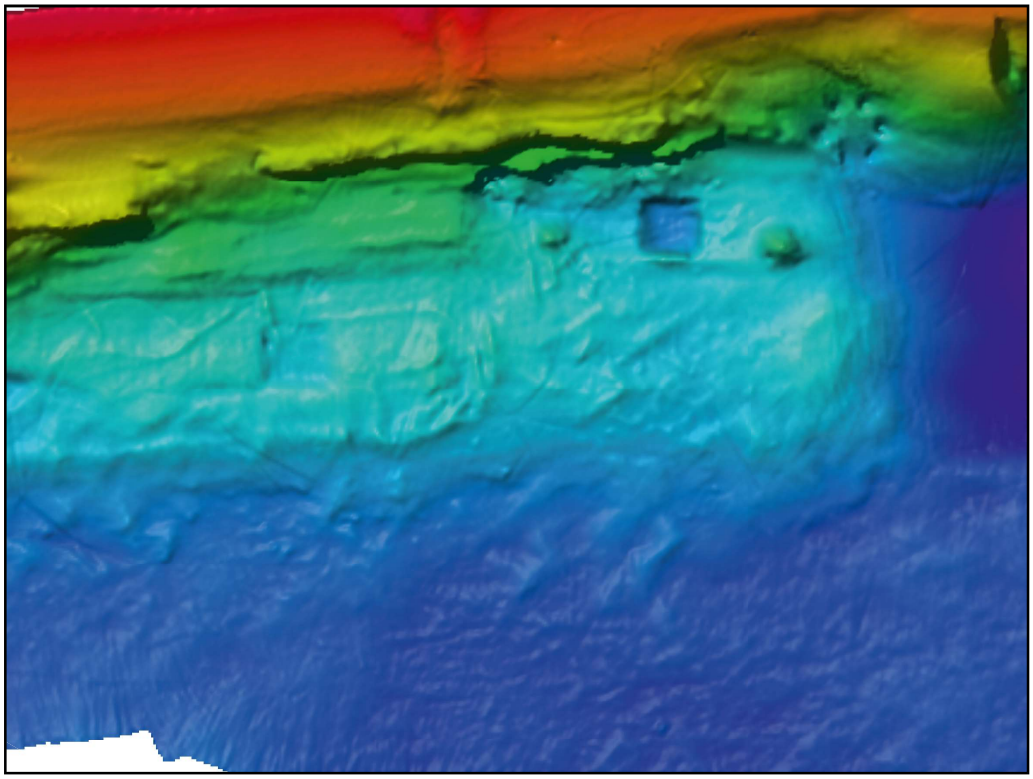
Tilbury 2

Archaeological Assessment of Post WID Dredge
Marine Geophysical Survey Data



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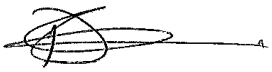
V1		AM	 DEA

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1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by GRAHAM on behalf of Port of Tilbury London Ltd, to undertake an archaeological assessment of marine geophysical data acquired from the proposed Tilbury 2 site, located at Tilbury docks, Essex. This was undertaken following the completion of the WID dredging operations at the site.

1.1.2 The data consists of multibeam echosounder (MBES) data, and the Study Area is defined as the extents of the MBES data (Figure 1).

1.1.3 Wessex Archaeology has previously carried out two assessments of geophysical data comprising sidescan sonar (SSS), magnetometer, MBES and sub-bottom profiler *.pdf* images of 3D chirp data covering the Study Area (Wessex Archaeology 2007 and Wessex Archaeology 2017). The results of the current assessment have been compared to the results of the previous archaeological assessments. This summary report will be integrated into the combined post operation report once all development activities have been completed.

1.2 Aims and objectives

1.2.1 The aim of this assessment is to identify any anomalies of archaeological potential within the Study Area. The objectives were as follows:

- confirm the presence of known or previously located marine sites of archaeological potential and to comment on their apparent character;
- identify, locate and characterise hitherto unrecorded marine sites of archaeological potential; and
- provide recommendations for archaeological mitigation.

1.3 Co-ordinate system

1.3.1 The survey data was acquired in OSBG36 British National Grid related to Chart Datum and the results are presented in the same coordinate system.

2 METHODOLOGY

2.1.1 The data was acquired by Randall Surveys in 2019. The MBES data were analysed to identify any unusual seabed structures that could be shipwrecks or other anthropogenic debris. The data were gridded at 0.5 m and analysed using QPS Fledermaus software, which enables a 3-D visualisation of the acquired data and geo-picking of seabed anomalies.

2.1.2 Once processed, the data set was assessed for quality and suitability for archaeological purposes and rated using the following criteria (Table 1)

Table 1 Criteria for assigning data quality rating

Data quality	Description
Good	Data which are clear and unaffected or only slightly affected by weather conditions, sea state, background noise or data artefacts. Seabed datasets are suitable for the interpretation of upstanding and partially buried wrecks, debris fields, and small individual anomalies. The structure of wrecks is clear, allowing assessments on wreck condition to be made.
Average	Data which are moderately affected by weather conditions, sea state and noise. Seabed datasets are suitable for the identification of upstanding and partially buried wrecks, the larger elements of debris fields and dispersed sites, and larger individual anomalies. Dispersed and/or partially buried wrecks may be difficult to identify.
Below Average	Data which are affected by weather conditions, sea state and noise to a significant degree. Seabed datasets are suitable for the identification of relatively intact, upstanding wrecks and large individual anomalies. Dispersed and/or partially buried wrecks, or small isolated anomalies may not be clearly resolved.
Variable	This category contains datasets where the individual lines range in quality. Confidence of interpretation is subsequently likely to vary within the Study Area.

2.1.3 The MBES data have been rated as 'Good' using the above criteria. The data quality and resolution of 0.5 m was found to be of a good standard and suitable for archaeological assessment of objects and debris over 0.5 m in size.

3 ASSESSMENT RESULTS

3.1.1 The geophysical data were assessed to identify features of archaeological potential relating to maritime and aviation activity.

3.1.2 A number of features were identified in the MBES data that are likely to be related to chirp target and diver investigations (Wessex Archaeology 2017 and Wessex Archaeology 2019). As such, no features of possible archaeological potential have been identified within the Study Area.

3.1.3 It is recommended that, if any objects of possible archaeological interest are recovered during any groundwork operations, they should be reported to the retained archaeologists using the agreed reporting protocol. This will establish whether the recovered objects are of archaeological interest and recommend appropriate mitigation measures.

4 REFERENCES

Wessex Archaeology 2007 *Tilbury 'C' Coal Jetty. Archaeological Assessment. Technical Report*. Unpublished report ref: 67690.01

Wessex Archaeology 2017 *Tilbury 2 Land at the former RWE Power Station Tilbury, Essex. Archaeological Assessment of Marine Geophysical Survey Data*. Unpublished report, ref: 116220.03

Wessex Archaeology 2019 *Tilbury 2 Archaeological diving assessment of marine geophysical anomalies and archaeological assessment of UXO survey data*. Unpublished report ref: 116222.04

565500
566000
566500
567000
175500
175000
Multibeam echosounder geophysical data
Tilbury2 site
Approximate extent of berth dredging
0
100
200 m
Tilbury
Gravesend
Main figure

Date:	07/06/2019	Revision Number:	0
Scale:	1:5000 @A3	Illustrator:	KJF
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Location map and study area

Figure 1

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