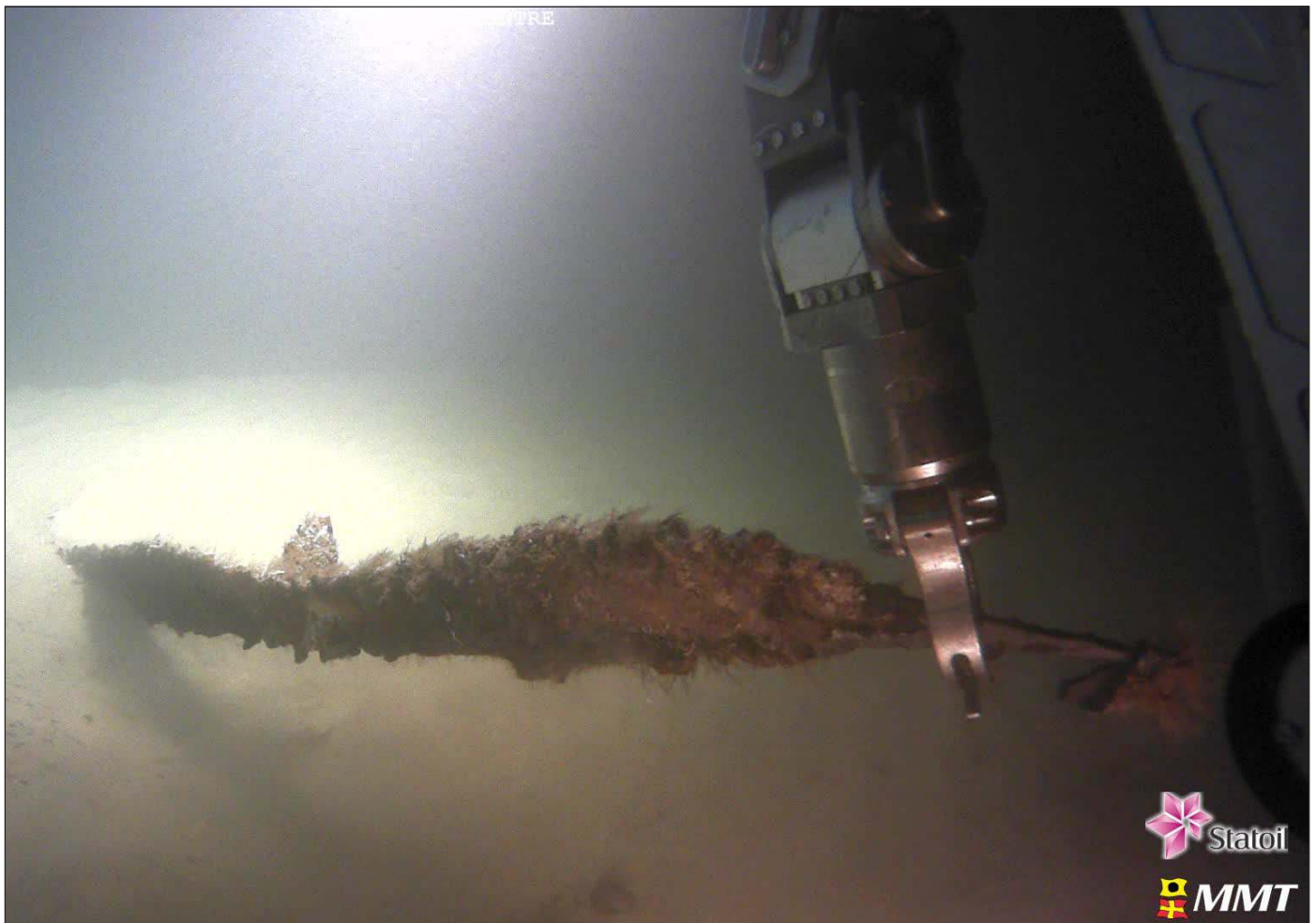




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# Dudgeon Offshore Wind Farm

Archaeological Assessment of UXO Survey Results



Ref: 69684.01  
May 2015



## **Dudgeon Offshore Wind Farm**

### **Archaeological Assessment of UXO Survey Results**

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**May 2015**

**69684.01**



## Quality Assurance

<b>Project Code</b>	69684	<b>Accession Code</b>		<b>Client Ref.</b>	
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Version	Status*	Prepared by	Checked and Approved By	Approver's Signature	Date
v01	I	A. Hamel	J. Russell		06/02/2015
File:	W:\Projects\69684\Reports\69684_Dudgeon_UXO_Assessment_ATH_20150205				
V02	E	A. Hamel	J. Russell		19/02/2015
File:	W:\Projects\69684\Reports\69684_Dudgeon_UXO_Assessment_ATH_20150219				
V03	E	A. Hamel	J. Russell		09/04/2015
File:	W:\Projects\69684\Reports\69684_v3_Dudgeon_UXO_Assessment_ATH_VC_20150409				
V04	F	A. Hamel	J. Russell		12/05/2015
File:	W:\Projects\69684\Reports\69684_v3_Dudgeon_UXO_Assessment_ATH_VC_JR_20150512				

\* I = Internal Draft; E = External Draft; F = Final

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# Dudgeon Offshore Wind Farm

## Archaeological Assessment of UXO Survey Results

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## Dudgeon Offshore Wind Farm

### Archaeological Assessment of UXO Survey Results

#### Summary

Wessex Archaeology was commissioned by Royal HaskoningDHV to undertake an archaeological assessment of the results of the *Offshore Verification of Possible Unexploded Ordnance (UXO) Targets* survey undertaken by MMT on behalf of Statoil in 2014 at the Dudgeon Offshore Wind Farm (DOW) site. DOW lies approximately 32km off the coast of north Norfolk and the export cable route extends from the site to the north Norfolk coast, near Weybourne.

The 2014 UXO survey comprised a Remotely Operated Vehicle (ROV) investigation within a 150m buffer of 15 of the proposed 67 turbines and along a section of the Export Cable Route.

This survey follows on from previous archaeological and geophysical assessments, and of the 298 targets previously identified by Fugro, MMT and Wessex Archaeology, 62 targets were located during the UXO ROV survey. In order to assess whether the 62 located targets were of archaeological interest, the *Offshore Verification of Possible Unexploded Ordnance (UXO) – Dudgeon* report (MMT and Statoil 2014) was reviewed. The 40 targets comprising boulders (natural) and wire (modern debris) were considered to be of no archaeological interest, and therefore no further archaeological assessment was required, apart from confirming the nature of the discovery for those that had been previously identified by Wessex Archaeology as priority targets of potential archaeological interest.

The remaining 22 targets were archaeologically assessed, by reviewing still photographs and ROV video. Of these, three were determined to be of archaeological interest (including the one identified UXO), seven were assessed as of possible archaeological interest, eight were assessed as 19<sup>th</sup> or 20<sup>th</sup> century metal debris, and four were unidentified. Data sheets have been prepared for the 10 targets of archaeological and possible archaeological interest.

The archaeological recommendations for the targets are as follows:

- *The site of archaeological interest identified as UXO will be dealt with based on UXO protocol, as it takes priority;*
- *No sites have been recommended for Temporary Exclusion Zones (TEZs), however two sites of archaeological interest (**WA70016/F2157** and **F15301**) should be avoided if possible.*
- *For the two sites of archaeological and seven sites of possible archaeological interest, the sites should be reviewed if reinvestigated or if material from them is recovered. If objects from these sites are moved as part of clearance operations their new position should be provided to Wessex Archaeology in order to update archaeological records. If any of these objects are brought to the surface then initial recording should take place (photographs and dimensions, for example) and*



*archaeological advice should be sought under the terms of the Offshore Renewables Protocol for Archaeological Discoveries (ORPAD).*

- *For the four targets that could not be conclusively identified as being either archaeological or non-archaeological from the data provided, if any of these targets are revisited, or if material from these sites is recovered, then additional data should be made available to Wessex Archaeology for review. If the sites are not revisited for engineering or other reasons, but will be at risk of direct impacts during clearance operations or wind farm installation, reassessment for archaeological purposes should take place. If these sites will not be directly impacted by the development, no further action is required;*
- *No action is necessary for the 48 sites of no archaeological interest;*
- *Any further discoveries should be reported through ORPAD.*



# **Dudgeon Offshore Wind Farm**

## **Archaeological Assessment of UXO Survey Results**

### **Acknowledgements**

This report was commissioned by Royal HaskoningDHV, and Wessex Archaeology would like to acknowledge the assistance provided by Helen Craven and Vic Cooper of Royal HaskoningDHV. Wessex Archaeology would also like to thank Mike Corney of Statkraft UK Ltd and Reider Lein for their assistance.

Data were supplied by MMT and Statoil, including still photographs, high resolution video, and the UXO survey report. Geophysical data were supplied by Gardline Geosurvey and Fugro Emu Ltd. Data were also supplied by the National Record of the Historic Environment, Norfolk Historic Environment Record and the UK Hydrographic Office.

The archaeological assessment was undertaken by Andrea Hamel and Laura Andrews. Patrick Dresch reviewed the geophysical data. The report was written by Andrea Hamel. Illustrations were prepared by Kitty Foster. The project was managed for Wessex Archaeology by Jack Russell.





# Dudgeon Offshore Wind Farm

## Archaeological Assessment of UXO Survey Results

### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Royal HaskoningDHV to undertake an archaeological assessment of the results of the *Offshore Verification of Possible Unexploded Ordnance (UXO) Targets* survey undertaken by MMT on behalf of Statoil in 2014 (MMT 2014) at the Dudgeon Offshore Wind Farm (DOW) site. DOW lies approximately 32 km off the coast of north Norfolk and the export cable route extends from the site to the north Norfolk coast, near Weybourne.
- 1.1.2 In 2009, Wessex Archaeology undertook an Archaeological Desk Based and Geophysical Assessment (Wessex Archaeology 2009a) for Dudgeon Offshore Wind Ltd. (DOW). The results of this assessment were presented in the DOW Environmental Statement (Dudgeon Offshore Wind Ltd. *et al.* 2009).
- 1.1.3 Further archaeological assessment of geophysical data was undertaken (Wessex Archaeology 2009b) following a proposed variation to the red line boundary of the DOW project.
- 1.1.4 In October 2012, DOW was acquired for development by Statoil and Statkraft through the purchase of Dudgeon Offshore Wind Ltd. (DOWL) which holds the licenses and consents to deliver the project. Since acquisition, DOWL has undertaken a review of the project design and adjusted the generating capacity, from 560MW to a maximum of 400MW, and number of turbine foundations, from 168 to a maximum of 77.
- 1.1.5 An archaeological assessment of geotechnical data from the DOW area has been undertaken, including a Stage 1 to 3 Geoarchaeological and Palaeoenvironmental Assessment (Wessex Archaeology 2014a). In addition, an archaeological assessment of 2013 geophysical data for the Wind Turbine Generator (WTG) layout, interarray cable study area and export cable survey area has also been undertaken (Wessex Archaeology 2014b). The geophysical data collected in 2013 were of higher resolution than the data initially assessed, and therefore provided additional details about the archaeological resource.
- 1.1.6 A Written Scheme of Investigation (WSI) was prepared (Wessex Archaeology 2014c), based on the results of these assessments. It included a scheme of investigation for further archaeological works in line with the *Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects* (The Crown Estate 2010).
- 1.1.7 A Method Statement (Wessex Archaeology 2014d) has been appended to the WSI, detailing the specific requirements for achieving archaeological objectives during the *Offshore Verification of Possible Unexploded Ordnance (UXO) Survey*. The Method Statement provides a detailed methodology anticipated to meet these requirements.



1.1.8 The *Offshore Verification of Possible Unexploded Ordnance (UXO) Survey* was undertaken by Statoil and MMT in October 2014. The UXO survey was designed to verify the presence or absence of UXO at 15 of the 67 proposed turbine locations on the DOW site. The survey was based on magnetic anomaly target locations provided by Statoil, as well as targets identified by Fugro (who conducted a previous survey over the development site), MMT and Wessex Archaeology. Targets within 150m of the 15 proposed turbine locations were surveyed with a Remotely Operated Vehicle (ROV), which recorded high definition video and gradiometer data. Excavations, where required, were undertaken via ROV mounted dredger. Of the 298 targets that had previously been identified, 62 were located during the UXO ROV survey.

## 2 METHODOLOGY

### 2.1 Study area

2.1.1 The DOW development area is located between the Cromer Knoll and the Inner Cromer Knoll sandbanks approximately 35km north of Cromer in north Norfolk, England (**Figure 1**). Within the development area, there are 67 turbine locations, and a 150m buffer area around 15 of these was assessed by MMT for UXO. In addition to the UXO survey work undertaken at the turbine locations, a section of the export cable route was also assessed.

### 2.2 Aims and scope

2.2.1 The aims and scope of this archaeological assessment have been discussed in detail in the Method Statement (Wessex Archaeology 2014d). In summary, the aims of the archaeological assessment are:

- *To determine the archaeological potential of anomalies that were flagged during previous archaeological assessments of geophysical data as of archaeological potential; and*
- *To characterise the archaeology at DOW by reviewing a representative sample of anomalies investigated as part of the UXO survey.*

2.2.2 The objectives are as follows:

- *To identify potential archaeology or cultural heritage targets from the ROV data;*
- *To interpret finds of artefactual material and to provide an assessment of archaeological importance;*
- *Where multiple finds are encountered, to characterise the find location/site and to develop conclusions on the extent, state of preservation, period and form of material of archaeological interest;*
- *To make recommendations to address archaeologically significant sites or finds that may be subject to removal as part of proposed clearance activities; and*
- *To fulfil mitigation requirements as set out in the archaeological WSI in support of the production of the final design layout for DOW.*

#### *MMT UXO Survey Methodology*

2.2.3 A detailed methodology for the UXO survey can be found in *Offshore Verification of Possible UXO – Dudgeon* (MMT and Statoil 2014).



- 2.2.4 MMT examined a 'target verification zone' of 150m around 15 of the 67 proposed turbine locations. The targets to be surveyed within the radius were a combination of anomalies derived from Fugro, MMT and Wessex Archaeology. Each target was surveyed using ROV gradiometer and high definition video, covering a ten metre survey radius around each target location, using survey lines spaced 1.5m apart.
- 2.2.5 The first ten turbine locations that were surveyed, referred to as 'Priority Locations', were investigated as follows:
- *All targets from all sources were investigated by MMT;*
  - *Gradiometer contacts  $\geq 30nT$  to be identified; and*
  - *Gradiometer contacts  $\geq 30nT$  with no associated surface feature to be excavated.*
- 2.2.6 The data were then reviewed and the survey strategy was revised. For the remainder of the survey:
- *Fugro targets which were classed as low probability of being UXOs and without a corresponding MMT target were removed from the investigation;*
  - *Gradiometer contacts  $\geq 30nT$  were to be visually inspected; and*
  - *Gradiometer contacts  $\geq 100nT$  with no associated surface feature were to be excavated.*
- 2.2.7 Within the export cable route survey area, all targets that met the above criteria were investigated. The ROV recorded gradiometer, blue view sonar and video simultaneously, allowing for the acquisition of data to be conducted in a single pass. The ROV was flown at an altitude of between 0.5m and 1m for optimal detection with the gradiometer.
- 2.2.8 Contacts seen on the video were investigated further by the ROV pilots. Targets were recorded from all angles.
- 2.2.9 Some contacts visible on the seabed and any anomalies that were not visible on the seabed, but met the gradiometer threshold for the area (as discussed above), were selected for excavation. Excavation was performed using a hydraulic dredger fitted to the ROV. Where possible, debris on the surface or excavated was moved to the side and a second pass of the gradiometer was conducted to determine if more buried material was present. The UXO survey indicates that this was not done at archaeology targets, however **WA70153/F22855** was lifted and relocated during the assessment.
- 2.2.10 A target positively verified as UXO was allocated for removal/destruction, which will be undertaken at a later stage when the rest of the development layout has been determined. Other targets of non-UXO origin that may have to be moved/removed prior to the installation of foundations and cables will also be addressed at a later stage.

#### *Methodology for the Archaeological Assessment of the UXO Survey Results*

#### Archaeological Summary / Data Provided

- 2.2.11 In the Method Statement (Wessex Archaeology 2014d), Wessex Archaeology provided MMT with a list of priority geophysical anomalies of potential archaeological interest for review as part of the UXO verification survey. The original list included targets across the Offshore Wind Farm (wind turbine boxes and inter-array cable corridors) and along the



extent of the Export Cable Corridor. Those that corresponded to the 15 wind turbine locations and section of the Export Cable Corridor examined during this UXO verification survey, were selected for investigation. The following paragraphs reflect the geophysical anomalies identified as priorities for investigation within the surveyed areas.

- 2.2.12 The targets provided by Wessex Archaeology were categorised as A1 and A2 anomalies, as described in **Table 1** below.

**Table 1: Criteria for discriminating archaeological interest of seabed features**

Category	Description
A1	Anthropogenic origin of archaeological interest
A2	Uncertain origin of possible archaeological interest

- 2.2.13 Across the entire Offshore Wind Farm area there are 373 anomalies classed as A2s, of which 110 were classed as having archaeological potential based on size (>3m) and/or magnetic amplitude (>50nT) (Wessex Archaeology 2014d). Within a 150m radius around each turbine location, there are a total of 78 anomalies classed as A2, and of these, 29 anomalies were recommended for targeting during the ROV survey, based on size (>3m) and/or magnetic amplitude (>50nT). Of the 29, 11 were situated within the 15 proposed wind turbine locations that were selected for the ROV survey. These are listed in **Table 2** below.

**Table 2: A2 anomalies of potential archaeological interest within the 15 turbine locations identified for UXO survey**

Turbine location	WA ID	Classification	Easting	Northing	Dimensions	Magnetic amplitude (nT)
A02	70016	Debris Field	390985	5907139	7.7 x 2.5 x 0.2m	167
B01	70041	Magnetic	391217	5902775		149
B01	70042	Magnetic	391327	5902702		112
D01	70084	Magnetic	390758	5904774		100
E04	70102	Magnetic	390084	5906600		137
E04	70103	Magnetic	390159	5906538		224
F01	70149	Magnetic	392381	5904896		84
F01	70150	Magnetic	392241	5904864		188
F01	70153	Magnetic	392485	5904856		101
K01	70306	Magnetic	391945	5902330		264
K04	70293	Debris	393385	5899718	2.2 x 0.6 x 0.3m	70
EXT01	70400	Magnetic	386861	5890707		1010

- 2.2.14 Within the Export Cable Corridor, there are 3 anomalies classed as A1, and these were recommended for investigation by ROV. In addition, there are a further 526 anomalies classed as A2s, and of these, 324 were considered to be of potential archaeological interest, based on size (>3m) and/or magnetic amplitude (>50nT). A list of 9 priority A1 and A2 anomalies were identified for ROV work in the export cable corridor, and of these, only one anomaly, rated A1, was situated within the area selected for the ROV assessment. Details are provided in **Table 3** below.



**Table 3: Priority anomalies proposed for ROV work in the export cable corridor**

WA ID	Classification	Easting	Northing	Dimensions	Magnetic amplitude (nT)	Location
70400	Magnetic anomaly	386861	5890707	-	1010	Export cable route

2.2.15 In addition to the priority anomalies identified above, the Method Statement recommended that across the entire Offshore Wind Farm and Cable Route Area, a representative sample of approximately 10% of the A2 anomalies considered to be of potential archaeological interest (based on size (>3m) and/or magnetic anomaly (>50nT)) should be selected for assessment from the 110 in the Wind Farm Study Area and 324 in the Export Cable Corridor Study Area, as it would be impractical to assess all of the anomalies classed as A2 (Wessex Archaeology 2014d: 7). During this campaign, 100% of the A2s within the areas that underwent UXO survey were assessed. Should future UXO surveys be undertaken at other turbine locations, along the interarray cable route or along areas of the export cable route not previously surveyed by the UXO survey, an assessment of 10% of the A2 anomalies should be undertaken, and if a high proportion of this 10% proves to be of archaeological interest, then further anomalies may be selected for inspection during any subsequent ROV surveys.

#### Archaeological Assessment

2.2.16 All of the ROV data collected for the UXO verification survey has been archaeologically assessed. This allowed for the assessment of archaeological material observed by the ROV that may not have been previously identified in the geophysical data, or that was previously classified as low potential. It was anticipated that a large number of anomalies, particularly those only identified in the 2013 magnetometer data, would coincide with potential UXO targets, and, in fact, all of the targets identified by Wessex Archaeology have corresponding Fugro numbers.

2.2.17 In this report, targets identified by Wessex Archaeology have retained their WA number in the text, alongside their Fugro number, in order to maximise compatibility of reporting. Any features of possible archaeological interest that were not previously identified by Wessex Archaeology retain their original Fugro number.

2.2.18 Wessex Archaeology received all of the survey data, including: the video of each target, still photographs of each target, and the UXO survey report (MMT and Statoil 2014), which included detailed Target Verification Sheets for each target.

2.2.19 The archaeological assessment commenced with the interrogation of the number and character of the anomalies that had been located during the ROV survey. A gazetteer table was developed, based on the ST14843-Appendix A-Target Summary table from the UXO report. It included information about the WTG location, Fugro Target ID, Wessex Archaeology Target ID, Eastings and Northings (as found), and a description of the target. The table was initially populated by reviewing the Target Verification Sheets. This enabled the targets with archaeological potential to be identified for further assessment, and for the targets determined to be modern debris (for example wire/cable), or natural (for example boulders) to be identified and noted as not requiring further assessment.

2.2.20 All targets that had previously been assessed as being of archaeological potential during the archaeological assessment of geophysical survey data were assessed in more detail. In addition, any targets that were identified as being of archaeological potential through the review of the Target Verification Sheets were also assessed in more detail. This



assessment included a detailed review of the still photographs and video footage by suitably qualified archaeologists. Additional still photographs were taken from the videos. The form, size and/or extent of the objects/sites were recorded to use as a guide to its potential. It was possible to determine the approximate measurements of features based on the videos that showed the ROV's laser pointers, as the laser pointers were fixed at a set distance of 10cm apart (see for example the image on **Data Sheet B01 F15733**). The measurements are approximate as the method was not precise. In addition, it is possible that for some features, what is visible on the seabed may only be part of a much more extensive feature that is largely buried. Areas with many small features are also examined, as these could define the edges of a buried but intact feature, or they could be all that remains as a result of past impacts from, for example, dredging or fishing.

- 2.2.21 The age of the targets was also assessed, and where applicable, targets were assigned to a period based on **Table 4** below.

**Table 4: Chronological periods**

Palaeolithic	900,000 – 9500 BC
Early Post-glacial	9500 – 8500 BC
Mesolithic	8500 – 4000 BC
Neolithic	4000 – 2200 BC
Bronze Age	2200 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – 410
Saxon	AD 410 – 1066
Medieval	1066 – 1500
Post-medieval	1500 – 1800
19th century	1800 – 1899
Modern	1900 – present day

- 2.2.22 Where appropriate, the geophysical survey data that was previously archaeologically assessed was revisited by suitably qualified geophysicists.
- 2.2.23 For each target, the anomaly has been identified, where possible, and assessed with regard to the categories outlined in **Table 5** below.

**Table 5: Categories of Anomaly**

Category	Description
<b>A</b>	Archaeological Interest
<b>P</b>	Possible Archaeological Interest
<b>M</b>	Modern/Non-archaeological
<b>N</b>	Natural
<b>U</b>	Uncertain

- 2.2.24 Each target has also been assessed for archaeological value. A value rating from high to uncertain was be assigned to each identified anomaly based upon professional judgement and in accordance with the definitions in **Table 6** below.



**Table 6: Anomaly categories**

Value	Definition
<b>H – High</b>	Above average example and/or high potential to contribute to knowledge and understanding and/or outreach. Receptors with a demonstrable international or national dimension to their value are likely to fall within this category.
<b>M – Medium</b>	Average example and/or moderate potential to contribute to knowledge and understanding and/or outreach.
<b>L- Low</b>	Below average example and/or low potential to contribute to knowledge and understanding and/or outreach.
<b>N – None</b>	Anomaly identified as being non-archaeological.
<b>U – Uncertain</b>	Insufficient data to assess archaeological value.

- 2.2.25 A confidence rating from **Low** to **High** has also been assigned to each anomaly. The confidence rating takes into account: the quality of the images; the nature of the description provided by the UXO survey contractor; and draws upon professional judgement in assessing the certainty of the interpretation.
- 2.2.26 The results of the assessment are presented in **Appendix 1** in gazetteer format, and figures have been produced identifying the target locations.
- 2.2.27 Where objects or sites are considered to be of high archaeological importance, there is the potential for the requirement for archaeological intervention, in consultation with the curatorial authorities, for the purposes of mitigation. Results of the assessment are discussed below in **Section 3: Results of the Archaeological Assessment of UXO Survey Data**, and recommendations regarding mitigation are discussed in **Section 4: Summary, Conclusions and Recommendations**.

### 3 RESULTS OF THE ARCHAEOLOGICAL ASSESSMENT OF UXO SURVEY DATA

#### 3.1 Introduction

- 3.1.1 The UXO survey was undertaken at 15 of the 67 proposed turbine locations and on a section of the proposed export cable route (**Figure 1**). A total of 298 targets were investigated, including 12 targets identified as potential archaeological features by Wessex Archaeology. All 12 of the Wessex Archaeology targets also corresponded to targets identified by Fugro. Of the 298 targets, 62 targets were located during the UXO survey, and of these, seven were targets that had been identified by Wessex Archaeology.
- 3.1.2 A summary of the results, by proposed turbine location, is provided in **Table 7** below.

**Table 7: Summary of UXO survey results, by proposed turbine location**

WTG Area	Level of survey	Located targets	WA Targets from initial geophysical survey	Located WA targets
A02	Priority survey	2	1	1
B01	Revised criteria	4	2	1
C02	Revised criteria	4	-	-
C04	Revised criteria	3	-	-



D01	Priority survey	3	1	1
E04	Priority survey	3	2	1
F01	Priority survey	8	3	2
G02	Priority survey	3	-	-
G04	Priority survey	2	-	-
H03	Priority survey	3	-	-
I04	Revised criteria	1	-	-
J04	Revised criteria	1	-	-
K01	Priority criteria	6	1	-
K04	Priority criteria	13	1	1
L05	Priority criteria	1	-	-
EXP01	Revised criteria	5	1	-
	<b>TOTALS</b>	<b>62</b>	<b>12</b>	<b>7</b>

3.1.3 In order to assess whether the 62 located targets were of archaeological interest, the *Offshore Verification of Possible UXO – Dudgeon* report (MMT and Statoil 2014) was reviewed, with particular focus on the detailed Target Verification Sheets. The results were compiled in a gazetteer table, and **Table 8** below summarises the nature of the 62 targets that were located during the UXO survey.

**Table 8: Summary of UXO results, by target character**

Type of Target	Target for Archaeological Assessment	Non-Archaeological	Total
<b>UXO</b>	1		
<b>Wooden debris</b>	2		
<b>Metal debris</b>	14		
<b>Unidentified</b>	5		
<b>Boulders</b>		24	
<b>Wire</b>		16	
<b>Totals</b>	<b>22</b>	<b>40</b>	<b>62</b>

3.1.4 It was determined that the targets comprising boulders (natural) and wire (modern debris) were not of archaeological interest, and therefore no further archaeological assessment was required. However, further data were reviewed at all of the sites that had been previously identified by Wessex Archaeology as of archaeological potential, in order to confirm the identification.

3.1.5 The results of the Wessex Archaeology targets are summarised in **Table 9** below.

**Table 9: Results of Wessex Archaeology targets**

Turbine location	WA ID	Classification	Easting	Northing	Result
A02	70016	Debris Field	390985	5907139	Metal debris. Possible bollard or winch and metal plating
B01	70041	Magnetic	391217	5902775	Nothing detected
B01	70042	Magnetic	391327	5902702	Metal debris. Frame of modern pipes
D01	70084	Magnetic	390758	5904774	Wire





E04	70102	Magnetic	390084	5906600	Wire
E04	70103	Magnetic	390159	5906538	Nothing detected
F01	70149	Magnetic	392381	5904896	Wire
F01	70150	Magnetic	392241	5904864	Nothing detected
F01	70153	Magnetic	392485	5904856	Metal debris.
K01	70306	Magnetic	391945	5902330	Nothing detected
K04	70293	Debris	393385	5899718	UXO
EXT01	70400	Magnetic	386861	5890707	Unidentified. Dipole (-226/181nT) was detected but site was not excavated due to poor visibility.

3.1.6 Details about all of the 62 located targets can be found in the discussion below, and in **Appendix 1**. The 62 anomalies are illustrated in **Figure 2a – 2c**. Of the 62 anomalies, three were determined to be of archaeological interest, and seven were assessed as of potential archaeological interest, see **Table 10** below. Data sheets for the 10 anomalies of archaeological interest and potential archaeological interest can be found in **Appendix 2**.

**Table 10: Summary of UXO results, by archaeological interest**

Type of Target	Target of Archaeological Interest	Target of Potential Archaeological Interest	19th or 20 <sup>th</sup> C Debris	Natural	Uncertain	Total
<b>UXO</b>	1					1
<b>Wooden debris</b>	1	1				2
<b>Metal debris</b>	1	6	8			14
<b>Unidentified</b>					4	5
<b>Boulders</b>				24		24
<b>Wire</b>			16			16
<b>Totals</b>	<b>3</b>	<b>7</b>	<b>25</b>	<b>24</b>	<b>4</b>	<b>62</b>

## 3.2 WTG Location Area A02

### *Wessex Archaeology Targets*

3.2.1 During the archaeological assessment of geophysical data, **WA70016/F2157** was interpreted as an area of diffuse anomalies at the end of the data range. The anomalies have clear rectangular to sub-oval shadows visible. Some of the short elongated anomalies are visible with rectangular shadows. The site is located on quiet seabed with an associated distinct large dipole magnetic contact (167nT), indicating possible ferrous debris. The site, as surveyed by MMT, comprised metal debris visible on, and partially buried in, the seabed. The objects included a possible bollard or winch, possibly with some deck frame attached (see **Data Sheet A02 WA70016/F2157**). The bollard or winch could measure approximately 20-30cm in diameter, and approximately 35cm in length but it is largely covered in marine growth and the size is difficult to confirm. The deck frame measures approximately 85cm in length, and about 20-30cm is revealed above the seabed. Other material in the area includes a section of thin metal plating. The plating measures approximately 50cm wide and possibly less than 1cm thick. The length is difficult to determine as it is bent into a U shape filled with sediment, but it could be approximately 50cm-1m in length. Excavation adjacent to the metal plate revealed further metal debris, likely an irregularly shaped fragment of thick metal plating, measuring



approximately 20cm x 20cm. The metal debris associated with **WA70016/F2157** could possibly relate to the presence of a previously unrecorded, dispersed 19<sup>th</sup> or 20<sup>th</sup> century wreck site, and therefore is of archaeological interest, potentially of medium archaeological value. The site is within 25m of **F2155** and the sites could be related.

#### *Other Targets of Possible Archaeological Interest*

- 3.2.2 **F2155** comprises man-made metal objects exposed through excavation. The objects include a thick metal plate, measuring approximately 60cm x 75cm x 7cm (see **Data Sheet A02 F2155**), and an irregularly shaped concretion of unknown origin measuring approximately 45cm x 20cm. Because of the site's proximity to **WA70016/F2157** and its possible association with a dispersed 19<sup>th</sup> or 20<sup>th</sup> century shipwreck, it has been rated of possible archaeological interest of low to medium value.

### **3.3 WTG Location Area B01**

#### *Wessex Archaeology Targets*

- 3.3.1 **WA70041/F15730** was not detected visually or on sensor data.
- 3.3.2 The archaeological assessment of geophysical data indicated that **WA70042/F15761** appeared as a dipole magnetic anomaly (149nT), possibly representing a piece of buried ferrous material. During the MMT survey, nothing was initially visible on the seabed, but excavation revealed a frame of steel pipes. The frame measures approximately 2m x 1m, and the pipes appear to be approximately 4cm in diameter. The feature could be a section of railing or scaffolding of some kind. The material likely dates to the 19<sup>th</sup> or 20<sup>th</sup> century. It appears to be an isolated find, and is not thought to be of archaeological interest.

#### *Other Targets*

- 3.3.3 **F15733** is an anomaly recorded as a dipole (-804/1214nT) that was located during the gradiometer survey. Nothing was visible on the seabed, but a metal object comprising three panels (**F15733**) was revealed through excavation. The object measured approximately 2.1m x 1m (see **Data Sheet B01 F15733**), and has been interpreted as a possible trawl door. Although an isolated find of probably 20<sup>th</sup> century material, this object has some archaeological potential because of its association with maritime industry, however it is of low value as it appears to be an isolated find.
- 3.3.4 The other targets that were located in the area include a boulder (**F15731**) and wire (**F15737**), and these are not of archaeological interest.

### **3.4 WTG Location Area C02**

#### *Wessex Archaeology Targets*

- 3.4.1 There were no targets identified by Wessex Archaeology in this area.

#### *Other Targets*

- 3.4.2 The ROV survey indicated that partially buried wooden debris (**F15301**) was discovered during the survey, and MMT suggested that, although this site had not been identified through previous archaeological assessment, it could be of possible archaeological significance. There was no associated gradiometer anomaly. A wooden timber, over 2m in length and 15-20cm in width, lies partially buried on the seabed (see **Data Sheet C02 F15301**). The timber comes to a tapered end, possibly due to erosion, and there is a semi-circular hole near the end, which could be a result of anthropogenic activity or erosion. A second piece, measuring approximately 1m in length, lies adjacent and partially buried. The timbers look as though they could be very eroded planks from a wooden shipwreck of unknown date, and it is possible that additional wooden material lies buried



in the area. Because of this, the site is considered to be of archaeological interest, and could be of medium value. However, it is also possible that this represents an isolated find of little to no archaeological interest or value. No excavation was undertaken at this site.

- 3.4.3 There were three further Fugro targets in the area, which turned out to be boulders (**F15305**, **F15319** and **F15323**). As these are natural, they are not of archaeological interest.

### 3.5 WTG Location Area C04

#### *Wessex Archaeology Targets*

- 3.5.1 There were no Wessex Archaeology targets in this area.

#### *Other Targets*

- 3.5.2 The ROV survey noted wooden debris on the seabed (**F14335**) with no associated gradiometer anomaly (See **Data Sheet C04 F14335**). The debris comprises three pieces of possibly wooden debris, the longest of which measures approximately 80cm in length and is about 10cm in width. The smaller two pieces measure roughly 60cm and 30cm in length. The pieces lie roughly 120cm and 80cm apart. It is possible that this material relates to a lightly built, previously unidentified wooden shipwreck of unknown date and that additional debris lies buried in the area, particularly as this is an area with numerous sand waves. Therefore, this site has been assessed as of possible archaeological interest. However it is also possible that this is an isolated find of modern debris or possibly natural material. No excavation was undertaken at this site.

- 3.5.3 Two further targets located during the survey were revealed to be wire (**F14348**) and a metal object that appeared to be a section of rebar (**F14378**). These are both modern debris of no archaeological interest.

### 3.6 WTG Location Area D01

#### *Wessex Archaeology Targets*

- 3.6.1 **WA70084/F19778** was originally interpreted as a probable dipole (100nT), possibly representing a piece of buried ferrous material. Excavation revealed approximately 3m of cable/wire, at a depth of approximately 0.1m. This modern debris is not of archaeological interest. The wire was relocated to a new position and further gradiometer survey revealed no further anomalies in the area.

#### *Other Targets*

- 3.6.2 The other targets in the area were revealed to be boulders (**F19747** and **F19770**). As they are natural, they are of no archaeological interest.

### 3.7 WTG Location Area E04

#### *Wessex Archaeology Targets*

- 3.7.1 **WA70102/F21949** was described in the archaeological assessment of geophysical data as a distinct dipole (137nT), possibly indicating a piece of ferrous material. It was revealed by excavation to be a section of wire. The wire measured approximately 2m in length and had been buried approximately 10cm. The wire was moved and the area was re-surveyed with the gradiometer to ensure that no additional metal objects were buried in the area. The find is modern debris of no archaeological interest.

- 3.7.2 **WA70103** was not detected visually or on the survey data.



*Other Targets*

- 3.7.3 One additional target was located during the survey; it was identified as a boulder (**F22009**).

**3.8 WTG Location Area F01**

*Wessex Archaeology Targets*

- 3.8.1 **WA70149/F22836** was described in the archaeological assessment of geophysical data as an asymmetric dipole anomaly (84nT), possibly representing a piece of ferrous metal with no surface expression. The ROV survey indicated that there were several magnetic targets laying in a NW-SE direction. Visual inspection revealed a wire (estimated to be 2cm in diameter) that was partly buried. There are megaripples in the area, and probably occasionally thicker sand (possibly up to 30-50cm in depth), and the wire was visible between ripple crests. All of the gradiometer targets appear to have originated from the same cable. The cable was also dredged at two places where it was buried. It is probably more than 10m in one piece. The wire is considered to be modern debris of no archaeological interest.
- 3.8.2 **WA70150/F22818** was described in the archaeological assessment of geophysical data as a possible piece of ferrous metal with no surface expression. However nothing was detected visually or on sensor data during the ROV survey.
- 3.8.3 **WA70153/F22855** was described in the archaeological assessment as a dipole (101nT) possibly representing a piece of ferrous material with no surface expression. During the ROV survey, a man-made metal object was visible on the seabed. Approximately 1.5m of material was visible, raised slightly above the seabed (see **Data Sheet F01 WA70153/F22855**). When excavated, the object measured approximately 2-2.5m long, about 20cm wide (at its widest), and with a thickness of 2-3cm. The object is tapered at one end, and about halfway along the object, a short piece of metal projects roughly perpendicularly out to one side. At the other end, the metal is bent at an angle, and there is a second piece of metal that projects perpendicularly to the same side. The object appears to have been broken; however it is difficult to confirm due to the amount of corrosion and marine encrustation. When the object was pulled out of the seabed using the arm of the ROV, it flexed and a part of it broke off. Although the object was lifted for closer inspection, it appears from the ROV video that the object was then returned to the seabed approximately where it was initially located. Due to the flexible nature of the material and its narrow thickness, it could have been used as ship siding dating to the post medieval or modern periods. The artefact is possibly of archaeological interest, as it could have a maritime association, however it appears to be an isolated find, and therefore is of low archaeological value.

*Other Targets*

- 3.8.4 Other targets revealed in the area include four boulders (**F22820, F22824, F22829** and **F22830**) and a piece of wire (**F22832**), of no archaeological interest.
- 3.8.5 A metal bar (**F22841**) was detected during excavation. The long, thin, metal bar, measures approximately 90cm in length. It appears to be an isolated find of modern metal debris and therefore is not of archaeological interest.

**3.9 WTG Location Area G02**

*Wessex Archaeology Targets*

- 3.9.1 There were no Wessex Archaeology targets in this area.



*Other Targets*

- 3.9.2 **F29111** is a possible winch drum or capstan that was partially visible on the seabed and was revealed through excavation. It measures approximately 60cm in length by 40cm in width (see **Data Sheet G02 F29111**). It is possible that this find could represent material from a previously unknown, well dispersed 19<sup>th</sup> or 20<sup>th</sup> century shipwreck, and therefore has been assessed as of possible archaeological interest, however it appears to represent an isolated find, and therefore is likely of low to medium archaeological value.
- 3.9.3 Two targets were revealed to be wire (**F29103** and **F29124**), of no archaeological interest.

**3.10 WTG Location Area G04**

*Wessex Archaeology Targets*

- 3.10.1 There were no Wessex Archaeology targets in this area.

*Other Targets*

- 3.10.2 Fugro identified two targets; both were revealed to be wire (**F29406** and **F29408**), of no archaeological interest.

**3.11 WTG Location Area H03**

*Wessex Archaeology Targets*

- 3.11.1 There were no Wessex Archaeology targets in this area.

*Other Targets*

- 3.11.2 Fugro identified three targets, all of which were revealed to be wire (**F23340**, **F23341**, and **F23359**), of no archaeological interest.

**3.12 WTG Location Area I04**

*Wessex Archaeology Targets*

- 3.12.1 There were no Wessex Archaeology targets in this area.

*Other Targets*

- 3.12.2 Fugro identified one target, which was revealed to be wire (**F71944**), of no archaeological interest.

**3.13 WTG Location Area J04**

*Wessex Archaeology Targets*

- 3.13.1 There were no Wessex Archaeology targets in this area.

*Other Targets*

- 3.13.2 Fugro identified one target, which was revealed to be wire (**F5786**), of no archaeological interest.

**3.14 WTG Location Area K01**

*Wessex Archaeology Targets*

- 3.14.1 There was one Wessex Archaeology target in this area (**WA70306/F16076**), described as a possible piece of ferrous metal with no surface expression. However, during the ROV survey nothing was detected visually or on the sensor data.



#### *Other Targets*

- 3.14.2 Other targets in the area were revealed to comprise wire (**F16073**) and boulders (**F16100**, **F16107**, **F16142** and **F16162**), of no archaeological interest
- 3.14.3 A metal rod and a boulder (**F16166**) were excavated. The metal rod was visible sticking out of the seabed, and it was lifted by the ROV to reveal its full extent. The metal rod appears to measure approximately 68cm x 3cm. It was not possible to determine if the rod was broken at either end, but one end is bent at an angle. The metal rod appears to be an isolated find of modern debris and of no archaeological interest. The boulder is fairly regularly shaped and measures approximately 23cm x 14cm x 3.5cm. The objects were relocated.

### **3.15 WTG Location Area K04**

#### *Wessex Archaeology Targets*

- 3.15.1 **WA70293/F12814** was described in the archaeological assessment of geophysical data as an isolated, distinct and slightly elongated anomaly with two near parallel elongate features and slight depression to the north. A clear sub-oval shadow was visible. The object was associated with a medium magnetic contact (70nT) and described as a piece of possibly ferrous material. The ROV survey determined that this object is probably a 1000 lb shell UXO (see **Data Sheet K04 WA70293/F12814**). The bomb measures approximately 1.5m in length by roughly 30cm - 50cm in diameter. The bomb is covered in marine growth and sits on a sandy, stony, shelly seabed. This unexploded ordnance is considered to be of archaeological interest and of medium archaeological value because it provides tangible evidence of wartime conflict. However, any requirements for dealing with UXO take precedence over any archaeological considerations in the recommended actions.

#### *Other Targets*

- 3.15.2 **F12803** comprises a small boulder or non-ferrous object. The archaeological assessment of the ROV video could reveal no further details. The object appears to be roughly triangular in shape and possibly partially buried. It measures approximately 50cm in length by roughly 40cm across at its widest point. It appears to be an isolated find of probably natural material, and therefore is of little to no archaeological interest.
- 3.15.3 **F12807** was revealed to be ferrous debris and a small boulder. The boulder lies on the seabed and measures approximately 50cm x 30cm. The MMT report notes that a cluster of ferrous debris was detected during excavation and was disassembled. The nature of the ferrous debris is difficult to interpret from the ROV videos, however it appears to represent an isolated find and therefore is not of archaeological interest. Post excavation, gradiometer survey revealed that there were no further buried anomalies.
- 3.15.4 **F12826** comprises a small boulder and a small metal plate. The boulder measures approximately 28cm x 21cm x 15cm. The metal plate measures approximately 20cm x 10cm. The plate was recovered to the survey vessel. The find appears to be an isolated find of modern debris of no archaeological interest.
- 3.15.5 **F12850** appears to be a length of rod or pipe, bent in two. The full length of the object is approximately 72cm, with a thickness of approximately 5cm. It appears to be an isolated find of modern metal debris, and therefore it is of no archaeological interest.
- 3.15.6 Numerous other targets in the area were revealed as boulders (**F12804**, **F12813**, **F12819**, **F12821**, **F12823**, **F12830**, **F12833**, and **F12845**), and therefore are of no archaeological interest.



### 3.16 WTG Location Area L05

#### *Wessex Archaeology Targets*

3.16.1 There were no Wessex Archaeology targets in this area.

#### *Other Targets*

3.16.2 Fugro identified one target (**F4403**). The ROV survey indicated that nothing was seen on the video during the gradiometer survey, however a dipole (-246/69nT) and a monopole (51nT) were detected in the gradiometer area. The monopole was considered to be too low to be excavated, however the dipole was excavated to a depth of approximately 50cm, but nothing was uncovered. The anomaly is thought to originate from a small distinct contact. As the anomaly has remained unidentified, it is not possible to comment on its archaeological potential or value.

### 3.17 Export Cable Route Survey Area

#### *Wessex Archaeology Targets*

3.17.1 **WA70400** which was described in the archaeological assessment of geophysical data as a very distinct magnetic anomaly located beneath a very large sand wave which could be covering up ferrous remains, was located but not excavated due to poor visibility. MMT described the site as having a dipole (-226/181nT) in the gradiometer data. Because the site was rated as an A1 geophysical anomaly in the archaeological assessment of geophysical data, and because the ROV survey noted a significant dipole, this feature, although presently unidentified, is still considered to be of archaeological potential. The site is adjacent to **F34762**, **F34768**, **F34788**, and **F34795**, at which nothing was detected visually or on the sensor data.

#### *Other Targets*

3.17.2 **F33993** is an unidentified object covered in marine growth. MMT noted that the object was seen on the video, together with two monopoles (1218nT, 176nT) that were detected in the gradiometer data. Excavation and further inspections were not performed due to poor visibility. The area covered by marine growth measures approximately 1m x 1m and could be extant from the seabed by as much as 50cm. The object could have a hollow area between it and the seabed. However, the poor visibility did not allow for an archaeological assessment of this feature, and therefore it remains unidentified.

3.17.3 **F35194** comprises two pieces of man-made metal debris. MMT noted that nothing was seen on the video during the gradiometer survey, however a total of 19 dipoles and monopoles ranging between -16503/25161nT and 361 nT were detected in the gradiometer data. Excavation to a depth of 50cm revealed the objects. The first is an irregular exposed metal object that measures at least 1m by 2m and appears to be partially buried (see **Data Sheet EXT01 F35194**). Additionally, it is associated with a length of partially untwisted beige rope. The second object, located nearby, appears to be a curved metal ring, measuring less than 1m in diameter, and with a piece of metal projecting from one side. The objects likely date to the 19<sup>th</sup> or 20<sup>th</sup> century. Dredging in the area was abandoned due to lack of visibility and because the area is considered to be a debris field. The debris is considered to be of potential archaeological interest of possibly low to medium value, especially as there is likely further anthropogenic material in the area.

3.17.4 **F35207** comprises a metal bar that was discovered during excavation of sediment to a depth of 30cm. The bar measures approximately 65cm to 1m in length by 3-5cm across, and 2cm thick. The object is partially covered by a concretion, but a section of grey metal was exposed, possibly revealed during the investigation. The artefact was relocated. The



metal bar appears to be an isolated find of modern debris and is not of archaeological interest.

- 3.17.5 Nothing was visible on the seabed in the video that was taken at the location of **F35334**. A dipole of -1671/921 nT was recorded on the gradiometer, but no excavation was undertaken because of poor visibility. The interpretation of this anomaly remains uncertain, and it is not possible to comment on its archaeological potential or value.
- 3.17.6 **F35492** comprises four pieces of probably 20<sup>th</sup> century metal debris that were observed in the video during the gradiometer survey, while three dipoles (-36/41, -1043/234, and -1455/815nT) and two monopoles (190, 127 nT) were detected in the gradiometer data. One piece of debris (see **Data Sheet EXT01 F35492**) appears to be a curved piece of metal measuring approximately 170cm across and appears to be upstanding off the seabed by about 60cm. The metal appears to be relatively thin, approximately 1-2cm thick. The metal is jagged and appears to be broken and corroded. Immediately adjacent to the first object is a second, round object, that could be some kind of wheel or hatch. It appears to be over 1m in diameter, and one side appears to have rivets around its circumference. It is much more solid than the larger sheet of metal, and it is encrusted in marine life. A third piece of metal debris lies nearby, comprising a round object roughly 50cm in diameter with metal plating or sheeting projecting to either side. The round object appears to have a row of rivets around its circumference. The fourth object is round and hollow, with a ring around its circumference and a diameter of approximately 50-60cm, again it could be a kind of hatch or cover. It is possible that this material is related to gas cylinders, metal buoys or even mine casings. Although the identification of this material has not been confirmed, it is considered to be of possible archaeological interest of low to medium archaeological value.

## 4 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### 4.1 Recommendations

- 4.1.1 A complete list of the 62 targets, and recommendations for each target, can be found in the gazetteer in **Appendix 1**.

#### *Sites of archaeological interest*

- 4.1.2 There are 10 targets considered to be of sufficient archaeological interest to warrant reporting through the Offshore Renewables Protocol for Archaeological Discoveries (ORPAD) (The Crown Estate 2014). The targets are summarised in **Table 11**, and the ORPAD numbers bear the Statkraft prefix as they were uploaded using the existing Statkraft ORPAD account, through which previous finds from Dudgeon Offshore Wind Farm have been uploaded. Data sheets for each of these targets are provided in **Appendix 2**. Further recommendations are applicable to many of these targets, under the terms of ORPAD.

**Table 11: Targets reported through ORPAD**

WTG Area	Target ID	Object	Description	ORPAD Report Number
A02	F2155	Metal debris	Thick metal plate and concretion, possibly associated with <b>F2157/WA70016</b> .	Statkraft_10238





WTG Area	Target ID	Object	Description	ORPAD Report Number
A02	F2157 / WA70016	Metal debris	Possible bollard or winch with some deck frame attached, and additional metal plating. Possibly associated with F2155.	Statkraft_10239
B01	F15733	Metal debris	Three panelled object. Possible trawl door.	Statkraft_10240
C02	F15301	Wooden debris	Wooden timbers partially buried.	Statkraft_10241
C04	F14335	Wooden debris	Possibly wooden debris in three pieces.	Statkraft_10242
F01	F22855 / WA70153	Metal debris	Metal object approximately 2-2.5m in length. Possibly maritime in origin.	Statkraft_10245
G02	F29111	Metal debris	Possible winch drum.	Statkraft_10246
K04	F12814 / WA70293	UXO	Possibly a 1000 lb shell.	Statkraft_10247
EXP01	F35194	Metal debris	Large, irregular metal object, curved metal ring and additional debris.	Statkraft_10243
EXP01	F35492	Metal debris	Four pieces of metal debris, including possible hatches and metal plating.	Statkraft_10244

- 4.1.3 The UXO (**WA70293/F12814**) will be dealt with based on UXO protocol, as UXO requirements take precedence. The MMT report indicates that the UXO has been allocated for removal/destruction, which will be performed at a later stage when the development layout has been confirmed.
- 4.1.4 No sites are recommended for Temporary Exclusion Zones, however, the two sites of archaeological interest, **F15301** and **WA70016/F2157**, should be avoided if possible. If avoidance is not possible, any further discoveries should be reported through ORPAD,. The sites should be reviewed if reinvestigated or if material is recovered.
- 4.1.5 The remaining seven targets should be reviewed if reinvestigated or if material is recovered, and any further discoveries of archaeological material in the vicinity should be reported through ORPAD.
- 4.1.6 If any of these objects are moved as part of clearance operations, their new position should be reported through ORPAD in order to update archaeological records. If material from these targets is brought to the surface, then initial recording should take place (photographs and dimensions for example) and archaeological advice should be sought under the terms of ORPAD. As the current provider of the ORPAD implementation service, Wessex Archaeology will provide initial conservation advice, further interpretation and advice on dealing with the object in the longer term. If these objects are returned to the seabed, their new position should be reported through ORPAD in order to update archaeological records.

*Targets requiring further review*

- 4.1.7 Four targets remain unidentified, as summarised in **Table 12** below:



**Table 12: Targets requiring further review**

WTG Area	Target ID	Object	Description
L05	F4403	Unidentified	Small, distinct contact of unknown origin.
EXP01	F33993	Unidentified	Unidentified object covered in marine growth. Excavation and further inspections were not undertaken due to poor visibility.
EXP01	F35334	Unidentified	Biological growth was found at the location, and a gradiometer anomaly dipole (-1671/921nT), but no excavation was performed due to poor visibility.
EXP01	WA70400	Unidentified	Nothing was seen on the video during the gradiometer survey, however a dipole (-226/181nT) was detected in the gradiometer data. The site was not excavated due to poor visibility. However, the archaeological assessment of geophysical data previously suggested this was a very distinct magnetic anomaly, beneath a large sand wave, which could be covering up any ferrous remains. The site was given an A1 rating, and it could be of archaeological potential.

- 4.1.8 As assessment of the unidentified targets proved inconclusive, there remains the potential to encounter archaeological material at these locations.
- 4.1.9 Target **WA70400** in particular, should be highlighted as an area of archaeological potential, as it was identified as an A1 anomaly in the archaeological assessment of geophysical data. The strength of the gradiometer results continue to suggest that there could be material of archaeological interest at this site, and if it will be impacted by the cable route, it should be investigated further prior to impact.
- 4.1.10 As these features are unidentified, they should be avoided if possible. If any further work is planned in the areas around any of the unidentified targets, an archaeologist should be consulted prior to any survey work, in order to inform the survey methodology, and the results should be archaeologically assessed. Additionally, if these features will be at risk of direct impacts during clearance operations or wind farm installation, reassessment for archaeological purposes should take place.
- 4.1.11 Particular attention should be paid to these locations, and all discoveries of material should be reported through ORPAD.
- 4.1.12 If the above sites are not revisited for engineering or other reasons and will not be at risk of direct impacts during clearance operations or wind farm installation, no further action is necessary.

*Sites requiring no further action*

- 4.1.13 There are 48 targets considered to be of no archaeological interest, or judged to be of insufficient archaeological value to warrant further action. They have been identified with sufficient confidence that no further action is required. These are summarised in **Table 13** below. They have also been discussed in the assessment in **Section 3** above and are included in the gazetteer in **Appendix 1**.



**Table 13: Targets requiring no further action**

WTG Area	Target ID	Object	Description
B01	F15731	Boulder	Boulder
B01	F15737	Wire	Wire
B01	F15761 / WA70042	Metal debris	Metal debris. Frame of steel pipes.
C02	F15305	Boulder	Boulder
C02	F15319	Boulder	Boulder
C02	F15323	Boulder	Boulder
C04	F14348	Wire	Wire
C04	F14378	Metal debris	Metal debris. Possible rebar.
D01	F19747	Boulder	Boulder
D01	F19770	Boulder	Boulder
D01	F19778 / WA70084	Wire	Wire
E04	F21949 / WA70102	Wire	Wire
E04	F22009	Boulder	Boulder
F01	F22820	Boulder	Boulder
F01	F22824	Boulder	Boulder
F01	F22829	Boulder	Boulder
F01	F22830	Boulder	Boulder
F01	F22832	Wire	Wire
F01	F22836 / WA70149	Wire	Wire
F01	F22841	Metal debris	Metal debris. Metal bar.
G02	F29103	Wire	Wire
G02	F29124	Wire	Wire
G04	F29406	Wire	Wire
G04	F29408	Wire	Wire
H03	F23340	Wire	Wire
H03	F23341	Wire	Wire
H03	F23359	Wire	Wire
I04	F17944	Wire	Wire
J04	F5786	Wire	Wire
K01	F16073	Wire	Wire
K01	F16100	Boulder	Boulder
K01	F16107	Boulder	Boulder
K01	F16142	Boulder	Boulders
K01	F16162	Boulder	Probably buried boulders
K01	F16166	Metal debris	Metal debris. A metal rod and a boulder.
K04	F22820	Boulder	Small boulder or non-ferrous object
K04	F22824	Boulder	Boulder
K04	F22829	Metal debris	Metal debris. Ferrous debris and a small boulder.
K04	F22830	Boulder	Boulder
K04	F22832	Boulder	Boulder
K04	F22836	Boulder	Boulder
K04	F22841	Boulder	Boulder
K04	F29103	Metal debris	Metal debris. Small boulder and a small metal plate.
K04	F29124	Boulder	Boulder
K04	F29406	Boulder	Boulder
K04	F29408	Boulder	Boulder
K04	F23340	Metal debris	Metal debris. A length of rod or pipe, bent in two
EXP01	F35207	Metal debris	Metal debris. A metal bar.



4.1.14 It should be noted, however, that the identification of these sites as requiring no further action is based on the data available. In each case it is considered the most likely conclusion that archaeological material is either absent or of low or no archaeological value and that there is a low risk of encountering further archaeological material. In the event that additional, unexpected archaeological material is encountered at any of the recorded positions, discoveries should be reported through ORPAD.

*Final recommendation*

4.1.15 Any further discoveries of archaeological material should be reported through ORPAD.



## 5 REFERENCES

### 5.1 Bibliography

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## 6 APPENDICES

### 6.1 Appendix 1:Gazetteer

WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
A02	F2155	389793.6	5901115.2	Metal debris	Metal debris. Site comprises two objects: one thick metal plate (approximately 60cm x 75cm x 7cm) and one irregular shaped concretion of unknown origin (45cm x 20cm). The site is within 25m of <b>WA70016/F2157</b> and the sites could be related.	P	L-M	Medium	Review if reinvestigated or recovered.
A02	F2157 WA70016	389813	5901124.6	Metal debris	Metal debris. Site comprises a possible bollard or winch with some deck frame attached, and additional metal plating. This material could possibly relate to the presence of a previously unrecorded, dispersed wreck site. The site is within 25m of <b>F2155</b> and the sites could be related.	A	M	Medium	If possible avoid area, if not, any further discoveries should be reported. Review if reinvestigated or recovered.
B01	F15730 WA70041			Nothing detected visually or on sensor data	Nothing detected visually or on sensor data	NA	NA	Medium to High	No action
B01	F15731	391226.2	5902760.4	Boulder	Boulder	N	N	High	No action
B01	F15733	391228	5902849	Metal debris	Metal debris. Three panelled object, possible trawl door measuring approximately 225cm x 75cm).	P	L	Medium	Review if reinvestigated or recovered.
B01	F15737	391230.9	5902815.5	Wire	Wire	M	N	High	No action
B01	F15761 WA70042	391330.4	5902703.7	Metal debris	Metal debris. Frame of steel pipes measuring approximately 2m x 1m. The pipes have a diameter of approximately 4cm. The feature could possibly be a railing section, and probably dates to the 19th or 20th century. The site was excavated as nothing was initially visible on the seabed.	M	N	High	No action



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
C02	F15301	389868.6	5904152.4	Wooden debris	Wooden debris. A wooden timber, over 2m in length and 15-20cm in width, lies partially buried on the seabed. A second piece, measuring approximately 1m in length lies adjacent and partially buried. It is possible that additional wooden material, possibly related to a shipwreck, lies buried in the area. However it is also possible that this represents an isolated find. No excavation was undertaken at this site.	A	M	Low to Medium	If possible avoid area, if not, any further discoveries should be reported. Review if reinvestigated or recovered.
C02	F15305	389890.4	5904115.9	Boulder	Boulder	N	N	High	No action
C02	F15319	389918.8	5904153.2	Boulder	Boulder	N	N	High	No action
C02	F15323	389931.7	5904082.9	Boulder	Boulder	N	N	High	No action
C04	F14335	387975.7	5905167.9	Wooden debris	Wooden debris. Possibly wooden debris in three pieces, the longest of which measures approximately 80cm in length, and about 10cm in width. The smaller two pieces measure roughly 60cm and 30cm in length. The material could indicate a lightly built wooden shipwreck of unknown date, or could be modern debris or natural material. It is possible that additional debris lies buried in the area. No excavation was undertaken at this site.	P	L	Medium	No action
C04	F14348	388002.9	5905039.3	Wire	Wire	M	N	High	No action
C04	F14378	388071.3	5905078.1	Metal debris	Metal debris. Possible rebar.	M	N	High	No action
D01	F19747	390656.3	5904744.7	Boulder	Boulder	N	N	Medium to High	No action
D01	F19770	391728.9	5904791.1	Boulder	Boulder	N	N	Medium to High	No action
D01	F19778 WA70084	390755	5904772.3	Wire	Wire	M	N	High	No action



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
E04	F21949 WA70102	390089.3	5906599.3	Wire	Wire	M	N	High	No action
E04	F21958 WA70103			Nothing detected visually or on sensor data	Nothing detected visually or on sensor data	NA	NA	Medium to High	No action
E04	F22009	390299.9	5906638	Boulder	Boulder	N	N	High	No action
F01	F22818			Nothing detected visually or on sensor data	Nothing detected visually or on sensor data	NA	NA	Medium to High	No action
F01	F22820	392273.8	5904801	Boulder	Boulder	N	N	High	No action
F01	F22824	392306.3	5904726.5	Boulder	Boulder	N	N	High	No action
F01	F22829	392324.3	5904698.3	Boulder	Boulder	N	N	High	No action
F01	F22830	392334.7	5904915.7	Boulder	Boulder	N	N	High	No action
F01	F22832	392381.3	5904907	Wire	Wire	M	N	High	No action
F01	F22836	392389.5	5904900.3	Wire	Wire	M	N	High	No action
F01	F22841	392415	5904847	Metal debris	Metal debris. A long, thin metal bar, measuring approximately 90cm in length. It appears to be an isolated find of 19 <sup>th</sup> or 20 <sup>th</sup> century metal debris.	M	N	High	No action
F01	F22855 WA70153	392486	5904864	Metal debris	Metal debris. Object measured approximately 2-2.5m in length, about 20cm wide (at its widest), and with a thickness of 2-3cm. The object was pulled from the seabed by the ROV and relocated. The find could have been used as ship siding, and therefore is of possible interest.	P	L	Medium	Review if reinvestigated or recovered.
G02	F29103	394417.4	5904482	Wire	Wire	M	N	High	No action





WTG	Target ID	Eastings As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
G02	F29111	394472.5	5904478.7	Metal debris	Metal debris. Possible winch drum, partially visible on the seabed, but revealed through excavation. The artefact measures approximately 60cm in length by 40cm in width. It is possible that this find could represent material from a previously unknown, well dispersed shipwreck, however it is also possible that this is an isolated find.	P	L-M	Medium	Review if reinvestigated or recovered.
G02	F29124	394517.1	5904635.3	Wire	Wire	M	N	High	No action
G04	F29406	395626.5	5903504.4	Wire	Wire	M	N	High	No action
G04	F29408	395634.8	5903484.8	Wire	Wire	M	N	High	No action
H03	F23340	394521.5	5903024.6	Wire	Wire	M	N	High	No action
H03	F23341	394521.7	5903038.2	Wire	Wire	M	N	High	No action
H03	F23359	394565.5	5903022.2	Wire	Wire	M	N	High	No action
I04	F17944	394902	5899943	Wire	Wire	M	N	High	No action
J04	F5786	394308.7	5897588.6	Wire	Wire	M	N	High	No action
K01	F16073	391937.9	5902303.1	Wire	Wire	M	N	High	No action
K01	F16076 WA70306			Nothing detected visually or on sensor data	Nothing detected visually or on sensor data	NA	NA	Medium to High	No action
K01	F16100	391981.2	5902317.2	Boulder	Boulder	N	N	High	No action
K01	F16107	391988.2	5902194.9	Boulder	Boulder	N	N	High	No action
K01	F16142	392075	5902266	Boulder	Boulders	N	N	High	No action
K01	F16162	392148.4	5902200.5	Boulder	Probably buried boulders	N	N	Medium	No action



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
K01	F16166	392172	5902292.4	Metal debris	Metal debris. A metal rod and a boulder. The metal rod was visible sticking out of the seabed, and it was picked up by the ROV to display the full extent - appears to be approximately 68cm x 3cm. The boulder is fairly regularly shaped and measures approximately 23cm x 14cm x 3.5cm. The metal object appears to be 19 <sup>th</sup> or 20 <sup>th</sup> century debris.	M	N	Medium to High	No action
K04	F12803	393336.3	5899752.8	Boulder	Small boulder or non-ferrous object	N	N	Medium to high	No action
K04	F12804	393339.9	5899693.6	Boulder	Boulder	N	N	Medium to High	No action
K04	F12807	393347.9	5899776.7	Metal debris	Metal debris. Ferrous debris and a small boulder. The boulder lies on the seabed and measures approximately 50cm x 30cm. The MMT report notes that a cluster of ferrous debris was detected during excavation and was disassembled. The nature of the ferrous debris is difficult to interpret from the ROV videos. Post excavation, further gradiometer survey revealed that there were no further buried anomalies.	M	L	Medium	No action
K04	F12813	393381.9	5899708.1	Boulder	Boulder	N	N	Medium to High	No action
K04	F12814 WA70293	393385.1	5899719.3	UXO	UXO - Possibly a 1000 lb shell. It measures approximately 1.5m in length by roughly 30cm - 50cm in diameter. The bomb is covered in marine growth and sits on a sandy, stony, shelly seabed.	A	M	High	UXO requirements take precedence. No further action is required.
K04	F12819	393397.4	5899724.7	Boulder	Boulder	N	N	Medium to High	No action
K04	F12821	393398.8	5899719.2	Boulder	Boulder	N	N	Medium to High	No action



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
K04	F12823	393398.4	5899722.6	Boulder	Boulder	N	N	Medium to High	No action
K04	F12826	393403.1	5899713.6	Metal debris	Metal debris. Small boulder and a small metal plate. The boulder measures approximately 28cm x 21cm x 15cm. The metal plate measures approximately 20cm x 10cm. The plate was recovered to the survey vessel. The find appears to be an isolated find of 19 <sup>th</sup> or 20 <sup>th</sup> century debris.	M	N		No action
K04	F12830	393427.2	5899693.5	Boulder	Boulder	N	N	High	No action
K04	F12833	393437.3	5899851.2	Boulder	Boulder	N	N	High	No action
K04	F12845	393485.2	5899738.2	Boulder	Boulder	N	N	High	No action
K04	F12850	393499.3	5899763.2	Metal debris	Metal debris. Man-made rusted metal debris. Appears to be a length of rod or pipe, bent in two. Full length approximately 72cm with a thickness of approximately 5cm. It appears to be 19 <sup>th</sup> or 20 <sup>th</sup> century debris.	M	N	Medium to High	No action
L05	F4403	393080.9	5898615.4	Unidentified	Small, distinct contact of unknown origin.	U	U	Low	Review if reinvestigated or recovered.
EXP01	F33993	386563.1	5889692.7	Unidentified	Unidentified. This unidentified object covered in marine growth measures approximately 1m x 1m with a height of possibly 20-50cm. Excavation and further inspections were not undertaken due to poor visibility.	U	U	Low	Review if reinvestigated or recovered.



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
EXP01	F35194	387127.2	5891391.4	Metal debris	Metal debris. A large irregular metal object measures approximately 1m x 2m and appears to be partially buried. A length of beige, partially untwined rope is associated with the object. Another object appeared to be part of a curved metal ring, with further metal protruding from one side. The partial metal ring appeared to be less than 1 m in diameter. The dredging was abandoned due to lack of visibility and because the area is considered to be a debris field.	P	L-M	Low	Review if reinvestigated or recovered.
EXP01	F35207	387123.2	5891535.6	Metal debris	Metal debris. A metal bar was discovered during excavation and was relocated. The metal bar measures approximately 65-100cm in length by 3-5cm in width. The object is partially covered by a concretion, but with a section of exposed grey metal at the middle - possibly exposed during the investigation. The object appears to be an isolated find of 19 <sup>th</sup> or 20 <sup>th</sup> century debris.	M	N	High	No action
EXP01	F35334	387243.2	5891713.6	Unidentified	Unidentified. Biological growth was found at the location, and a gradiometer anomaly dipole (-1671/921nT), but no excavation was performed due to bad visibility.	U	U	Low	Review if reinvestigated or recovered.



WTG	Target ID	Easting As Found	Northing As Found	Material	Description	Category	Value	Confidence	Actions
EXP01	F35492	387413.5	5891723.9	Metal debris	Metal debris. Four pieces of metal debris. One appears to be a curved piece of thin metal measuring approximately 170cm across and appears to be upstanding off the seabed by about 60cm. The second object appears to be some kind of circular wheel or hatch, measuring approximately 1m in diameter. The third object has a round wheel or hatch roughly 50cm in diameter with two sections of metal plating or sheeting projecting to either side. The fourth object is round and hollow, measuring approximately 50cm in diameter. The material could be related to gas cylinders, metal buoys or even mine casings.	P	L-M	Medium	Review if reinvestigated or recovered.
EXP01		386861	5890707	Unidentified	Unidentified. Nothing was seen on the video during gradiometer survey, however a dipole (-226/181nT) was detected in the gradiometer data. The site was not excavated due to poor visibility. However the archaeological assessment of geophysical data previously suggested this was a very distinct magnetic anomaly, beneath a large sand wave which could be covering up any ferrous remains, and the site could still be of archaeological potential.	U	U	Low	This site was given an A1 rating in the archaeological assessment of geophysical data, and therefore should be investigated further if it will be impacted by the cable route development.



## 6.2 Appendix 2: Data Sheets

<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: A02</b>	<b>Site ID: WA70016 / F2157</b>	<b>ORPAD ID: Statkraft_10239</b>	
<b>Assessor</b>	Wessex Archaeology	<b>Survey Date</b>	October 2014		
<b>Assessment Date</b>	February 2015	<b>Survey Company</b>	MMT		
<b>As Found Position (UTM31N)</b>	389813		5901124.6		
<b>Description</b>	Metal debris. The site comprises a possible bollard or winch, with some deck frame attached, and additional metal plating. The bollard or winch could measure approximately 20-30cm in diameter, and approximately 35cm in length; it is largely covered in marine growth and difficult to confirm its size. The deck frame measures approximately 85cm in length, and about 20-30cm of it is revealed above the seabed. Another piece of plating in the area measures approximately 50cm wide and possibly less than 1cm thick; it is bent into a U-shape, and could be approximately 50cm-1m in length. Excavation adjacent to the metal plate revealed further metal debris, likely an irregularly shaped fragment of thick metal plating, measuring approximately 20cm x 20cm. This material could possibly relate to the presence of a previously unrecorded, dispersed wreck site dating to the 19 <sup>th</sup> or 20 <sup>th</sup> century. The site is within 25m of <b>F2155</b> and the sites could be related.				
<b>Category</b>	Archaeological Interest	<b>Archaeological Value</b>	Medium	<b>Confidence Rating</b>	Medium
<b>Action:</b>	If possible avoid area, if not, any further discoveries should be reported. Review if reinvestigated or recovered.				



## Images







<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: A02</b>	<b>Site ID: F2155</b>	<b>ORPAD ID: Statkraft_10238</b>	
<b>Assessor</b>		Wessex Archaeology		<b>Survey Date</b>	
<b>Assessment Date</b>		February 2015		<b>Survey Company</b>	
<b>As Found Position (UTM31N)</b>		389793.6		5901115.2	
<b>Description</b>		Metal debris. Site comprises two objects: one thick metal plate (approximately 60cm x 75cm x 7cm) and one irregular shaped concretion of unknown origin (45cm x 20cm). The site is within 25m of <b>WA70016/F2157</b> , and the sites could be related. It is possible that the material could be associated with a very dispersed, previously unrecorded 19 <sup>th</sup> or 20 <sup>th</sup> century shipwreck.			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low to Medium	<b>Confidence Rating</b>	Medium
<b>Action:</b>		Review if reinvestigated or recovered.			
<b>Images</b>					





<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: B01</b>	<b>Site ID: F15733</b>	<b>ORPAD ID: Statkraft_10240</b>	
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>	October 2014	
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>	MMT	
<b>As Found Position (UTM31N)</b>		391228		5902849	
<b>Description</b>		Metal debris. Three panelled object, possible trawl door measuring approximately 225cm x 75cm).			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low	<b>Confidence Rating</b>	Medium
<b>Action:</b>		Review if reinvestigated or recovered.			
<b>Image</b>					



<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: C02</b>	<b>Site ID: F15301</b>	<b>ORPAD ID: Statkraft_10241</b>	
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>	October 2014	
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>	MMT	
<b>As Found Position (UTM31N)</b>		389868.6		5904152.4	
<b>Description</b>	Wooden debris. Two timbers partially exposed on the seabed. A wooden timber, over 2m in length and 15-20cm in width, lies partially buried on the seabed. A second piece, measuring approximately 1m in length lies adjacent and partially buried. It is possible that additional wooden material, possibly related to a previously unrecorded, wooden shipwreck of unknown date, lies buried in the area. However it is also possible that this represents an isolated find. No excavation was undertaken at this site.				
<b>Category</b>	Archaeological Interest	<b>Archaeological Value</b>	Medium	<b>Confidence Rating</b>	Low to Medium
<b>Action:</b>	If possible avoid area, if not, any further discoveries should be reported. Review if reinvestigated or recovered.				
<b>Images</b>					
					



<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: C04</b>	<b>Site ID: F14335</b>	<b>ORPAD ID: Statkraft_10242</b>	
<b>Assessor</b>	Wessex Archaeology	<b>Survey Date</b>		October 2014	
<b>Assessment Date</b>	February 2015	<b>Survey Company</b>		MMT	
<b>Position from Archaeological Assessment of Geophysical Data (UTM31N)</b>		387975.7		5905167.9	
<b>Description</b>		Wooden debris. Possibly wooden debris in three pieces, the longest of which measures approximately 80cm in length, and about 10cm in width. The smaller two pieces measure roughly 60cm and 30cm in length. It is possible that this material relates to a lightly built, previously unidentified wooden shipwreck of unknown date and that additional debris lies buried in the area, particularly as this is an area with numerous sand waves. Therefore, this site has been assessed as of possible archaeological interest. However it is also possible that this is an isolated find of modern debris or possibly natural material. No excavation was undertaken at this site.			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low	<b>Confidence Rating</b>	Medium
<b>Action:</b>	Review if reinvestigated or recovered.				
<b>Image</b>					




<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: F01</b>	<b>Site ID: WA70153 / F22855</b>		<b>ORPAD ID: Statkraft_10245</b>
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>		October 2014
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>		MMT
<b>As Found Position (UTM31N)</b>		392486		5904864	
<b>Position after relocation (UTM31N)</b>		392486.89		5904863.74	
<b>Description</b>		<p>Metal debris. One object was visible on the seabed. The object measured approximately 2-2.5m in length, about 20cm wide (at its widest), and with a thickness of 2-3cm. The object appears to have been broken; however it is difficult to confirm due to the amount of corrosion and marine encrustation. When the object was pulled out of the seabed using the arm of the ROV, it flexed and a part of it broke off. Although the object was lifted for closer inspection, it appears to have been replaced adjacent its original location. It is possible that the artefact could have been used as ship siding dating to the post medieval or modern periods, and because of this possible maritime association, it is possibly of archaeological interest, however it appears to be an isolated find, and therefore is of low archaeological value.</p>			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low	<b>Confidence Rating</b>	Medium
<b>Action:</b>		The metal debris has been relocated. However, it should be reviewed if reinvestigated or recovered.			



## Images





<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: G02</b>	<b>Site ID: F29111</b>		<b>ORPAD ID: Statkraft_10246</b>
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>		October 2014
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>		MMT
<b>As Found Position (UTM31N)</b>		394472.5		5904478.7	
<b>Description</b>		Metal debris. Possible winch drum or capstan, partially visible on the seabed, but revealed through excavation. The artefact measures approximately 60cm in length by 40cm in width. It is possible that this find could represent material from a previously unknown, well dispersed shipwreck dating to the 19 <sup>th</sup> or 20 <sup>th</sup> century, however it is also possible that this is an isolated find.			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low to Medium	<b>Confidence Rating</b>	Medium
<b>Action:</b>	Review if reinvestigated or recovered.				
<b>Image</b>					
					



<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: K04</b>	<b>Site ID: WA70293 / F12814</b>	<b>ORPAD ID: Statkraft_10247</b>	
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>	October 2014	
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>	MMT	
<b>As Found Position (UTM31N)</b>		393385.1		5899719.3	
<b>Description</b>		UXO - Possibly a 1000 lb shell. It measures approximately 1.5m in length by roughly 30cm - 50cm in diameter. The bomb is covered in marine growth and sits on a sandy, stony, shelly seabed.			
<b>Category</b>	Archaeological interest	<b>Archaeological Value</b>	Medium	<b>Confidence Rating</b>	High
<b>Action:</b>		UXO requirements take precedence. No further action is required.			
<b>Images</b>					



<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: EXT01</b>	<b>Site ID: F35194</b>	<b>ORPAD ID: Statkraft_10243</b>	
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>	October 2014	
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>	MMT	
<b>As Found Position (UTM31N)</b>		387127.2		5891391.4	
<b>Description</b>		<p>Metal debris. Two pieces of man-made metal debris. The first is a large irregular metal object that measures approximately 1m x 2m and appears to be partially buried. A length of beige, partially untwined rope is associated with the object. The second object appeared to be part of a curved metal ring, with further metal protruding from one side. The partial metal ring appeared to be less than 1 m in diameter. The artefacts likely date to the 19<sup>th</sup> or 20<sup>th</sup> century. The dredging was abandoned due to lack of visibility and because the area is considered to be a debris field. The debris is considered to be of potential archaeological interest of possibly low to medium value, especially as there is likely further anthropogenic material in the area.</p>			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low to Medium	<b>Confidence Rating</b>	Low
<b>Action:</b>		Review if reinvestigated or recovered.			
<b>Images</b>					
<p>Date: 24/10/2014 Time: 10:01:50 Easting: 387126.93 Northing: 5891391.14 Depth: 25.35 Alt: 0.36 Hdg: 36.24</p> <p>Area: EXP01 Target: F35194</p>			<p>Date: 24/10/2014 Time: 10:10:15 Easting: 387127.13 Northing: 5891391.39 Depth: 25.24 Alt: 0.37 Hdg: 14.48</p> <p>Area: EXP01 Target: F35194</p>		



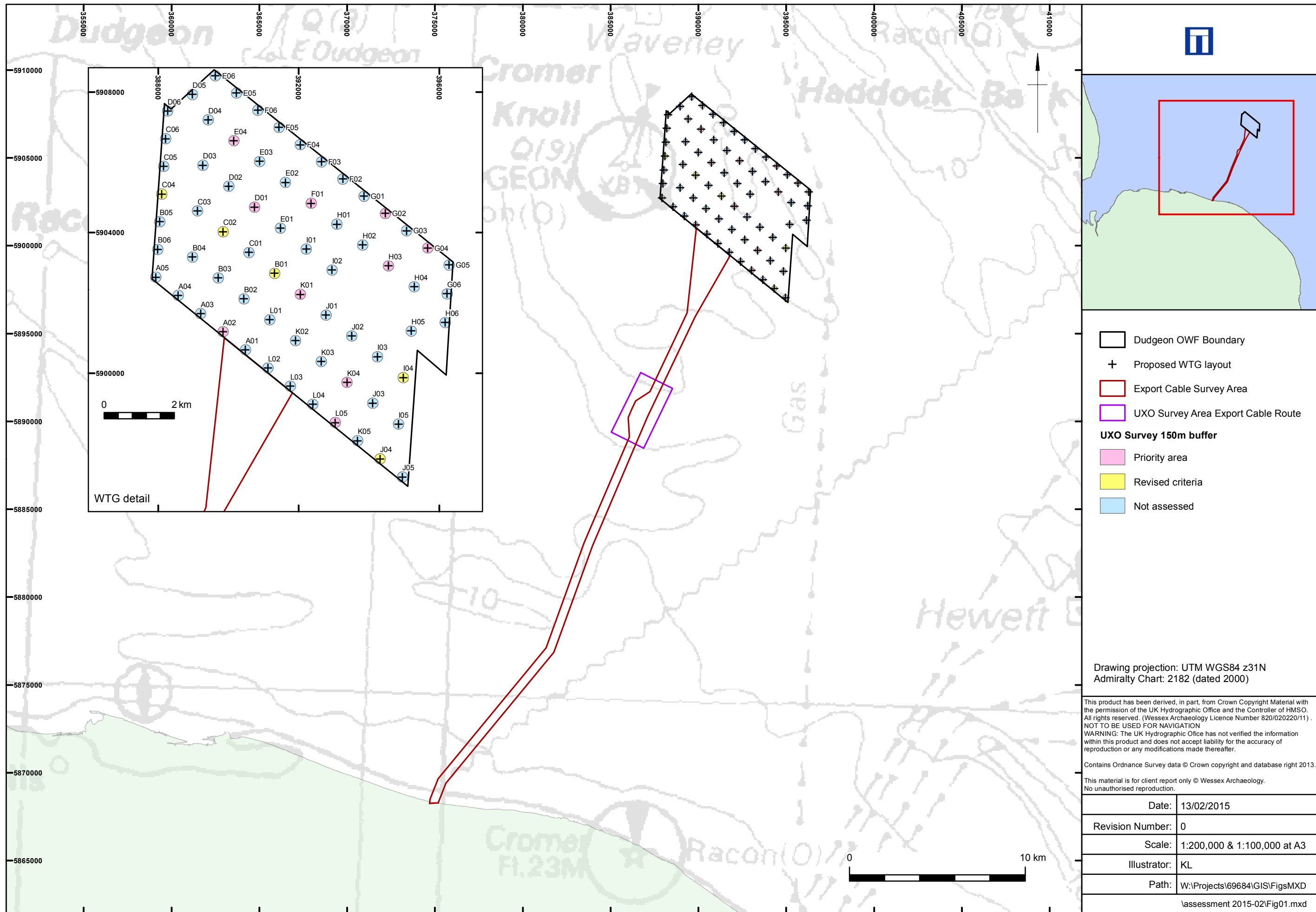


<b>Dudgeon Offshore Wind Farm UXO Survey Archaeological Assessment</b>		<b>Area: EXT01</b>	<b>Site ID: F35492</b>	<b>ORPAD ID: Statkraft_10244</b>	
<b>Assessor</b>	Wessex Archaeology		<b>Survey Date</b>	October 2014	
<b>Assessment Date</b>	February 2015		<b>Survey Company</b>	MMT	
<b>As Found Position (UTM31N)</b>		387413.5		5891723.9	
<b>Description</b>		Metal debris. Four pieces of probably 20 <sup>th</sup> century metal debris. One appears to be a curved piece of thin metal measuring approximately 170cm across and appears to be upstanding off the seabed by about 60cm. The second object appears to be some kind of circular wheel or hatch, measuring approximately 1m in diameter. The third object has a round wheel or hatch roughly 50cm in diameter with two sections of metal plating or sheeting projecting to either side. The fourth object is round and hollow, measuring approximately 50cm in diameter. The material could be related to gas cylinders, metal buoys or even mine casings. Although the identification of this material has not been confirmed, it is considered to be of possible archaeological interest of low to medium archaeological value.			
<b>Category</b>	Possible archaeological interest	<b>Archaeological Value</b>	Low to Medium	<b>Confidence Rating</b>	Medium
<b>Action:</b>		Review if reinvestigated or recovered.			



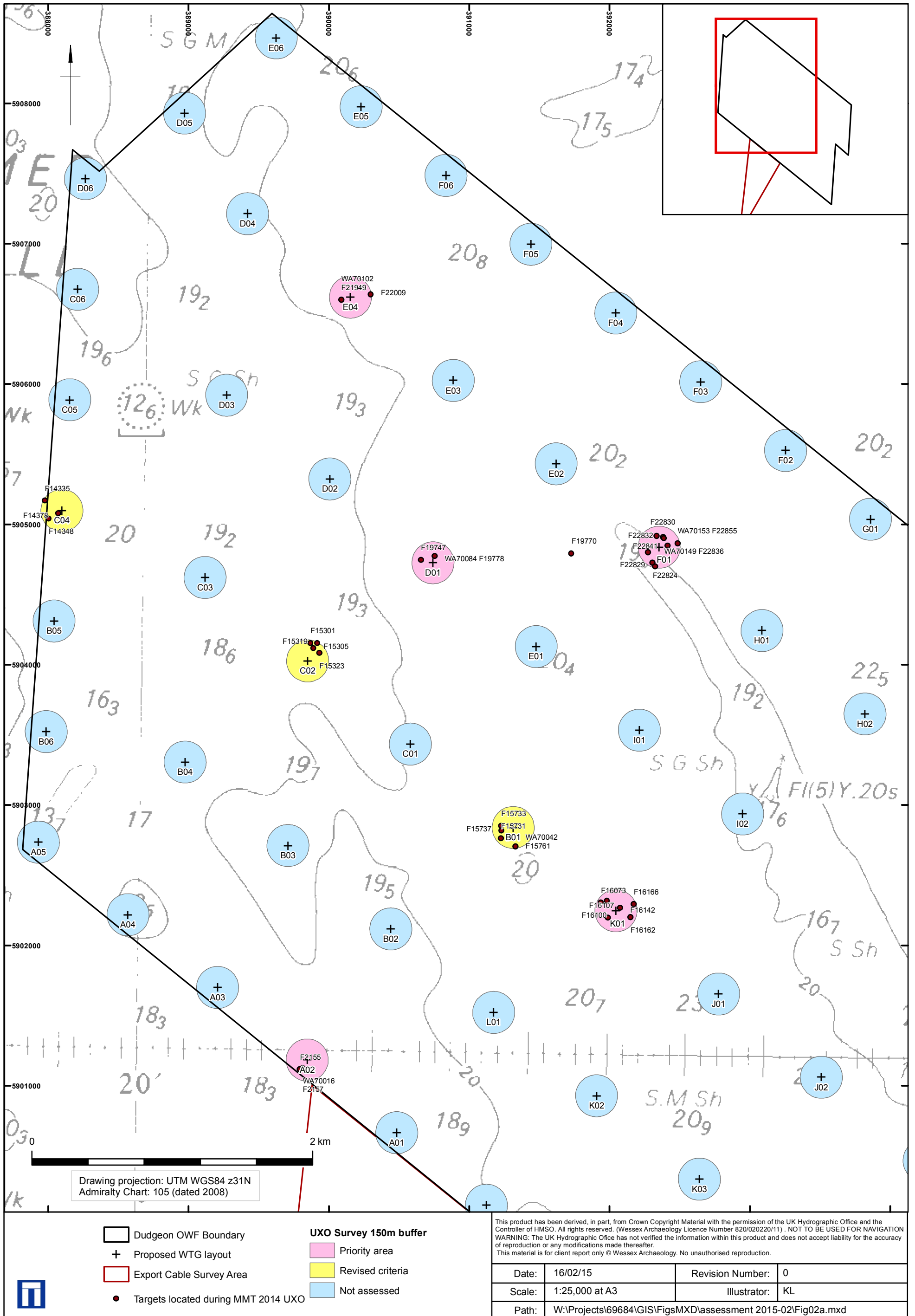
### Images





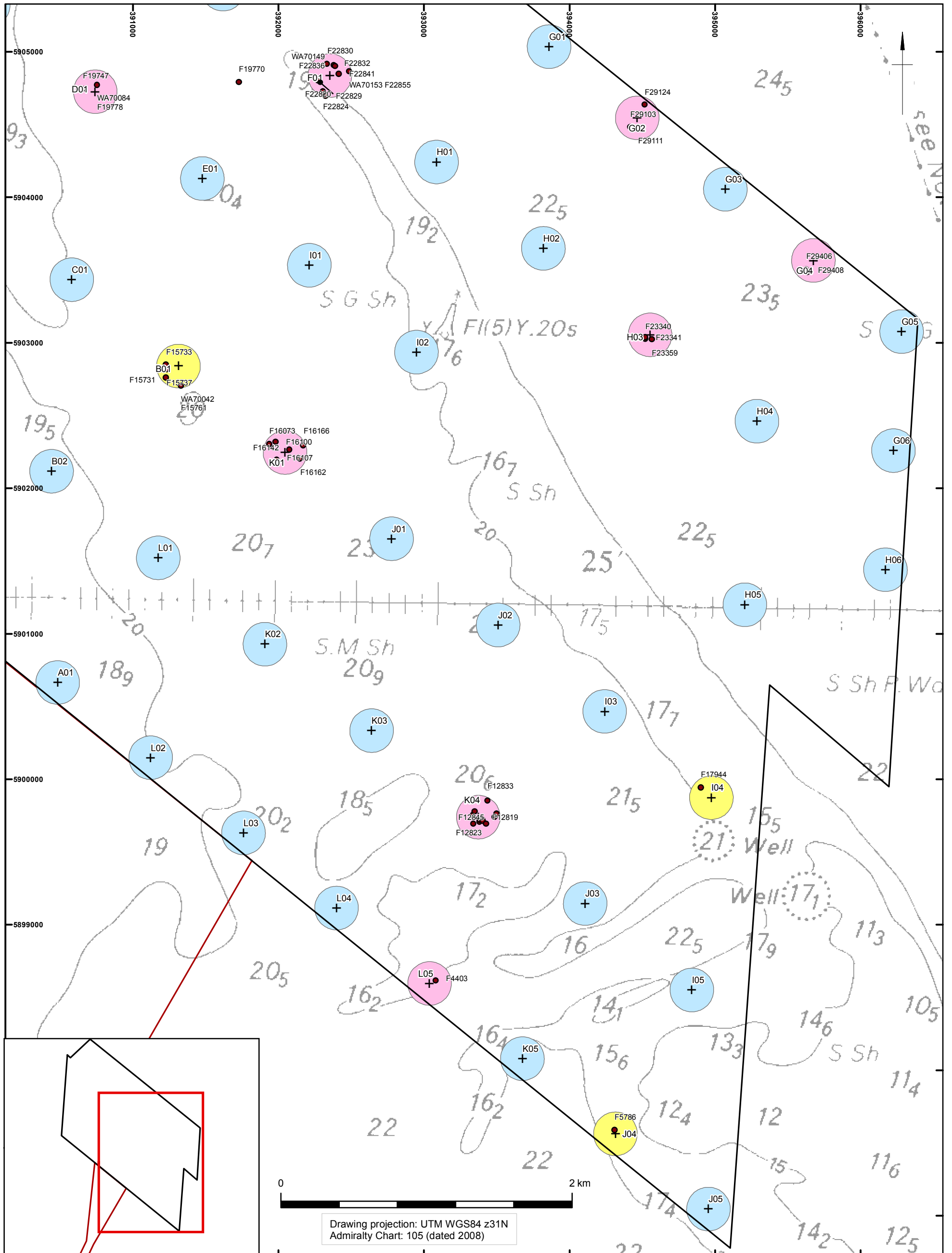
Location figure

Figure 1



Positions of Located Targets

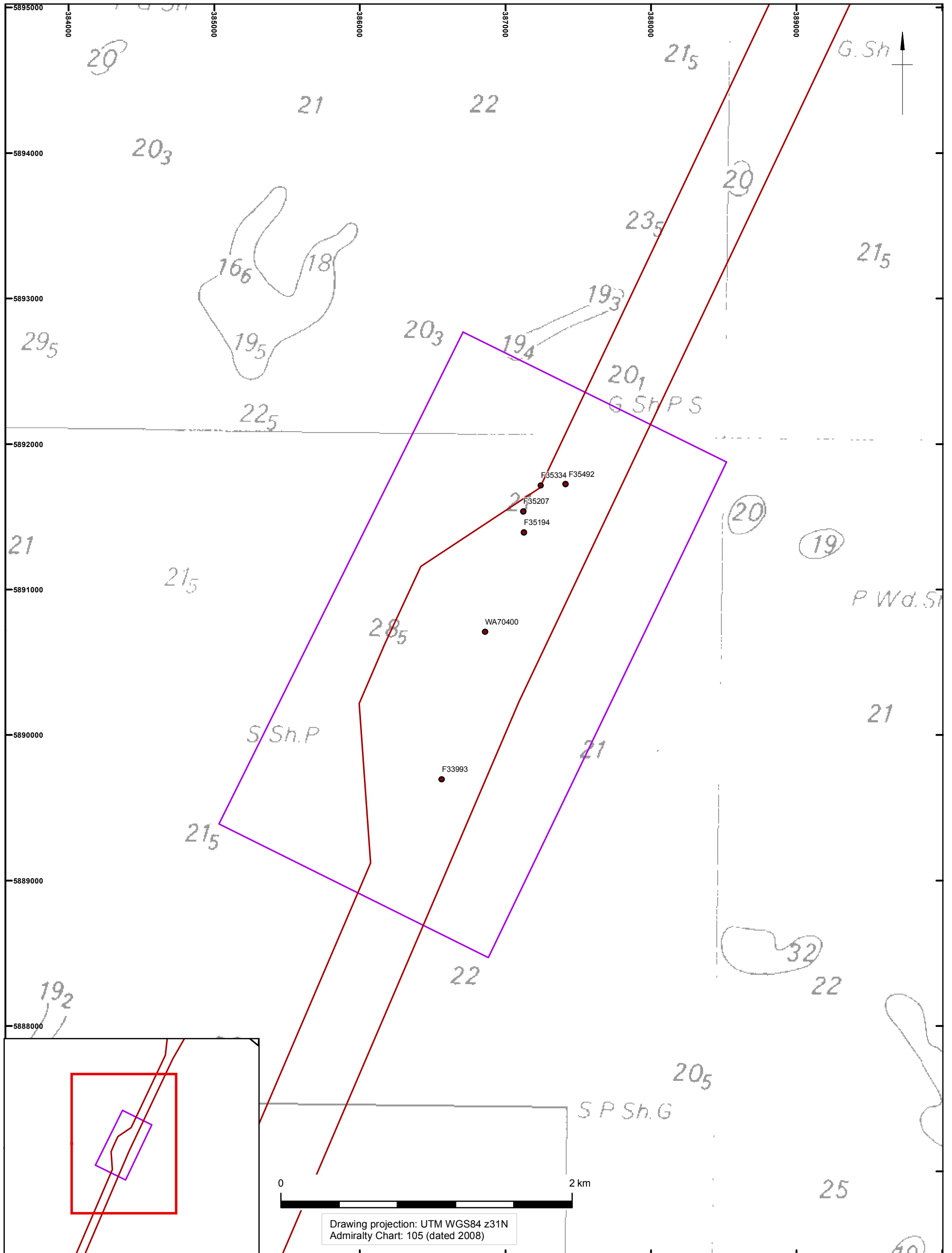
Figure 2a



	<ul style="list-style-type: none"> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Dudgeon OWF Boundary</li> <li><span style="color: blue; font-weight: bold; font-size: 1.2em;">+</span> Proposed WTG layout</li> <li><span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Export Cable Survey Area</li> <li><span style="color: red; font-weight: bold; font-size: 1.2em;">•</span> Targets located during MMT 2014 UXO</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: pink; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Priority area</li> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Revised criteria</li> <li><span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Not assessed</li> </ul>	<p>This product has been derived, in part, from Crown Copyright Material with the permission of the UK Hydrographic Office and the Controller of HMSO. All rights reserved. (Wessex Archaeology Licence Number 820/020220/11). NOT TO BE USED FOR NAVIGATION          WARNING: The UK Hydrographic Office has not verified the information within this product and does not accept liability for the accuracy of reproduction or any modifications made thereafter.          This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Date:</td> <td style="width: 25%;">13/02/15</td> <td style="width: 25%;">Revision Number:</td> <td style="width: 25%;">0</td> </tr> <tr> <td>Scale:</td> <td>1:25,000 at A3</td> <td>Illustrator:</td> <td>KL</td> </tr> <tr> <td>Path:</td> <td colspan="3">W:\Projects\69682\DrawingOffice\Report figs\geophys\14_06_12\Fig02b.mxd</td> </tr> </table>	Date:	13/02/15	Revision Number:	0	Scale:	1:25,000 at A3	Illustrator:	KL	Path:	W:\Projects\69682\DrawingOffice\Report figs\geophys\14_06_12\Fig02b.mxd	
Date:	13/02/15	Revision Number:	0									
Scale:	1:25,000 at A3	Illustrator:	KL									
Path:	W:\Projects\69682\DrawingOffice\Report figs\geophys\14_06_12\Fig02b.mxd											

Positions of Located Targets

Figure 2b



Drawing projection: UTM WGS84 z31N  
Admiralty Chart: 105 (dated 2008)

- Export Cable Survey Area
- UXO Survey Area Export Cable Route
- Targets located during MMT 2014 UXO

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Date:	13/02/15	Revision Number:	0
Scale:	1:25,000 at A3	Illustrator:	KL
Path:	W:\Projects\69684\GIS\FigsMXD\assessment 2015-02\Fig02c.mxd		

Positions of Located Targets

Figure 2c



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