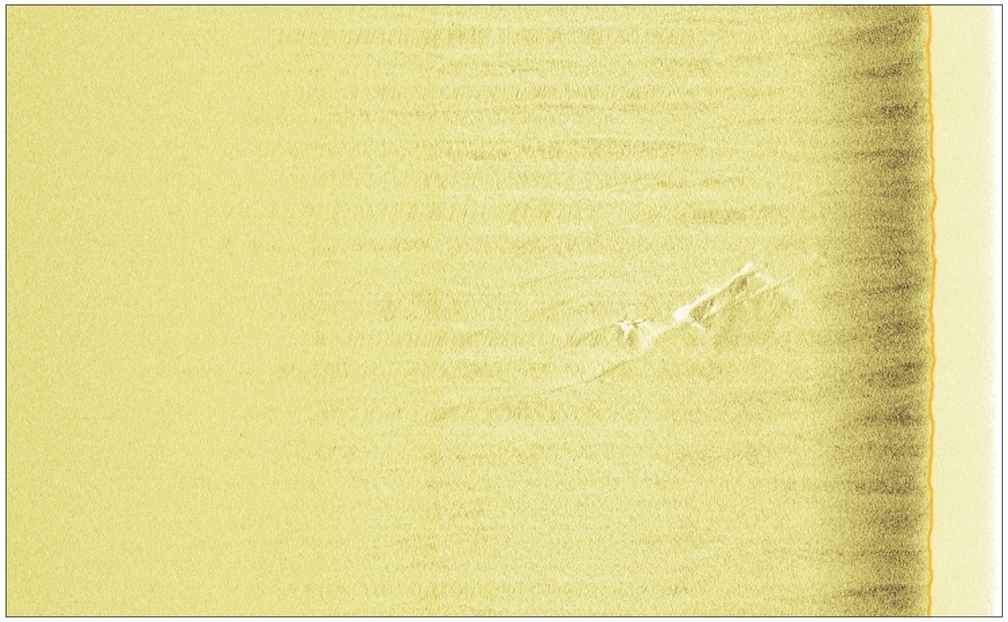
Geophysical anomalies and exclusion zones

Figure 8e

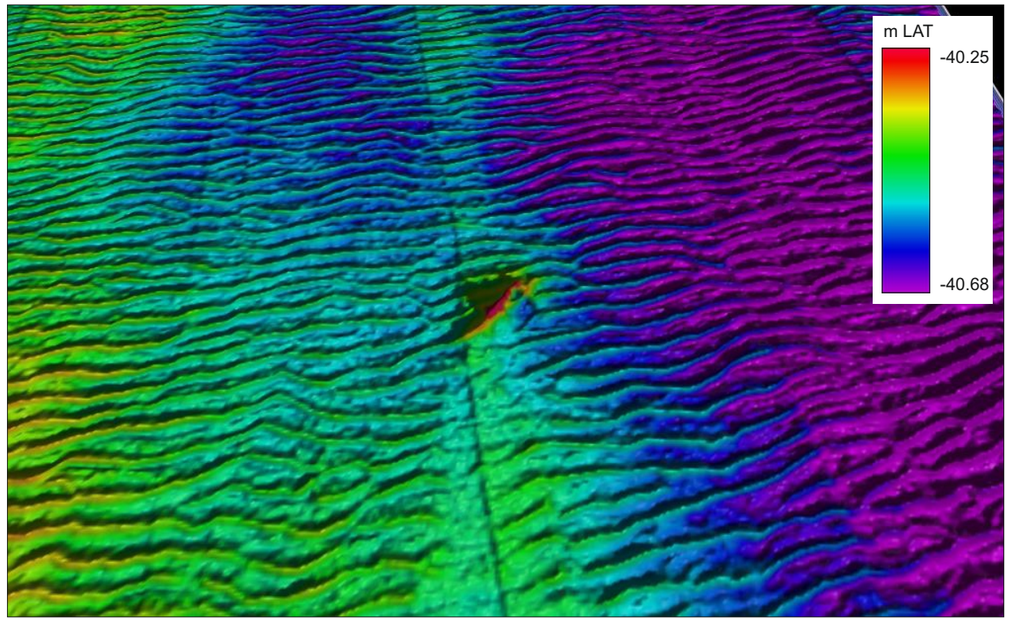


Geophysical anomalies and exclusion zones

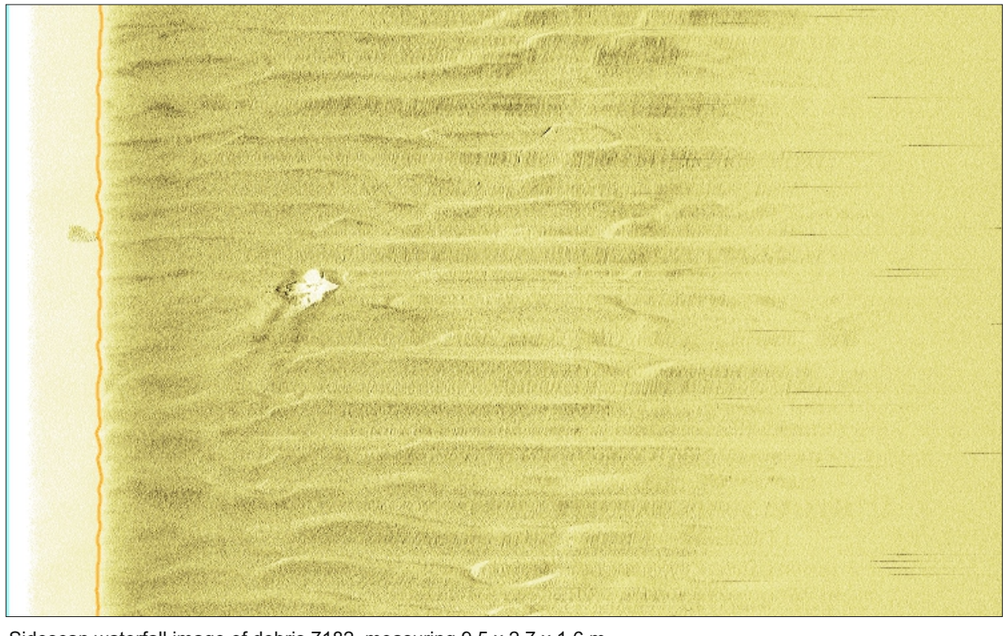
Figure 8f



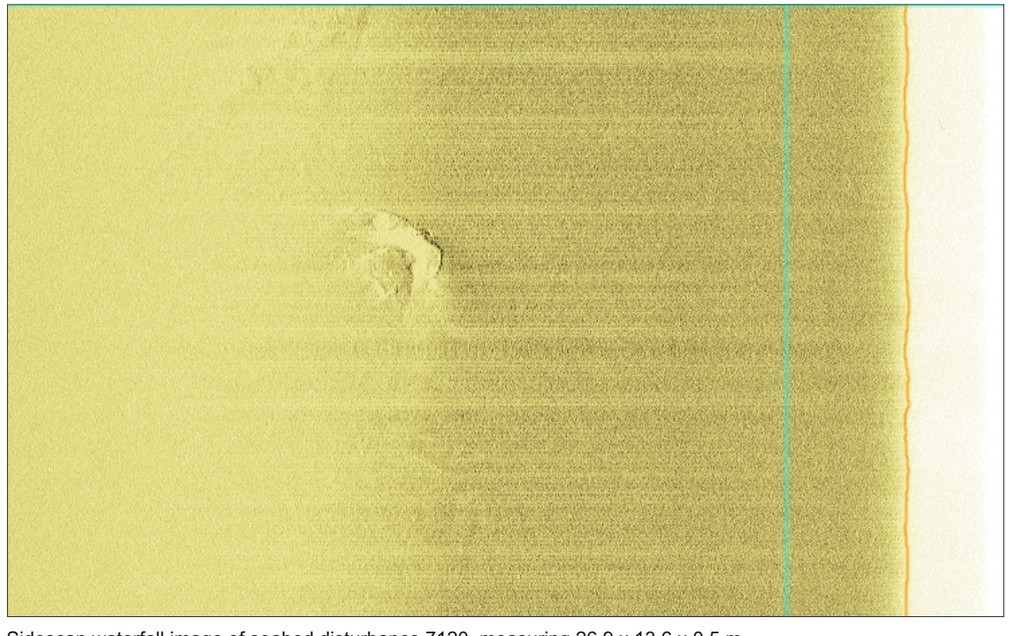
Sidescan waterfall image of debris field 7242, measuring 40.4 x 13.9 x 0.4



Multibeam echosounder image of debris field 7242, facing south, x6 vertical exaggeration



Sidescan waterfall image of debris 7182, measuring 9.5 x 2.7 x 1.6 m



Sidescan waterfall image of seabed disturbance 7120, measuring 26.9 x 13.6 x 0.5 m

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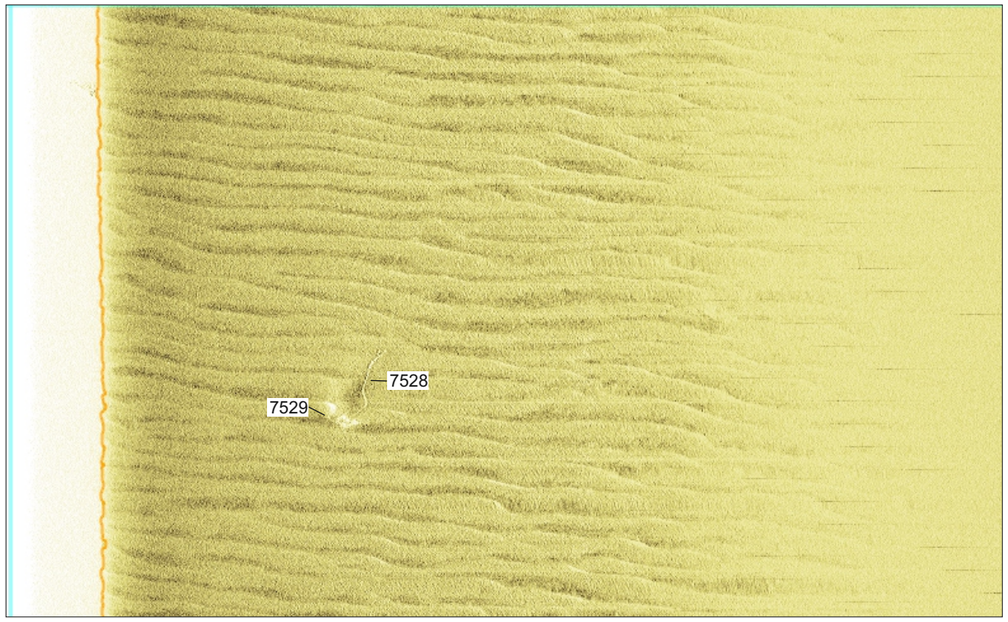
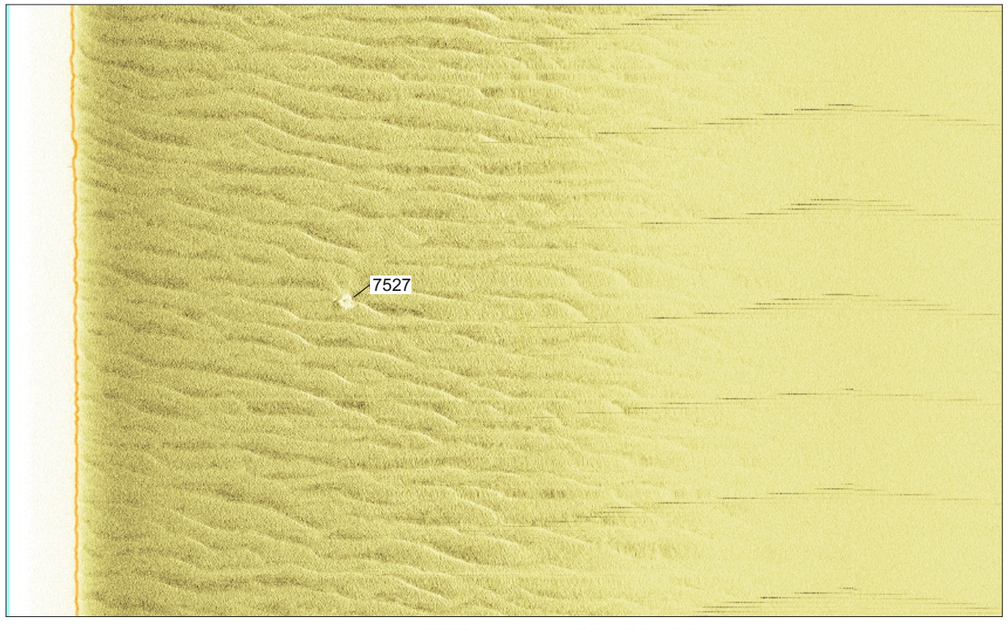
Data examples of seabed features

Figure 9

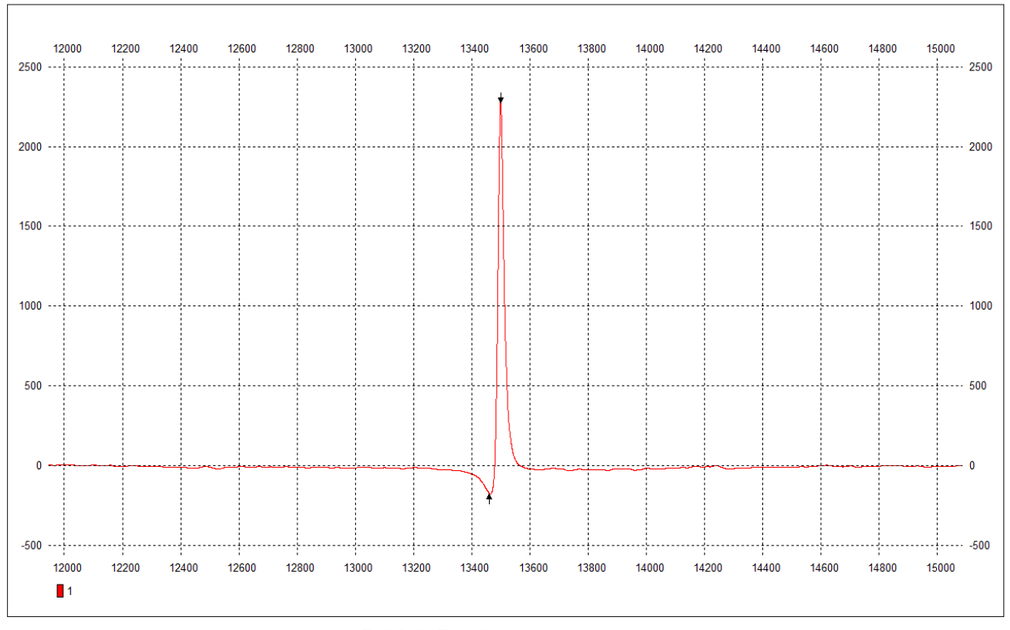


Sidescan waterfall image of rope/chain 7528, measuring 24.8 x 0.3 x 0.1 m

Sidescan sonar waterfall image of bright reflector 7370, measuring 4.1 x 1.0 m



Sidescan sonar waterfall image of dark reflector 7527, measuring 7.2 x 5.5 x 0.5 m



Marine magnetometer profile of anomaly 7486, 2474 nT

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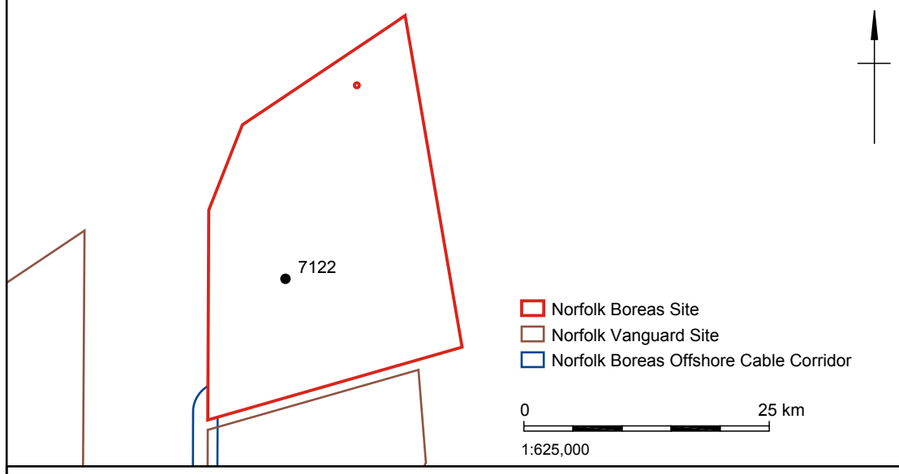
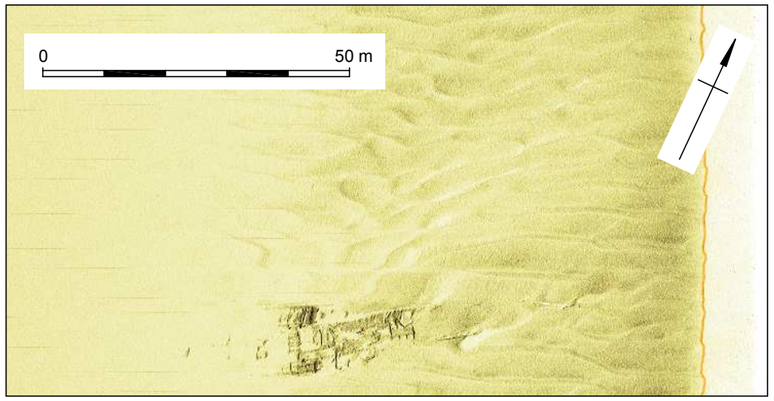
Data examples of seabed features (continued)

Figure 10

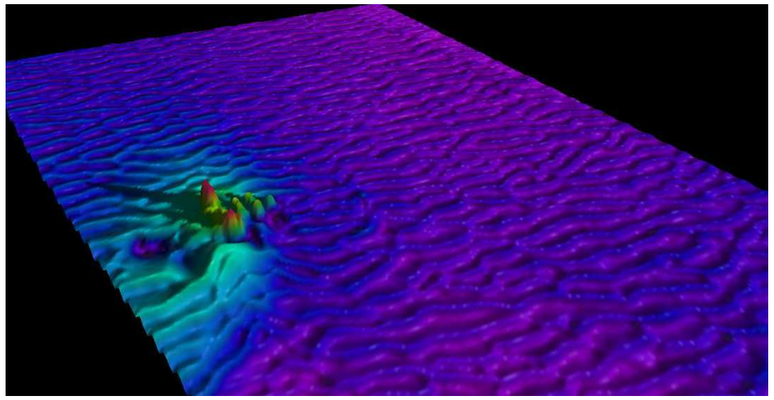
ID 7122 - *Koningin Regentes* - UKHO 11154

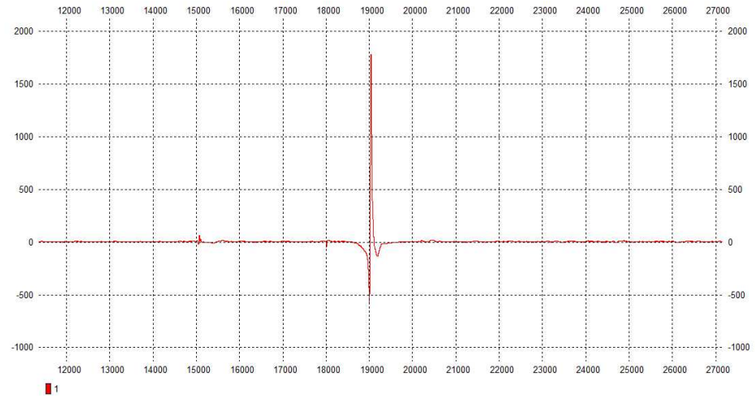
Location		491727 E, 5872289 N (ETRS89 UTM z31N)	**Region**	Windfarm
Archaeological Importance		High		
Geophysical survey dimensions and notes		Dimensions: 61.1 x 23.0 x 4.4 m Observed in the SSS data as a compact, distinct but irregular outline embedded in the seabed sediments with some perpendicular internal structure. However, not seen in full on any line. Sub-angular structure on either side visible, interpreted to be the paddles. No obvious surrounding debris. Associated with a very large magnetic anomaly of 2440 nT, which indicates the presence of significant amount of ferrous material. Observed in the MBES data as a sub-angular array of mounds, with two taller mounds either side (possibly paddles). An area of disturbance and scour to the north and east. The wreck location is associated with UKHO record 11154 for the wreck *Koningen Regentes*. The record states that the hull appears to be broken and debris nearby. The position was dived in 2008 and identity was confirmed. Described as broken and scattered wreck.		
Build	**Type**	Dutch Steam ship		
	Construction	Triple expansion engines of 1305 NHP		
	Dimensions	97.5 x 11.0 x 4.9 m		
	Shipyard	Built 1895 by Fairfield Co.		
Loss	**Cause**	Torpedoed and sunk by German submarine 6th June 1918		
Extent of Survival		The vessel appears upright and partially buried in seabed. Although it looks intact, it was not seen in full in the SSS data, and has been described as broken and scattered. Scour and seabed disturbance to the north and east extents could obscure further identification of surrounding debris.		





Sidescan waterfall image of wreck 7122, facing NNW, measuring 61.1 x 23.0 x 4.4 m


Multibeam echosounder image of wreck 7122, facing south-west, x3 vertical exaggeration



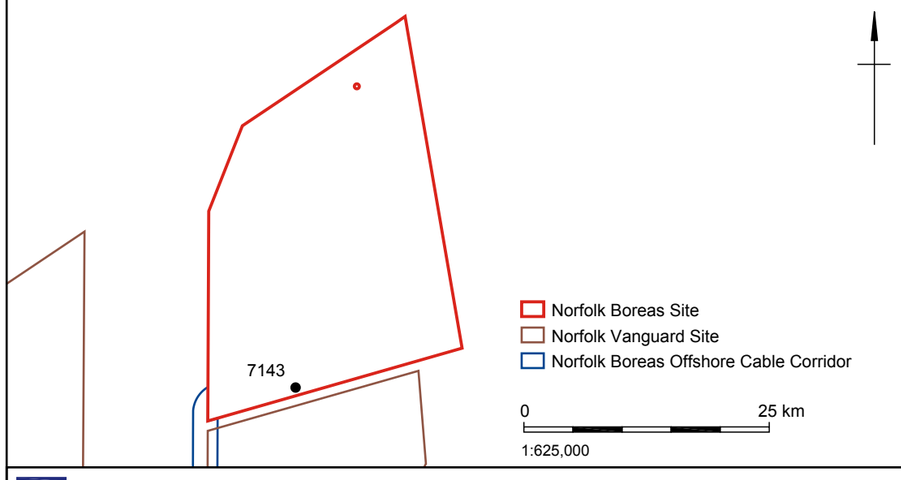
Marine magnetometer profile of anomaly 7122, 2440 nT

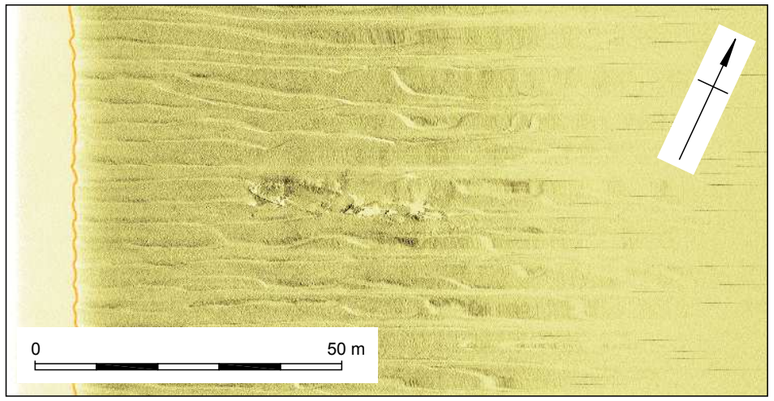
Coordinate system: ETRS1989 UTM Z31N

Date:	25/05/2018	Revision Number:	2	Illustrator:	KJF
Path:	W:\Projects\117120\Graphics_Office\Rep figs\Geophys\2018_05_25				

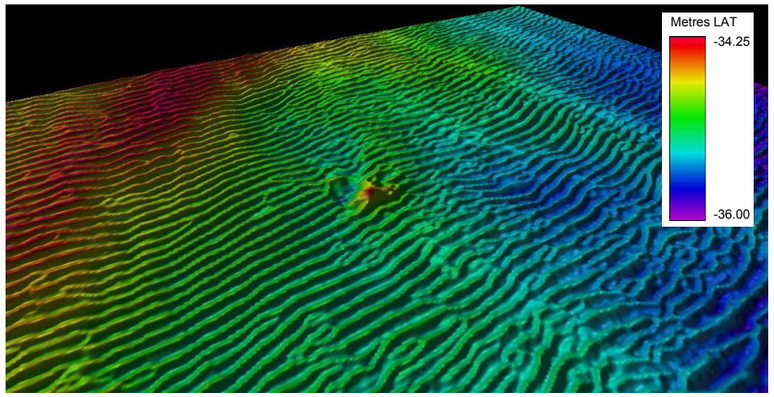
ID 7143 - Unknown - UKHO 11146

Location		492759 E, 5861314 N (ETRS89 UTMz31N)	**Region**	Windfarm
Archaeological Importance		High		
Geophysical survey dimensions and notes		Dimensions: 54.0 x 25.5 x 1.0 m Observed in the SSS data as a compact and distinct sub-elliptical outline which appears embedded in the seabed and appears to either be broken up or partially covered by seabed sediments at the south-east end. Some evidence of internal structure is visible. Associated with a small magnetic anomaly of 29 nT, indicating the presence of some ferrous material. The small size of this anomaly suggests the construction of the wreck is mainly non-ferrous. Observed in the MBES data as an irregular mound with no apparent structure and a large depression to the north-west. This location is associated with UKHO record 11146. The record has not been updated since 1994 and states that a small unknown wreck, possibly an aircraft, has been identified at this location. Based on the form seen in the SSS data, it cannot be confirmed whether this represents an aircraft or not.		
Build	**Type**	Unknown		
	Construction	Unknown		
	Dimensions	Unknown		
	Shipyard	Unknown		
Loss	**Cause**	Unknown		
Extent of Survival		The wreck appears to be upright and intact, though partially buried in sediment towards the south-east end. It appears compact with very little surrounding debris. The seabed sediments and surrounding scour are likely to obscure identification of further surrounding debris.		

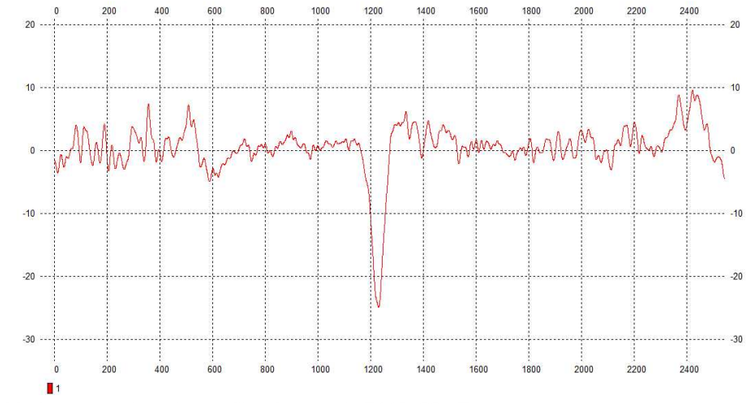




Sidescan waterfall image of wreck 7143, facing NNW, measuring 54.0 x 25.5 x 1.0 m



Multibeam echosounder image of wreck 7143, facing north-east, x3 vertical exaggeration



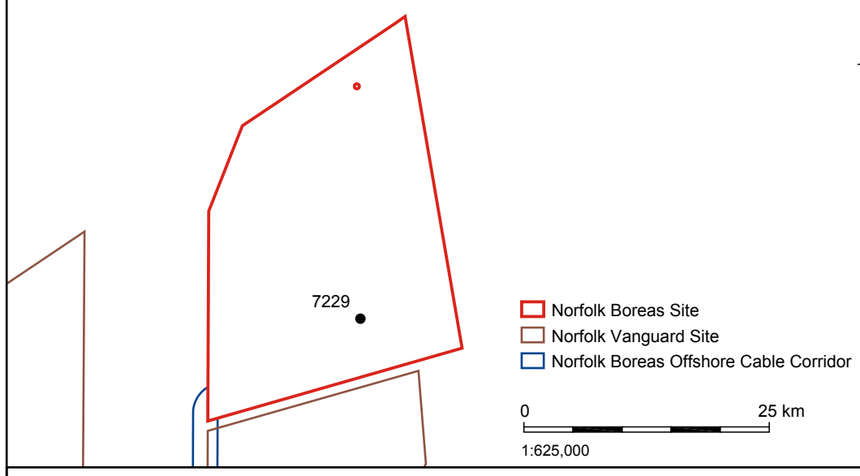
Marine magnetometer profile of anomaly 7143, 29 nT

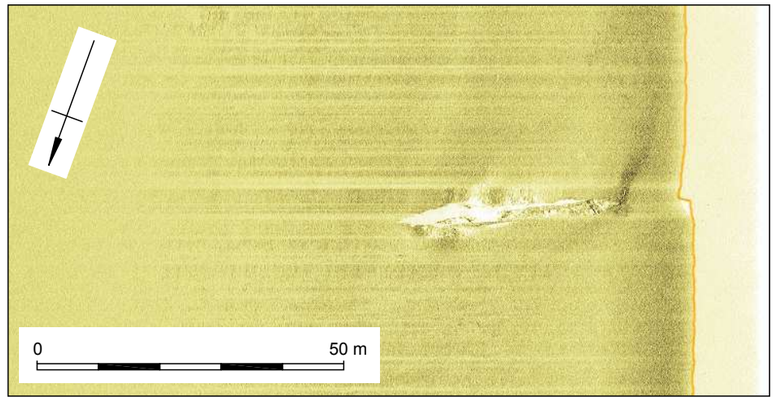
Coordinate system: ETRS1989 UTM Z31N

Date:	25/05/2018	Revision Number:	2	Illustrator:	KJF
Path:	W:\Projects\117120\Graphics_Office\Rep figs\Geophys\2018_05_25				

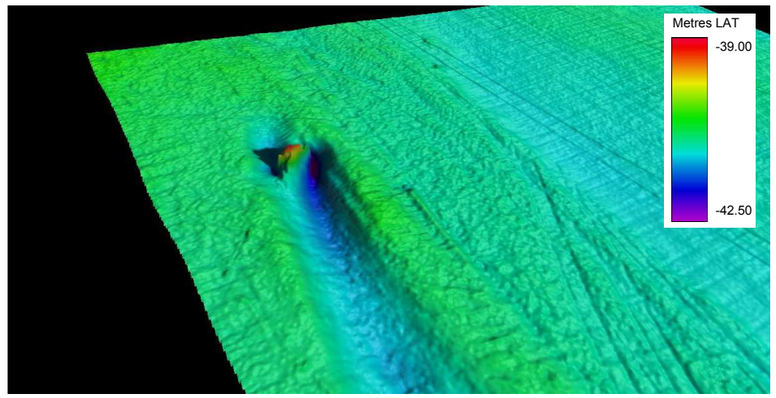
ID 7229 - Unknown - UKHO 11153

Location		499363 E, 5868328 N (ETRS89 UTMz31N)	**Region**	Windfarm
Archaeological Importance		High		
Geophysical survey dimensions and notes		Dimensions: 42.6 x 9.7 x 2.5 m Observed in the SSS data as an elliptical outline of a vessel with some internal structure. Appears to be upright and partially covered by seabed sediments. Observed as a compact site with little surrounding debris. Associated with a magnetic anomaly of 97 nT which indicates the presence of ferrous material. Observed in the MBES data as a distinct elliptical mound, aligned ENE to WNW, with some structure visible, and some surrounding sediment build-up. Some scour is present around the eastern extents and a large, deep scour is present around the western extents of the wreck which then extends approximately 300 m NNE. This wreck is associated with UKHO record 11153, for an unknown wreck, which states that the wreck lies mainly intact on the seabed and was last recorded in 2015.		
Build	**Type**	Unknown		
	Construction	Unknown		
	Dimensions	Unknown		
	Shipyard	Unknown		
Loss	**Cause**	Unknown		
Extent of Survival		The vessel appears to remain intact and upright, lying proud of the seabed. A large amount of scour is visible at the eastern and western extends which could have removed or buried surrounding debris. Some sediment build-up is visible along the centre which again could obscure identification of further debris.		

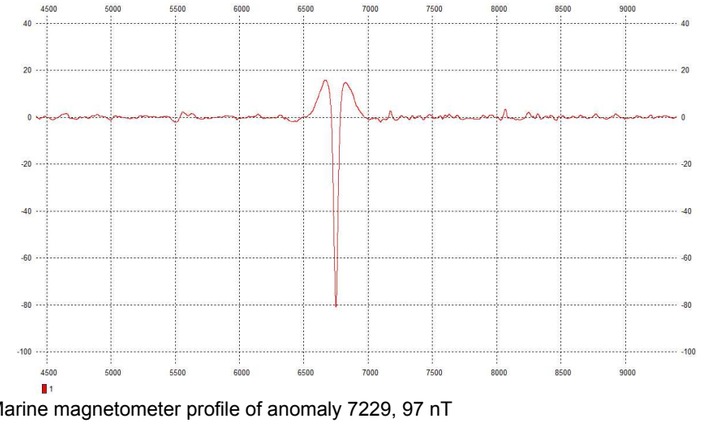




Sidescan waterfall image of wreck 7229, facing SSE, measuring 42.6 x 9.7 x 2.5 m



Multibeam echosounder image of wreck 7229, facing south, x6 vertical exaggeration



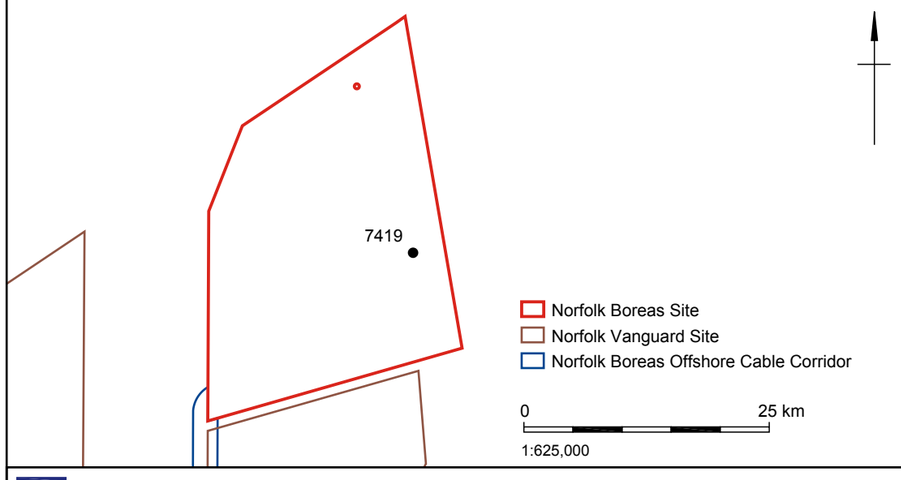
Marine magnetometer profile of anomaly 7229, 97 nT

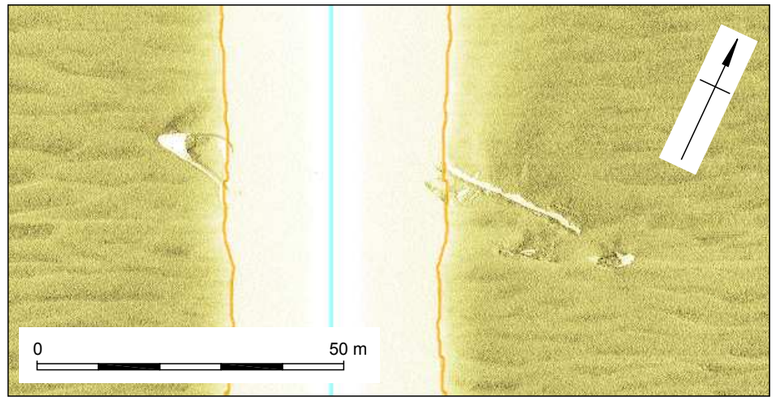
Coordinate system: ETRS1989 UTM Z31N

Date:	25/05/2018	Revision Number:	2	Illustrator:	KJF
Path:	W:\Projects\117120\Graphics_Office\Rep figs\Geophys\2018_05_25				

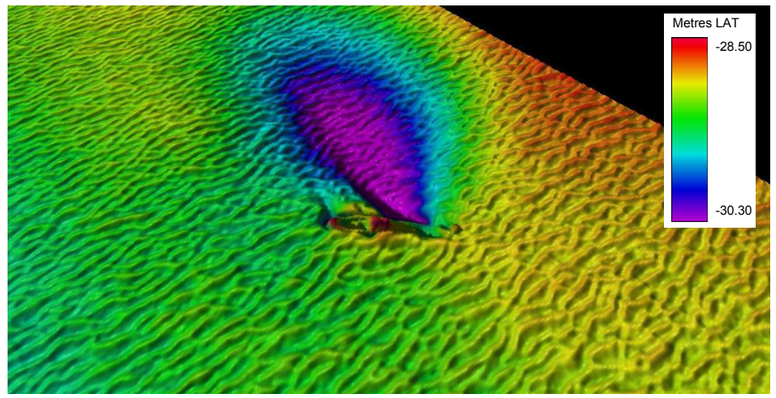
ID 7419 - Unknown - UKHO 64124

Location		504730 E, 5875044 N (ETRS89 UTMz31N)	**Region**	Windfarm
Archaeological Importance		High		
Geophysical survey dimensions and notes		Dimensions: 54.0 x 13.1 x 2.2 m Not observed in its entirety in the SSS data, although inferred from a discrete elliptical outline with some internal structure. Some height shadow is visible but the structure appears to have settled into the seabed. This wreck has a very large associated magnetic anomaly of 5123 nT, which indicates the presence of a large amount of ferrous material. Observed in the MBES data as a relatively intact vessel with structure visible. Partially embedded in seabed sediments on the south and eastern extents with a large amount of scour to the north. This wreck has an associated UKHO record 64124, which states that it was identified as an upright, intact “3-island” vessel, partially buried in the south-east. The record was last amended in 2015.		
Build	**Type**	Identified as a “3-Island” vessel		
	Construction	Unknown		
	Dimensions	Unknown		
	Shipyard	Unknown		
Loss	**Cause**	Unknown		
Extent of Survival		The wreck appears upright and intact with a large amount of scour to the north and sediment covering the southern extents. This could obscure identification of any surrounding debris.		

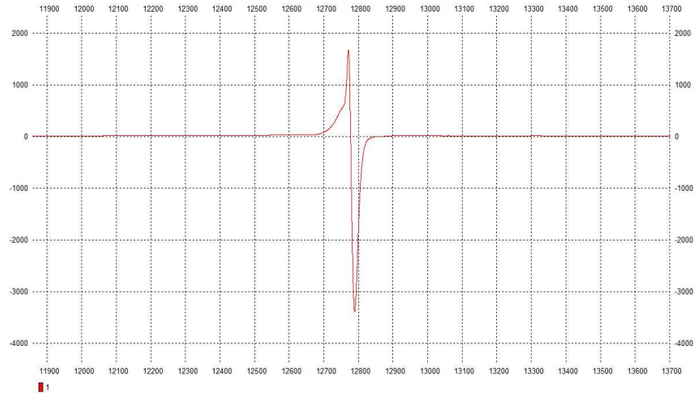




Sidescan waterfall image of wreck 7419, facing NNW, measuring 54.0 x 13.1 x 2.2 m



Multibeam echosounder image of wreck 7419, facing north-east, x3 vertical exaggeration



Marine magnetometer profile of anomaly 7419, 5123 nT

Coordinate system: ETRS1989 UTM Z31N

Date:	25/05/2018	Revision Number:	2	Illustrator:	KJF
Path:	W:\Projects\117120\Graphics_Office\Rep figs\Geophys\2018_05_25				

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