



# Solent Gateway, Marchwood Port Southampton

Marine Archaeological Desk-Based Assessment

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## Summary

Wessex Archaeology was commissioned by Associated British Ports (ABP) Southampton to prepare a marine archaeological desk-based assessment for the proposed works to strengthen Falklands Jetty and complete dredging operations in Marchwood Port, in preparation for a Marine Licence Application to the Marine Management Organisation.

This document comprises the technical report outlining the marine archaeological baseline data for the area. The aims of the document were to assess the known and potential marine archaeological resource within the marine study area, comprising a 0.5 km buffer around the development site, including an assessment of available geotechnical and geophysical data, and to assess the likely impacts of the development proposals on this resource. A discussion on the historic seascape character has also been undertaken for the area.

The known and potential archaeological resource within the marine study area is summarised as comprising:

- 38 intertidal sites within the study area, though none within the direct dredging area;
- 27 maritime sites within the study area, though none within the direct dredging area;
- 20 recorded losses within the study area;
- there were no recorded aviation losses within the study area;
- the archaeological assessment of available geophysical survey data identified 142 targets of possible archaeological interest (102 were rated A2\_h, and 40 were rated A2\_l); and
- the archaeological assessment of available geotechnical data suggested the presence of a palaeochannel potentially representing the remains of a submerged braided river system, however no River Terrace Deposit was recorded in the five vibrocores assessed. The Holocene estuarine alluvium is considered of low palaeoenvironmental potential, however it may be of moderate archaeological potential on the basis of the associated likely intertidal environments in which the sediments formed, with the potential for well-preserved archaeological remains. Additionally, the superficial Quaternary deposits could also preserve more modern remains.

This heritage assessment sets out potential impacts relating to the proposed development and recommended mitigation measures to reduce the significance of effects with regard to the loss of archaeological material. No Archaeological Exclusion Zones are recommended at this time. It is recommended that an archaeological watching brief should be implemented during the course of the UXO survey. Discovery and reporting of archaeological material when an archaeologist is not on board will be mitigated through the implementation of a protocol for reporting finds of archaeological interest. Should material of archaeological interest be discovered, further investigation may be required, for example through an archaeological diver survey. Should peat deposits be discovered, they will be sampled and archaeologically assessed.

## Acknowledgements

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This report was compiled by Adam Nightingale. The figures were prepared by Amy Wright. Andrea Hamel managed the project on behalf of Wessex Archaeology.



# Solent Gateway, Marchwood Port

## Marine Archaeological Desk-Based Assessment

### 1 INTRODUCTION

#### 1.1 Project Background

1.1.1 Wessex Archaeology has been appointed by Associated British Ports (ABP) Southampton to prepare a marine archaeological desk-based assessment for the proposed works taking place at Marchwood Port, Southampton in preparation for a Marine Licence Application to the Marine Management Organisation (MMO). These works to include the strengthening of Falklands Jetty and dredging operations to deepen the approach and berth pocket by approximately 2.5 m. The site is centred on national grid reference SU 440966, 110681 (**Figure 1**).

#### 1.2 Development Proposal

1.2.1 The proposed project involves the strengthening of Falklands Jetty, which is the largest central jetty. Dredging operations are also planned so as to deepen the approach and berth pocket by 2.5 m. The aim of these works is to better accommodate deeper draughted and wider beamed vessels both for commercial and defence needs.

##### *Construction methodology*

1.2.2 To accommodate larger vessels two new dolphins are to be installed. One breasting dolphin positioned at the end of Falklands Jetty with a second mooring dolphin placed further seaward. The dolphins will comprise 9 piles each of approximately 1.8 m in diameter. A smaller diameter pile to support the walkway of c.1 m diameter is anticipated.

1.2.3 Construction is expected to take place with five components:

- lifting of piles;
- tubular pile installation;
- dolphin and walkway installation;
- fender pile installation; and
- deck strengthening.

##### *Dredging methodology*

1.2.4 Dredging operations to be undertaken by a combination of Trailer Suction Hopper Dredger (TSHD) and Backhoe (BH) dredgers. The methodology for these works to closely mirror those works previously employed in the Southampton Docks Capital Dredge project.

1.2.5 Capital dredging is expected to remove approximately 170,000 m<sup>3</sup> of material. This to be extracted from an area of 45,000 m<sup>2</sup>. This material will be removed by both TSHD and BH dredgers with an estimated ratio of 20% TSHD and 80% BH. Work will take place continuously, 24hrs and day 7 days a week.



### 1.3 Scope of this document

The purpose of this assessment is to determine, as far as is possible from existing information and survey data, the nature, extent, and significance of the known and potential marine archaeological resource within the boundary of the proposed development.

### 1.4 Aims

1.4.1 The specific aims of the assessment are to:

- outline the known and potential marine heritage assets based on a review of existing information within a defined study area;
- assess the significance of known and potential heritage assets through weighted consideration of their valued components;
- identify, locate and characterise hitherto unrecorded marine sites of archaeological potential;
- assess the significance of the historical seascape character of the study area;
- comment on the effects of dredging/development on known archaeological sites; and
- provide recommendations for archaeological mitigation.

### 1.5 Copyright

1.5.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey (BGS), Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

### 1.6 Co-ordinate system

1.6.1 The geophysical survey data were acquired in WGS84 and converted to OSGB 36 using the OSTN15 transformation by Shoreline. The data were provided to Wessex Archaeology in OSGB 36 British National Grid, and the results have been presented using this coordinate system.

## 2 LEGISLATION, GUIDANCE AND POLICY

### 2.1 Introduction

2.1.1 There is national legislation and guidance relating to the protection of, and proposals on or near, important archaeological sites or historical buildings within planning regulations as defined under the provisions of the Town and Country Planning Act 1990. In addition, local authorities are responsible for the protection of the historic environment within the planning system.

2.1.2 The following section provides details of the national, regional, and local planning and legislative framework governing the treatment of archaeological remains within the planning process.



## 2.2 Marine legislation

2.2.1 There are no known cultural heritage assets or marine parts of the site that are designated under the legislation outlined below. It is possible, however, that as yet undiscovered archaeological features may be present within the study area (for example buried material). If discovered, the following legislation applies within the 12 nautical mile (nm) limit of English territorial waters:

- *Marine and Coastal Access Act 2009*;
- *Protection of Wrecks Act 1973*: Section One;
- *Protection of Wrecks Act 1973*: Section Two;
- *Ancient Monuments and Archaeological Area Act 1979* (as amended);
- *Merchant Shipping Act 1995*.

2.2.2 The above legislation provides a context for focussing approaches and consultation. These legal frameworks provide protection for marine historic assets of historical, archaeological or artistic value, as well as allowing military wrecks and aircraft remains to be protected. Ownership of any wreck remains is determined in accordance with the *Merchant Shipping Act 1995* as administered by the Receiver of Wreck.

## 2.3 International conventions

2.3.1 The UNESCO Convention was concluded in 2001 and is a comprehensive attempt to codify the law internationally with regards to underwater archaeological heritage. The UK (including the Bailiwick of Guernsey) abstained in the vote on the final draft of the Convention, however, it has stated that it has adopted the Annex of the Convention, which governs the conduct of archaeological investigations, as best practice for archaeology. Although the UK is not a signatory, the Convention entered into force on 2nd January 2009 having been signed or ratified by 20 member states. To date, the Convention has been ratified by 72 countries.

2.3.2 The Annex of the convention suggests preservation in-situ as best archaeological practice.

## 2.4 National Planning Policy Framework (NPPF)

2.4.1 The NPPF was first published by the Department for Communities and Local Government in March 2012, replacing Planning Policy Statement 5. The most recent iteration of the NPPF, published by the Ministry of Housing, Communities and Local Government, was released in December 2023.

2.4.2 Section 16 of the NPPF, Conserving and enhancing the historic environment, sets out the principal national guidance on the importance, management and safeguarding of heritage assets within the planning process. The aim of this section is to ensure that Regional Planning Bodies and Local Planning Authorities, developers and owners of heritage assets adopt a consistent and holistic approach to their conservation and to reduce complexity in planning policy relating to proposals that affect them.

2.4.3 The government guidance provides a framework that:

- recognises that heritage assets are an irreplaceable resource;



- requires applicants to provide proportionate information on the significance of heritage assets affected by the proposals and an impact assessment of the proposals on that significance;
- takes into account the desirability of sustaining and enhancing the significance of heritage assets and their setting;
- places weight on the conservation of designated heritage assets;
- requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and impact, and to make this evidence (and any archive generated) publicly accessible; and
- promotes the conservation of heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations.

## 2.5 Local Planning Policy

- 2.5.1 The Local Plan 2016-2036, Part One: Planning Strategy, includes stipulation that evidence for Archaeology and Historic Buildings records must be consulted to determine the heritage value in relation to a site. This has been carried out with the data being presented in **section 5.3**.
- 2.5.2 The New Forest District Council Core Strategy states in **section 6.3** how development proposals must protect and where enhance sites with a recognised importance for heritage conservation. This should be achieved through the correct implementation of the relevant National Planning Policies such as those listed above.

## 2.6 Marine Policy

- 2.6.1 The *Marine and Coastal Access Act* 2009 is the primary legislation relevant to marine development plans. Under this legislation, marine plans must be consistent with the UK Marine Policy Statement (MPS; Department for Environment, Food and Rural Affairs 2011) and fully reflect the requirements of the MPS at a local level. Marine plans must also be in accordance with other UK national policy, including the NPPF.
- 2.6.2 The MPS was prepared and adopted by HM Government and the devolved administrations of Scotland, Wales and Northern Ireland for the purposes of Section 44 of the *Marine and Coastal Access Act* 2009. Marine Plans set out how the MPS will be implemented in specific areas.
- 2.6.3 Under the *Marine and Coastal Access Act* 2009 the UK was divided into marine planning regions, with an associated planning authority responsible for preparing a marine plan for that area. The MSP (Department for Environment, Food and Rural Affairs 2011) sets out the framework for preparing Marine Plans and taking decisions affecting the marine environment and was jointly adopted by the Secretary of State, Scottish Ministers, Welsh Ministers, and the Department of the Environment in Northern Ireland in 2011.
- 2.6.4 The UK MPS notes that 'marine activities have the potential to result in adverse effects on the historic environment both directly and indirectly, including damage to or destruction of heritage assets' (Department for Environment, Food and Rural Affairs 2011, 22).



2.6.5 It sets out for consideration that:

- some heritage assets have a level of interest that justifies statutory designation, the purpose of which is to ensure that they are protected and conserved for the benefit of this and future generation;
- many heritage assets with archaeological interest in these areas are not currently designated as scheduled monuments or protected wreck sites but are demonstrably of equivalent significance. The absence of designation for such assets does not necessarily indicate lower significance and the marine plan authority should consider them subject to the same policy principles as designated heritage assets;
- in considering the significance of heritage assets and their setting, the marine plan authority should take into account the particular nature of the interest in the assets and the value they hold for this and future generations;
- where the loss of the whole or a material part of a heritage asset's significance is justified, the marine plan authority should identify and require suitable mitigating actions to record and advance understanding of the significance of the heritage asset before it is lost. Requirements should be based on advice from the relevant regulator and advisors; and
- in England, marine licensing and marine planning was made the responsibility of the MMO.

2.6.6 In England, the MMO have divided the inshore and offshore waters into 11 plan areas for which marine plans are to be produced. The study area is located within the South Inshore and South Offshore Marine Plan (Department for Environment, Food and Rural Affairs 2018).

## 2.7 Marine guidance

2.7.1 This assessment was carried out in a manner consistent with available guidance as described below in chronological order of issue:

- Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers (English Heritage 1998);
- Managing Lithic Scatters: Archaeological Guidance for Planning Authorities and Developers (English Heritage 2000);
- Military Aircraft Crash Sites: Archaeological guidance on their significance and future management (English Heritage 2002);
- Marine Aggregate Dredging and the Historic Environment. Assessing, evaluation, mitigation and monitoring the archaeological effects of marine aggregate dredging: Guidance note (BMAPA and English Heritage 2003);
- Protocol for reporting finds of archaeological interest (BMAPA and English Heritage 2005);
- The Code of Practice for Seabed Developers (Joint Nautical Archaeology Policy Committee 2006);
- Our Seas – A shared resource: High level marine objectives (DEFRA 2009);



- Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition) (English Heritage 2011);
- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (Gribble and Leather 2011);
- Ships and Boats: Prehistory to Present - Designation Selection Guide (English Heritage 2012);
- National Policy Statement for Ports (Department for Transport 2012);
- Marine Geophysics Data Acquisition, Processing and Interpretation Guidance Notes (Plets *et al.* 2013);
- Ports and the Historic Environment. NHPP 4A3 (Historic ports, dockyards, harbours and coastal resorts) (Fisher Associates 2014);
- Dredging and Port Construction: Interaction with Features of Archaeological or Heritage Interest (PIANC 2014);
- Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (English Heritage 2015a);
- Managing Significance in Decision-Taking in the Historic Environment Historic Environment Good Practice Advice in Planning: 2 (Historic England 2015);
- Piling and Archaeology: Guidelines and Best Practice (Historic England 2015b);
- The Assessment and Management of Marine Archaeology in Port and Harbour Development (Historic England 2016a);
- Preserving Archaeological Remains: Decision-taking for Sites under Development (Historic England 2016b);
- The Setting of Heritage Assets – Historic Environment Good Practice Advice in Planning: 3 (Second Edition) (Historic England 2017a);
- Conservation Principles for the Sustainable Management of the Historic Environment (Historic England 2017b);
- Statements of Heritage Significance: Analysing Significance in Heritage Assets: Historic England Advice Note 12 (Historic England 2019);
- Deposit Modelling and Archaeology Guidance for Mapping Buried Deposits (Historic England 2020);
- Standard and Guidance for Archaeological Advice by Historic Environment Services (Chartered Institute for Archaeologists 2020a);
- Standard and guidance for historic environment desk-based assessment (Chartered Institute for Archaeologists 2020b);



- Code of Conduct: Professional Ethics in Archaeology (Chartered Institute for Archaeologists 2022); and
- Curating the Palaeolithic (Historic England 2023).

### **3 METHODOLOGY**

#### **3.1 Study area**

- 3.1.1 The area assessed in this report is defined as the development site with an additional 0.5 km buffer comprising the study area (**Figure 1**). Terrestrial sites which do not have a direct impact on the current scope of works will not be included.
- 3.1.2 The 0.5 km buffer has been adjusted to fit with the scope of works more appropriately. All 0.5 km have been retained over the maritime environment as this will be the most impacted by the dredging and repair works. The study area does not extend past the northern bank of the Western Docks. The study area has been limited past the southern bank, though it does expand to include a portion of the terrestrial environment in close proximity to the development site.
- 3.1.3 The study area was used as a search area for obtaining records of archaeological sites, features and findspots from relevant archive databases. The buffered area allowed for the inclusion of any sites that could be immediately outside of the development site to be assessed, and allowed for positional inaccuracies.

#### **3.2 Archaeological desk-based assessment**

- 3.2.1 The methodology follows the best practice professional guidance outlined by the Chartered Institute for Archaeologists' (CIfA) Standard and Guidance for Historic Environment Desk-Based Assessment (2014, updated 2020b).
- 3.2.2 The marine themes relevant to the marine archaeological baseline as assessed in this report are:
- palaeogeography (for example, palaeochannels and other features that contain prehistoric sediment, and derived Palaeolithic artefacts e.g. handaxes);
  - seabed features, including maritime sites such as shipwrecks and associated material such as cargo, obstructions and fisherman's fasteners. Also, aviation sites, including aircraft crash sites and associated debris.
  - The historic seascape character in and around the study area.

##### *Data Sources*

- 3.2.3 The following data sources were consulted in order to compile the desk-based element of the assessment:
- the United Kingdom Hydrographic Office (UKHO) data for charted wrecks and obstructions;
  - the National Marine Heritage Record (NMHR) maintained by Historic England, comprising data for marine archaeological sites;

- Hampshire Archaeology and Historic Building Record, comprising data for terrestrial archaeological sites, findspots and archaeological events;
- the National Heritage List for England maintained by Historic England, comprising data of designated heritage assets including sites protected under the *Protection of Military Remains Act 1986* and the *Protection of Wrecks Act 1973*;
- datasets comprising the Historic Seascape Characterisation (HSC): Consolidating the National HSC Database (LUC 2017);
- relevant mapping including Admiralty Charts, historic maps and Ordnance Survey; and
- relevant documentary sources and grey literature held by Wessex Archaeology and those available through the Archaeological Data Service and other websites.

#### *Data Structure*

- 3.2.4 This report is supported by a Geographic Information System (GIS) using ArcPRO 10.8.1 incorporating the positional information of the various data sources listed above, allowing the data to be spatially analysed. The data were subsequently compiled into gazetteers of the known seabed features located within the study area.
- 3.2.5 For the purposes of this report, the gazetteers for the marine dataset are compiled and presented in British National Grid (OSGB36 - OSTN15/OSGM15).

#### *Chronology*

- 3.2.6 Archaeological material is generally studied within a framework of ‘periods’ or ‘ages’ that reflect the activities and cultural changes taking place over time. All dates are referred to as BC (before Christ), BP (before present) or AD (anno domini) within the text. By convention, BC refers to calibrated radiocarbon chronology that can be considered equivalent to calendar years. BP dates are used for periods of time older than c.10,000 years ago.
- 3.2.7 A list of the main archaeological periods in Britain referred to in the text, along with their broadly defined dates, are presented in Appendix 1.

#### *Seabed Prehistory*

- 3.2.8 The baseline summary for seabed prehistory was based on a review of geological mapping of seabed sediments, solid geology, and bathymetry from published BGS sources, as well as previous assessments undertaken.

#### *Seabed features: maritime and aviation sites*

- 3.2.9 The baseline summary for maritime and aviation archaeology was assessed by means of accessing any records of sites, findspots, wrecks, casualties, and other seabed features obtained from the UKHO, NMHR and Hampshire Archaeology and Historic Building Record located within the study area. The baseline assessment of maritime and aviation archaeology was further supplemented by a review of relevant primary and secondary source material in order to provide an indication on the nature of maritime and aviation activity across the region. As well as summarising the known archaeological resource, the baseline assessment underlines the potential for encountering unknown shipwreck and aircraft crash sites within the study area.



- 3.2.10 The data obtained were reviewed and those located within the study area were extracted and compiled to form a gazetteer of the known seabed features. These records were each given a unique identifier beginning with 1000 and 2000 and continuing sequentially (**Appendix 2 and 3**) and were added to the project GIS.
- 3.2.11 Data relating to Recorded Losses were also extracted from the NMHR data sources. Recorded Losses are records for ships or aircraft that are known to have wrecked or crashed offshore, but for which the exact locations are not known. Recorded Losses are often grouped by area into Maritime Named Locations by the NMHR. For example, a Recorded Loss within this dataset may be based on the loss of a vessel 'stranded near Southampton' or associated with a known navigational hazard such as a sand bank or rocks (which may give rise to a falsely precise geographic coordinate for the record). The positional data of these records is unreliable and serves only to provide an indication of the types of vessels that passed through the area and the wrecking incidents that are known to have occurred in the general region. Whilst the remains of these vessels and aircraft are expected to exist somewhere on the seafloor, their location is unknown. As such, they signify the potential maritime and aviation resource.

#### *Historic seascape characterisation*

- 3.2.12 In accordance with the European Landscape Convention, 'landscape' can be defined as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and / or human factors' (Council of Europe 2000, Article 1). The term 'seascape' can be defined as a subset of 'landscape', and has 'an area of sea, coastline and land, as perceived by people, whose character results from the actions and interactions of land and sea, by natural and / or human factors' (*ibid.*).
- 3.2.13 Seascape assessment reflects the holistic approach to landscape of the European Landscape Convention, extending it to the sea. Seascape Character Areas include coastal land, intertidal and marine environments and cover the offshore environment to the territorial limit (12 nm). HSC assessment is the identification and interpretation of the historic dimension of the present day coastal and marine environment (Historic England's Characterising Historic Seascape webpage, accessed January 2023).
- 3.2.14 The baseline summary for character of the historic seascape within the study area was assessed using the compiled results of LUC's Historic Seascape Characterisation (HSC): Consolidating the National HSC Database (2017).

### **3.3 Geophysical methodology**

- 3.3.1 The report consists of an assessment of geophysical survey data acquired by Shoreline Surveys Limited (Shoreline) during January and February 2024. The data assessed comprises magnetometer (Mag.) data only; Sub-Bottom Profiler (SBP), Sidescan Sonar (SSS) and Multibeam Echosounder (MBES) data were acquired but not supplied as part of the assessment.

#### *Data sources*

- 3.3.2 Two data sources were consulted during this assessment, including:
- Magnetometer survey data acquired by Shoreline;
  - Client supplied survey reports (Shoreline 2022).

*Geophysical data – technical specifications*

- 3.3.3 Geophysical data were acquired by Shoreline onboard the survey vessel *Shoreline*, at approximately 2 m line spacing, and processed by SAND Geophysics in February 2024. Further details on the equipment used is in Table 1.

**Table 1** Summary of survey equipment

Survey Company	Survey Vessel	Data Type	Equipment	Data Format
Shoreline	<i>Shoreline</i>	Mag.	Geometrics G-882 (single towed)	csv
		Positioning	Trimble SPS855 GNSS. Layback applied and accounted for in real time.	N/A

*Geophysical data – processing*

- 3.3.4 The Mag. data were processed and interpreted using Wessex Archaeology’s proprietary software in order to identify any discrete magnetic contacts which could represent buried metallic debris or structures such as wrecks.
- 3.3.5 The software enables both the visualisation of individual lines of data and gridding of data to produce a magnetic anomaly map. The data were first smoothed to try and eliminate any spiking. A trend was then fitted to the resulting data, and the trend values subtracted from the smoothed values. This was carried out to remove natural variations in the data (such as diurnal variation in magnetic field strength and changes in geology). The processed data were then gridded to produce a map of magnetic anomalies, and individual anomalies tagged based on the grid and individual profile lines.
- 3.3.6 For the purposes of this assessment, any identified magnetic anomalies have been classified depending on their amplitude as small (5 nT to 49 nT), medium (50 nT to 99 nT), large (100 – 499 nT) or very large (>500 nT).

*Geophysical data – data quality*

- 3.3.7 Once processed, the geophysical data sets were individually assessed for quality and their suitability for archaeological purposes, and rated using the following criteria (Table 2).

**Table 2** Criteria for assigning data quality rating

Data quality	Description
Good	Data which are clear and unaffected or only slightly affected by weather conditions, sea state, background noise or data artefacts. Seabed datasets are suitable for the interpretation of upstanding and partially buried wrecks, debris fields, and small individual anomalies. The structure of wrecks is clear, allowing assessments on wreck condition to be made. Subtle reflectors are clear within SBP data. These data provide the highest probability that anomalies of archaeological potential will be identified.
Average	Data which are moderately affected by weather conditions, sea state and noise. Seabed datasets are suitable for the identification of upstanding and partially buried wrecks, the larger elements of debris fields and dispersed sites, and larger individual anomalies. Dispersed and/or partially buried wrecks may be difficult to identify. Interpretation of continuous reflectors in SBP data is problematic. These data are not considered to be detrimentally affected to a significant degree.



Data quality	Description
Below Average	Data which are affected by weather conditions, sea state and noise to a significant degree. Seabed datasets are suitable for the identification of relatively intact, upstanding wrecks and large individual anomalies. Dispersed and/or partially buried wrecks, or small isolated anomalies may not be clearly resolved. Small palaeogeographic features, or internal structure may not be resolved in SBP data.
Variable	This category contains datasets where the individual lines range in quality. Confidence of interpretation is subsequently likely to vary within the study area.

- 3.3.8 The Mag. data have been rated as ‘Average’ using the above criterial table. Some areas of increased magnetic response were present due to known modern anthropogenic features, particularly the port infrastructure around the survey edges. The data were suitable for archaeological interpretation, but the larger responses due to these known features may mask smaller responses in these areas.

*Geophysical data – anomaly grouping and discrimination*

- 3.3.9 Once all the geophysical anomalies have been identified, a discrimination flag is added to the record in order to discriminate against those which are not thought to be of an archaeological concern. These flags are ascribed as follows (Table 3).

**Table 3** Criteria discriminating relevance of identified features to proposed scheme

Overview classification	Discrimination	Criteria
Archaeological	A2_h	Anomaly of likely anthropogenic origin but of unknown date; may be of archaeological interest or a modern feature
Archaeological	A2_l	Anomaly of possible anthropogenic origin but interpretation is uncertain; may be anthropogenic or a natural feature

- 3.3.10 This discriminations as presented in Table 3 are not solely based on anomaly amplitude, and are more of a confidence based rating of interpretation; particularly since, as a modern port area, it is expected that there is a lot of background noise from modern features and disturbance.
- 3.3.11 The discrimination of information at this stage is based on all available information and is not definitive. It allows for all features of potential archaeological interest to be highlighted, while retaining all the information produced during the course of the geophysical interpretation and desk-based assessment for further evaluation should more information become available.

**3.4 Geotechnical methodology**

- 3.4.1 The methodology for the archaeological assessment of geotechnical data is provided in detail in a separate report (Wessex Archaeology 2024). This provides a brief overview.
- 3.4.2 A review of 56 geotechnical and geoarchaeological logs was undertaken to create a deposit model.
- 3.4.3 Five vibrocores, SGL-BH01 to SGL-BH05, were acquired during the geotechnical survey conducted at the Site by CMS GeoScience. The vibrocores were recovered in two northwest to southeast alignments within the area of the proposed dredging. The vibrocores were assessed at the Wessex Archaeology laboratory as part of the Stage 2 geoarchaeological recording by a trained geoarchaeologist.



### 3.5 Assessment of setting

- 3.5.1 The NPPF (Ministry of Housing, Communities and Local Government 2021, 71) defines setting as ‘the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral.’
- 3.5.2 Currently, there is no specific guidance regarding the assessment of setting for offshore archaeological and cultural heritage assets. However, Historic England’s The Setting of Heritage Assets – Historic Environment Good Practice Advice in Planning 3 (2017a) provides general guidance, largely applicable to terrestrial sites, and notes that the importance of setting ‘lies in what it contributes to the significance of the heritage asset’ (*ibid.*, 4). With regards to significance for heritage policy, the National Planning Policy Framework notes that the interest of a heritage asset ‘may be archaeological, architectural, artistic or historic’ (Ministry of Housing, Communities and Local Government 2021, 72).
- 3.5.3 3.4.3 Historic England states that setting depends on a ‘wide range of physical elements within, as well as perceptual and associational attributes pertaining to, the heritage asset’s surroundings’ (Historic England 2017a, 4). One aspect that contributes to the setting of a heritage asset is referred to as ‘views’, which includes not only views that can contribute to its significance, but also intended views between heritage assets, and planned views. In addition, the guidance suggests that the appreciation of the setting of a site does not depend on the ability to access it (*ibid.*) Reference in the guidance is also made to the setting associated with buried heritage assets which may not be readily appreciated by a casual observer, but retains a presence in the landscape such as, for example, wreck sites that are periodically, partly or wholly submerged. In addition, the location and setting of historic battles, with otherwise no visible traces, may include important strategic views, routes by which opposing forces approached each other and a topography that played a part in the outcome (*ibid.*, 4-5).
- 3.5.4 In order to assess whether, how and to what degree setting contributes to the significance of heritage assets, the following must be considered: the physical surroundings of the asset including its relationship with other heritage assets; the way the asset is appreciated, and the asset’s associations and patterns of use.
- 3.5.5 The assessment of setting in this document follows the guidance discussed in the paragraphs above, is based on the baseline assessment of the palaeogeography, maritime and aviation assets, and is described using the following two factors:
- physical surroundings and views – which includes the physical presence of the asset on the seabed, its surroundings, and relationship with other assets and navigational hazards in the immediate area. Views to and from the asset, and how the asset is experienced in its immediate physical surroundings are also considered; and;
  - non-visual factors – including the way the asset is appreciated in a broader historical, artistic, and intellectual capacity, and the asset’s associations.
- 3.5.6 It should be noted that for heritage assets offshore, sites are generally only experienced by divers, remotely operated vehicle (ROV) or by geophysical survey, and the views to the asset are often very limited due to reduced visibility in the water column. In addition, unlike many terrestrial sites, the position of the asset on the seabed has not been deliberately chosen, and although some sites may have reached their position through military action (e.g. hitting a mine within a known minefield or in a battle) or have been lost due to a

particular navigational hazard (e.g. being stranded on a particular sandbank), many positions are entirely arbitrary, and even with military sinking events, an attack on the surface could lead to a wreck being deposited on the seabed miles from where the event took place. Non-visual factors may include associations with particular battles, wars, minefields, and other historic events, as well as how the wreck can be appreciated in its wider context, for example through well-known trade routes, collisions, or local industry. Association between the asset and the local social history is another important aspect of an asset's non-visual importance, including rescue attempts or losses occurring within modern memory.

- 3.5.7 It is not possible to ascertain the setting of currently unidentified marine heritage assets, where limited information is known, for example wrecks that have not been identified or characterised to determine their period of build, use or loss. Similarly, setting cannot be assessed for geophysical anomalies of archaeological potential or potential sites that have not yet been discovered.

### **3.6 Determining value and sensitivity**

- 3.6.1 This report will adopt the conceptual approach known as the 'source-pathway-receptor' model. This approach is based on the identification of the source (i.e. the origin of a potential impact), the pathway (i.e. the means by which the effect of the activity could impact a receptor) and the receptor that may be impacted (e.g. known/ potential heritage assets). In order for the significance of any given impact to be fully understood, the sensitivity of any receptors that may be impacted need to be considered. This section outlines the means by which the sensitivity of marine heritage assets is ascertained.

### **3.7 Impact assessment criteria**

#### *Asset sensitivity*

- 3.7.1 The capability of a receptor to accommodate change and its ability to recover if affected is a function of its sensitivity. Receptor sensitivity is typically assessed via the following factors:

- adaptability – the degree to which a receptor can avoid to an effect;
- tolerance – the ability of a receptor to accommodate temporary or permanent change without significant adverse impact;
- recoverability – the temporal scale and extent to which a receptor will recover following an effect; and
- value – a measure of the receptor's importance, rarity and worth.

- 3.7.2 Since archaeological receptors cannot adapt, tolerate, or recover from physical impacts caused by a proposed development for the purpose of this assessment, the sensitivity of each asset will be quantified only by its value. The UK MPS (Department for Environment, Food and Rural Affairs 2011) describes a heritage asset as holding a degree of significance. Significance is the value of a heritage asset to this and future generations because of its heritage interest, which may be archaeological, architectural, artistic, or historic.

#### *Value of an asset*

- 3.7.3 The value of known archaeological and cultural heritage assets was assessed on a five-point scale using professional judgement informed by the criteria provided in Table 4.

**Table 4** Criteria to assess the archaeological value of offshore assets

Value	Definition
High	<ul style="list-style-type: none"> <li>• Best known or only example and/or significant potential to contribute to knowledge and understanding and/or public engagement.</li> <li>• Assets with a demonstrable international dimension to their importance are likely to fall within this category.</li> <li>• Wrecked ships and aircraft that are protected under the <i>Protection of Wrecks Act 1973</i>, <i>Ancient Monuments and Archaeological Areas Act 1979</i> or <i>Protection of Military Remains Act 1986</i> with an international dimension to their importance, plus as-yet undesignated sites that are demonstrably of equivalent archaeological value.</li> <li>• Known submerged prehistoric sites and landscapes with the confirmed presence of largely in situ artefactual material. Palaeogeographic features with demonstrable potential to include artefactual and/or palaeoenvironmental material, possibly as part of a prehistoric site or landscape.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Average example and/or moderate potential to contribute to knowledge and understanding and/or public engagement.</li> <li>• Receptors with a demonstrable district level dimension to their importance are likely to fall within this category.</li> <li>• Includes wrecks of ships and aircraft that do not have statutory protection or equivalent significance, but have moderate potential based on a formal assessment of their importance in terms of build, use, loss, survival and investigation.</li> <li>• Prehistoric deposits with moderate potential to contribute to an understanding of the palaeoenvironment.</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Below average example and/or low potential to contribute to knowledge and understanding and/or public engagement.</li> <li>• Receptors with a demonstrable local dimension to their importance are likely to fall within this category.</li> <li>• Includes wrecks of ships and aircraft that do not have statutory protection or equivalent significance, but have low potential based on a formal assessment of their importance in terms of build, use, loss, survival and investigation.</li> <li>• Prehistoric deposits with low potential to contribute to an understanding of the palaeoenvironment.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>• Poor example and/or little or no potential to contribute to knowledge and understanding and/or public engagement. Assets with little or no surviving archaeological interest.</li> </ul>
Unknown	<ul style="list-style-type: none"> <li>• There is not presently enough information available about the site to assess its value.</li> </ul>

### 3.8 Assumptions and limitations

#### *Archaeological data*

- 3.8.1 Data used to compile this report consists of secondary information derived from a variety of sources, only some of which have been directly examined for the purposes of this study. The assumption is made that the data, as well as that derived from other secondary sources, are accurate.
- 3.8.2 The records held by the UKHO, NMHR and the other sources used in this assessment are not a record of all surviving cultural heritage assets, rather a record of the discovery of a wide range of archaeological and historical components of the marine historic environment. The information held within these datasets is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown. In particular, this relates to buried archaeological features.



## 4 MARINE ARCHAEOLOGICAL ASSESSMENT: PALAEOLOGEOGRAPHY

### 4.1 Geological baseline

- 4.1.1 The underlying bedrock geology at the Site is mapped by the British Geological Survey (BGS) as the Selsey Sand Formation (part of the Bracklesham Group), deposited between the middle and late Lutetian stage of the Eocene (47.8-41.2 Mya). The Selsey Sand Formation comprises fossiliferous marine glauconitic clays, silts and fine-grained sands, and contains an abundant and diverse marine macrofauna in which bivalves and gastropods are especially common.
- 4.1.2 Immediately north of the Site, the bedrock is mapped as the Marsh Farm Formation, also deposited during the Eocene (47.8-41.2 Mya). The Marsh Farm Formation (also part of the Bracklesham Group) contains two main lithologies in this area; laminated clays with laminae and thin beds of fine-grained to very fine-grained sand and silt, and fine-grained to locally coarse-grained, sparsely glauconitic sand with a variable number of clay beds.
- 4.1.3 The proposed dredging area is situated on the western bank of the River Test, part of a fluvial system that drains into the English Channel via Southampton Water and the Solent. Southampton Water occupies the now submerged palaeovalley of the River Solent and is located at the point where the Rivers Itchen, Test and Hamble converge.
- 4.1.4 Work by Bates et al. (2007) have identified an important sequence of Middle and Late Pleistocene sediments associated with these fluvial systems, extending along the Sussex/Hampshire coast, dating back 500,000 years and containing several phases of Palaeolithic human occupation (e.g. Bates et al. 1997; Roberts and Parfitt 1999; Bates 2001; Wessex Archaeology 1994; Pope et al. 2020). However, the deposits east of Southampton Water are less well understood and Pleistocene sequences are typically decalcified and with a few exceptions do not contain organic material (Bates et al. 2007).
- 4.1.5 Sequences preserved in the vicinity of the proposed dredging area typically consist of coarse bedded gravels indicative of deposition within high energy river channels flowing under cool to cold climate conditions when sea levels were lower than at present. In places these gravels may be overlain by finer grained temperate stage (interglacial) sediments, or by poorly sorted cold-climate slope wash deposits (termed Head). These deposits are flanked towards the Solent by estuarine deposits.
- 4.1.6 In total, 11 terrace levels are known to outcrop at various heights from north-west/south-east up the Test Valley between Romsey and Portsmouth with three further terraces submerged offshore. The lowest of these terraces is capped by Holocene sediments, including alluvium and peat.
- 4.1.7 Quarrying of the Hamble Terrace and Lower Warsash Terrace of the River Test, mapped as Terrace 2, have produced a rich Palaeolithic record including at least 499 handaxes and 34 Levallois artefacts (Davis et al. 2016).
- 4.1.8 Dating of Terrace 2 at Solent Breezes as part of the Palaeolithic Archaeology of the Sussex/Hampshire Coastal Corridor (PASHCC) project produced a date for these deposits in MIS 7 (Marine Isotope Stage) that coincides with the final occupation of Britain prior to the abandonment of the peninsula between MIS 6 – MIS 4/3 (Bates et al. 2007).
- 4.1.9 However, Harding et al. (2012) suggest Terrace 2 formed later, during MIS 6, while Hatch (2014) suggests that the optically stimulated luminescence (OSL) age estimates on Terrace 3 suggest terrace aggradation during MIS 8; this could suggest associated archaeology is

derived from sediments deposited during the preceding MIS 9 interglacial phase. Eight Palaeolithic sites have been attributed to Terrace 2, yielding a series of handaxes (Bates et al. 2007), a proportion of which were rolled.

- 4.1.10 Alluvium deposits may be preserved within the vicinity of the proposed dredging area, largely dating to the Holocene. Historical boreholes within the proposed area of dredging (SU31SE131, SU41SW263, SU41SW267 and SU41SW268) have recorded sequences of silt over peat over sands and gravels.
- 4.1.11 The alluvium overlying gravels on site will have accumulated during the life of the floodplain and may extend from the late Pleistocene into the Holocene. Soil horizons may be present within early and mid-Holocene deposits, a period where this part of the terrace may have been largely dry land.
- 4.1.12 Peat deposits are widely mapped in Southampton Water and throughout the Solent where they date variously from the Mesolithic to Iron Age, reflecting distinct phases of marine regression during which semi-terrestrial plant communities replaced former mudflats/saltmarsh. Peat deposits may contain a range of plant remains (e.g. pollen, plant macrofossils) suitable for palaeoenvironmental investigation and scientific dating, providing data on past vegetation, environment and the potential influence of human communities on the landscape.

## 4.2 Geoarchaeological Monitoring of Ground Investigation Works

### *Geotechnical Works*

4.2.1 Geotechnical works have been completed with five vibrocore samples taken. Locations of Vibrocore samples can be seen in **figure 2**. These cores have been assessed with detailed report prepared (Wessex Archaeology 2024).

4.2.2 During this assessment the following stratigraphic units were identified:

- Unit 1 - Made Ground – modern; present only in the BGS records;
- Unit 2 - Recent Alluvium – recent estuarine alluvial sediments, identified in the records from the Marchwood area (Wessex Archaeology 2014);
- Unit 3 - Holocene Alluvium – include soft, often organic to minerogenic silts and clays together with peat layers recorded at the base of the unit in WA\_VC1 and WA\_VC3; and sampled as bulk Samples 1 to 5 during the associated marine work.
- Unit 4 - River Terrace Deposits – identified comprising predominately sands and gravels. Likely deposited during Pleistocene MIS 4 to 2;
- Unit 5 - Eocene Bedrock – Eocene sands of the Bracklesham Group represented by Marsh Farm Formation covered by Selsey Sand Formation.

### *Paleogeographic Potential*

4.2.3 The results of the Stage 2 recording were broadly consistent with the expected stratigraphy previously established during recent work within Solent Water by Wessex Archaeology (2014; 2023a). The sequence consisted of Eocene bedrock (Unit 5) overlain in places by Pleistocene fluvial sands and gravels (Unit 4), followed by Holocene fine-grained sediments (Unit 3) forming under the influence of post-glacial relative sea-level rise. The sequence



was then sealed in places by Recent Alluvium (Unit 2) and Made Ground (Unit 1). Only Units 5 and 3 were recorded within the new vibrocores.

- 4.2.4 The Eocene Bedrock (Unit 5) was recorded in all assessed boreholes, and the deposit modelling of the surface of the bedrock suggests the presence of a palaeochannel running from the north-east into the Solent. This could represent a remnant of a submerged braided river system. The bedrock has no geoarchaeological potential, and no evidence of the River Terrace Deposit (Unit 4) was present in the new vibrocores.
- 4.2.5 The Holocene estuarine alluvium (Unit 3) is likely to have formed in the intertidal zone, within estuarine mudflats or saltmarsh under the influence of relative sea level rise during the Holocene. This unit is considered to be of low palaeoenvironmental potential on the basis of the minerogenic nature of the alluvium, and the likely reworked nature of any contained organic material.
- 4.2.6 However, sediments and deposits of this nature do hold moderate archaeological potential. This is due to the increased level of preservation that can be expected of organic material locked inside this medium. At the Marchwood site, an example of preserved material could be small watercraft and other small-scale evidence of exploitation of the marine environment.
- 4.2.7 The Quaternary superficial deposits are of low palaeoenvironmental potential, however, as with the Holocene sediments, may contain well-preserved archaeological evidence of more recent periods.

#### *Peat*

- 4.2.8 There was no peat discovered in the vibrocore samples taken during the geotechnical assessment. However, it should be noted that this was also true of samples taken in advance of the Southampton Western Docks Capital Dredge Project (Wessex Archaeology 2023b). During later stages of the project significant peat deposits were located and were sampled.
- 4.2.9 As mentioned in **section 4.1**, there is evidence of peat deposits throughout the area. The presence of peat within the development area can therefore not be discounted with procedures implemented and understood at an early stage pertaining to peat discoveries during further stages of the development process.

## **5 MARINE ARCHAEOLOGICAL ASSESSMENT: MARITIME AND AVIATION SITES**

### **5.1 Introduction**

- 5.1.1 The following assessment of the maritime and aviation archaeological baseline resource is based on records of known features recorded in the UKHO database combined with Recorded Loss information recorded in the NMHR database and local Historic Environment Record (HER) databases. Only features that are located within the study area are discussed within this section (**Figure 1**).
- 5.1.2 As well as summarising the known archaeological resource, the baseline assessment underlines the potential for encountering unknown shipwreck and aircraft crash sites within the study area. Relevant primary and secondary source material has also been utilised to understand the nature of the maritime and aviation activity across the region.
- 5.1.3 Details about the marine features can be found in Appendices 1-5.



## 5.2 Designated maritime and aviation sites

5.2.1 There are currently no sites within the study area that are subject to statutory protection from the *Protection of Wrecks Act 1973*, the *Protection of Military Remains Act 1986* or the *Ancient Monuments and Archaeological Areas Act 1979*; the three legislative acts that could be used to protect marine archaeological sites.

## 5.3 Intertidal sites

5.3.1 There are a total of 38 intertidal sites that have been identified within the study area. None of these sites, with the exception of Marchwood Port itself, are located within the dredging area, however they contribute to an understanding of the archaeological potential of the study area.

5.3.2 The majority of these sites are related to military buildings from the Second World War, with each site relating to a number of different buildings. **1005**, **1011** and **1012** mark the locations of two military depots and a military site. Each of these points includes multiple buildings with some still standing and others only visible from aerial photography. **1005** is a former Royal Navy Arms Depot and also includes the four Historic Buildings and have been given their own identification numbers being **1025**, **1028**, **1029** and **1030**.

5.3.3 There are a pair of barrage ballon sites; **1009** and **1007**. There are also a series of bomb craters reported as **1008**, **1016** and **1031**. These points represent clusters of bomb craters, with a total of 33 bomb craters reported between them. This is worth considering when set against the potential for UXO and other debris from bombing and general military activity during the Second World War being discovered in the dredging area.

5.3.4 **1037** and **1038** are both railway lines that in part encroach into the study area. **1037** is a military railway leading into Marchwood Port. **1038** is the London to Southampton railway and terminates on the northern banks of the Western Docks meaning it is not relevant to the current works.

## 5.4 Known maritime sites

5.4.1 There are a total of 27 known maritime sites within the study area. None of these sites are directly within the dredging area.

5.4.2 Of the 27 known sites, 16 are classified as wreck sites. Of these 16 sites, eight are listed as either dead or lifted. However, it is possible that debris or previously unknown elements of these wrecks could remain on the seabed. The remaining 11 sites related to harbour infrastructure and facilities.

5.4.3 At least eight of the sites relate to the area's historic connection to the Second World War; **2017**, **2018**, **2022**, **2023**, **2024**, **2025** and **2026**. It is highly likely that several of the unnamed wrecks or sites are also related to this period. This concentration of material from a particular period is especially pertinent to this project due to the relationship between Marchwood Port and the Second World War.

5.4.4 Further details of these sites can be found in **Appendix 3**.

## 5.5 Known aviation sites

5.5.1 There are no known aviation sites present within the study area.

## 5.6 Seabed features assessment from the geophysical survey data

### *Introduction*

5.6.1 The geophysical data were assessed to identify features of archaeological potential relating to maritime and aviation activity. Due to the proximity of the area to the modern port workings, many of the objects identified may represent modern features and as such would not be of interest from an archaeological perspective. However, this cannot be confirmed without visual inspection and all features in in this report have the potential to be of archaeological interest; as such, they have been retained as a precautionary measure.

### *Seabed features assessment results*

5.6.2 The results of this assessment are collated in gazetteer format detailed in Appendix 5 and illustrated in Figure 3.

5.6.3 A total of 142 features have been identified as being of possible archaeological potential within the study area and are discriminated as shown in Table 5.

**Table 5** Anomalies of archaeological potential within the study area

Archaeological discrimination	Number of anomalies	Interpretation
A2_h	102	Anomaly of likely anthropogenic origin but of unknown date; may be of archaeological interest or a modern feature
A2_l	40	Anomaly of possible anthropogenic origin but interpretation is uncertain; may be anthropogenic or a natural feature
<b>Total</b>	142	

5.6.4 A total of 102 anomalies have been classified as A2\_h, which are magnetic features or areas with a higher probability of being anthropogenic in origin. These range from 7 nT (**7110**) to 1,007 nT (**7008**) in amplitude and are potentially of archaeological interest. However, due to the nature of the survey area and the recent maritime activity within the port it is likely that most features are modern in origin.

5.6.5 Two of these features (**7006** and **7018**) have been classified as Magnetic areas; relatively concentrated areas of closely spaced magnetic anomalies that could not be definitively isolated. These potentially represent wider spreads of ferrous debris.

5.6.6 A total of 40 anomalies have been classified as A2\_l, which are possibly of anthropogenic origin but also may be natural features or caused by modern seabed disturbance. These range from 5nT (**7099**) to 157 nT (**7007**) in amplitude.

5.6.7 Without access to seabed imagery from MBES and/or SSS datasets, it is difficult to obtain further confidence of the nature of these features, their shape/size, whether they are buried or located on the seabed, or their archaeological potential.

## 5.7 Maritime and Aviation Archaeological potential

### *Introduction*

5.7.1 The assessment of potential for the discovery of shipwreck, shipwreck-derived, aircraft and aircraft-derived material within the study area draws on the results of the desk-based research combined with further research of the wider area.

5.7.2 The marine area has already been the subject of desk-based assessments (Wessex Archaeology 2008a, 2023d), an assessment of geophysical survey data (Wessex Archaeology 2008b, 2023c), an assessment of borehole records and vibrocore samples, including five boreholes as a component of this project (Wessex Archaeology 2008c, 2023b, 2024). However, the area around Marchwood Port has undergone very little modern investigation. Therefore, there is potential for buried material, particularly located near to the jetty which may hold historical significance to Marchwood's role during the Second World War and the Falklands War.

#### *Historical Background*

5.7.3 The potential for wrecks within the Solent covers all periods, perhaps dating as far back as the inundation of the area during the period between the Mesolithic and the Iron Age. Although the potential for the survival of early prehistoric boats in UK waters is speculative, slender Mesolithic log-boats have been found in Denmark. Various Bronze Age boats and cargoes have been found around the coast of England and Wales, notably in Langdon Bay near Dover, the Ferriby Boats found on the Humber and the Poole Harbour Log Boat, found in Poole Harbour. To date these discoveries have been made at or close to the shore rather than in open waters, possibly reflecting patterns of ancient seafaring that favoured inland waters or routes close to the shore. A very recent discovery in 2019 showed the Mortar Wreck, a 12<sup>th</sup> century keel ship located in Poole harbour shows the potential for significant discoveries to be found in well used shipping lanes.

5.7.4 By the sixth century AD cross-Channel vessels were clearly using Portsmouth Harbour and were also docking at the Saxon port of Hamwic. The Anglo-Saxon Chronicle records that in AD 501 'Port and his two sons...came to Britain with two ships at the place which is called Portsmouth' (Cunliffe 1993). The Victoria County History records historic events associated with the Solent, such as the embarkation of Edward I in 1114 and 1123 (Doubleday 1900). The strategic advantages of the Solent were such that King John had a number of galleys Permanently stationed at Portsmouth, for which an enclosed dock was ordered in 1212. England's first dry-dock was built at Portsmouth in 1496 in what was to become the Royal Dockyard. All these references testify to the regular use of the Solent as a shipping lane.

5.7.5 The Solent can therefore be considered to have been in use by shipping for over 2000 years. However, it was the years between 1650 and 1800 that were of vital importance for the region as Portsmouth and Southampton grew and the Solent area acquired a status that was both national and international. The volume of traffic and the congestion caused by the (relatively) narrow waterway are hazards that can be expected to have caused maritime casualties in the past. In addition to the potential for wrecks consideration must also be given to the potential for stray items, lost or thrown overboard within the Solent over the centuries that are now of archaeological interest.

5.7.6 There is the potential for aircraft crash sites, or debris associated with aircraft crash sites, to be uncovered. These would particularly relate to the Second World War, with the high levels of Allied and Axis air movement over the area during the Battle of Britain, the Blitz, and during the bombing of both Southampton and Portsmouth. There is also potential, although not as high for pre- and post-Second World War aircraft crashes in the area. These sites often have poor/non-existent locational data of crashes, particularly those over water or lowly-populated areas, this is compounded by poor weather conditions, inaccurate reporting, or a lack of survivors and witnesses. Previous reports into aircraft archaeology in the UK have noted that it is likely that over 10,000 aircraft have crashed in UK waters since the advent of flight in the early 20<sup>th</sup> Century (Wessex Archaeology 2008d).

### *Marchwood Military Port*

- 5.7.7 Marchwood Military Port was established in 1943 with the intention of being used as a logistical hub to support the coming invasion of Nazi occupied France, Operation Overlord. At this point the port consisted of a single jetty, now called Mulberry Jetty. Evidence for the contributions made by Marchwood Military Port remain very visible, with repurposed Mulberry Beetles and other discarded materials used as sea defences south of Marchwood. The port was used to transport men and materiel during the war and to support occupying Forces later.
- 5.7.8 The port would again see considerable use during the 1982 Falklands War. Marchwood Military Port was used to load equipment, ammunition and supplies intended to support the expeditionary force. The important role played by Marchwood Military Port during the Falklands War resulted in considerable investment into the ports infrastructure, with continued investment and work employed to maintain the ports use as a logistics hub.
- 5.7.9 The role played by Marchwood Military Port during the Second World War and Falklands War means that there is a significant possibility of material pertaining to these conflicts being present in the surrounding area. Equipment and materiel lost during loading may well remain on the seabed.
- 5.7.10 The area surrounding Marchwood Military Port was used during the eighteenth and nineteenth centuries as gunpowder and munition storage. Evidence for this activity can still be readily seen in the remains of building to the northwest of Marchwood Military Port and from previous archaeological work such as the watching brief which took place in 2008 and identified ditches lining a pathway (Wessex Archaeology 2008e).

### *Navigation Hazards*

- 5.7.11 A project entitled Enhancing our Understanding: Mapping Navigational Hazards as areas of Maritime Archaeological Potential, undertaken by Bournemouth University (Merritt *et al.* 2007), assessed historical records of navigational hazards to interpret and characterise the marine historic environment.
- 5.7.12 The areas on the eastern approaches to the Solent tend to be characterised by the presence of fine-grained sands and silts in the channel, known to be highly mobile. Although fairly well sheltered, the risk lies in the shallowness of the area, its mobility and the extensive foreshore banks lying on either side of the approaches to several major harbours and ports including Southampton. The area between the entrance to Cowes and the entrance to Southampton Water is focussed around an extensive area of sandbanks the largest of which is known as Brambles Bank which is known to dry out at low water and figures on all of the charts studied (Merritt *et al.* 2007), however this is outside the study area.
- 5.7.13 On either side of the already dredged channel for access to Marchwood Port there are wide areas of mudflats. The archaeological potential from this area can be seen in the findspot **1003** which was a piece of Saxon pottery, and mudflats would provide excellent material for the preservation of organic material, such as wooden shipwrecks.

### *Recorded losses*

- 5.7.14 As discussed in section 3.2, Recorded Losses refer to ships and aircraft that are recorded as having been lost, but for which the exact locations are not known. The records for these losses provide additional documentary evidence for the potential discovery of sites and material relating to maritime and aviation activity within the study area.



- 5.7.15 There are a total of 20 recorded losses associated with the study area. These include a range of vessels with the earliest being lost in 1261 and the most recent being a landing craft lost in 1943. Both commercial and military vessels are included.
- 5.7.16 The majority of the vessels listed are English or British in origin. However, there are also a pair of Portuguese vessels listed. This is unsurprising and should be expected as an indication of Southampton's role as a port supporting both domestic and international trade.

## **6 ASSESSMENT OF HISTORICAL SEASCAPE CHARACTER**

- 6.1.1 The assessment of the HSC within the marine study area was undertaken using the results of LUC's 2017 Historic Seascape Characterisation (HSC): Consolidating the National HSC Database, which consolidated the eight existing HSC implementation projects (undertaken between 2008 and 2015) into a single national database.
- 6.1.2 The method assesses and defines areas with HSC types that promote an understanding of historic trends and processes, to inform the sustainable management of change over time. This is achieved by addressing the multi-level character of the sea, by splitting the marine zone into five tiered levels: the coastal area, the sea surface, the water column, the sea floor, and the subsea floor. The characterisation is GIS based, enabling key characteristics to be identified.
- 6.1.3 The study area has been characterised as having the following elements:
- ports and docks
  - navigation activity (navigation route)
  - reclaimed land (from tidal marsh)
  - military Base
  - mudflats
  - cultural topography (inter-tidal)
  - rough grassland
  - ferry crossing; and
  - navigation hazard.

## **7 POTENTIAL IMPACTS**

- 7.1.1 While the study area has been subject to maintenance dredging and other works to maintain the operational capacity of the port, there are areas that remain relatively untouched. Therefore, there is potential for previously unknown archaeological sites to be impacted.
- 7.1.2 Potential negative impacts from the development will include any direct impacts to archaeological features on or beneath the seabed caused by the proposed development activities, such as dredging. The proposed dredging depth within the approach and berth pocket is to lower the seabed by 2.5 m. This assessment concluded that the potential impact of the proposed dredge on unknown maritime and aviation receptors in areas that have not



been subject to previous dredging activities to be considered to be of major adverse significance.

- 7.1.3 There could also be indirect impacts, for example relating to further erosion and/or accretion within and on the edges of the dredged areas, which could expose previously unknown archaeological material, causing negative impact, or could bury material, causing positive impact.

## **7.2 Receptors at risk**

- 7.2.1 There are currently no archaeological features exposed on the seabed located within the development area itself.
- 7.2.2 There is potential to impact buried archaeological material through development activities such as dredging. Dredging will deepen the approach and berth pocket by 2.5 m, therefore buried archaeological features may be at risk.
- 7.2.3 There has been no peat identified within the geotechnical assessment (Wessex Archaeology 2024). However, as has previously been seen during the Southampton Western Docks Capital Dredge Project, it is likely that peat deposits could remain in some form within the development area.

## **8 CONCLUSIONS AND MITIGATION – RECOMMENDATIONS**

### **8.1 Introduction**

- 8.1.1 The proposed works are for the use of a trailed suction hopper dredger (TSHD) with the arising stored onboard, and a backhoe dredger, with the arisings transferred to an adjacent barge for disposal. There are also repair and expansion works planned to be carried out to Falklands Jetty.
- 8.1.2 The potential impact of the proposed dredge on maritime archaeology in areas that have not been subject to previous dredging activities is of major adverse significance. With the implementation of suitable mitigation measures, however, the overall impact of the scheme on these anomalies is likely to be of minor adverse significance.
- 8.1.3 There is also the potential for material deeply buried in previously dredged areas to become exposed. This would represent a significant risk as the potential archaeological value and level of preservation of deeply buried materials is likely to be higher.
- 8.1.4 The geotechnical assessment of the development site does not recommend any direct mitigation from its findings. However, there remains potential for Mesolithic peat deposits which must be taken into account.
- 8.1.5 The assessment of the geophysical data within the study area resulted in a total of 103 anomalies identified as being of possible archaeological interest. These are summarised as follows:
- a total of 102 were assigned an A2\_h archaeological rating; and
  - a total of 40 were assigned an A2\_l archaeological rating.



- 8.1.6 Due to these anomalies being located close to shore within a known currently busy and active area all the A2 anomalies have the potential to be modern debris, but without visual inspection this cannot be confirmed, and so all have been retained as a precaution.
- 8.1.7 For features assigned A2\_l and A2\_h archaeological discrimination rating, no Archaeological Exclusion Zones (AEZs) are recommended at this time. However temporary AEZs could be implemented if material of archaeological interest is encountered during further surveys or works.
- 8.1.8 Avoidance of impacts to the features identified through the archaeological assessment of geophysical survey data is recommended in the first instance. However, as this may not be possible during the dredging and construction works, further mitigation measures are detailed below.
- 8.1.9 Should further geophysical data (e.g. MBES, SSS, etc.) become available pre-development, it would be beneficial to have these data assessed by a suitably qualified archaeological contractor and cross-referenced with the Mag. anomalies identified in this report. This may aid in better establishing the archaeological potential of the identified anomalies.
- 8.1.10 It is recommended that an Archaeological Watching Brief be implemented during further works, such as the unexploded ordnance (UXO) survey. This is particularly important at the sites of the A2\_h and A2\_l anomalies, but it is also possible that other targets identified as of potential UXO could also be of archaeological interest, and there is potential for unexpected discoveries.
- 8.1.11 A bespoke Protocol for Archaeological Discoveries (PAD) should be implemented during dredging operations when an archaeologist is not on board, to ensure that any archaeological finds are reported via the Retained Archaeologist to Historic England, and Hampshire Archaeology and Historic Buildings Record.
- 8.1.12 Should sites of archaeological interest be discovered during the UXO survey or during dredging or construction works, an archaeological diver survey should be undertaken, in order to investigate them further and characterise them..
- 8.1.13 Should peat be discovered during further survey works, it should be sampled and recovered for archaeological assessment.
- 8.1.14
- 8.1.15 The recommended mitigation measures will be detailed in the forthcoming project specific Written Scheme of Investigation.
- 8.2 Dissemination**
- 8.2.1 Should results be of archaeological interest, dissemination would lead to beneficial effects as they could contribute to the wider understanding of the palaeogeography in the area and/or potential marine or aviation archaeological discoveries. The beneficial aspect is particularly evident when the information gained through archaeological assessment is disseminated to the wider public.
- 8.2.2 Any results of archaeological interest will be disseminated for public benefit through the creation of an OASIS (Online AccesS to the Index of archaeological investigations) record and uploading of the archaeological report. The OASIS record will be integrated into the



relevant local and national records and published through the Archaeological Data Service (ADS) ArchSearch catalogue.



## BIBLIOGRAPHY

- ADS 2013. *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service & Digital Antiquity Guides to Good Practice.
- Associated British Ports 2023. *Environmental Statement for the Port of Southampton: Southampton Western Docks Dredge*. Southampton, ABPmer.
- Associated British Ports 2022. *Western Docks Channel Widening Specification for UXO Risk Assessment and Geophysical Survey*.
- Bates, M. R., 2001. The Meeting of the Waters: raised beaches and river gravels of the Sussex Coastal Plain/Hampshire Basin. 27 – 45. In: Wenban-Smith, F.F. and Hosfield, R. (eds.) *Palaeolithic archaeology of the Solent River*. Lithic Studies Society Occasional Paper 7. Lithic Studies Society: London.
- Bates, M. R., Parfitt, S.A. and Roberts, M. B., 1997. The chronology, palaeogeography and archaeological significance of the marine Quaternary record of the West Sussex Coastal Plain, Southern England, UK in *Quaternary Science Reviews* 16, 1227 – 1252.
- Bates, M. R., Wenban-Smith, F, Briant, R. and Bates, R.C., 2007. *Curation of the Sussex/Hampshire Coastal Corridor Lower/Middle Palaeolithic Record*. ASLF report number 3279 ANL.
- Bicket, A. and Tizzard, L., 2015. *A review of the submerged prehistory and palaeolandscapes of the British Isles*. Proceedings of the Geologists' Association, vol. 26, pp. 643-663
- British Marine Aggregate Producers Association (BMAPA) and English Heritage (now Historic England) 2003. *Marine Aggregate Dredging and the Historic Environment Assessing, evaluating, mitigating and monitoring the archaeological effects of marine aggregate dredging: Guidance Note*. Prepared by Wessex Archaeology. Available at <https://www.wessexarch.co.uk/sites/default/files/projects/BMAPA> (accessed December 2022).
- BMAPA and English Heritage (now Historic England) 2005. *Protocol for reporting finds of archaeological interest. Full text*. Prepared by Wessex Archaeology. <https://www.bmapa.org/documents/fullreportingprotocol2005.pdf> (accessed December 2022).
- Bridgland, D. R., 2001 The Pleistocene evolution and Palaeolithic occupation of the Solent River. In: *Palaeolithic Archaeology of the Solent River*, Wenban-Smith, F.F., Hosfield, R.T. (eds). Lithic Studies Society Occasional Paper 7:15-25
- Brown, D. H., 2011. *Archaeological archives; a guide to best practice in creation, compilation, transfer and curation*, Archaeological Archives Forum (revised edition)
- CIfA. 2014a updated 2020. *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*. Reading, CIfA
- CIfA. 2014b updated 2020. *Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment*. Reading, CIfA
- CIfA. 2014c updated 2020. *Standard and Guidance for nautical archaeology recording and reconstruction*. Reading, CIfA



- CIfA. 2014 revised 2022. *Code of Conduct*. Reading, CIfA
- CIfA. 2017. *Updated Guidelines to the Standards for Recording Human Remains*. Reading, CIfA
- CIfA. 2019 updated 2021. *Regulations for Professional Conduct*. Reading, CIfA
- CIfA. 2023a. *Standard and guidance for archaeological field evaluation*. Reading, CIfA
- CIfA. 2023b. *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*. Reading, CIfA
- CIfA. 2023c *Standard for archaeological monitoring and recording*. Reading, CIfA
- CIfA. *Toolkit for Selecting Archaeological Archives* <https://www.archaeologists.net/selection-toolkit>
- Council of Europe 2000. *European Landscape Convention, Article 1*. Available at <https://rm.coe.int/1680080621> (accessed January 2023).
- Cunliffe, B. 1993. *Wessex to 1000AD*. Adison Wesley Publishing Company.
- Davis, R. J., Hatch, M., Ashton, N., Hosfield, R. and Lewis, S. G., 2016. *The Palaeolithic record of Warsash, Hampshire, UK: implications for late Lower and early Middle Palaeolithic occupation history of Southern Britain*. Proceedings of the Geologists' Association, 127 (5). pp. 558-574
- Department for Environment, Food and Rural Affairs (DEFRA) 2009. *Our Seas – A Shared Resource: High Level Marine Objectives*.
- Department for Environment, Food and Rural Affairs (DEFRA) 2011. *UK Marine Policy Statement*. DEFRA. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69322/pb3654-marine-policy-statement-110316.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf) (accessed January 2023).
- Department for Environment, Food and Rural Affairs (DEFRA) 2018. *South Inshore and South Offshore Marine Plan*. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/726867/South\\_Marine\\_Plan\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726867/South_Marine_Plan_2018.pdf) (accessed January 2023).
- Department for Transport 2012. *National Policy Statement for Ports*. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/3931/national-policy-statement-ports.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf) (accessed December 2022).
- Doubleday, H. A. (ed.). 1900. *The Victoria County History of the Counties of England: Hampshire and the Isle of Wight*. Volume 1, London: Archibald Constable.
- English Heritage (now Historic England) 1998. *Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers*;
- English Heritage (now Historic England) 2000. *Managing Lithic Scatters: Archaeological Guidance for Planning Authorities and Developers*.
- English Heritage (now Historic England) 2002. *Military Aircraft Sites: Guidance on their Significance and Future Management*.



- English Heritage (now Historic England) 2011. *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation*. Second Edition.
- English Heritage (now Historic England) 2012. *Ships and Boats: Prehistory to Present – Designation Selection Guide*.
- English Heritage (now Historic England) 2015. *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. London: Historic England.
- Fisher Associates 2014. *Ports and the Historic Environment. NHPP 4A3 (Historic ports, dockyards, harbours and coastal resorts)*. Available at <https://historicengland.org.uk/research/results/reports/7002/PortsandtheHistoricEnvironment> (accessed December 2022).
- Gribble, J. and Leather, S., 2011. *Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector*. Prepared by Gribble, J. and Leather S. for EMU Ltd. Commissioned by COWRIE Ltd (Project reference GEOARCH-09).
- Harding, P., Bridgland, D.R., Allen, P., Bradley, P., Grant, M.J., Peat, D., Schwenninger, J., Scott, R., Westaway, R. and White, T.S., 2016. *Chronology of the Lower and Middle Palaeolithic in NW Europe : developer-funded investigations at Dunbridge, Hampshire, southern England*. Proceedings of the Geologists' Association, 123 (2012), pp. 584-607
- Hatch, M., 2014. *The Pleistocene Solent River and Its Major Tributaries: Reinterpreting the Fluvial Terrace Stratigraphy As a Framework for the Palaeolithic Archaeology of the Solent Region*. University of London, Queen Mary College
- Hey, G. Hind, J., 2014. *Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas*. Project Report. Oxford Wessex.
- Historic England 2015a Geoarchaeology: using Earth Sciences to understand the archaeological record. <https://historicengland.org.uk/images-books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record>
- Historic England 2015a. *Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning 2*.
- Historic England 2015b. *Piling and Archaeology: Guidelines and Best Practice*.
- Historic England 2016a. *The Assessment and Management of Marine Archaeology in Port and Harbour Development*. Prepared by Wessex Archaeology. Available at <https://historicengland.org.uk/images-books/publications/assessment-management-marine-archaeology-port-and-harbour-development/6801-ports-and-harbours/> (accessed December 2022).
- Historic England 2016b. *Preserving Archaeological Remains: Decision-taking for Sites under Development*.
- Historic England 2017a. *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3*.
- Historic England 2017b. *Conservation Principles for the Sustainable Management of the Historic Environment*. Consultation Draft 10 November 2017.



- Historic England 2019. *Statements of Heritage Significance: Analysing Significance in Heritage Assets: Historic England Advice Note 12.*
- Historic England 2020. *Deposit Modelling and Archaeology Guidance for Mapping Buried Deposits.*
- Historic England 2023. *Curating the Paleolithic.* Historic England, Swindon.
- Joint Nautical Archaeology Policy Committee. 2006. *Code of Practice for Seabed Development, JNAPC*
- LUC. 2017. *Historic Seascape Characterisation (HSC): Consolidating the National HSC Database.*
- Merritt, O., Parham, D., McElvogue, D. M., 2007. *Enhancing our Understanding of the Marine Historic Environment: Navigational Hazards Project.* Final Report. For English Heritage and the Aggregates Levy Sustainability Fund.
- Ministry of Housing, Communities and Local Government. 2021. *National Planning Policy Framework.* Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf) (accessed January 2023).
- New Forest District Council, 2009. *Core Strategy.* Available at: [https://newforest.gov.uk/media/683/Core-Strategy-2009/pdf/Core\\_Strategy.pdf?m=637293905608770000](https://newforest.gov.uk/media/683/Core-Strategy-2009/pdf/Core_Strategy.pdf?m=637293905608770000) (accessed March 2024)
- New Forest District Council, 2020. *New Forest District Council Local Plan 2016-2036 Part One: Planning Strategy.* Available at: [https://newforest.gov.uk/media/705/Local-Plan-Document-2016-2036/pdf/Local\\_Plan\\_2016-2036\\_Part\\_One\\_FINAL.pdf?m=1597322335113](https://newforest.gov.uk/media/705/Local-Plan-Document-2016-2036/pdf/Local_Plan_2016-2036_Part_One_FINAL.pdf?m=1597322335113) (accessed March 2024)
- PIANC. 2014. *Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest.* PIANC Guidance Document No. 124-2014. PIANC: The World Association for Waterborne Transport Infrastructure
- Plets, R., Dix, J. and Bates, R., 2013. *Marine geophysics data acquisition, processing and interpretation: Guidance notes.* London: English Heritage.
- Pope, M. Parfitt, S. and Roberts, M., 2020. The Horse Butchery Site: A high resolution Archaeology South-East Ensign Park, Hamble-le-Rice, Eastleigh. ASE Report No. 2022040 © Archaeology South-East UCL 15 record of Lower Palaeolithic hominin behaviour at Boxgrove, UK. Spoilheap Monographs. Woking: Spoilheap Publications
- Ransley, J., Sturt, F., Adams, J. and Blue' L., 2013. *People and the Sea: A Maritime Archaeological Research Agenda for England* (Research Reports, 171), York, GB. Council for British Archaeology
- Roberts, M.B and S.A. Parfitt. 1999. Boxgrove. A Middle Pleistocene hominid Site at Eartham Quarry, Boxgrove, West Sussex. English Heritage Archaeological Report 17. English Heritage: London.
- Robinson, W. 1998. *First Aid for Underwater Finds.* Archetype Publications Ltd.
- Shoreline Surveys Limited, 2024. *Side Scan Sonar, Magnetometer & geophysical Survey Report, Marchwood Development Project.* Dorchester, unpublished survey report, ref: J2332.



- Society of Museum Archives (SMA) 1993. *Selection, Retention and Dispersal of Archaeological Collections*
- Society of Museum Archives (SMA) 1995. *Towards an Accessible Archaeological Archive*
- United Kingdom's Institute for Conservation (UKIC). 1984. *Conservation Guidelines No 2*
- Waddington, C and Bonsall, C., 2016. *Archaeology and Environment of the North Sea Littoral. A case Study from Low Hauxley*, Archaeological Research Services Ltd Bakewell.
- Watkinson, D and Neal, A V 1998 *First Aid for Finds*. United Kingdom Institute for Conservation and Rescue: The British Archaeological Trust
- Wessex Archaeology 1994. The Southern Rivers Palaeolithic Project. Report No. 3 1993-1994. The Sussex Raised Beaches and the Bristol Avon. Wessex Archaeology: Salisbury.
- Wessex Archaeology 2008a. *Southampton Approach Channel Dredge. Archaeological Desk-based Assessment*. Unpublished Report Ref: 68530.03.
- Wessex Archaeology 2008b. *Southampton Approach Channel Dredge. Archaeological Assessment of Geophysical data*. Unpublished Report Ref: 68530.01.
- Wessex Archaeology 2008c. *Southampton Approach Channel Dredge. Southampton Vibrocores. Stages 1 and 2 Archaeological Report*. Unpublished Report Ref: 68530.02.
- Wessex Archaeology 2008d *Aircraft Crash Sites at Sea: A Scoping Study. Archaeological Desk-based Assessment*. Salisbury: unpublished report ref. 666410.02
- Wessex Archaeology 2008e *Marchwood Seawall Flood Defence Scheme: Archaeological Watching Brief*. Unpublished report ref. 69620.02
- Wessex Archaeology. 2012. *Main Channel Widening (Marchwood) Works, Southampton Water, Hampshire*. Unpublished Report Ref: 68531.01.
- Wessex Archaeology 2013. *Southampton Approach Channel Dredge, Southampton Water, Hampshire Archaeological Written Scheme of Investigation*. Unpublished Report Ref: 68531.02.
- Wessex Archaeology 2014. *Southampton Approach Channel Dredge Main Channel Widening (Marchwood), and Reconstruction of Berths 201 and 202. Geoarchaeological and palaeoenvironmental assessment*. Unpublished Report Ref: 68532.01.
- Wessex Archaeology 2021a. *Southampton Container Terminal Berth Access Dredge Archaeological Method Statement*. Unpublished Report Ref: 249900.02.
- Wessex Archaeology 2021b. *Southampton Container Terminal Berth Access Dredge Archaeological RAMS*. Unpublished Report Ref: 249900.03.
- Wessex Archaeology 2021c. *Southampton Container Terminal Berth Access Dredge Archaeological assessment of geophysical data*. Unpublished Report Ref: 249901.01.
- Wessex Archaeology 2022a. *Southampton Container Terminal Berth Access Dredge Archaeological Watching Brief*. Unpublished Report Ref: 249900.04.



Wessex Archaeology. 2023a. *Southampton Western Docks Capital Dredge Archaeological Written Scheme of Investigation*. Unpublished Report Ref: 272350.01.

Wessex Archaeology 2023b *Southampton Western Docks Capital Dredge: Geoarchaeological Monitoring of GI Works* Unpublished Report Ref: 272350.03

Wessex Archaeology 2023c *Southampton Western Docks Capital Dredge: Archaeological Assessment of Geophysical Data* Unpublished Report Ref: 272351.01

Wessex Archaeology 2023d *Southampton Western Docks Capital Dredge: Marine Archaeological Desk-Based Assessment* Unpublished Report Ref: 272350.02

Wessex Archaeology 2023e *Southampton Western Docks Capital Dredge: Southampton Water, Hampshire: Archaeological Written Scheme of Investigation*. Unpublished report.

Wessex Archaeology 2023f *ABP Southampton Western Docks Capital Dredge: Archaeological Diving: Method Statement*.

Wessex Archaeology 2023g *Southampton Western Docks Capital Dredge Southampton Water, Hampshire: Archaeological Watching Brief during UXO Target Investigations Diver Survey*. Unpublished report Ref: 272353.02

Wessex Archaeology 2024 *Solent Gateway, Marchwood Port: Geotech report*. Unpublished Report Ref: 289060.01

### **Websites**

<https://historicensland.org.uk/research/methods/characterisation/historic-seascapes/>



## APPENDICES

### Appendix 1: Terminology

#### Glossary

The terminology used in this assessment follows definitions contained within Annex 2 of the UK's National Planning Policy Framework (Ministry of Housing, Communities and Local Government 2021, 64-73).

<b>Archaeological interest</b>	There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
<b>Conservation (for heritage policy)</b>	The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.
<b>Designated heritage assets</b>	World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Park and Gardens, Registered Battlefields and Conservation Areas designated under the relevant legislation.
<b>Development Plan</b>	This includes adopted Local Plans, neighbourhood plans and the London Plan, and is defined in section 38 of the <i>Planning and Compulsory Purchase Act 2004</i> .
<b>Environment Impact Assessment</b>	A procedure to be followed for certain types of projects to ensure that decisions are made in full knowledge of any likely significant effects on the environment.
<b>Heritage asset</b>	A building monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage assets include designated heritage assets and assets identified by the local planning authority (including local listing).
<b>Heritage coast</b>	Areas of undeveloped coastline which are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors.
<b>Historic environment</b>	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
<b>Historic environment record</b>	Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.
<b>Setting of a heritage asset</b>	The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.
<b>Significance (for heritage policy)</b>	The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
<b>Strategic environmental assessment</b>	A procedure (set out in the Environmental Assessment of Plans and Programmes Regulations 2004) which requires the formal environmental assessment of certain plans and programmes which are likely to have significant effects on the environment.
<b>Value</b>	An aspect of worth or importance.



## Chronology

Where referred to in the text, the main archaeological periods in Britain are broadly defined by the following date ranges:

<b>Prehistoric</b>	
Palaeolithic	970,000 – 9500 BC
• Lower Palaeolithic	970,000 – 300,000 BC
• Middle Palaeolithic	300,000 – 40,000 BC
• Upper Palaeolithic	40,000 – 12,000 BC
• Later Upper Palaeolithic	12,000 – 9,500 BC
Early Post Glacial	9,500 – 8,500 BC
Mesolithic	8,500 – 4,000 BC
Neolithic	4,000 – 2,400 BC
Bronze Age	2,400 – 700 BC
Iron Age	700 BC – 43 AD

<b>Historic</b>	
Romano-British	43 – 410 AD
Anglo-Saxon	410 – 1066 AD
Medieval	1066 – 1500 AD
Early Modern	1500 – 1800 AD
Industrial	1800 – 1900 AD
Modern	1900 - Present





## Appendix 2: Gazetteer – Intertidal Sites

WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
1001	8996		Hampshire County Council	31405	Monument	Mulberry Harbour launch site	Site of the manufacturing and launching site of the WWII Mulberry Harbours used in D-Day invasion of Europe (1944)	439200	111500
1002	26988		Hampshire County Council	64153	Monument	Northern Extent Of WW2 Beetle 5	Northern extent of Beetle 5 at Marchwood military base.	441352	109676
1003	38505		Hampshire County Council	55683	Findspot	Saxon Pottery From Marchwood.	Rim sherd from jar or cooking pot dated 900-1100 AD found 'on mudflats at Marchwood Container Port'. Location approximate.	440580	110862
1004	38603		Hampshire County Council	57119	Monument	Borehole Survey At Former Navy Armaments Depot	Geoarchaeological borehole survey undertaken at the former Royal Navy Armaments Depot in Marchwood.	439150	111350
1005	39650		Hampshire County Council	56947	Monument	Former Royal Navy Armaments Depot.	DBA for the construction of a new section of sea wall and raising parts of the existing sea wall. There is moderate potential for medieval and post-medieval evidence. All Buildings are protected as Grade II listed. Also includes Historic Buildings/records: 1018, 1025, 1028, 1029, 1030.	439213	111425
1006	41196		Hampshire County Council	59852	Monument	Watching Brief On Marchwood Seawall	A watching brief was undertaken at this location during work on the seawall as part of the flood defence scheme. Two features were noted, one on the upper flood wall and one on the lower flood wall. These features ran in alignment with an early C19 walkway.	439252	111534
1007	41758		Hampshire County Council	62075	Monument	Sea Defence	Visible on aerial photographs (p1) are a series of wooden or metal timbers that form a barrier running for 680m SW-NE across Dibden Bay. They are considered likely to	440723	109911



WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
							be domestic sea defences of early twentieth century date.		
1008	41767		Hampshire County Council	62203	Monument	Bomb Crater	A bomb crater is visible on aerial photographs. One of 14 bomb craters.	439903	110561
1009	41792		Hampshire County Council	62198	Monument	Barrage Balloon Site	A barrage balloon site is visible on aerial photographs.	439744	110799
1010	41808		Hampshire County Council	62220	Monument	Military Building	A series of military buildings are visible on aerial photographs. Around 11 buildings in total.	439616	111100
1011	41810		Hampshire County Council	62222	Monument	Military Depot	A military depot is visible on aerial photographs.	440101	110629
1012	43471		Hampshire County Council	63444	Monument	Military Site	A military site is visible as cropmarks on aerial photographs	439260	110807
1013	44648		Hampshire County Council	64191	Monument	Possible Site Of Pillbox	Two windows (loopholes) of a pillbox have been identified on the foreshore.	440914	110282
1014	45129		Hampshire County Council	64147	Monument	Cracknore Hard Lane	Cracknore Hard Lane, identified on the new Forest Rapid Coastal Zone Assessment.	439758	110735



WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
1015	45950		Hampshire County Council	62293	Monument	Military Buildings	Two military buildings are visible on aerial photographs. Roughly octagonal in shape, ditches also visible. Location is for eastern building.	440030	110253
1016	45951		Hampshire County Council	62294	Monument	Bomb Craters	Nine bomb craters are visible on aerial photographs.	440065	110526
1017	45952		Hampshire County Council	62295	Monument	Barrage Balloon Site	A barrage balloon site is visible on aerial photographs.	440339	110518
1018	46067		Hampshire County Council	64104	Monument	Site Of Ordnance House	The site of Ordnance House, the Storekeeper and later Commander's house at the former Royal Naval Armaments Depot at Marchwood.	439093	111390
1019	46917		Hampshire County Council	67957	Findspot	Bronze Age Palstave	Findspot of a Bronze Age Palstave pre 1967.	440200	110900
1020	48474		Hampshire County Council	68395	Monument	Railway Transverser Associated With WW2 Mulberry Harbour	Associated with the Sea Mounting Centre, Marchwood	440211	110566
1021	48511		Hampshire County Council	64192	Monument	Anti-Tank Cube	Possible anti-tank cube (dragons tooth).	440816	110414
1022	50083		Hampshire County Council	69182	Maritime	Tarmac_0697: Deadeye	Isolated find of part of a circular wooden deadeye, identified as part of the Marine Aggregate Industry Protocol for Reporting Finds of Archaeological Interest.	439848	111158
1023	247693			72305	Monument	Marchwood Military Port	Geophysical survey over 20.6 ha.	440104.02	110584.90



WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
1024	3160		Hampshire County Council	2544	Historic Building	Marchwood Yacht Club (Former Entrance Lodges) And Attached Wall And Gates	Lodge (1814 AD-1814 AD)	439264	111437
1025	6829		Hampshire County Council	12328	Historic Building	Former A (No.1) Magazine And Enclosure Walls 100M N Of Yacht Club Offices	Early C19 magazine.	439253	111501
1026	11353		Hampshire County Council	25752	Historic Building	Frobisher Court And Attached Wall	Early C19 barracks.	439226	111366
1027	11354		Hampshire County Council	25754	Historic Building	Former Receiving Room At Royal Naval Armaments Depot	Part of early C19 military depot.	439250	111521
1028	17683		Hampshire County Council	25755	Historic Building	Former Examining Room And Associated Walls At Former Royal Naval Depot	Part of early C19 armaments depot.	439124	111481
1029	21802		Hampshire County Council	12331	Historic Building	Former Magazine And Associated Blast Walls At Royal Naval Armaments Depot	Magazine (1800 AD-1835 AD)	439063	111472
1030	26013		Hampshire County Council	25756	Historic Building	Blast Wall Around Rebuilt Magazine At Royal Naval Depot	Early C19 blastwall around rebuilt magazine at armaments depot.	439029	111286
1031		173010	RAF		Large Cut/Feature	Bomb Craters.	Ten bomb craters of Second World War date are visible as earthworks on aerial photographs (p1). They were digitally plotted during the Hampshire Aggregate Landscape Enhancement Project 2009. Location given as central most crater.	440872.15	109557.8



WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
1032		172818	RAF		Ditch	Drainage System	Fragmentary remains of a post medieval water meadow or drainage system are visible as earthworks on aerial photographs (p1) and digitally plotted during the Hampshire Aggregate Landscape Enhancement Project 2009. Location given is central most of three features.	439558.378	111255.82
1033		172821	RAF		Ditch	Water Meadow	Parallel ditches considered likely to be the remains of post medieval water meadows or drainage systems are visible as earthworks on aerial photographs (p1). They were digitally plotted during the Hampshire Aggregate Landscape Enhancement Project 2009. Location given as central most feature.	439580.19	111069.06
1034		172823	RAF		Ditch	Water Meadow	Fragments of ditch considered likely to be the remains of a post medieval water meadow or drainage system are visible as earthworks on aerial photographs (p1). They were digitally plotted during the Hampshire Aggregate Landscape Enhancement Project 2009. Location given of central most feature.	439869.2	110960.48
1035		172826	EA		Ditch	Field Boundaries	Three field boundaries of uncertain origin are visible as cropmarks on aerial photographs (p1). They were digitally plotted during the Hampshire Aggregate Landscape Enhancement Project 2009. Location given as central most feature.	440235.3	110154.35
1036		173003	NMR		Large Cut/Feature	Quarry	An area of extraction and associated spoil heaps is visible on aerial photographs (p1). It is considered likely to be a short-lived twentieth century extractive pit.	440176.53	110628.68



WA_ID	OBJ_ID	PRN	Compiler	Mon_ID	Site Record	Site Name	Site Summary	E (BNG)	N (BNG)
							Location as midpoint between quarry and spoil heap.		
1037				621825	Railway	Marchwood Military Railway	Army railway system from the Lymington line to Marchwood Military Port with a branch to Roberts Camp. Opened 1925. Location given as point of track within search area.	440355.07	110622.15
1038				234273	Railway	London And Southampton Railway	The London and Southampton Trunk Line originated in a proposal to construct a Spithead to London canal. It was soon apparent that it would be a prodigious and expensive task, and the newer rail transport was seen as a viable alternative. Location given as point within city of Southampton.	442588.76	111041.21



### Appendix 3: Gazetteer – Maritime Sites

WA_ID	Wreck/OBJ_ID	Compiler	MON_ID	Site Record	Site Name	Category / Site Summary	Status	E (BNG)	N (BNG)
2001	85830	UKHO		Wreck		foul ground		440534.33	111207.13
2002	95587	UKHO		Wreck		foul ground		440455.53	111273.58
2003	58117	UKHO		Wreck			dead	439120.12	111563.83
2004	68413	UKHO		Wreck			dead	442356.25	109707.32
2005	95591	UKHO		Wreck		foul ground		440451.19	111047.08
2006	19666	UKHO		Wreck		foul ground		441606.69	110780.01
2007	58116	UKHO		Wreck			lifted	440898.14	111484.85
2008	19388	UKHO		Wreck		foul ground		441555.74	109821.35
2009	58127	UKHO		Wreck		wreck showing any portion of hull or superstructure	dead	441245.01	109618.87
2010	19321	UKHO		Wreck		wreck showing any portion of hull or superstructure	dead	440492.70	110879.37
2011	58119	UKHO		Wreck		wreck showing any portion of hull or superstructure	dead	439746.77	111352.37
2012	19317	UKHO		Wreck		wreck showing any portion of hull or superstructure		441241.34	110143.22
2013	58128	UKHO		Wreck		wreck showing any portion of hull or superstructure	dead	441539.92	109389.56
2014	19322	UKHO		Wreck		Dangerous wreck	dead	440275.56	11117.12
2015	41751	Hampshire County Council	62077	Monument	Landing Stage	A landing stage is visible on aerial photographs on the foreshore at Gins, probably of post-medieval or later date		441191.00	110008.00
2016	41802	Hampshire County Council	62214	Monument	Dolphin	The site of a dolphin is visible on aerial photographs.		439332.00	111635.00
2017	43817	Hampshire County Council	64168	Monument	Metal Wreck In Southampton Water	A wrecked WWII ship.		441249.00	110120.00



WA_ID	Wreck/OBJ_ID	Compiler	MON_ID	Site Record	Site Name	Category / Site Summary	Status	E (BNG)	N (BNG)
2018	45359	Hampshire County Council	64195	Monument	Wreck Of A Landing Platform	Wreck of a landing platform beached at Dibden Bay.		441194.00	109902.00
2019	45507	Hampshire County Council	64196	Maritime	Wrecked Wooden Vessel	Wreck of a wooden vessel located on the banks of the Solent at Dibden Bay.		441276.00	109797.00
2020	46759	Hampshire County Council	65301	Monument	Site Of Cracknore Hard, Marchwood	Site of Cracknore Hard shown on historic mapping		440445.00	110988.00
2021	46954	Hampshire County Council	64170	Monument	Remnants Of A Pier	Remnants of a pier, wooden posts to the north and south appear to be associated.		441705.00	109213.00
2022	48507	Hampshire County Council	64152	Monument	Northern Extent Of A WW2 Beetle	Northern extent of a WWII Beetle located on the shore in Marchwood military port.		441310.00	109741.00
2023	48510	Hampshire County Council	64190	Monument	Concrete Slipway	Concrete slipway associated with the WWII port.		440865.00	110345.00
2024	48656	Hampshire County Council	68445	Monument	Section Of Mulberry Harbour	Section of Mulberry Harbour recorded as part of the Solent 70 project		441396.00	109600.00
2025	49443	Hampshire County Council	64193	Monument	WW2 Defenses	Concrete WWII defenses probably associated with the Mulberry harbour.		440994.00	110176.00
2026	49444	Hampshire County Council	64197	Monument	WW2 Landing Stage	A WWII landing stage wrecked on the foreshore of the Solent at Dibden Bay.		441328.00	109726.00
2027	49497	Hampshire County Council	64169	Monument		Th remnants of floating pontoons have been identified and is visible on Google Earth.		441222.00	110169.00



#### Appendix 4: Gazetteer – Recorded Losses

hob_UID	Name	Nationality	Description	Date of construction	Date of loss	Type	Cargo	Propulsion
1445810		English	1261 wreck of cargo vessel which stranded near Southampton. Constructed of wood, she was a sailing vessel. One of two vessels lost as discussed in source material.		1261	Cargo vessel		Sail
898858		English	1261 wreck of cargo vessel which stranded near Southampton. Constructed of wood, she was a sailing vessel. One of two vessels lost as discussed in source material.		1261	Cargo vessel		Sail
1449125	<i>Seinte Marie</i>	Portuguese	1383 wreck of Portuguese cargo vessel which was wrecked off or near Southampton.		1383	Cargo vessel	Fruit, wine and wax	Sail
1446505	<i>Seintmarie De Portaferro</i>	Portuguese	1428 wreck of Portuguese cargo vessel which was wrecked near Southampton after being taken and plundered by English pirates. Constructed of wood, she was a sailing vessel.		1428	Cargo vessel		Sail
1438990		English	1750 craft which capsized and was lost at Southampton during a storm. Constructed of wood, a vessel of unknown propulsion.		1750	Craft		Sail
1439416		English	1750 craft which capsized and was lost at Southampton during a storm. Constructed of wood, a vessel of unknown propulsion.		1750	Craft		Sail
1234102	<i>Rodney</i>	English	1781 wreck of English cargo vessel which stranded at her first port of call of Southampton from Oporto with wine, oil, and cork; a wooden sailing vessel.		1781	Cargo vessel	Wine, oil and cork.	Sail
898875	<i>Kingston</i>	English	1818 wreck of English sloop which stranded and bilged alongside Southampton Pier during a gale; a wooden sailing vessel.		1818	Sloop		Sail
898877	<i>Rambler</i>	English	1818 wreck of English sloop which stranded near Southampton Pier during a gale; a wooden sailing vessel.		1818	Sloop		Sail
898969	<i>Mosquito</i>	English	English smack, 1892. 17 tons.	1862	1892	Smack	Water	Sail
898988	<i>Economy</i>	English	English ketch, 1899. 66 tons.	1872	1899	Ketch	Coal	Sail
1151711	<i>Gwendoline</i>	Manx	Manx schooner, 1909. 45 tons.	1861	1909	Schooner	Ballast	Sail



hob_UID	Name	Nationality	Description	Date of construction	Date of loss	Type	Cargo	Propulsion
899024	<i>Myosotis</i>	English	1912 wreck of English barge which foundered while laid up at moorings on the Gymp Bank. Constructed of wood in 1877, she was a 'dumb' barge without propulsion of her own. 64 tons.	1877	1912	Grab barge		
899022	<i>Laiglon</i>	English	English yacht, 1912. 8 tons.		1912	Yacht	Ballast	Engine
1244041	<i>S H B</i>	English	English tug, 1913	1904	1913	Tug	Ballast	Steam engine
899029	<i>HMS Resource li</i>	British	British yacht, Hired by Admiralty 01/10/1915 as a depot ship, she caught fire, was totally gutted and sank.	1865	1915	Yacht		Steam engine
899034	<i>Betty</i>	English	English craft, 1935. Wooden craft. 18 tons.	1929	1935			Sail with auxiliary engine
1244323	<i>Norama</i>	British	British craft, 1940. 9 tons.		1940	Craft		Engine
1244301	<i>James No 70</i>	British	British barge, 1940. Attacked by aircraft, either destroyed or abandoned. 178 tons.		1940	Barge		Sail
899037	<i>HMS Lca553</i>	British	British landing craft, 1943. 14 tons.	1943	1943	Landing craft		Twin screw, diesel



## Appendix 5: Gazetteer – Seabed features of archaeological potential (mag targets)

ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7000	Magnetic	440768	110699	A2_h	66	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7001	Magnetic	440782	110715	A2_h	57	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7002	Magnetic	440791	110691	A2_h	131	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7003	Magnetic	440806	110710	A2_h	16	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7004	Magnetic	440807	110747	A2_l	81	A medium symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7005	Magnetic	440812	110676	A2_l	47	A small, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7006	Magnetic area	440838	110771	A2_h	189	A small magnetic area measuring approximately 21 x 12 m, containing two or more large dipolar anomalies. Interpreted as possible ferrous debris.	Mag.	-
7007	Magnetic	440841	110812	A2_l	157	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7008	Magnetic	440844	110738	A2_h	1007	A very large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7009	Magnetic	440847	110711	A2_h	42	A small, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7010	Magnetic	440853	110819	A2_l	114	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7011	Magnetic	440858	110771	A2_h	99	A medium, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7012	Magnetic	440859	110722	A2_h	30	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7013	Magnetic	440870	110589	A2_h	52	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7014	Magnetic	440871	110826	A2_h	12	A small positive monopole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7015	Magnetic	440874	110612	A2_l	89	A medium, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7016	Magnetic	440875	110720	A2_h	83	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7017	Magnetic	440876	110783	A2_h	28	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7018	Magnetic area	440885	110804	A2_h	363	A large magnetic area measuring approximately 65 x 24 m, containing five or more medium to large dipolar anomalies. Interpreted as possible ferrous debris.	Mag.	-
7019	Magnetic	440888	110612	A2_h	61	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7020	Magnetic	440891	110923	A2_h	24	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7021	Magnetic	440895	110622	A2_h	151	A large, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7022	Magnetic	440895	110888	A2_h	27	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7023	Magnetic	440899	110893	A2_l	18	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7024	Magnetic	440900	110839	A2_h	8	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7025	Magnetic	440902	110824	A2_l	18	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7026	Magnetic	440904	110930	A2_h	24	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7027	Magnetic	440905	110783	A2_h	62	A medium positive monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7028	Magnetic	440907	110585	A2_l	24	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7029	Magnetic	440910	110615	A2_h	69	A medium, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7030	Magnetic	440911	110852	A2_h	25	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7031	Magnetic	440914	110878	A2_h	46	A small, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7032	Magnetic	440916	110591	A2_h	46	A small, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7033	Magnetic	440916	110869	A2_h	37	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7034	Magnetic	440920	110834	A2_h	40	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7035	Magnetic	440920	110571	A2_h	279	A large, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7036	Magnetic	440922	110959	A2_h	29	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7037	Magnetic	440923	110816	A2_h	30	A small positive monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7038	Magnetic	440927	110795	A2_h	31	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7039	Magnetic	440933	110917	A2_l	8	A small, broad symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7040	Magnetic	440934	111033	A2_h	84	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7041	Magnetic	440935	110857	A2_h	19	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7042	Magnetic	440935	110799	A2_h	34	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7043	Magnetic	440935	110760	A2_h	225	A large, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7044	Magnetic	440936	110867	A2_h	16	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7045	Magnetic	440938	110940	A2_h	22	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7046	Magnetic	440952	110610	A2_l	9	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7047	Magnetic	440954	110856	A2_l	60	A medium, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7048	Magnetic	440954	111003	A2_h	10	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7049	Magnetic	440957	110637	A2_h	35	A small, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7050	Magnetic	440964	110641	A2_l	15	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7051	Magnetic	440965	110844	A2_h	19	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7052	Magnetic	440966	110863	A2_h	326	A large, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7053	Magnetic	440970	110554	A2_l	19	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7054	Magnetic	440972	110640	A2_h	32	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7055	Magnetic	440978	110879	A2_h	34	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7056	Magnetic	440979	110900	A2_l	15	A small, broad asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7057	Magnetic	440983	110682	A2_h	158	A large, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7058	Magnetic	440985	110851	A2_h	39	A small, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7059	Magnetic	440988	110806	A2_h	135	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7060	Magnetic	440990	110818	A2_h	40	A small, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7061	Magnetic	440990	110645	A2_h	23	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7062	Magnetic	440990	110875	A2_h	33	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7063	Magnetic	440996	110883	A2_h	21	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7064	Magnetic	440996	110910	A2_l	19	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7065	Magnetic	441000	110902	A2_h	38	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7066	Magnetic	441005	110702	A2_h	25	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7067	Magnetic	441008	111081	A2_h	43	A small, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7068	Magnetic	441009	110609	A2_l	9	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7069	Magnetic	441009	110632	A2_l	9	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7070	Magnetic	441012	110699	A2_h	30	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7071	Magnetic	441014	110793	A2_h	26	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7072	Magnetic	441015	110718	A2_h	25	A small negative monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7073	Magnetic	441020	110894	A2_l	12	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7074	Magnetic	441021	110727	A2_h	16	A small positive monopole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7075	Magnetic	441024	111054	A2_l	31	A small negative monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7076	Magnetic	441026	110685	A2_h	21	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7077	Magnetic	441026	111062	A2_h	99	A medium, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7078	Magnetic	441029	110714	A2_h	52	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7079	Magnetic	441031	110788	A2_h	13	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7080	Magnetic	441033	110776	A2_l	16	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7081	Magnetic	441038	110666	A2_h	114	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7082	Magnetic	441040	110769	A2_h	34	A small, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7083	Magnetic	441041	110605	A2_l	12	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7084	Magnetic	441046	111005	A2_l	6	A small, broad symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7085	Magnetic	441051	110790	A2_l	11	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7086	Magnetic	441053	110713	A2_h	24	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7087	Magnetic	441054	110872	A2_l	9	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7088	Magnetic	441056	111029	A2_h	107	A large, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7089	Magnetic	441056	110780	A2_l	18	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7090	Magnetic	441062	110826	A2_h	24	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7091	Magnetic	441062	110740	A2_h	13	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7092	Magnetic	441064	110622	A2_h	114	A large, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7093	Magnetic	441070	110812	A2_l	8	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7094	Magnetic	441070	110802	A2_l	7	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7095	Magnetic	441072	110807	A2_h	19	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7096	Magnetic	441073	110703	A2_h	18	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7097	Magnetic	441075	110722	A2_h	81	A medium, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7098	Magnetic	441075	110823	A2_h	8	A small, broad asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7099	Magnetic	441078	110818	A2_l	5	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7100	Magnetic	441080	110660	A2_h	22	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7101	Magnetic	441082	110772	A2_h	9	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



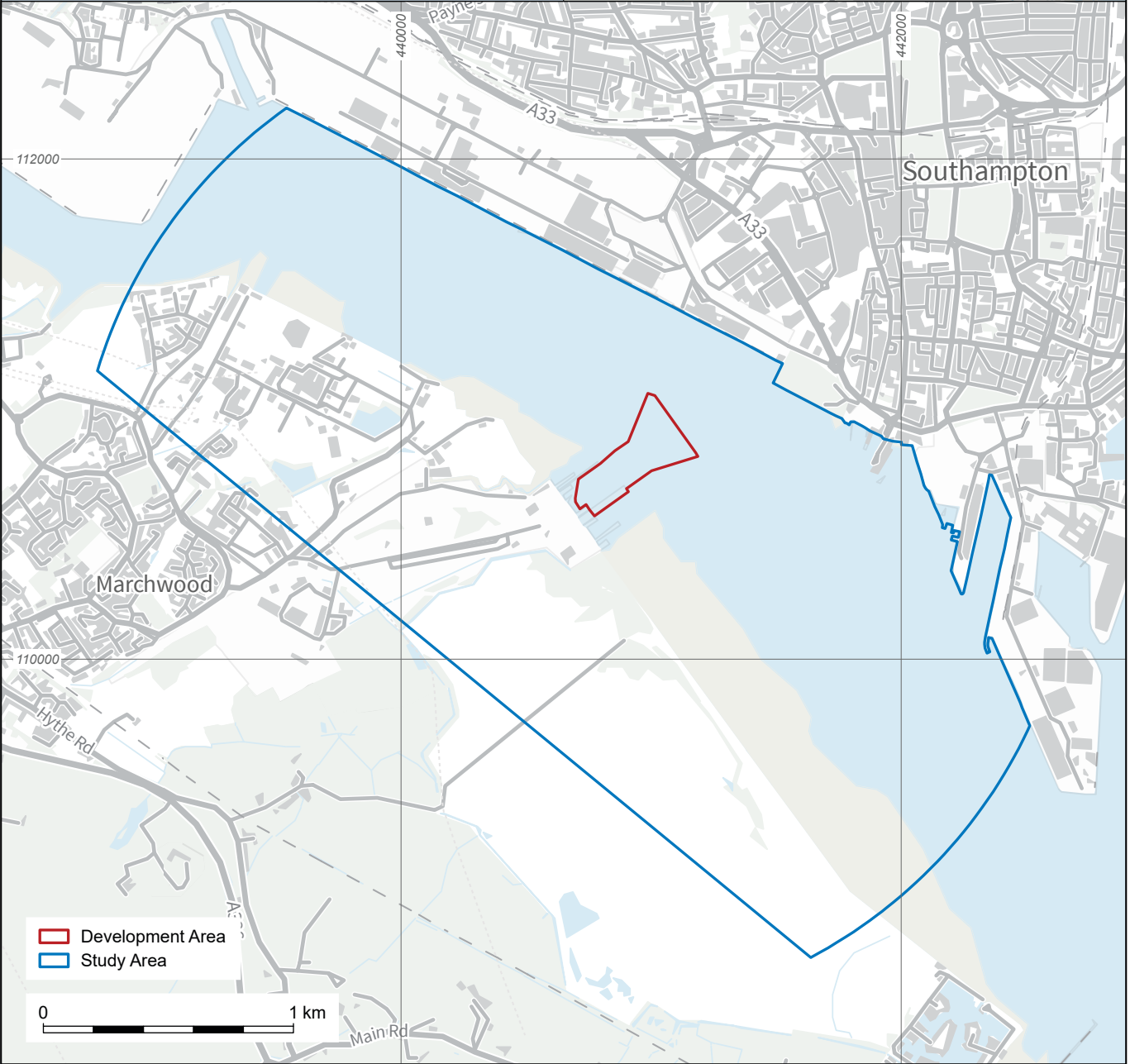
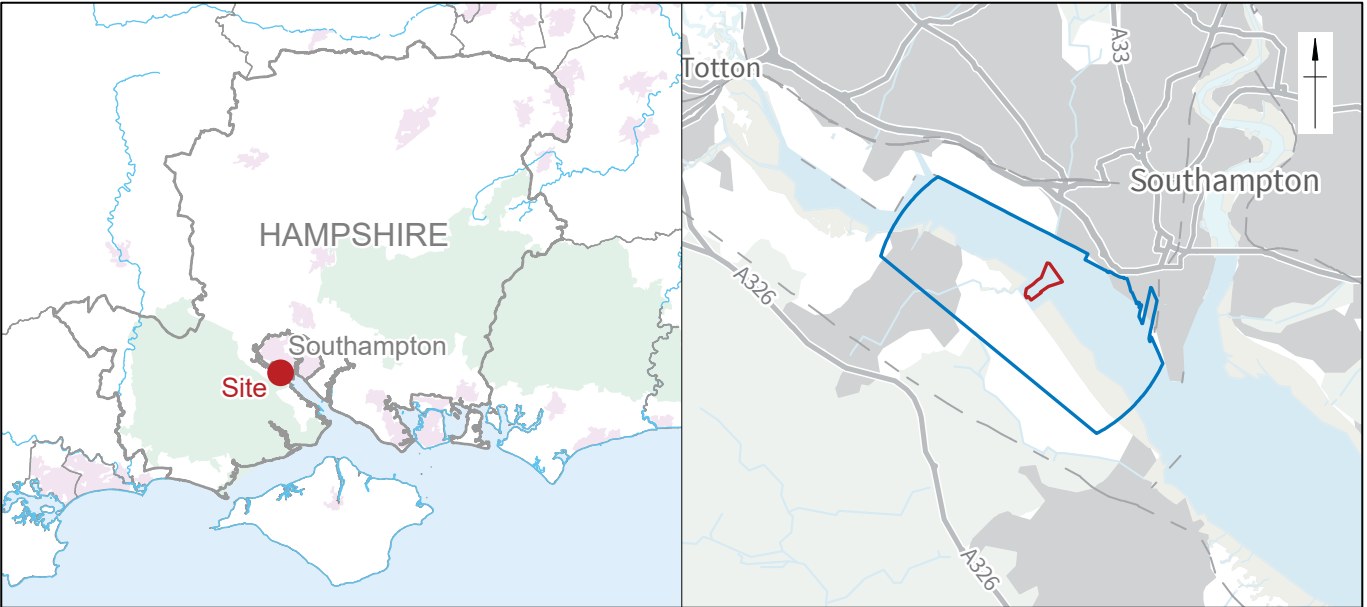
ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7102	Magnetic	441083	110749	A2_l	43	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7103	Magnetic	441083	110946	A2_h	109	A large, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7104	Magnetic	441087	110777	A2_h	16	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7105	Magnetic	441090	110812	A2_l	8	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7106	Magnetic	441093	110755	A2_l	10	A small negative monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7107	Magnetic	441101	110701	A2_h	14	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7108	Magnetic	441103	110762	A2_l	7	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7109	Magnetic	441110	110908	A2_h	12	A small, broad asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7110	Magnetic	441114	110805	A2_h	7	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7111	Magnetic	441115	110670	A2_h	117	A large, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7112	Magnetic	441120	110925	A2_h	105	A large, sharp positive monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7113	Magnetic	441121	110753	A2_h	48	A small, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7114	Magnetic	441139	110677	A2_h	219	A large, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7115	Magnetic	441140	110933	A2_h	31	A small, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7116	Magnetic	441141	110898	A2_h	39	A small, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7117	Magnetic	441148	110794	A2_l	10	A small, broad asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7118	Magnetic	441149	110875	A2_h	155	A large, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7119	Magnetic	441150	110914	A2_h	20	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7120	Magnetic	441151	110738	A2_l	14	A small, broad asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7121	Magnetic	441155	110724	A2_h	89	A medium, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7122	Magnetic	441157	110697	A2_l	58	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7123	Magnetic	441157	110804	A2_l	10	A small, broad asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7124	Magnetic	441159	110750	A2_l	23	A small negative monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7125	Magnetic	441161	110892	A2_h	58	A medium, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7126	Magnetic	441161	110745	A2_l	14	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7127	Magnetic	441163	110884	A2_l	9	A small symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7128	Magnetic	441182	110703	A2_h	52	A medium, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7129	Magnetic	441187	110703	A2_h	50	A small, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7130	Magnetic	441190	110709	A2_h	48	A small, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7131	Magnetic	441190	110839	A2_h	38	A small, sharp symmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-



ID	Classification	Easting	Northing	Archaeological discrimination	Magnetic amplitude (nT)	Description	Anomaly type	External references
7132	Magnetic	441194	110729	A2_h	30	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7133	Magnetic	441194	110849	A2_h	33	A small symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7134	Magnetic	441194	110756	A2_h	25	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7135	Magnetic	441198	110742	A2_l	20	A small asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7136	Magnetic	441209	110705	A2_h	415	A large, sharp positive monopole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7137	Magnetic	441229	110703	A2_h	159	A large, sharp symmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7138	Magnetic	441231	110818	A2_h	38	A small asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7139	Magnetic	441244	110799	A2_h	45	A small, sharp asymmetric dipole with peak and trough on one profile line. Interpreted as possible ferrous debris.	Mag.	-
7140	Magnetic	441251	110701	A2_h	60	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-
7141	Magnetic	441254	110696	A2_h	63	A medium, sharp asymmetric dipole with peak and trough over two profile lines. Interpreted as possible ferrous debris.	Mag.	-



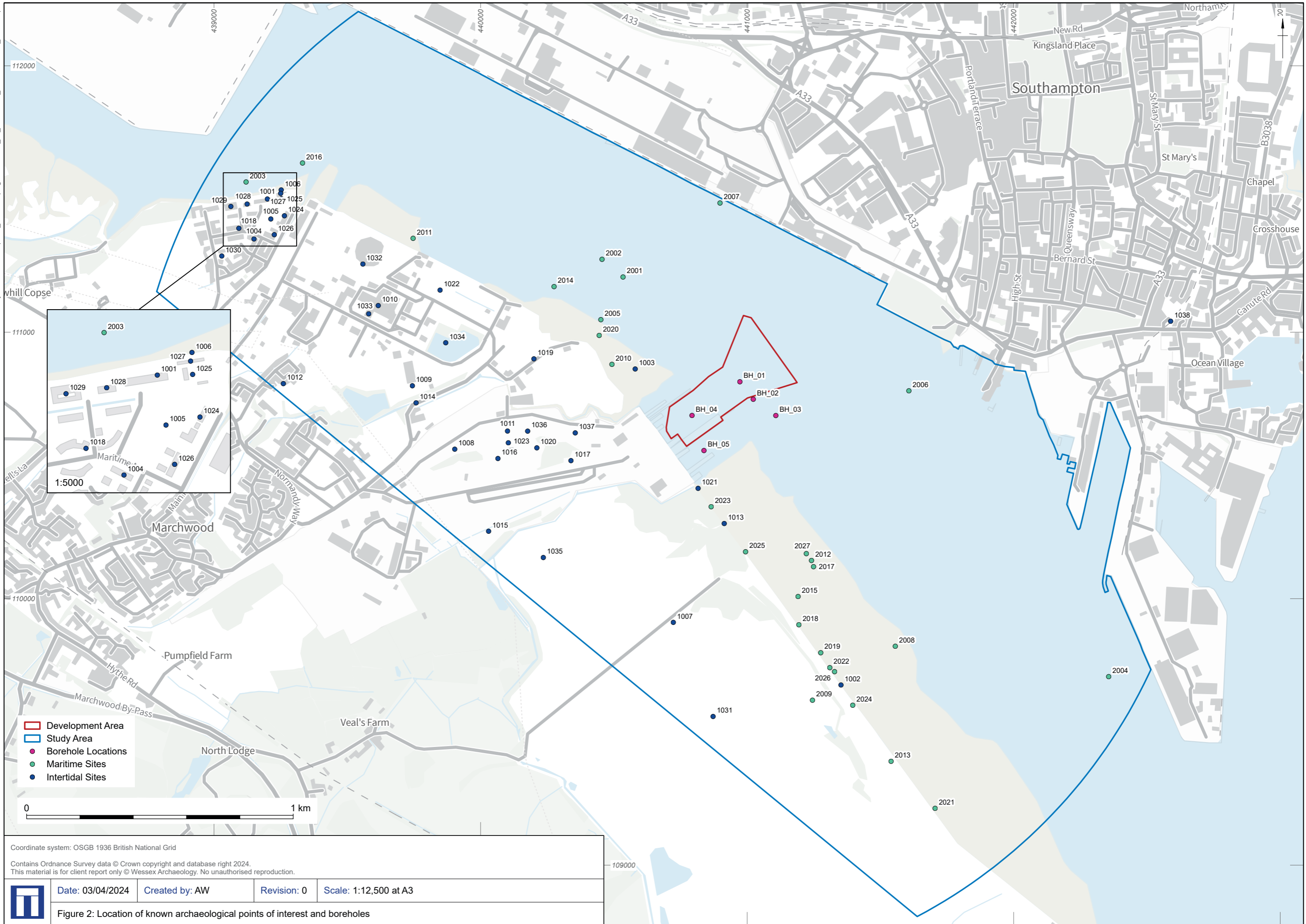
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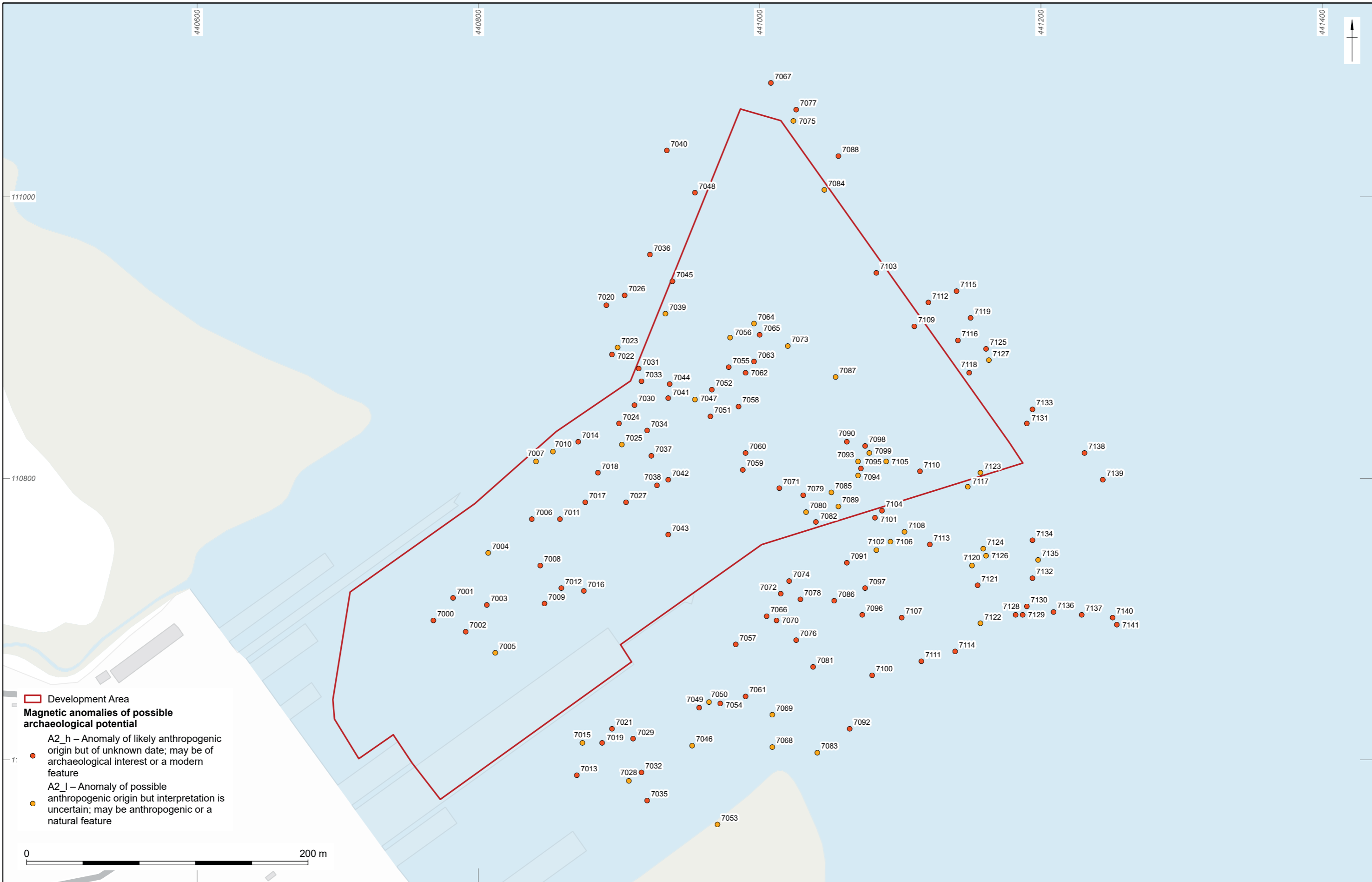
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Figure 1: Site location and development and study areas





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	Figure 3: Location of magnetic anomalies of possible archaeological potential			