Palaeogeographic Features of Archaeological Potential

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- GEMS Borehole Locations
- Transect Location

Notes:
1. Chapter 17, Table 17.10 and 17.11
Seismic Data Example of Yarmouth Roads Formation

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location

Palaeogeographic Features of Archaeological Potential
- Ipswichian or Devensian, Infilled Depression
- Post-Devensian, Simple Cut and Fill
- Pre-Anglian or Pre-Devensian, Channel
- Pre-Anglian or Pre-Devensian, Simple Cut & Fill
- Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11
Legend

- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Devensian, Gas Blanking
  - Ipswichian or Devensian, Infilled Depression
  - Post-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Simple Cut & Fill
  - Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11
Seismic Data Example of Holocene Pre-Transgression Channels

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location

Palaeogeographic Features of Archaeological Potential
- Ipswichian or Devensian, Infilled Depression
- Post-Devensian, Channel
- Pre-Anglian or Pre-Devensian, Channel
- Pre-Anglian or Pre-Devensian, Simple Cut and Fill
- Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11

Notes:
- 1. Chapter 17, Table 17.10 and 17.11

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location

Palaeogeographic Features of Archaeological Potential
- Ipswichian or Devensian, Infilled Depression
- Post-Devensian, Channel
- Pre-Anglian or Pre-Devensian, Channel
- Pre-Anglian or Pre-Devensian, Simple Cut and Fill
- Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11
Figure 17.7

Legend

- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential

1. Post-Devensian, Channel
2. Post-Devensian, Simple Cut and Fill
3. Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11

Seismic Data Example of High Amplitude Reflectors

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Ipswichian or Devensian, Infilled Depression
  - Post-Devensian, Simple Cut and Fill
  - Pre-Anglian or Pre-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Simple Cut and Fill
  - Pre-Anglian, High Amplitude Reflector
  - Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11

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Seismic Data Example of Channel Features

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Pre-Anglian or Pre-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Simple Cut and Fill
  - Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11

VATTENFALL
SCOTTISHPOWER RENEWABLES

East Anglia THREE Limited
Seismic Data Example of Channel Features

Figure 17.10

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Notes:
1. Chapter 17, Table 17.10 and 17.11

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Pre-Anglian or Pre-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Simple Cut and Fill
  - Brown Bank Formation Blanket Deposit

Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Pre-Anglian or Pre-Devensian, Channel
  - Pre-Anglian or Pre-Devensian, Simple Cut and Fill
  - Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11
Figure 17.11

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Legend
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor
- Transect Location
- Palaeogeographic Features of Archaeological Potential
  - Devensian, Gas Blanking
  - Post-Devensian, Simple Cut and Fill
  - Pre-Anglian or Pre-Devensian, Channel
  - Brown Bank Formation Blanket Deposit

Notes:
1. Chapter 17, Table 17.10 and 17.11
Anomalies within the East Anglia THREE site

1. See Chapter 17, Table 17.15 and Appendix 17.3, Tables 1.2.1 and 1.2.2.
The remains of the HMS Fitzroy identified on the central western edge of East Anglia THREE; this vessel is protected by the PMRA. The remains consist of hull and deck superstructure present as distinct hard edged dark reflectors with large shadows. There is large scouring present in the sandy sediments to the north and south of this vessel. One end of the vessel looks to be reasonably well intact, either the stern or bow end, visible as a hard edged thin linear anomaly in the sidescan sonar data. There is also some scattered debris surrounding the wreck (76017, 76018, 76020, 76022, 76025 and 76027). The wreck has a magnetic anomaly associated with it measuring 2409nT visible as a large distinctive dipole anomaly across two lines.

In the bathymetry data this wreck is discernable as possibly lying on its keel with some visible super-structure. It is orientated approximately north by south and located in an area of sand ripples. There are two areas of scour extending away from either end of the vessel and orientated approximately south-south-west by north-north-east.

The UKHO records this vessel as a British minesweeper of 710 gross tons measuring 70.4m in length, 8.5m in beam and 2.1m in draught (SeaZone 11058). The HMS Fitzroy was built in 1919 and was sunk by a mine off Great Yarmouth on the 27th May 1942. The remains of the wreck are described by the UKHO as being partially buried and partially broken up, the wreck appears to be chiefly intact and upright on an area of the seabed with frequent sand waves and could be partially buried beneath mobile sediments. This is recorded as a Live wreck.

The remains of the wreck are described by the UKHO as being partially buried and partially broken up, the wreck appears to be chiefly intact and upright on an area of the seabed with frequent sand waves and could be partially buried beneath mobile sediments. This is recorded as a Live wreck.

**Built**
- **Type**: Hunt class minesweeper
- **Construction**: Built 1919. Steel construction with VTE, 2 Yarrow boilers, dual shaft and 2 screws
- **Dimensions**: 70.4m x 8.5m x 2.1m
- **Shipyard**: Lobnitz & Co. Ltd., Renfrew

**Loss**
- **Cause**: Sank by mine on the 27th May 1942 around 40 nautical miles east of Great Yarmouth. Most likely caused by a British mine according to UKHO records.

**Extent of Survival**
- The wreck is discernable as possibly lying on its keel with some visible super-structure. It is orientated approximately north by south and located in an area of sand ripples. There are two areas of scour extending away from either end of the vessel and orientated approximately south-south-west by north-north-east.

**Dimensions**
- 70.5m x 15.3m x 5.5m

**Notes**
1. Chapter 17, Table 17.15 and Appendix 17.3, Tables 1.2.1 and 1.2.2.
WA ID 71016: Unidentified, undated charted wreck (UKHO 11266)
Dimensions: 23.3m x 8.5m x 4.5m
A very well preserved medium sized wreck remains in the northern section of East Anglia THREE. The wreck has easily visible and distinguishable hull and deck superstructure discernible in the sidescan sonar data. These appear as linear and rectangular dark reflectors with shadows. The southern edge of the deck is partially buried by the highly mobile fine sand sediments. The wreck itself and resultant sand banks have created a large and bright shadow in the sidescan sonar imagery. The dimensions are similar to previous recorded surveys, although more upstanding which could be due to further scour.

There is a large amount of scouring associated with this wreck particularly to the north of the remains with a scour mark measuring over 100m recorded. The southern area of the wreck has a build-up of sand waves. These mobile sands could potentially be covering associated wreck debris and cargo.

The wreck is clearly visible in the multibeam bathymetry data. This vessel has a large magnetic dipole anomaly associated with it measuring 96nT which suggests that it is likely of metal construction.

Unknown
Unknown

The wreck is recorded in the UKHO database as an unknown wreck, first detected in 1995 (SeaZone 11266). The wreck appears to be well preserved and intact lying upright on the seabed and orientated east to west. The wreck is associated with a small magnetic deflection and survey data indicates that the wreck is intact and upright with site dimensions of 20m x 5m x 3.1m a scour depth of 1.2m. This is recorded as a Live wreck.

There is a large amount of scouring associated with this wreck particularly to the north of the remains with a scour mark measuring over 100m recorded. The southern area of the wreck has a build-up of sand waves. These mobile sands could potentially be covering associated wreck debris and cargo.

The wreck is clearly visible in the multibeam bathymetry data. This vessel has a large magnetic dipole anomaly associated with it measuring 96nT which suggests that it is likely of metal construction.

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A very well preserved medium sized wreck remains in the northern section of East Anglia THREE. The wreck has easily visible and distinguishable hull and deck superstructure discernible in the sidescan sonar data. These appear as linear and rectangular dark reflectors with shadows. The southern edge of the deck is partially buried by the highly mobile fine sand sediments. The wreck itself and resultant sand banks have created a large and bright shadow in the sidescan sonar imagery. The dimensions are similar to previous recorded surveys, although more upstanding which could be due to further scour.

There is a large amount of scouring associated with this wreck particularly to the north of the remains with a scour mark measuring over 100m recorded. The southern area of the wreck has a build-up of sand waves. These mobile sands could potentially be covering associated wreck debris and cargo.

The wreck is clearly visible in the multibeam bathymetry data. This vessel has a large magnetic dipole anomaly associated with it measuring 96nT which suggests that it is likely of metal construction.
WA ID 76056: Unknown wreck (UKHO NA)
Dimensions: 17.5m x 12.8m x 0.8m

This is an unrecorded possible wreck remain identified in the north western section of Area 3 in the sidescan sonar dataset. The anomaly is visible as a set of linear hard edged dark reflectors with shadows, arranged in a 'cross' like formation. There are smaller hard edged debris pieces within and around the main structural elements. The wreckage is located in between large sand waves and as such could be partially buried or have associated buried debris remains in the vicinity. There is no visible scotting associated with this wreckage. No magnetic anomaly has been identified in association with these remains which suggests it is not of a ferrous construction.

**Extent of Survival**

This possible wreck looks to be moderately well preserved and intact with no obvious signs of dispersed debris. However this is located on a sandy and uneven part of the seabed and as such there could be buried debris associated. This is not recorded in either the SeaZone or historical records.
Unknown wreck (WA 71008; UKHO 11260) - An unknown wreck comprising a large expanse of very broken up and dispersed remains located in the central southern section of Area THREE. This wreck was also identified in the ZAP phase dataset. From the sidescan sonar data, distinct, hard edged linear and curvilinear dark reflector anomalies with shadows are visible of various lengths and sizes. A possible hull edge is clear on one of the survey lines. Smaller rectangular and circular possible structural, debris and cargo anomalies can be seen both within the main expanse of the wreckage and also surrounding it in the sandy sediments up to 150m away from the main wreckage to the south. There is a very large negative monopole magnetic anomaly associated with this wreck measuring 346nT present across three survey lines suggesting a ferrous construction.

This area of the seabed has frequent large and mobile sand waves which could potentially be covering many pieces of debris and cargo associated with this wreck. The wreck is orientated NNE-SSW with no obvious scouring identified on the seabed.

The UKHO records this as an unknown wreck first detected in 1995 with observed dimensions of 40m x 8m x 4.9m (SeaZone 11260). The wreck remains are highly broken up and abraded, scattered across the seabed. The wreck is recorded as being associated with a strong magnetic anomaly and has a debris field in its southern extent. This is recorded as a Live wreck.

Sidescan sonar image of wreck 17.5m x 12.8m x 0.8m  
Magnetic profile of wreck 346nT
**Geophysical survey dimensions and notes**

**WA ID 76145: Unknown wreck (UKHO Unknown)**

Dimensions: 10.1m x 7.8m x 1.8m

This is a possibly unrecorded small spread of potential wreck remains located in the central section of East Anglia THREE. The remains are visible in the sidescan sonar data as a small group of hard edged dark reflector anomalies with bright shadows in a uniform alignment. Parallel and opposing hard edged linear dark reflectors are visible that may represent structural elements/remains. There is a probable associated debris field located immediately to the southwest of the wreckage (76147) comprising six hard edged small dark reflector anomalies, one with a shadow and the largest anomaly measuring 1.6m. The full size and extent of the wreckage is not clear as it appears that they have been either highly degraded or buried by the surrounding mobile sandy sediments and sand waves. There is some slight scouring present to the north of the remains. No magnetic anomaly is in the vicinity of this wreckage which suggests it is composed of non-ferrous material.

**Build Type**

Unknown

**Construction**

Unknown

**Dimensions**

Unknown

**Shipyard**

Unknown

**Loss Cause**

Unknown

**Extent of Survival**

From the geophysical survey datasets the wreck remains look to be sparse and likely highly degraded or buried by the frequent sand waves and surrounding sandy sediments. This is not recorded in either SeaZone or historical records.

**Sidescan sonar image of wreck 10.1m x 7.8m x 1.8m**

**Multibeam bathymetry image looking north x 1 vertical exaggeration**
**Geophysical survey dimensions and notes**

**Build**
- **Type**: Unknown
- **Construction**: Unknown
- **Dimensions**: Unknown
- **Shipyard**: Unknown
- **Loss**
  - **Cause**: Unknown

**Extent of Survival**
An unknown wreck, first detected in 1995 (SeaZone 11268). Survey data indicates the presence of an entire wreck, intact and upright, with small areas of minor debris surrounding the wreck; however it appears to be partially buried by mobile sands and located in a highly uneven area of the seabed. The wreck is orientated NNE-SSW and has dimensions of 35m x 5m x 1.4m. A significant magnetometer deflection has been associated with this wreck.

**WA ID 70911: Unknown wreck (UKHO 11268)**
Dimensions: 31.3m x 8.1m x 1.1m

70911 is a discrete wreck remains located in the northern section of Area THREE. The remains appear quite diffuse in the sidescan sonar data comprising curvilinear dark reflectors with bright shadows. One side of the hull outline is visible as a diffuse, long and thin curvilinear anomaly. This wreck has a medium-large sized magnetic anomaly associated with it measuring 49nT suggesting ferrous material is present. The wreck remains are visible in the bathymetry data as an elongated mound in an area of sand ripples and is orientated approximately southwest by northeast.

**Area**
East Anglia THREE

**Location**
490056E 5840510N (UTM31N)

**Notes:**
1. Chapter 17, Table 17.15 and Appendix 17.3, Tables 1.2.1 and 1.2.2.

**Legend**
- East Anglia THREE offshore windfarm
- East Anglia THREE Offshore Cable Corridor
- Wreck 1

**Magnetic profile of wreck 49nT**

**Figure 17.21**

**Sidescan sonar image of wreck 31.3m x 8.1m x 1.1m**

**Multibeam bathymetry image looking northwest x1 vertical exaggeration**
**Geophysical survey dimensions and notes**

WA ID 71017: Unknown wreck (UKHO 11267)
Dimensions: 112.2m x 38.1m x 1.7m

This is a seafloor disturbance which coincides with SeaZone record 11267. This is a curious looking large seafloor disturbance anomaly on a very uneven and sand wave rich part of the seabed which might conceal possible buried wreck remains. The anomaly comprises a scattering of small dark reflectors, some with shadows and some without. These are visible as hard edged anomalies on a rough and uneven part of the seabed. There is a medium sized magnetic anomaly associated with these remains measuring 28nT which suggests ferrous material is present.

**Extent of Survival**

The UKHO describes this as an unidentified live wreck detected in 1995 with dimensions of 36m x 13m x 2.1m (SeaZone 11267). The survey data indicates that this is an entire wreck broken into two pieces lying some 20m apart and aligned southeast - northwest on a highly mobile and uneven part of the seabed. The wreck is associated with a large magnetometer deflection. This is a Live wreck in the SeaZone records.
WA ID 70609: Edinardu Antoinette (possibly)
Dimensions: 48.7m x 10.6m x 2.9m

A distinct double peaked mound orientated north-south with the larger peak to the north is identifiable on the multibeam bathymetry. A distinct hard edged dark reflector representing one edge of the hull appears intact. A series of linear dark reflectors, some with height and of a varying degree of thickness, form some of the internal structure. A large distinct shadow distorts some of the internal structure.

Associated debris surrounds the wreck. The largest is a hard edged linear dark reflector (5.3m x 0.3m x 0.2m) with a bright shadow and possibly fragmented. The smaller is a discreet, thin, hard edged parallel short linear (1.3m x 0.5m x 0.2m). A north-south orientated linear ridge continues in both directions through the mound. A large associated magnetic contact suggests some ferrous structure and/or content.

Located at the possible position of Edinardu Antoinette (Seazone 10979), a Belgian vessel. Previous surveys indicate that the wreck lies intact and upright, with its bow towards the south.

**Shipwreck Data**

- **Type**: Fishing/Sailing Vessel
- **Cause**: Sank on the 15/06/1926 after a collision with the British vessel, SS Matching.
- **Dimensions**: 48.7m x 10.6m x 2.9m
- **Shipyard**: Unknown
- **Loss**: Unknown

**Notes**

1. Chapter 17, Table 17.15 and Appendix 17.3, Tables 1.2.1 and 1.2.2.

**Legend**

- East Anglia THREE offshore windfarm
- East Anglia THREE Offshore Cable Corridor
- Wreck

**Multibeam Bathymetry**

- A distinct double peaked mound orientated north-south with the larger peak to the north is identifiable on the multibeam bathymetry.
- A distinct hard edged dark reflector representing one edge of the hull appears intact.
- A series of linear dark reflectors, some with height and of a varying degree of thickness, form some of the internal structure.
- A large distinct shadow distorts some of the internal structure.

**Associated Debris**

- The largest is a hard edged linear dark reflector (5.3m x 0.3m x 0.2m) with a bright shadow and possibly fragmented.
- The smaller is a discreet, thin, hard edged parallel short linear (1.3m x 0.5m x 0.2m).
- A north-south orientated linear ridge continues in both directions through the mound.
- A large associated magnetic contact suggests some ferrous structure and/or content.

**Located at the possible position of Edinardu Antoinette (Seazone 10979), a Belgian vessel. Previous surveys indicate that the wreck lies intact and upright, with its bow towards the south.**
East Anglia THREE Limited
A1 and A3 receptors identified as part of the East Anglia ONE offshore cable corridor

Legend
- East Anglia ONE Offshore Cable Corridor
- East Anglia THREE
- East Anglia THREE Offshore Cable Corridor

EA ONE Receptors within EA THREE Offshore Cable Corridor:
- A1 – Anthropogenic origin of archaeological interest
- A3 – Historic record with no corresponding geophysical anomaly
- A3 – Aircraft

Notes:
1. See Chapter 17, Table 17.15 and Appendix 17.3, Tables 1.2.1 and 1.2.2.

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Original A3
Plot Scale
1:150,000

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Figure 17.24
WA76155 - Debris remains with dimensions of 5.7m x 1.3m x 0.1m. A hard edged, thick linear dark reflector with a hook shaped end and a discreet shadow. This debris has an associated magnetic value of 14nT recorded suggesting ferrous material.

WA76038 Debris field comprising a large spread of possible debris remains covering 61m x 6.5m x 0.2m of the seabed. Four hard edged thin linear anomalies in a parallel alignment. All dark reflectors with shadows and with curvilinear characteristics, the largest piece measures 5.1m in length.

WA76036 & 76037 - Dark reflector anomalies visible as small hard edged distinct dark reflectors with long and bright shadows with dimensions of 1.7m x 1.0m x 0.6m and 1.6m x 1.0m x 0.6m respectively.

WA76082 - Rope/chain remains visible as a long, curvilinear diffuse dark reflector with a small shadow and dimensions of 27.1m x 0.4m x 0.1m. The rope/chain is orientated north-south and has a magnetic anomaly measuring 29nT associated with it.

WA76112 - A seafloor disturbance with dimensions of 32.9m x 7.2m x 0.5m and comprising a group of diffuse dark reflector linear anomalies with bright shadows, these appear to be partially buried in sediments and have a scour mark to the north.

WA76120 - A bright reflector visible as a medium sized irregular shaped anomaly with dimensions of 7.2m x 2.5m.