



Project Nemo UK-Belgium
Electrical Interconnector
Richborough to West Zeebrugge

Archaeological Environmental Impact Assessment
Volume II: Appendices



**PROJECT NEMO
UK-BELGIUM ELECTRICAL INTERCONNECTOR
RICHBOROUGH TO WEST-ZEEBRUGGE**

ARCHAEOLOGICAL ENVIRONMENTAL IMPACT ASSESSMENT

Volume II: Appendices

(cf. Volume I: Report)

Prepared for:

PMSS

by
Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
SP4 6EB

Report reference: 73390.03

July 2016

Title:	Project Nemo: UK-Belgium Electrical Interconnector – Richborough to West-Zeebrugge Archaeological Environmental Impact Assessment – Volume II: Appendices
Principal Author(s):	Andrea Hamel, Nicolas Bigourdan
Managed by:	Euan McNeill
Origination date:	March 2011
Date of last revision:	July 2016
Version:	73390.03 – Volume II: Appendices
Wessex Archaeology QA:	Caroline Budd
Status:	Final Report
Summary of changes:	Final Report produced from previous draft with updates to the France/Belgium maritime boundary
Associated reports:	73390.01 – Volume II, 73390.02 – Volume II, 73390.03 – Volume I
Client Approval:	Jason Cunningham PMSS

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APPENDIX I: LEGISLATION AND GUIDANCE

1.1 JURISDICTION

1.1.1 This section presents the legal and policy framework applicable to archaeology in the Study Area, encompassing the territorial waters administered by England and Belgium, within the 12 nautical mile limit, and extending to those areas beyond the 12 nautical mile limit, comprising the Exclusive Economic Zone (EEZ) administered by the United Kingdom, France and Belgium.

1.1.2 It is generally accepted that states have jurisdiction in respect to heritage within their territory, and within their territorial waters to 12 nautical miles. Beyond 12 nautical miles, the situation is more complex. While there are grounds for exercising authority in respect of maritime archaeology in the EEZ, these grounds are limited by international law, such as the UNCLOS Article 149 and 303.

1.2 ENGLAND / UNITED KINGDOM

1.2.1 The NEMO electrical interconnector passes through English Territorial Waters (to the 12 nautical mile limit) and extends beyond the limit to the UK EEZ.

1.2.2 Within the 12 nautical mile limit, the archaeology and historic environment is under the responsibility of English Heritage. In addition, some UK legislation applies to English wrecks whether in English or international waters. In general, newly discovered maritime sites in the UK are not automatically protected under the current legislation until a request for protection is formulated following an identified threat upon the site or an evaluation of its particularity. However, military aircraft are automatically protected.

1.2.3 Legislation in England is currently under review, however the section below represents the situation at time of writing. Although not yet ratified, the draft Heritage Protection Bill, published in 2008, has been designed to unify the terrestrial and marine heritage protection systems, and will replace the provisions of the Planning (Listed Buildings and Conservation Areas) Act (1990), the Ancient Monuments and Archaeological Areas Act (1979) and the Protection of Wrecks Act (1973). However, until it comes into effect, the following legislation remains in place.

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
Ancient Monuments and Archaeological Areas Act (AMAA) (1979)	Scheduled Monuments and AAls are afforded statutory protection and the consent of the Department of Culture Media and Sport, advised by English Heritage, is required for any works.
Planning (Listed Buildings and Conservation Areas) Act (1990)	Works affecting Listed Buildings or structures and Conservation Areas are subject to additional planning controls administered by Local Planning Authorities (LPAs).
Protection of Wrecks Act (PWA) (1973)	Under the PWA (1983) Section One, wrecks and wreckage of historical, archaeological or artistic importance can be protected through designation. It is an offence to carry out certain activities in a defined area surrounding a wreck that has been designated, unless a licence for those activities has been obtained. Section Two provides protection for wrecks that are designated as dangerous due to their contents and is administered by the Maritime and Coastguard Agency (MCA) through the Receiver of Wreck (RoW).

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
Protection of Military Remains Act (PMRA) (1986)	Under the PMRA (1986) all UK aircraft that have crashed while in military service are automatically protected. This part of the Act applies to UK aircraft whether they are located in United Kingdom waters or international waters. The ministry of Defence (MoD) also has powers to protect vessels that were in military service when lost, whether located in United Kingdom waters or international waters.
Merchant Shipping Act (MSA) (1995)	This act sets out the procedures for determining the ownership of underwater finds of 'wreck' material – including flotsam, jetsam, derelict and lagan found in or on the shores of the sea or any tidal water. It includes ship, aircraft, hovercraft, parts of these, their cargo or equipment. If any such finds are brought ashore, the salvor is required to give notice to the RoW. This act covers not only finds of material discovered in English Territorial Waters, but also wreck found or taken into possession outside UK waters but brought into UK waters
Marine and Coastal Access Act (2009)	This involves the regulatory framework affecting development in the coastal area. Through Integrated Coastal Zone Management (ICZM), everyone involved in the management and use of a particular stretch of coast will be brought together within a framework that works to achieve common goals.
Planning Policy Statement 5: Planning for the Historic Environment (PPS 5)	Applies to the marine environment above the mean high water spring tide mark. PPS 5 acknowledges the potentially fragile and finite or irreplaceable nature of the historic environment resource and emphasises the desirability of preserving archaeological remains and their setting within the planning process. It notes that where preservation <i>in situ</i> is not justified it is reasonable for planning authorities to require the developer to make appropriate and satisfactory provision for the excavation and recording of remains.
Code of Practice for Seabed Developers Joint Nautical Archaeology Policy Committee 2006 (JNAPC)	This voluntary code provides a framework for seabed developers similar to the principles found in current policy and practice on land. The aim of the Code is to ensure a best practice model for seabed development. The Code offers guidance to developers on issues such as risk management and legislative implications.
England's Coastal Heritage: a statement on the management of coastal archaeology (1996)	This statement sets out a number of principles for managing coastal archaeology. These include the promotion of preservation <i>in situ</i> , that finds should be managed in accordance with the principles which apply to terrestrial archaeological remains, that marine and terrestrial remains must be considered seamlessly, that a precautionary approach should be adopted and that PPG16 (now PPS5) should be applied to the treatment of sub-tidal archaeological remains in order to ensure best practice.
Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers (English Heritage 1998)	This draws attention to the importance of Palaeolithic remains and states that they must be considered in line with PPG 16 (now PPS 5) when potentially affected by development proposals. Palaeolithic remains are rare and therefore would be of heightened archaeological importance.

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
Military Aircraft Crash Sites (English Heritage 2002)	This provides archaeological guidance regarding the significance and future management of military aircraft crash sites. It outlines the importance of aircraft crash sites and indicates that they should be considered where they are affected by development proposals.
The Burial Act (1857)	If human remains, including cremated remains, are discovered in the course of site investigations or construction, they must not be exhumed unless a licence has been obtained. The Ministry of Justice is responsible for burials in England and it advises that anyone disturbing buried remains accidentally is advised to leave the remains in place and to contact them immediately.
The Treasure Act (1996)	In England, all finders of 'treasure' are under a legal obligation to report such items to a coroner for the district in which they were found. The Portable Antiquity Scheme defines treasure as: any metallic object that consists of at least 10% precious metal; any group of two or more metallic objects of prehistoric date; all coins that are at least 300 years old; any objects associated with 'treasure' and any object that would previously have been 'treasure trove'.
Kent and Medway Structure Plan (2003)	The local planning and guidance policy addresses heritage, archaeological sites, buildings or architectural or historic importance and historic landscape within the context of development in the county of Kent.

1.3 FRANCE

- 1.3.1 The NEMO electrical interconnector passes through French waters beyond the 12 nautical mile limit, but within the Contiguous Zone in the French EEZ. The maritime heritage within both these zones is protected by two pieces of the same legislation which is defined as legal and practical code. The first one is specifically oriented as a legal instrument for the protection of maritime cultural properties, and the second one is defined as a code of practice under the context of rescue archaeology.

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
<p>Law n° 89-874 relating to Maritime Cultural Properties (1989)</p>	<p>Comprised of Articles L532-1 to L532-14 from Chapitre 2, Titre III, Livre V of the Code to Patrimoine (consolidated version from the 14th of July 2010), and the Articles L544-5 to L544-11, Chapitre 4, Titre IV, Livre V of the Code du Patrimoine. The content of these articles was enacted by the Decret n° 91-1226 in 1991, and has been recently modified as part of a general revision of the Code du Patrimoine by the Ordonnance 2004-178 art 7, 14°JORF in 2004.</p> <p>This law concerns all maritime cultural property such as deposits, wrecks, remains or generally all property having prehistoric, archaeological, or historical interest and which are located within either the 12 nautical mile limit or the Contiguous Zone (24 nm). It is an offence to carry out any investigative activities, prospective activities or cultural property movement without a granted permission from the French authorities, and that the latter activities have to be effectively undertaken under the direction of the permit holder. If the physical integrity of cultural maritime property is being compromised, it is declared of public interest that a Court of Justice pronounce the transfer of the property's ownership to the French government against some financial compensation.</p> <p>Every find within these waters must be reported by the finder. All failure to comply with the obligation of declaring all discoveries, or the making of a false declaration can lead to a fine of 3750€. Any unauthorised activity on a maritime cultural property can lead to a fine of 7500€. Any person found guilty of acquisition or selling maritime cultural properties from the French maritime public domain can be subject to a sentence of 2 years in jail and a fine of 4500€ or the double of the selling price.</p> <p>Each declaration of discovery to the French authorities can be subject to a reward of which the nature and amount would be determined by the administrative authorities depending on the find's importance and rarity. All maritime cultural property must be claimed by its owner within three years of discovery or ownership will automatically be shifted to the French government.</p>

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
<p>Law n° 2001-44 relating to Rescue Archaeology (2001)</p>	<p>Articles L521-, L522-1 to L522-8, L523-1 to L523-14, and L524-1 to L524-16 from the Chapitre 1 to 4, Titre II, Livre V of the Code du Patrimoine. These texts are the codification of law n° 2001-44 relating to rescue archaeology which has been modified by law n° 2003-707 from the 1st August 2003.</p> <p>This legislation establishes that rescue archaeology is a public service which is governed by applicable scientific research principles. Its objectives are to ensure on land and underwater an appropriate framework for the detection, conservation, interpretation, dissemination and rescue by scientific study the archaeological heritage affected or potentially affected by private or public development.</p> <p>Operationally, investigative diagnostics are generally undertaken by the governmental rescue archaeology institute INRAP (Institut National de la Recherche en Archeologie Preventive) or local council archaeological services. However, the developer can select a private archaeological operator so long as they hold the agreed accreditation from the French authorities. Financially, these operations are funded by two different sources: the rescue archaeology fee (Redevance d'Archeologie Preventive (RAP)) which funds investigative diagnostics, and the national fund for rescue archaeology (Fond National pour l'Archeologie Preventive) which helps some developers to pay the costs of excavation. This fee is due for all development projects that affect the ground or seabed and is calculated and determined by local planning services (such as the DRAC, SRA, DDE, and so forth). If excavation is required, the price that the developer has to pay to the operator is the counterpart of this excavation service accomplished by this operator.</p>

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
<p>Inter-prefectoral Decree No. 89/2010 of the Atlantic Maritime Prefet and No. 64/2010 of the Maritime Prefet of the Channel and the North Sea</p>	<p>Article 1: Exploration and research relating to wrecks or maritime cultural heritage situated in the economic zone, the adjacent zone and in the French EEZ offshore from the French coasts of the Atlantic Sea, the Channel and the North Sea are permitted, provided that an information dossier describing the activities planned is submitted (by registered post) to the appropriate maritime Préfet at least 3 months in advance of the commencement of the works.</p> <p>Article 2: Such notification becomes invalid if no activities take place within 30 days of the planned start of the works, or when the works are suspended for a period of 30 days or more. The notification may not used by any other person or organisation other than the original applicant, nor to any other ship than that which is stated in the original submission.</p> <p>Article 3: The information dossier must state the exact nature of the activities planned, must include a list with descriptions of the prospecting and research equipment which is to be used, the precise location (using the WGS 84 geodesic co-ordinates system) of the areas where the operations are to take place, the duration of the operations (with start and end dates), and the use to which the research or items recovered will be put. It must also include a statement setting out the description and function of the wreck or the asset, as well as any historic information which relates to them. The information dossier must include an evaluation of the impacts of the proposed operations on the marine environment.</p> <p>Article 4: Non-observance of the provisions of this Decree will render the operators liable to be required immediately to depart from the marine areas quoted in Article 1 or to return to a French port suitable for the carrying out of an enquiry and to such fines or other penalties which may apply in the circumstances of such non-observance.</p> <p>Article 5: Inter-prefectoral Decree No. 40/2010 of the Atlantic Maritime Prefet and No. 12/2010 of the Maritime Prefet of the Channel and the North Sea dated 21 April 2010 is hereby superseded by the present Decree</p> <p>Article 6: The Admirals commanding the Atlantic and the maritime zone of the Channel-North Sea, the inter-regional director of Rouen Customs, the inter-regional director of N.Atlantic/W.Channel sea areas, the officers and other staff responsible for policy on mines, wrecks, marine cultural heritage, navigation and continental shelf exploration are charged with the execution of the present Decree, each according to their particular areas of responsibility.</p>

1.4 BELGIUM

1.4.1 The NEMO electrical interconnector has a Belgian terrestrial landfall, passes through Belgian Territorial Waters (within 12 nautical miles) and includes an area of the Belgian EEZ. The following legislation applies to archaeology and the historic environment, and has been provided by the VIOE (Vlaams Instituut voor het Onroerend Erfgoed) from data developed by the MACHU project (Culture 2000).

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
Flemish Parliament Act on the Protection of the Archaeological Patrimony (1993) (Archeologiedecreet, 1993)	This Act is enforced on a regional level on land to low water level. It regulates the protection, preservation, maintenance, restoration and management of the archaeological heritage of Flanders. In addition, it regulates archaeological excavation, prospection (whether through impact to soil or with metal detectors) and unexpected discoveries. This decree may be revised in 2010, and there is political intention to implement the European Valletta Convention and the UNESCO Convention.
Wreck Act on the Finding and Protection of Wrecks (2007) (Wrakkenwet, 2007)	This Act is enforced in federal and territorial waters. It regulates the right of property of wrecks and wreckage in the Belgian territorial sea. In addition, it creates a judicial base for the protection of shipwrecks of archaeological and historical value within the territorial sea. The legislation is based on an agreement between the Federal Ministry of Northsea Affairs and the Flemish Ministry of Spatial Planning and the environment. Although the Act has been agreed on, it has not yet been implemented.
Royal Decree concerning the exploration and exploitation of non-organic resources in the territorial sea and the continental shelf (2004) (Koninklijk Besluit betreffende de exploratie en de exploitatie van niet-levende rijkdommen in de territoriale zee en op het continentaal plat, 2004.	This decree applies to federal and territorial waters as well as the continental shelf. It concerns the conditions, geographic boundaries and procedure of attribution of concessions for the exploration and exploitation of mineral and other non-organic resources. It concerns maritime heritage because it indicates the geographic areas of exploration/exploitation in which the level of threats towards the maritime heritage rise.
Royal Decree creating special zones of protection and nature conservation in the marine area under Belgian jurisdiction (revised) (2005), (Koninklijk Besluit tot instelling van speciale beschermingszones en speciale zones voor natuurbehoud in de zeegebieden onder Belgische rechtsbevoegdheid (bijgewerkt), 2005.)	This decree is enforced in federal waters, territorial waters and on the continental shelf within the Exclusive Economic Zone beyond 12 nautical miles. It marks out the first Marine Protected Areas in the Belgian part of the Northsea: enforcing the European directive of Important Birds (1979) and the European directive of their habitats (1992). It also concerns maritime heritage, because the threats towards maritime heritage in these areas is lower (Articles 2 & 5).

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
Special law of the Reformation of the institutions (revised) (1980), (Bijzondere wet tot Hervorming der Instellingen, 1980)	This federal legislation divides Belgium into Provinces and Regions while marking out their boundaries. The border of the province of West-Flanders is at 0m LWL.
Act on the protection of the marine environment in sea areas under Belgian jurisdiction (revised) (1999) (Wet ter bescherming van het mariene milieu in de zeegebieden onder Belgische Rechtsbevoegdheid (MMM) (herzien), 1999)	This legislation applies to federal, territorial waters and the continental shelf Exclusive Economic Zone. It summarises the general principles of environmental law, and the purpose of the Act is to preserve the nature, biodiversity and untouched character of the marine environment in Belgian waters. It aims to protect the marine environment and to restore any previous damage to the marine environment. This concerns maritime heritage as it regulates human impact in the marine areas.

1.5 INTERNATIONAL

- 1.5.1 International heritage policies can apply to all three countries, while other international policies apply beyond each country's territorial waters. Current international law such as UNCLOS Articles 149 and 303, places on signatory states a direct duty of care in regards to wrecks and other submerged historic environment resources. Additionally, some indirect regulation arises from the environmental controls placed on the regulated exploitation of natural resources.
- 1.5.2 Material discovered on the Continental Shelf / in the EEZ may also be subject to UK legislation, such as the MSA (1995) which covers wreck found or taken into possession outside UK waters but brought into UK waters, and the PMRA (1986) which covers British controlled ships, British citizens and British companies.

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
European Landscape Convention (ELC) (also known as the Florence Convention) (2000)	This became binding on the Belgium in 2005, France in 2006 and the UK in 2007. Its principle clauses require the Government to protect and manage landscapes and to integrate landscape into regional and town planning policies including its cultural, environmental, agricultural, social and economic policies. The ELC applies to land, inland water and marine areas, however it is not regarded as applying to sea areas that lie beyond territorial waters (the 12 nautical mile limit).
European Directives (85/337/EEC, 97/11/EC, 2001/42/EC)	Continental shelf activities are subject to Environmental Impact Assessments, and the effects of those activities on the archaeological heritage have to be addressed and mitigation proposed.

LEGISLATION / POLICY TITLE	GENERAL OVERVIEW
United Nations Convention on the Law of the Sea (UNCLOS) (1982) (Zeerechtenverdrag, 1982)	UNCLOS 1982 has been ratified by the UK, France and Belgium. Article 149 and 303 stipulates that ‘states have the duty to protect objects of an archaeological and historical nature found at sea and shall co-operate for this purpose’. These articles also provides for coastal states to exert a degree of control over the archaeological heritage within the Exclusive Economic Zone.
European Convention on the Protection of the Archaeological Heritage (Revised) 1992 (the Valletta Convention)	The Valletta Convention has been ratified by France and the UK, and came into force in 1996 in France and in 2001 in the UK. Belgium has signed the Convention, however it has not yet been ratified and therefore has not yet come into force. The convention binds countries to implement protective measures for the archaeological heritage within the jurisdiction of each party, including sea areas. The Convention identifies that archaeological interests should be included in the spatial planning process, and that preservation <i>in situ</i> should be considered as the first option. Parties to the convention are obliged to take legal measures for the protection of the archaeological heritage and to warrant the scientific quality of the archaeological research.
UNESCO Convention on the Protection of Underwater Cultural Heritage (UNESCO) (2001)	The UNESCO Convention is a comprehensive attempt to codify international law with respect to underwater archaeological heritage. Although the UK abstained in the vote on the final draft of the Convention, it has stated that it supports most of the articles, particularly the provisions in the Annex governing the conduct of archaeological investigations. Neither France nor Belgium are signatories either, however twenty States have now ratified the Convention, which therefore entered into force on 2 January 2009.
International Council on Monuments and Sites (ICOMOS) Charter on the Protection and Management of Underwater Cultural Heritage (1996) (the Sofia Charter)	The Sofia Charter includes a series of statements regarding best practice, intending ‘to ensure that all investigations are explicit in their aims, methodology and anticipated results so that the intention of each project is transparent to all. Belgium, France, and the UK are all members of ICOMOS.
ICOMOS Charter on the Protection and Management of Archaeological Heritage (1990)	The Charter states that archaeological heritage is a fragile and non-renewable cultural resource, and land use must therefore be controlled and developed in order to minimise the destruction of the archaeological heritage. The protection of the archaeological heritage should be integrated into planning policies at international, national, regional and local levels.

APPENDIX II – SUB-BOTTOM PROFILER GAZETTEER

This appendix includes a description of sub-bottom profiling data produced by MMT. Areas of particularly high prehistoric archaeological potential have been illustrated (see **Figure 7 & 16**). However, the remaining images are held in the project archive for future reference.

WA ID	Name / Classification	Archaeological Discrimination	Description	Sources
7500	Palaeochannel	A1	A generally NNE - SSW trending under-filled palaeochannel as identified by multibeam bathymetry. Sub-bottom profiler assessment indicates the presence of channel fill in the base of the feature, and coring has recovered intact terrestrial peat deposits. Cuts through erosion surface 7502. Depth Range: 0.0m - 3.8m BSB.	6511 (sbp)
7501	Palaeochannel	A1	An area of shallow, poorly defined, under-filled palaeochannels as identified in the multibeam bathymetry data. Only one small channel has been identified by the sub-bottom profiler, indicating the rest of the area either has very thin deposits or is filled with more homogenous material. Depth Range: 0.0m - 8.3m BSB.	6510 (sbp)
7502	Erosion Surface	A2	Poorly defined, sporadic, undulating reflector associated with an area of under-filled palaeochannels observed on the multibeam bathymetry data and two observed on the sub-bottom profiler data (7500 and 7501). Could represent the top of the bedrock, or an erosion surface within more recent deposits. Depth Range: 3.4m - 9.4m BSB.	6509 (sbp)
7503	Simple Cut and Fill	A2	Possible poorly defined simple cut and fill located beneath an area of sand waves. Possibly part of an old palaeochannel system. Depth Range: 0.7m - 11.3m BSB.	6507 (sbp)
7504	Simple Cut and Fill	A2	Possible poorly defined simple cut and fill located below erosion surface 7505 and an area of sand waves. Possibly part of an old palaeochannel system. Presence of sand waves probably ensures the feature is mostly beyond the depth of the proposed scheme, though these are likely to be ephemeral features. Depth Range: 2.9m - 15.3m BSB.	6504 (sbp)
7505	Erosion Surface	A2	Strong, sub-parallel, laterally continuous shallow reflector. Possibly represents the boundary between the bedrock and more recent, unconsolidated deposits though could just be the base of the seabed sediments. Cuts through older possible channel feature 7504. Depth Range: 0.0m - 13.7m BSB.	6503 (sbp)
7506	Simple Cut and Fill	A2	Simple cut and fill cut into the bedrock beneath erosion surface 7508. Possibly part of an old palaeochannel system. Probably mostly beyond the depth of the proposed scheme, though is fairly shallow in parts. Depth Range: 3.3m - 11.4m BSB.	6502 (sbp)
7507	Simple Cut and Fill	A1	Shallow simple cut and fill cut into the sediments overlying erosion surface 7508. Most of the internal structure is obscured by shallow gas blanking, though it seems there is a single episode of fill. The gas within the feature indicates the presence of organic material. Depth Range: 0.0m - 5.8m BSB.	6501 (sbp)
7508	Erosion Surface	A1	Strong, sub-parallel, laterally continuous reflector. Possibly represents the boundary between the bedrock and more recent, unconsolidated sediments. Core samples indicate the fill above this boundary are possible estuarine deposits. Cuts through older possible channel feature 7506. Depth Range: 0.0m - 7.0m BSB.	6500 (sbp)

APPENDIX III – GEOARCHAEOLOGICAL ASSESSMENT OF GEOTECHNICAL DATA

Vibrocore logs were provided for 92 core logs, all of which were assessed by Wessex Archaeology. 10 additional vibrocores were physically geoarchaeologically assessed by Wessex Archaeology. All the vibrocore locations were plotted in the GIS (see **Figure 3**). This section provides a list of the vibrocore numbers and their locations.

Location of Vibrocores

VC Number	Easting	Northing
VC-0001	499058.2	5687762
VC-0002	497332.9	5687896
VC-0003	496910.6	5687926
VC-0004	495903.8	5687999
VC-0005	495315.9	5688042
VC-0006	493886.9	5688209
VC-0007	492961.9	5688424
VC-0008	491986.9	5688656
VC-0009	491019.3	5688900
VC-0010	490273.8	5689078
VC-0011	490045.1	5689124
VC-0012	489079.8	5689357
VC-0013	488103.7	5689589
VC-0014	487472.6	5689584
VC-0015	486134.3	5689329
VC-0016	484773.3	5689069
VC-0017	484160.2	5688981
VC-0018	482969.1	5688456
VC-0019	482153.8	5688139
VC-0020	481353	5688174
VC-0021	480212.1	5688214
VC-0022	479043.8	5688281
VC-0023	478325.4	5688333
VC-0024	477337.6	5688399
VC-0025	476337.6	5688461
VC-0026	475441	5688515
VC-0027	474149.4	5688594
VC-0028	471788.1	5688754
VC-0029A	471279.8	5688790
VC-0030	470207.7	5688864
VC-0031	469374.7	5688980
VC-0032B	469021.9	5689140
VC-0033A	468866.4	5689396
VC-0034	468463.5	5689966
VC-0035	467633.7	5690744
VC-0036	466719.4	5690939
VC-0037	466465.3	5690932
VC-0038	465259	5690948
VC-0039	464321	5690532
VC-0040	463798.4	5690291
VC-0041A	462498	5689712
VC-0042A	462176.4	5689565
VC-0043	461654.1	5689610
VC-0044A	460114.9	5689245
VC-0046	457635.4	5688266
VC-0047	457421.9	5688181
VC-0048	455915.6	5687592
VC-0049	454522.1	5687034
VC-0050	453136.5	5686490
VC-0051	452140.6	5686078

VC Number	Easting	Northing
VC-0052	451291.4	5685741
VC-0053	450335.5	5685377
VC-0054	449407.2	5685032
VC-0055A	448045.2	5685200
VC-0057	445716.7	5685678
VC-0058	444796.7	5685869
VC-0059	444005.2	5686038
VC-0060	442943.5	5686261
VC-0061	442805.9	5686289
VC-0062	441916.3	5686393
VC-0063A	441555.6	5686395
VC-0064	440357.6	5686404
VC-0065A	439433	5686413
VC-0066A	438821.7	5686413
VC-0067	438323.2	5686413
VC-0068	437731.7	5686422
VC-0069	436562.2	5686432
VC-0070A	435930	5686434
VC-0071	435033.6	5686445
VC-0072	433832.7	5686454
VC-0073	431812	5686467
VC-0074	431644.9	5686469
VC-0075	429930.3	5686478
VC-0076	428844.6	5686488
VC-0077	428338	5686491
VC-0078	427747.8	5686502
VC-0079	427635.1	5686500
VC-0080	426006.1	5686575
VC-0081	425553.7	5686600
VC-0082	424496.3	5686655
VC-0083	423561.1	5686715
VC-0084	422310.7	5686773
VC-0085	421061.7	5686841
VC-0086	420843.9	5686852
VC-0087	420260.1	5686866
VC-0088	419233.7	5686867
VC-0089	417568.5	5686874
VC-0090	416572.2	5686883
VC-0091	415303.2	5686900
VC-0092	414539.4	5686909
WA_VC1	459043	5688820
WA_VC2	485079	5689134
WA_VC3	496458	5687963
WA_VC4	439728	5686408
WA_VC5	438782	5686421
WA_VC6	432052	5686463
WA_VC7	404296	5686691
WA_VC8	415132	5686851
WA_VC9	414021	5686961
WA_VC10	414185	5686965

Belgium

WA VC1

Depth below seabed(m)	Description
0 – 0.19	2.5Y 5/3 Light olive brown silty sand, medium to fine grain, poorly sorted, soft, with abundant broken molluscs, abundant flint inclusions and pebbles up to 4.4 cm in diameter. Gradual boundary.
0.19 – 0.32	2.5Y 4/2 Dark greyish brown sandy clay, fine grain, moderately well sorted, soft to medium hardness, abundant mollusc and flint inclusions up to 2.2 cm in diameter. This is probably a transition between the above and below sediments. Gradual boundary.
0.32 – 3.5	2.5Y 4/2 Dark greyish brown clay, well sorted, firm. Probably bedrock.

WA VC2

Depth below seabed(m)	Description
0 – 3.54	2.5Y 5/1 Grey silty sand, medium to coarse grain, poorly sorted. Abundant marine mollusc inclusions up to 0.6 cm in diameter, frequent flint sub-angular flint inclusions up to 2 cm in diameter. Gradual boundary over 6 cm.
3.54 – 4.6	2.5Y 4/1 Dark grey clay, firm, very well sorted. Probably bedrock.

WA VC3

Depth below seabed(m)	Description
0 – 0.29	2.5Y 4/1 Dark grey silty clay, very well sorted, soft, occasional shell inclusions up to 0.4 cm in diameter. Sharp boundary. Sample taken at 0.19 m. PMCI Sample taken at 0.2 – 0.3 m.
0.29 – 5.6	2.5Y 5/1 Grey silty clayey sand, fine, very well sorted, firm, very occasional flint and marine mollusc inclusions up to 0.5 cm in diameter, molluscs becoming more frequent with depth. At 0.9 – 0.92 m lenses of brown silty sands with organic material. 2.8 – 3.12m pockets of brown silty sand with abundant organic remains. 3.96 – 4.06 m pockets of brown silty sand with abundant organics. At 4.5m lenses of brown silty sands with organic material. At 4.6m lenses of brown silty sand with organic material. At 5.46 m lenses of brown silty sand with organic material. PMCI Sample taken at 2.8 – 2.9 m and at 4.3 – 4.4 m. Samples taken at 0.91m, 1.77 m, 2.48m, 3.52 m, 4.66 m, 5.12 m and 5.52 m. wood sample taken at 2.99m.

France

WA VC4

Depth below seabed(m)	Description
0 – 1.44	2.5Y 5/2 Greyish brown sand, soft, poorly to moderately sorted, medium to coarse grained, abundant flint and marine mollusc inclusion up to 2cm in diameter. Gradual boundary over 7 cm.
1.44 – 3	2.5Y 4/2 Dark greyish brown silty clay, well sorted, firm. Getting firmer with depth. Probably bedrock.

WA VC5

Depth below seabed(m)	Description
0 – 2.71	2.5Y 6/2 Light brownish grey sand, fine grained, well sorted, loose, frequent broken mollusc inclusions up to 0.2 cm in diameter, moderate flint pebbles getting larger with depth. Between 2.35 – 2.71 pockets of black anaerobic sand occur but still the same layer. Gradual boundary.
2.71 – 3.16	2.5Y 5/2 Greyish brown silty clayey sand, medium to fine grained, well sorted, abundant broken mollusc inclusions up to 0.7cm, and abundant flint inclusion, sub-angular to rounded up to 2.3 cm. Probably the transition between above and below sediments. Gradual boundary.
3.16 – 4.2	2.5Y 4/1 Dark grey silty sandy clay, very well sorted, stiff, moderate rounded flint inclusions up to 1.4 cm.

England

WA VC6

Depth below seabed(m)	Description
0 – 0.96	2.5Y 5/3 Light olive brown sand, medium to coarse grain, well sorted, loose, moderate shell and flint inclusions up to 3 cm. 2 cm boundary.
0.96 – 1.06	2.5Y 4/1 Grey sandy clay, soft, poorly sorted, with flint pebbles up to 5cm in diameter. Probably the transition between above and below sediments. Gradual boundary.
1.06 – 2.5	5Y 4/1 Dark grey clay, well sorted, fine, firm. Probably bedrock.

WA VC7

Depth below seabed(m)	Description
0 – 1.43	2.5Y 4/3 Olive brown sand, medium to coarse grain, moderately well sorted, abundant flint pebble inclusions up to 5 cm in diameter. Sharp boundary.
1.43 – 2.41	2.5Y 4/1 Dark grey sand, coarse to medium grain, poorly sorted, abundant marine mollusc inclusions and flint pebbles up to 2 cm in diameter. Sharp boundary.
2.41 – 4.28	2.5Y 3/1 Very dark grey sandy clay, well sorted, occasional marine mollusc inclusions up to 0.5 cm in diameter. Occasional wood inclusions up to 6 cm long. Sharpe boundary. P,d,f,o samples taken at 2.8m and 4.22m. P,M,C,I sample taken at 1.7 – 1.8m and 2.6 – 2.7m and 4.11 – 4.21m.
4.28 – 5.35	Brown peat, with abundant reed and root remains, and abundant fresh water molluscs. Filled in mollusc burrows on the upper boundary. Gradual horizon. P,d,f,o samples taken at 5.2m and 5.35m.
5.35 – 6	2.5Y 5/1 Grey chalk putty (silty soft clay) with large flint pebble inclusions up to 6 cm in diameter. Probably bedrock eroded by glacial action. P,d,f,o samples taken at 5.5m, 5.6m, 5.7m and 5.85m. P,M,C,I samples taken at 5.35 – 5.45m and 5.45 – 5.5m. snail sample taken at 5.36m. reed sample taken at 5.44m.

WA VC8

Depth below seabed(m)	Description
0 – 2.8	2.5Y 4/3 Olive brown sand, medium grained, loose, well sorted.

WA VC9B

Depth below seabed(m)	Description
0 – 5.6	2.5Y 5/3 Light olive brown sand, very well sorted, loose, very occasional sub-angular flint inclusions up to 0.5cm in diameter. Marine molluscs appear in same sediment later from 1m onwards up to 0.7 cm in diameter. From 5 m onwards the flint inclusions become rounded pebbles up to 0.8 cm in diameter.

WA VC10

Depth below seabed(m)	Description
0 – 5.4	2.5Y 6/6 Olive yellow sand, very well sorted, medium grained, soft, loose, very occasional sub-angular flint inclusions up to 0.5 cm in diameter, very occasional marine mollusc inclusions up to 0.6 cm in diameter. Marine mollusc inclusions disappear from 2 m onwards. The flint inclusions disappear from 4 m onwards.

APPENDIX IV – ENGLISH LANDFALL – TERRESTRIAL SITES GAZETTEER (PRELIMINARY GAZETTEER, AS THESE DATA ARE FURTHER ASSESSED IN ANOTHER REPORT)

This appendix includes a list and description of English terrestrial sites from NMR/HER (see **Figure 5 & 6**)

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1001	Neolithic	Late Neolithic barrow, North of Canterbury Road West.	Late Neolithic / early Bronze Age barrow. Contained burial accompanied by a long necked beaker, a button of jet and a flint knife.	635150	165220	HER MKE7762
1002	Prehistoric	Prehistoric barrows, enclosures etc found north of Bethlehem Farm, Minster, Thanet	Prehistoric barrows. Grave contained skeletal remains. A single sherd of flint-gritted pottery, probably of Iron Age date, was found in the ditch. Finds from three pits have included animal bone, Iron Age pottery and pot-boilers.	634700	164600	HER MKE8103
1003	Bronze Age	Bronze age round barrow, Manston	Bronze Age round barrow.	635020	165390	HER MKE7634
1004	Bronze Age	Barrow, North of Canterbury Road West, Manston	Cropmark indicating the presence of a Bronze Age barrow.	635000	165200	HER MKE7761
1005	Bronze Age	Crouched Inhumation, Cliffs End	Crouched inhumation, accompanied by bell beaker.	634550	164790	HER MKE8083
1006	Bronze Age	Possible Bronze Age features, Cliffsend, Ramsgate	Prehistoric settlement - possibly relating to the Neolithic or the Bronze Age. Artefacts included worked flint and pottery.	634950	164390	HER MKE21097
1007	Bronze Age	Bronze Age enclosure + ring ditch.	Bronze Age enclosure and ring ditch visible as cropmarks.	634810	164680	HER MKE8081
1008	Bronze Age	Bronze Age hoard, Cottington Hill, Minster - Findspot	Bronze age hoard.	633450	163450	HER MKE15874
1009	Bronze Age	Bronze Age founder's hoard, Ebbsfleet Farm, Minster parish	Bronze Age founder's hoard, discovered in 1893 on a farm at Ebbsfleet, near Minster. Consisted of 181 weapons and implements, including socketed axes, spearheads and winged axes. Findspot uncertain.	633270	163080	HER MKE8059
1010	Prehistoric	Prehistoric midden material, Cottington Hill, Minster	Evidence of a prehistoric midden was found in eroded material from the bank of a dyke. Late Bronze / Early Iron Age pottery sherds and associated material.	633850	163620	HER MKE15875

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1011	Bronze Age	Late Bronze Age/early Iron Age postholes & pits, north of Canterbury Road West, Manston	Postholes and pits within a late Neolithic/early Bronze Age barrow.	635150	165220	HER MKE19917
1012	Iron Age	Iron age coins, Cottington Hill, Minster - Findspot	Nine iron age coins, found by metal detectorist. Dated to 100-90BC. Trinovantian type, made of cast bronze.	633630	163900	HER MKE10031
1013	Iron Age	Copper Celtic coin, Cottington Hill, Minster - Findspot	A 'Celtic' coin, found by metal detectorists, dated to 10-20 AD. Trinovantes or Cunobelin type. Made from copper alloy.	633570	163900	HER MKE10032
1014	Iron Age	Gaulish iron age coins, Cottington Hill, Minster - Findspot	Three iron age coins, found by metal detectorist, dated to the mid-1st century BC. Made of copper alloy.	633660	163900	HER MKE10033
1015	Iron Age	Late iron age coin, Cottington Hill, Minster - Findspot	A late iron age coin, found by metal detectorist, Trinovantian type, dated to c. 10BC - 10AD.	633600	163900	HER MKE10034
1016	Iron Age	Late iron age coin, Cottington Hill, Minster - Findspot	A late iron age coin found by a metal detectorist. Cantian type, from the reign of Dubnovellaunus. Dated to c. 23-17BC. The coin is made of silver.	633680	163900	HER MKE10035
1017	Iron Age	Iron age coin, Cottington Hill, Minster - Findspot	A late iron age coin, found by a metal detectorist. Identified as Cantian type, it was dated to c. 100BC. It was made from cast bronze potin.	633730	163900	HER MKE10036
1018	Iron Age	Late iron age coin, Cottington Hill, Minster - Findspot	An iron age coin was found by a metal detectorist. Dated to mid to late 1st century BC. It was made of silver.	633600	163900	HER MKE10037
1019	Iron Age	Iron age burials (found 1959)	Iron Age burials. Skeletal remains dated to 300-200 BC. Some pottery was also found.	634940	164330	HER MKE8072
1020	Romano-British	Romano-British drainage ditches, hearth and two inhumations	Romano-British drainage ditches, hearth and two inhumations.	633894	164001	HER MKE21076
1021	Romano-British	Romano-British pits and associated materials, Cottington Hill, Minster parish	Romano-British pits and associated materials, including late 3rd and 4th century pottery sherds, including coarse wares and Samian wares.	633800	163900	HER MKE8114
1022	Romano-British	Romano-British occupation site, Cliffs End, Minster parish	Romano-British occupation site. Discovery of Samian pottery, other fine wares and building materials suggest a Roman villa site. Belgic remains were also reported.	633800	164100	HER MKE8118
1023	Romano-British	Romano-British ditches, sunken featured building, two cemeteries and pit containing prehistoric pottery	Romano-British ditches, sunken featured building, two cemeteries and a pit containing prehistoric pottery.	633990	164382	HER MKE21075

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1024	Romano-British	Romano-British features at Cliffsend.	The grave of a mature adult was found, finds of a nail and a Belgic sherd, animal bones and shells.	635300	164500	HER MKE15421
1025	Romano-British	Romano-British coins brooch and key	Romano-British coins, a brooch and a key.	635250	164450	HER MKE8038
1026	Romano-British	Samian Cup - Findspot	1st century Samian cup, dredged up in Pegwell Bay in 1902	635500	163500	NMR_469465
1027	Saxon	Saxon landing site, Ebbsfleet, Minster parish	The traditional landing site of the Saxons in AD 449, based on the Anglo-Saxon Chronicle. It is also thought that St Augustine may have landed here in AD 597. Site no longer suitable landing place due to land reclamation.	633600	163100	HER MKE8057
1028	Saxon	St Augustine's Well	St Augustine's Well. This natural spring is the traditional spot where St Augustine camped with his monks on reaching England in AD 597.	634370	163940	HER MKE8058
1029	Medieval	Medieval well shaft	Medieval well shaft.	635750	164380	HER MKE8036
1030	Medieval	Medieval well shaft	Medieval well shaft. The well shaft is only 4m from a small cave entrance leading northward into a complex system of tunnels, reputedly smugglers' caves.	635750	164300	HER MKE8037
1031	Medieval	Possible medieval wall	Possible medieval wall	635800	164000	NMR_469505
1032	Medieval	Early medieval/medieval pit, Cottington Hill, Minster parish	Early medieval/medieval pit. Contained pottery sherds of Tyler Hill and shell tempered pottery from Canterbury and North Kent. Dated to 1050-1100 AD.	633500	163600	HER MKE8115
1033	Medieval	Possible medieval farmstead, Ebbsfleet Farm, Ramsgate	Infilled ditches and pottery sherds - possibly a ditch-enclosed medieval farmstead.	634400	162600	HER MKE15892
1034	Medieval	Possible sunken medieval building near Ebbsfleet Farm	Remains of a possible sunken medieval building. A pit found at the site contained medieval pottery dating to the late 12th to early 13th C. Shellfish remains were also found nearby.	633336	163094	HER MKe17382
1035	Medieval	Probable medieval ditch-enclosed farmstead, near Weatherless Water Treatment Works, Minster parish	Remains of a ditch enclosing a 13th and 14th century farmstead.	633409	162616	HER MKe17355
1036	Medieval	Medieval remains	Medieval remains including fragments of jugs and flagons with dark green glaze. All pottery dated to 13th and 14th century.	635700	164400	HER MKE8027

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1037	Medieval	14th century sea wall, Minster, Ramsgate and Sandwich parishes	A 14th century sea wall. The remains of boarded groin structures extend at least 1.5km and are thought to be the remains of a seawall built in 1365 after an inundation of the sea between Cliffsend and Stonar.	634065	162995	HER MKE8053
1038	Post medieval	Site of Cliffsend Crossing chalk pit	A chalk pit, marked on Ordnance Survey maps.	634550	164750	HER MKE16441
1039	Post medieval	Grade NG listed building. Main construction periods 1737-1737	Grade NG listed building. Main construction period 1737. No. 53 and 5 Foad's Lane.	634592	164257	HER MKE34758 NMR_171743
1040	Modern	St Augustine's Cross	St Augustine's Cross. Carved Celtic cross on a stepped base, erected in 1884 to commemorate the landing of St Augustine in AD 596 at Ebbsfleet in Pegwell Bay.	634030	164160	HER MKE8085 NMR_421310
1041	Modern	Richborough RAF Salvage Yard	Richborough RAF Salvage Yard.	633700	162400	HER MKE42006
1042	Modern	Modern trench, Ebbsfleet, Minster parish	Slit Trench. The cropmarks of a zig-zagged slit trench have been identified in the fields near Ebbsfleet, and were recorded from aerial photographs.	633340	163320	HER MKE8106
1043	WWI	Richborough Train Ferry Dock	Train Ferry dock built during WWI.	633990	162190	HER MKE41999
1044	WWII	PILLBOX	Pillbox	634600	164100	HER MKE39399
1045	WWII	PILLBOX	Pillbox	634000	163800	HER MKE39400
1046	WWII	PILLBOX	Pillbox	635400	164500	HER MKE39669
1047	WWII	PILLBOX	Pillbox	635300	165300	HER MKE39694
1048	WWII	PILLBOX	Pillbox	635500	164900	HER MKE39695
1049	WWII	PILLBOX	Pillbox	635100	164500	HER MKE39696 NMR_1423869
1050	WWII	PILLBOX (TYPE FW3/24)	Standard type 24 pillbox	634000	163200	HER MKE39115

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1051	WWII	PILLBOX	Pillbox	633700	164400	HER MKE39392
1052	WWII	COASTAL BATTERY	Bethlehem Battery - 6in breech loading guns.	634000	164000	HER MKE39272
1053	WWII	GUN EMPLACEMENT	Pair of coastal artillery emplacements.	635682	164405	HER MKE39313
1054	WWII	WWII battery at Little Cliffsend Farm, Ramsgate	A pair of coastal artillery emplacements or battery bunkers.	635700	164490	HER MKE16630
1055	WWII	SLIT TRENCHES	Slit trench	635200	164300	NMR_469492
1056	Multiperiod	Romano British Landscape, inhumation burial and possible WWII anti-aircraft station	Romano-British landscape, inhumation burial and possible WWII anti-aircraft station	633509	163494	HER MKE21077
1057	Multiperiod	Site of former Saltworks, Ebbsfleet, Ramsgate	Earthworks of a salt works - located in a former WWII minefield. A Saltings is marked on Ordnance Survey maps	634100	162300	HER MKE15880
1058	Multiperiod	Prehistoric, Romano-British and Medieval enclosure and boundary ditches and two middens with Bronze Age pottery	Prehistoric, Romano-British and medieval enclosure and boundary ditches and two middens with Bronze Age pottery.	633440	163035	HER MKE21078
1059	Multiperiod	Prehistoric finds and Tudor remains, Cottington Hill, Minster parish	Two sites were found during archaeological excavation. Prehistoric pottery and worked flint. Iron-working artefacts and 16th - 17th century pottery.	633700	163900	HER MKE15864
1060	Multiperiod	Multiperiod occupation, Ebbsfleet farm.	Multiperiod occupation - Bronze Age, Iron Age, Romano-British, medieval and later periods. Settlement material and Late Bronze Age hoard, dated to 9/8 BC.	633200	163000	HER MKE15983
1061	Multiperiod	Multi period remains, Oaklands nursery, Ramsgate	Multiperiod. Ditches containing Iron Age, Romano-British and early medieval pottery. Pits, postholes and evidence of medieval revetment. Possibly the remains of a long-lived domestic settlement.	634470	164500	HER MKE17172
1062	Multiperiod	Bronze Age and Saxon evidence found at Cliffs End Farm in 2004	Bronze Age and Saxon evidence. Site appears to have been used for funerary and ceremonial purposes. Early Bronze Age evidence included four barrows. Late Bronze Age: series of horseshoe enclosures. Saxon: 24 burials.	634794	164266	HER MKE41621

WA Number	Period	Name	Description	BNG Easting	BNG Northing	NMR / HER
1063	Multiperiod	Multi period site on on Cottington Hill, Minster parish	Iron Age and Romano-British pottery was found during a rescue excavation. The remains of a Romano-British building was also identified, with a possible late 2nd century date.	633400	163300	HER MKE8113
1064	Multiperiod	Multi period site at Ebbsfleet Farm, near Ramsgate	Multiperiod site. A Bronze Age beaker burial, Iron Age occupation site comprised of pits and ditches (200-50BC) and a Romano-British building (2nd century AD). Romano-British pottery, brick, tile, a coin, rotary quern and buckles were found nearby.	634220	163370	HER MKE9058
1065	Undated	Undated archaeological features, Beech Grove, Ramsgate	Number of features located during watching brief, including possibly late Bronze Age hut circles with a drip trench. Lack of pottery may indicate low occupation.	634370	164160	HER MKE15849
1066	Undated	Undated crouched inhumation burial, Cliffsend, Ramsgate	A crouched inhumation burial was found during a watching brief.	634450	164700	HER MKE15879
1067	Undated	Ring ditch cropmark, Manston	Ring ditch cropmarks, recorded from aerial photographs.	634980	165210	HER MKE7958
1068	Undated	Ring ditch cropmarks, Ramsgate	Ring ditch cropmarks, recorded from aerial photographs.	635550	164600	HER MKE8022
1069	Undated	Area cropmark features, Ramsgate	Large feature cropmark. Identified from aerial photographs.	635560	164500	HER MKE8026

APPENDIX V – ENGLISH WATERS – GAZETTEER OF SITES RECORDED BY UKHO AND GEOPHYSICAL ANOMALIES (FIGURE 8-12)

This appendix includes a list and description of the data for the English waters produced by the UKHO and MMT (see **Figure 8, 9 & 10**). In the source column, the abbreviations in brackets indicate how the feature was visible/identified: with (sss) for side scan sonar, (sbp) for sub bottom profiler, (mag) for magnetometer and (db) for desk-based assessment. Sites visible in several datasets are indicated with each applicable abbreviation, as the compilation of the datasets is part of the archaeological assessment. Images of key features have been illustrated in the Figures as appropriate, however images of the remaining features are held in the project archives for future reference. For more details about the source / interpretation – see **Volume I: Methodology: Archaeological Interpretation of Geophysical Data**.

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7000	Magnetic	387232	5686828	A2	-	-	-	16	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6361 (mag)	-
7001	Magnetic	387641	5686670	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6360 (mag)	-
7002	Magnetic	388058	5686468	A2	-	-	-	87	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6359 (mag)	-
7003	Magnetic	388087	5686618	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6357 (mag)	-
7004	Magnetic	388256	5686219	A2	-	-	-	140	Large well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6355 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7005	Magnetic	388230	5686392	A2	-	-	-	16	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6354 (mag)	-
7006	Magnetic	388318	5686372	A2	-	-	-	21	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6353 (mag)	-
7007	Magnetic	388536	5686262	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6352 (mag)	-
7008	Magnetic	388528	5686325	A2	-	-	-	11	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6351 (mag)	-
7009	Magnetic	388558	5686409	A2	-	-	-	11	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6349 (mag)	-
7010	Debris	388624	5686195	A2	3.1	1.2	0.7	-	Angular dark reflector with shadow but no associated magnetic anomaly. Possibly a piece of non-ferrous debris.	6348 (sss)	-
7011	Dark Reflector	388824	5686071	A2	3.5	0.4	0.5	-	Large dark reflector with large shadow but no associated magnetic anomaly. In an area of variable seabed reflectivity, and could be natural or a piece of non-ferrous debris.	6347 (sss)	-
7012	Magnetic	388969	5686187	A2	-	-	-	18	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6346 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7013	Magnetic	388873	5686278	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6345 (mag)	-
7014	Magnetic	388963	5685893	A2	-	-	-	49	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6344 (mag)	-
7015	Magnetic	389083	5686027	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6343 (mag)	-
7016	Debris	389174	5685947	A2	4.3	0.8	0.2	-	Short linear dark reflector with shadow but without an associated magnetic anomaly. Located in an area of sand ripples and possibly a piece of partially buried non-ferrous debris.	6341 (sss)	-
7017	Recorded Wreck [Live]	389200	5685809	A3	-	-	-	-	Recorded location of the wreck of the <i>Pisces</i> (lost 1995), not identified by any of the geophysical equipment. Could be an inaccurate location, or the wreck could be covered by the sand waves currently present at the site.	6340 (db), 2005	15159 (UKHO)
7018	Magnetic	389479	5686018	A2	-	-	-	7	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6339 (mag)	-
7019	Dark Reflector	389477	5685848	A2	1.4	0.4	0.3	-	Isolated dark reflector with a shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6338 (sss)	-
7020	Magnetic	389686	5685873	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6337 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7021	Dark Reflector	389658	5685681	A2	4.6	1.4	0.3	-	Indistinct dark reflector with shadow but without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6336(sss)	-
7022	Rope / Chain	389892	5685888	A2	42.8	1.1	0.0	13	long linear dark reflector without a shadow but possibly associated with a small magnetic anomaly. Possible length of rope or chain.	6335 (sss and mag)	-
7023	Magnetic	389953	5685752	A2	-	-	-	11	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6334 (mag)	-
7024	Wreck	389786	5685532	A1	31.4	4.8	0.8	66	Previously unrecorded wreck identified by all geophysical equipment. Structure is relatively small and appears to be mostly buried, though still retains some structure and height. Medium magnetic anomaly indicates it is at least partly ferrous in nature. The wreck is orientated NNE - SSW, and is situated within a scour approximately 30m x 11m x 0.4m. A large sand wave lies to the north and east, so the structure is probably periodically buried.	6332 (sss and mag)	-
7025	Magnetic	390809	5685336	A2	-	-	-	53	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6331 (mag)	-
7026	Magnetic	390940	5685330	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6330 (mag)	-
7027	Debris	391279	5685143	A1	21.9	17.6	0.0	59	Area of dark reflectors with shadows associated with a medium magnetic anomaly. Located in an area of sand ripples and probably partially buried ferrous debris or the remains of a badly degraded structure.	6329(sss and mag)	-
7028	Magnetic	391380	5685057	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6328 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7029	Debris	391445	5685053	A2	8.1	0.7	0.0	-	Short linear dark reflector with no shadow or associated magnetic anomaly. Located in an area of sand ripples and could be a piece of linear non-ferrous debris.	6327 (sss)	-
7030	Debris	391390	5685113	A2	0.9	1.8	0.0	-	Two adjacent angular dark reflectors, possibly with shadows but uncertain. No associated magnetic anomaly. Located in an area of sand ripples and could be pieces of partially buried non-ferrous debris.	6326 (sss)	-
7031	Debris	391669	5684906	A2	9.4	0.1	0.2	-	Linear alignment of numerous dark reflectors with large shadows but no associated magnetic anomaly. Possible area of non-ferrous debris.	6325 (sss)	-
7032	Magnetic	392015	5684828	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6324 (mag)	-
7033	Magnetic	391836	5685008	A2	-	-	-	36	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6323 (mag)	-
7034	Debris	392435	5684935	A2	16.5	2.2	0.4	-	Two adjacent dark reflectors with shadows but no associated magnetic anomaly. Located on the edge of a sand wave and possibly an area of partially buried non-ferrous debris.	6322 (sss)	-
7035	Debris	392573	5685151	A2	22.8	1.1	0.5	-	Linear alignment of numerous dark reflectors with large shadows but no associated magnetic anomaly. Possible area of non-ferrous debris.	6321 (sss)	-
7036	Magnetic	392916	5685167	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6320 (mag)	-
7037	Dark Reflector	392912	5685102	A2	1.7	0.3	0.3	-	Elongate dark reflector with a shadow but without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6319 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7038	Debris	393045	5685032	A2	10.7	3.1	0.0	52	Small area of disturbed seabed associated with a medium magnetic anomaly. Possible area of ferrous debris.	6318 (sss and mag)	-
7039	Magnetic	393180	5685073	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6317 (mag)	-
7040	Magnetic	393315	5684950	A2	-	-	-	51	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6316 (mag)	-
7041	Debris	393445	5685057	A2	3.3	0.2	0.6	-	Short linear dark reflector with shadow but no associated magnetic anomaly. Possible piece of linear non-ferrous debris.	6315 (sss)	-
7042	Dark Reflector	393368	5685144	A2	0.9	0.4	0.7	-	Isolated dark reflector with shadow but without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6314 (sss)	-
7043	Debris	393925	5685063	A2	18.1	2.3	0.0	-	A linear alignment of three closely spaced dark reflectors with shadows but without an associated magnetic anomaly. Possible area of non-ferrous debris.	6312 (sss)	-
7044	Debris	394215	5685254	A2	7.0	0.1	0.1	-	Short linear dark reflector with small shadow but without an associated magnetic anomaly. Possible piece of non-ferrous linear debris.	6311 (sss)	-
7045	Debris	394416	5685134	A2	15.5	4.0	0.0	-	A small area of angular dark and bright reflectors but no associated magnetic anomaly. Possible area of non-ferrous debris.	6310 (sss)	-
7046	Magnetic	394591	5685135	A2	-	-	-	37	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6309 (mag)	-
7047	Debris	394777	5685245	A1	22.2	10.7	0.0	43	Area of angular bright reflectors associated with a medium magnetic anomaly. Probably an area of ferrous debris, or the remains of a highly degraded structure.	6308 (sss and mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7048	Magnetic	395169	5685372	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6307 (mag)	-
7049	Debris [Live Obstruction]	395957	5685445	A1	7.2	6.5	0.9	6	Large, elongate dark reflector (or collection of reflectors) with large shadow and associated with a small magnetometer contact. Identified on multibeam bathymetry data as a depression measuring 22m x 15m x 0.5m, probably representing a scour. Probably an area of debris or the remains of a badly degraded structure. Observed at the location of a known obstruction (foul ground).	6305 (sss and mag), 2017	75358 (UKHO)
7050	Dark Reflector	396102	5685521	A2	1.1	0.4	0.4	-	Isolated dark reflector with shadow but without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6304 (sss)	-
7051	Debris	396271	5685652	A2	5.3	0.3	0.4	-	Short linear dark reflector with shadow but no associated magnetic anomaly. Possibly a piece of non-ferrous debris.	6303 (sss)	-
7052	Rope / Chain	396359	5685603	A2	150.0	0.5	0.2	-	Very long curvilinear dark reflector with small shadow but without an associated magnetic anomaly. Possible length of rope or chain. Dark reflector with shadow at one end is possibly an anchor, indicating it is still probably attached to the sea bed. Length is approximate.	6302 (sss)	-
7053	Rope / Chain	396516	5685581	A2	65.0	0.5	0.3	-	Long curvilinear dark reflector with small shadow but without an associated magnetic anomaly. Possible length of rope or chain.	6301 (sss)	-
7054	Rope / Chain	396645	5685518	A2	46.5	0.2	0.2	-	Long curvilinear dark reflector with small shadow but without an associated magnetic anomaly. Reflector curves back on itself, and is probably length of rope or chain.	6300 (sss)	-
7055	Dark Reflector	396527	5685687	A2	2.2	0.6	0.5	-	Isolated dark reflector with shadow but without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6299 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7056	Bright Reflector	396486	5685711	A2	2.4	1.9	0.0	-	Elongate bright reflector without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6298 (sss)	-
7057	Debris	396470	5685781	A2	4.5	0.1	0.2	-	Short linear dark reflector with a small shadow but without an associated magnetic anomaly. Possible piece of non-ferrous debris.	6297 (sss)	-
7058	Rope / Chain	396612	5685727	A2	26.0	0.2	0.2	-	Curvilinear dark reflector with a small shadow but no associated magnetic anomaly. Possible length of rope or chain.	6296 (sss)	-
7059	Debris	396655	5685646	A2	31.9	2.0	0.6	-	Linear alignment of a number of dark reflectors with shadows but no associated magnetic anomaly. Possible area of non-ferrous debris.	6295 (sss)	-
7060	Dark Reflector	396739	5685615	A2	3.1	0.4	0.5	-	Two adjacent dark reflectors with shadows but no associated magnetic anomaly, one larger than the other. Could be natural or non-ferrous debris.	6294 (sss)	-
7061	Debris	396822	5685599	A2	6.9	4.7	0.0	-	Small area of indistinct dark reflectors with small shadows, possibly attached to a linear dark reflector. No associated magnetic anomaly, but possibly an area of non-magnetic debris.	6293 (sss)	-
7062	Magnetic	396873	5685981	A2	-	-	-	7	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6292 (mag)	-
7063	Dark Reflector	397255	5685875	A2	3.8	3.8	0.0	-	Poorly defined dark reflector without a shadow or associated magnetic anomaly. Could be natural or a piece of non-ferrous debris. Poor data quality makes definitive identification difficult.	6291 (sss)	-
7064	Dark Reflector	397455	5686059	A2	0.8	0.1	0.6	-	Dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6290 (sss)	-

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7065	Magnetic	397745	5686029	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6289 (mag)	-
7066	Rope / Chain	399165	5686341	A2	15.7	0.5	0.2	8	Curvilinear dark reflector with a small shadow and possibly associated with a small magnetic anomaly. Possible length of rope or chain.	6285 (sss and mag)	-
7067	Debris	399344	5686534	A2	6.9	0.6	0.3	-	Short, linear alignment of dark reflectors with shadows but no associated magnetic anomaly. Possible piece of partially buried non-ferrous debris.	6284 (sss)	-
7068	Magnetic	400885	5686280	A2	-	-	-	27	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6282 (mag)	-
7069	Magnetic	400723	5686583	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6281 (mag)	-
7070	Bright Reflector	401708	5686249	A2	3.7	2.1	0.0	-	Elongate bright reflector without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6280 (sss)	-
7071	Magnetic	404638	5686808	A2	-	-	-	22	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6275 (mag)	-
7072	Magnetic	404373	5686770	A2	-	-	-	43	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6274 (mag)	-
7073	Dark Reflector	406312	5687241	A2	1.4	0.2	0.8	-	Isolated dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6269 (sss)	-

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7074	Debris	406615	5687129	A2	10.7	9.9	0.6	-	Area of dark reflectors with shadows but no associated magnetic anomaly. Possibly an area of non-ferrous debris.	6268 (sss)	-
7075	Debris	406749	5687159	A2	2.3	0.2	1.3	73	Short linear dark reflector with a large shadow and associated with a medium magnetic anomaly. Probably a piece of ferrous debris.	6267 (sss and mag)	-
7076	Magnetic	406995	5686963	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6266 (mag)	-
7077	Dark Reflector	407402	5687204	A2	0.9	0.5	0.6	-	Isolated dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6262 (sss)	-
7078	Magnetic	408188	5687115	A2	-	-	-	24	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6261 (mag)	-
7079	Debris	408332	5687243	A2	1.1	0.6	0.7	8	Dark reflector with shadow and possibly associated with a small magnetic anomaly. Located in an area of sand ripples and could be a partially buried piece of ferrous debris.	6260 (sss and mag)	-
7080	Debris	408730	5686800	A2	24.0	23.0	2.0	-	Large, irregular dark reflector with large shadow but no associated magnetic anomaly. Identified on multibeam bathymetry data as an isolated seabed mound. Possibly an area of non-ferrous debris or small structure, but no recorded wreck or obstruction is known in the vicinity.	6259 (sss)	-
7081	Magnetic	408940	5687020	A2	-	-	-	17	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6258 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7082	Magnetic	408545	5687020	A2	-	-	-	53	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6257 (mag)	-
7083	Magnetic	408963	5687178	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6256 (mag)	-
7084	Magnetic	408805	5687250	A2	-	-	-	50	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6255 (mag)	-
7085	Dark Reflector	409160	5687350	A2	2.1	1.0	0.8	-	Dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6254 (sss)	-
7086	Dark Reflector	409556	5687204	A2	1.4	1.1	1.3	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6252 (sss)	-
7087	Dark Reflector	410579	5686862	A2	3.7	1.0	1.4	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6251 (sss)	-
7088	Debris	410623	5687218	A2	3.5	2.5	1.5	22	Large, irregular dark reflector with large shadow and an associated small magnetic anomaly. Located in an area of sand ripples and possibly a piece of partially buried ferrous debris.	6250 (sss and mag)	-
7089	Rope / Chain	411082	5686753	A2	64.4	0.2	0.0	-	Long, curvilinear dark reflector without a shadow or an associated magnetic anomaly. Possible length of rope or chain.	6247 (sss)	-
7090	Dark Reflector	411329	5686921	A2	2.7	0.5	0.4	-	Two adjacent dark reflectors with shadows but no associated magnetic anomaly. Could be natural or non-ferrous debris.	6246 (sss)	-

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7091	Debris	411657	5686985	A2	2.8	0.6	0.8	8	Dark reflector with shadow and possibly associated with a small magnetic anomaly. Located in an area of sand ripples and could be a partially buried piece of ferrous debris.	6244 (sss and mag)	-
7092	Rope / Chain	412342	5686875	A2	218.2	0.3	0.0	11	Long, curvilinear dark reflector without a shadow but possibly associated with a small magnetic anomaly. Possible length of rope or chain.	6243 (sss and mag)	-
7093	Magnetic	412548	5687140	A2	-	-	-	22	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6242 (mag)	-
7094	Magnetic	414243	5686620	A2	-	-	-	80	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous large anomalies (over the south falls bank) and could be natural, but could also indicate the presence of buried ferrous debris.	6241 (mag)	-
7095	Magnetic	413768	5686708	A2	-	-	-	57	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous large anomalies (over the south falls bank) and could be natural, but could also indicate the presence of buried ferrous debris.	6240 (mag)	-
7096	Magnetic	413545	5687065	A2	-	-	-	40	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous large anomalies (over the south falls bank) and could be natural, but could also indicate the presence of buried ferrous debris.	6239 (mag)	-
7097	Magnetic	413853	5687190	A2	-	-	-	28	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous large anomalies (over the south falls bank) and could be natural, but could also indicate the presence of buried ferrous debris.	6238 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7098	Debris	416527	5686440	A1	9.3	9.4	0.6	16	Two poorly defined, short, parallel linear dark reflectors with shadows possibly associated with a small magnetic anomaly. Possible partially buried ferrous debris.	6237 (sss and mag)	-
7099	Magnetic	417010	5687098	A2	-	-	-	20	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6236 (mag)	-
7100	Dark Reflector	419566	5686703	A2	4.5	1.4	0.5	-	Isolated dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6232 (sss)	-
7101	Magnetic	419615	5686950	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6231 (mag)	-
7102	Debris	419829	5686989	A2	4.2	0.5	0.5	-	Two adjacent dark reflectors with shadows but no associated magnetic anomaly. Possible non-ferrous debris.	6230 (sss)	-
7103	Magnetic	420240	5686780	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6229 (mag)	-
7104	Magnetic	420162	5687000	A2	-	-	-	15	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6228 (mag)	-
7105	Magnetic	421212	5686530	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6227 (mag)	-
7106	Magnetic	420832	5686618	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6226 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7107	Magnetic	421335	5686898	A2	-	-	-	41	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6225 (mag)	-
7108	Dark Reflector	421784	5686542	A2	2.4	0.7	0.5	-	Dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6224 (sss)	-
7109	Debris	421877	5686734	A2	7.2	0.2	0.3	-	Small linear dark reflector, or linear alignment of dark reflectors, with shadow but no associated magnetic anomaly. Possible piece of partially buried non-ferrous debris.	6223 (sss)	-
7110	Magnetic	420240	5686780	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6222 (mag)	-
7111	Magnetic	422115	5686878	A2	-	-	-	17	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6221 (mag)	-
7112	Magnetic	422675	5686565	A2	-	-	-	7	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6220 (mag)	-
7113	Magnetic	423322	5686700	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6219 (mag)	-
7114	Magnetic	426255	5686465	A2	-	-	-	5	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6218 (mag)	-

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7115	Magnetic	425015	5686495	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6217 (mag)	-
7116	Debris	427338	5686310	A2	2.2	0.5	0.3	-	Elongate dark reflector with small shadow but no associated magnetic anomaly. Possible piece of debris.	6216 (sss)	-
7117	Magnetic	427157	5686328	A2	-	-	-	17	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6215 (mag)	-
7118	Magnetic	427542	5686575	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6214 (mag)	-
7119	Magnetic	427227	5686650	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6213 (mag)	-
7120	Dark Reflector	428537	5686309	A2	2.0	0.7	0.4	-	Dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6212 (sss)	-
7121	Magnetic	428312	5686640	A2	-	-	-	5	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6211 (mag)	-
7122	Magnetic	429115	5686330	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6210 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7123	Magnetic	428047	5686323	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6209 (mag)	-
7124	Magnetic	428565	5686575	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6208 (mag)	-
7125	Magnetic	430585	5686625	A2	-	-	-	74	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6206 (mag)	-
7126	Magnetic	429655	5686630	A2	-	-	-	49	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6205 (mag)	-
7127	Dark Reflector	430665	5686454	A2	5.6	0.7	0.4	-	Two adjacent dark reflectors with shadows but no associated magnetic anomaly. Located in an area of sand waves and could be natural or partially buried non-ferrous debris.	6204(sss)	-
7128	Magnetic	431548	5686467	A2	-	-	-	11	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6203 (mag)	-
7270	Recorded Wreck [Live]	386196	5685927	A3					Outside geophysical survey area. Wreck of the <i>Harvest Moon</i> .	2001	HER MKE135 04
7271	Recorded Wreck [Live]	386609	5685964	A3					Outside geophysical survey area, abandoned four wheel drive vehicle.	2002	70367 (UKHO)
7272	Recorded Wreck [Live]	386928	5685054	A3					Outside geophysical survey area.	2003	13834 (UKHO), NMR 900604

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7273	Recorded Wreck [Live]	388921	5686408	A3					Outside geophysical survey area, steel tank.	2004	13844 (UKHO)
7274	Recorded Wreck [Live]	389454	5685030	A3					Outside geophysical survey area. Wreck of <i>LCP 586</i>	2006	13835 (UKHO)
7275	Recorded Wreck [Live]	396314	5685228	A3					Outside geophysical survey area.	2007	NMR 904884
7276	Recorded Wreck [Live]	396458	5686183	A3					Outside geophysical survey area. Wreck of the <i>Rydal Force</i> .	2008	13843 (UKHO), NMR 900887
7277	Recorded Wreck [Live]	404300	5687128	A3					Outside geophysical survey area.	2009	13850 (UKHO), NMR 904893
7278	Recorded Obstruction [Live]	386999	5687322	A3					Outside geophysical survey area.	2010	59030 (UKHO)
7279	Recorded Obstruction [Live]	387015	5685955	A3					Outside geophysical survey area.	2011	70374 (UKHO)
7280	Recorded Obstruction [Live]	387205	5686978	A3					Outside geophysical survey area.	2012	59034 (UKHO)
7281	Recorded Obstruction [Live]	387423	5687284	A3					Outside geophysical survey area.	2013	59031 (UKHO)

WA ID	Name / Classification	Easting	Northing	Arch Disc'tion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7282	Recorded Obstruction [Live]	387519	5687243	A3					Outside geophysical survey area.	2014	59032 (UKHO)
7283	Recorded Obstruction [Live]	387685	5686971	A3					Outside geophysical survey area.	2015	59033 (UKHO)
7284	Recorded Obstruction [Live]	389348	5686330	A3					Outside geophysical survey area.	2016	15015 (UKHO)
7285	Recorded Obstruction [Live]	403019	5685997	A3					Outside geophysical survey area.	2018	13842 (UKHO)
7286	Recorded Wreck [Lift]	386798	5686089	A3					Outside geophysical survey area, abandoned Suzuki Jeep.	2019	70366 (UKHO)
7287	Recorded Wreck [Lift]	389816	5686073	A3					Outside geophysical survey area, wreck lost 1986.	2020	58820 (UKHO)
7288	Recorded Obstruction [Dead]	403493	5686941	A3					Outside geophysical survey area.	2021	58893 (UKHO)

APPENDIX VI – ENGLISH WATERS – RECORDED LOSSES

This appendix includes a list and description of the data for Recorded Losses supplied by the NMR. Recorded Losses provide information about the archaeological potential of an area, as they indicate ships that are known to have wrecked in the area, but whose remains have generally not been located on the seabed. When considering Recorded Losses it is important to note that the descriptions regarding the location of a wrecking incident are often vague. Consequently, the positions of recorded losses are often inaccurate, and therefore they have not been illustrated on any of the Figures. In addition to this, the temporal distribution of these Recorded Losses should not be regarded as representative of the density of shipping activity within the given periods. The number of documented losses is dependant on the reporting of the loss and the survival of the record of that loss. Note: There is no equivalent table for Belgian Recorded Losses as the information was not readily available.

WA_ID	NAME	Date of Loss	Description	UTM31N Easting	UTM31N Northing	NMR
1201		55BC	Wreck of unknown number of Roman transport vessels lost during a sudden storm during Caesar's first invasion of Britain in 55 BC from Gaul, most likely in the vicinity of Kent which has traditionally been regarded as the site of the Roman landings.	387177	5684490	1508031
1202		55BC	Wreck of unknown number of Roman warships wrecked on the strand at the landing site during a sudden storm during Caesar's first invasion of Britain in 55 BC from Gaul.	387177	5684490	1508029
1203	<i>Nicholas</i>	1318	Wreck of English cargo vessel (wooden sailing ship) which foundered after being scuttled off Sandwich by Flemish pirates. Her cargo included wine, flour, whalebone, nut oil, vinegar, saffron, and pepper, suggesting that she was homeward-bound to London.	387177	5684490	1445015
1204	<i>La Seyne Anton</i>	1359	Wreck of Spanish cargo vessel (wooden sailing ship) which was wrecked near Sandwich, laden with cloth.	387177	5684490	1445835
1205	<i>La Seinte Marie de Burgh</i>	1364	Wreck of French cargo vessel (wooden sailing ship) which stranded at Sandwich en route from Sluis to Spain with cloth, silver plate and gold and silver coins.	387177	5684490	1247201
1206		Tudor	Wreck of wooden sailing ship that stranded at Sandwich.	387177	5684490	1444029
1207		1542	Wreck of French cargo vessel which stranded at Sandwich. Constructed of wood, she was a sailing vessel.	387177	5684490	1444027
1208		1653	Wreck of Dutch East Indiaman (wooden sailing ship) which stranded near Sandwich with her general cargo.	387177	5684490	1247841

WA_ID	NAME	Date of Loss	Description	UTM31N Easting	UTM31N Northing	NMR
1209	<i>Biscay Merchant</i>	1682	English wooden sailing ship carrying cargo that was driven out of Margate Roads and stranded near Sandwich Bay. Reported to have broken up.	387177	5684490	1247917
1210		1690	Wreck of a wooden sailing vessel, nationality unknown, which stranded near Sandwich after being "forced out of the Downs" by a gale. The vessel had been captured as a prize by some Ostend privateers.	387177	5684490	1449037
1211	<i>Falklands Prize</i>	1705	Wreck of British wooden warship variously described as a Fourth Rate or Fifth Rate ship of the line, which was beached at Sandwich after being driven from her moorings in the Downs. The wreck was later broken up and sold. The vessel may have been the French warship <i>La Seine</i> of the 'flute' type captured the previous year.	387177	5684490	1248521
1212	<i>Race Horse Galley</i>	1711	Wreck of British "galley" (wooden sailing vessel) which capsized on her maiden voyage from Deptford to the Straits of Gibraltar, thought to be in the vicinity of Sandwich Flats. Possibly a privateer.	387177	5684490	1370384
1213	<i>Dolphin</i>	1735	Wooden sailing ship wrecked on Sandwich flats during a storm	387177	5684490	1368560
1214	<i>Industry</i>	1735	Wooden sailing ship lost on Sandwich flats after storm	387177	5684490	1368561
1215		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248661
1216		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248643
1217		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248648
1218		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248641
1219		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248646
1220		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248647
1221		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248663
1222		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248601
1223		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248644

WA_ID	NAME	Date of Loss	Description	UTM31N Easting	UTM31N Northing	NMR
1224		1752	Wreck of French fishing vessel (wooden sailing ship) which stranded in Pegwell Bay during a "hurricane".	387223	5686340	1248621
1225		1768	A brigantine (wooden sailing ship) collier was driven on shore on Sandwich Flats.	387177	5684490	1249021
1226	<i>Rose Hall</i>	1771	Wreck of British wooden sailing ship which stranded on Sandwich Flats en route from Jamaica to London.	387177	5684490	1249026
1227	<i>Kingston</i>	1809	A British cargo vessel, bound from London to Jamaica was driven on shore on Sandwich Flats during a violent gale.	387177	5684490	1250185
1228		1815	A foreign fir-built galliot laden with timber and deals wrecked near Shellness during a gale. The cargo drifted ashore but the crew were feared lost.	387177	5684490	1344395
1229	<i>Ann and Elizabeth</i>	1815	British cargo vessel wrecked at Shell Ness during the same gale as the galliot (WA 1228).	387177	5684490	1344393
1230	<i>Fame</i>	1815	British cargo vessel wrecked at Shell Ness during the same gale as the galliot (WA1228) and the <i>Ann and Elizabeth</i> (WA1229).	387177	5684490	1344392
1231	<i>Hussaren</i>	1828	Cargo vessel from the Cape of Good Hope, stranded on shore on Sandwich Flats full of water, after losing both anchors and cables in the Downs. The wreck went to pieces and the wreck and part of her cargo was strewed along the shore.	387177	5684490	1356671
1232	<i>Hannah</i>	1829	British craft, stranded in Sandwich Harbour.	387177	5684490	1250301
1233		1854	Fir-built vessel of about 120 tons, stranded on Sandwich Flats	387177	5684490	1316421
1234	<i>Fawn</i>	1911	A British craft sank following a collision with an unnamed 'blow boat'. The vessel was screw driven with a 3 cylinder triple expansion engine and a single boiler.	387177	5684490	1252783
1235	<i>Spitfire MK IIA P7386</i>	1940	The <i>Supermarine Spitfire Mk 11A</i> was a standard single-seat fighter, one of a batch of 1000 delivered between June 1940 and July 1941 to Contract No. 981687/39. The Spitfire was damaged by Bf 109s near Dover and abandoned over Sandwich Bay on 14 November 1940. The Spitfire had been built by Castle Bromwich Aircraft Factory and was part of Squadron 74.	387177	5684490	1322076

APPENDIX VII – FRENCH WATERS – GAZETTEER OF SITES RECORDED BY SHOM AND GEOPHYSICAL ANOMALIES (FIGURE 13, 14 AND 15)

This appendix includes a list and description of the data for the French waters produced by the SHOM and MMT (see **Figure 13**). In the source column, the abbreviations in brackets indicate how the feature was visible/identified: with (sss) for side scan sonar, (sbp) for sub bottom profiler, (mag) for magnetometer and (db) for desk-based assessment. Sites visible in several datasets are indicated with each applicable abbreviation, as the compilation of the datasets is part of the archaeological assessment. Images of key features have been illustrated in the Figures as appropriate, however images of the remaining features are held in the project archives for future reference. For more details about the source / interpretation – see **Volume I: Methodology: Archaeological Interpretation of Geophysical Data**.

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7129	Dark Reflector	434211	5686388	A2	2.0	1.1	0.7	-	Dark reflector with shadow but without an associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6200 (sss)	-
7130	Dark Reflector	434319	5686352	A2	2.3	0.5	1.0	-	Dark reflector with shadow but without an associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6199 (sss)	-
7131	Magnetic	434418	5686434	A2	-	-	-	7	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6197 (mag)	-
7132	Magnetic	434263	5686561	A2	-	-	-	20	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6196 (mag)	-
7133	Magnetic	434408	5686596	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6195 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7134	Dark Reflector	434625	5686416	A2	3.5	0.4	1.2	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6194 (sss)	-
7135	Magnetic	436124	5686516	A2	-	-	-	7	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6192 (mag)	-
7136	Magnetic	436427	5686583	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6190 (mag)	-
7137	Magnetic	436850	5686510	A2	-	-	-	16	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6189 (mag)	-
7138	Magnetic	437339	5686310	A2	-	-	-	18	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6188 (mag)	-
7139	Magnetic	437032	5686304	A2	-	-	-	26	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6187 (mag)	-
7140	Magnetic	437330	5686432	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6186 (mag)	-
7141	Wreck [Live]	438175	5686526	A1	-	-	-	149	A large magnetic anomaly observed as the site of the possible wreck of the HMS <i>Westella</i> . Not observed by sidescan sonar or multibeam bathymetry, but a large sand wave approximately 5m high has been observed at the site indicating the wreck is probably completely buried.	6183 (mag), 2023	15475 (UKHO) 21612019 (SHOM)

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7142	Magnetic	440106	5686330	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6179 (mag)	-
7143	Debris	441100	5686592	A2	17.7	0.3	0.1	-	Curvilinear dark reflector with a small shadow but no associated magnetic anomaly. Partially buried by a sand ripples, and possibly a piece of non-ferrous debris.	6178 (sss)	-
7144	Magnetic	441185	5686258	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6177 (mag)	-
7145	Magnetic	442050	5686241	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6174 (mag)	-
7146	Magnetic	442845	5686352	A2	-	-	-	54	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6172 (mag)	-
7147	Magnetic	445301	5685840	A2	-	-	-	25	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6171 (mag)	-
7148	Recorded Obstruction [Live Obstruction]	445705	5685829	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. It could be the location of an ephemeral feature that no longer exists, or be covered by recent sand waves at the site.	6170 (db, 2025)	15784 (UKHO) 21612272 (SHOM)
7149	Dark Reflector	445759	5685531	A2	1.1	0.5	0.8	-	Dark reflector with large shadow but without an associated magnetic anomaly. Located in an area of sand waves and could be natural or a piece of partially buried non-ferrous debris.	6168 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7150	Dark Reflector	446214	5685390	A2	5.5	0.8	1.0	-	Large, well-defined dark reflector with shadow but without an associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of partially buried non-ferrous debris.	6167 (sss)	-
7151	Wreck [Live Wreck]	446702	5685213	A1	95.0	31.0	6.0	13	Large seabed mound identified on the multibeam bathymetry data and associated with a small magnetic anomaly. Probably the known wreck UKHO 15469, though was identified approximately 100m NNW of the given position. Located just outside of the area covered by sidescan sonar, so condition unknown. Only partially imaged by multibeam bathymetry, so dimensions are a minimum, though appears to be orientated approx. ESE - WNW with a large NE - SW trending scour measuring 74m x 40m x 2m on the north side.	6165 (sss and mag), 2024	15469 (UKHO) 21612022 (SHOM)
7152	Magnetic	447633	5685434	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6163 (mag)	-
7153	Magnetic	448381	5685284	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6160 (mag)	-
7154	Debris	448669	5684966	A2	3.8	1.0	0.7	-	Elongate dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples and possibly a piece of partially buried non-ferrous debris.	6159 (sss)	-
7155	Dark Reflector	448995	5684915	A2	2.0	0.4	0.8	-	Dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and could be natural or a piece of non-ferrous debris.	6157 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7156	Debris	449246	5684879	A2	2.7	0.4	0.4	-	Short linear dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and possibly a piece of non-ferrous debris. Located close to other possible debris 7157.	6154 (sss)	-
7157	Debris	449258	5684856	A2	2.5	0.3	0.3	-	Angular dark reflector with shadow but no associated magnetic anomaly. Located in an area of sand ripples and possibly a piece of non-ferrous debris. Located close to other possible debris 7156.	6153 (sss)	-
7158	Magnetic	449249	5685119	A2	-	-	-	36	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6152 (mag)	-
7159	Rope / Chain	449395	5685250	A2	65.2	0.1	0.1	18	A linear alignment of short linear reflectors with small shadows with a possible associated magnetic anomaly. Probably a partially buried length of rope or chain, periodically exposed between sand ripples	6148 (sss and mag)	-
7160	Magnetic	449586	5685021	A2	-	-	-	45	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6147 (mag)	-
7161	Magnetic	449649	5685286	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6146 (mag)	-
7162	Recorded Obstruction/ Probable Wreck [Live]	450638	5685464	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. A large sand wave currently exists at the site, which could be potentially covering the feature. The UKHO record indicates that this has been described as a 'probable wreck'.	6145 (db), 2026	15471 (UKHO)

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7163	Debris	452273	5686101	A2	7.4	1.3	0.0	-	Elongate dark reflector with shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and possibly a piece of partially buried non-ferrous debris.	6144 (sss)	-
7164	Debris	452259	5686177	A2	4.9	0.2	0.4	-	Elongate dark reflector with shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and possibly a piece of partially buried non-ferrous debris.	6143 (sss)	-
7165	Dark Reflector	452515	5686435	A2	2.7	0.4	0.8	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6139 (sss)	-
7166	Dark Reflector	452707	5686348	A2	4.5	0.6	1.4	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and could be natural or a piece of partially buried debris.	6138 (sss)	-
7167	Magnetic	453179	5686655	A2	-	-	-	18	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6137 (mag)	-
7168	Dark Reflector	453618	5686701	A2	2.3	0.9	0.8	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6135 (sss)	-
7169	Dark Reflector	453687	5686888	A2	1.4	0.8	0.7	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6134(sss)	-
7170	Dark Reflector	453888	5686986	A2	1.3	0.8	0.7	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6133 (sss)	-
7171	Dark Reflector	454084	5686919	A2	1.6	1.0	1.0	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6132 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Discr't ion	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7289	Recorded Wreck [Live]	437854	5685881	A3					Outside geophysical survey area. Wreck of the HMS <i>Blackburn-Rovers</i> .	2022 (mag)	15472 (UKHO)
7290	Recorded Obstruction [Dead]	432654	5687059	A3					Outside geophysical survey area.	2027	69714 (UKHO)
7291	Recorded Obstruction [Dead]	437707	5686934	A3					Outside geophysical survey area.	2028	15477 (UKHO)
7306	Recorded Wreck [Dead]	454723	5687712	A3					Outside geophysical survey area. Wreck of the <i>St Patrice</i> .	2043	15489 (UKHO)

APPENDIX VIII – BELGIAN WATERS – GAZETTEER OF SITES RECORDED BY VIOE AND GEOPHYSICAL ANOMALIES (FIGURE 17 AND 18)

This appendix includes a list and description of the data for the Belgian waters produced by the VIOE and MMT (see **Figure 17 & 18**). In the source column, the abbreviations in brackets indicate how the feature was visible/identified: with (sss) for side scan sonar, (sbp) for sub bottom profiler, (mag) for magnetometer and (db) for desk-based assessment. Sites visible in several datasets are indicated with each applicable abbreviation, as the compilation of the datasets is part of the archaeological assessment. Images of key features have been illustrated in the Figures as appropriate, however images of the remaining features are held in the project archives for future reference. For more details about the source / interpretation – see **Volume I: Methodology: Archaeological Interpretation of Geophysical Data**.

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7172	Dark Reflector	455057	5687493	A2	1.5	1.0	1.0	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6130 (sss)	-
7173	Dark Reflector	455269	5687224	A2	3.6	0.7	0.8	-	Two adjacent dark reflectors with shadows but no associated magnetic anomalies. Could be natural or non-ferrous debris.	6128 (sss)	-
7174	Dark Reflector	455749	5687468	A2	2.2	1.0	1.1	-	Two adjacent dark reflectors with shadows but no associated magnetic anomalies. Could be natural or non-ferrous debris.	6124 (sss)	-
7175	Dark Reflector	455878	5687467	A2	1.5	0.4	0.5	-	Two adjacent dark reflectors with shadows but no associated magnetic anomalies. Could be natural or non-ferrous debris.	6123 (sss)	-
7176	Dark Reflector	455835	5687524	A2	1.9	0.5	0.7	-	Large dark reflector with large shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6122 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7177	Debris	456017	5687657	A2	3.1	0.7	0.8		Dark reflector with shadow and scour identified in an area of sand ripples, though no associated magnetic anomaly. Surround by an area of possible disturbed seabed, and could be a piece of partially buried non-ferrous debris.	6121 (sss)	-
7178	Dark Reflector	456166	5687790	A2	5.5	0.5	1.3	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6120 (sss)	-
7179	Magnetic	456315	5687665	A2	-	-	-	47	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6119 (mag)	-
7180	Dark Reflector	456393	5687630	A2	3.2	0.4	0.6	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6118 (sss)	-
7181	Dark Reflector	456686	5687803	A2	2.6	2.1	0.9	-	Large dark reflector with large shadow but no associated magnetic anomaly. Located in an area of sand ripples, and could be natural or a piece of partially buried non-ferrous debris.	6117 (sss)	-
7182	Debris	456654	5687924	A2	3.6	0.3	0.0	-	Short, curvilinear dark reflector without a shadow or associated magnetic anomaly. Possible piece of linear, non-ferrous debris.	6116 (sss)	-
7183	Debris	456566	5687968	A2	1.5	0.4	0.7	-	Elongate dark reflector with shadow but no associated magnetic anomaly, located in an area of sand ripples. Could be natural or a piece of non-ferrous debris	6115 (sss)	-
7184	Magnetic	456935	5687833	A2	-	-	-	20	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6114 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7185	Magnetic	456738	5687753	A2	-	-	-	38	Medium well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6113 (mag)	-
7186	Dark Reflector	456893	5687924	A2	1.0	0.5	0.5	-	Dark reflector with large shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and could be a natural feature or a partially buried piece of non-ferrous debris.	6112 (sss)	-
7187	Magnetic	456980	5687928	A2	-	-	-	17	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6110 (mag)	-
7188	Debris	457351	5688358	A2	3.5	1.7	0.0	-	A small, tight cluster of dark reflectors with possible small shadows though without an associated magnetic anomaly. Located on the edge of a sand wave, and possibly a piece of non-ferrous debris.	6109 (sss)	-
7189	Recorded Obstruction [Dead]	457784	5688212	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. Recorded as dead by UKHO and may have been an ephemeral feature that no longer exists, or be located elsewhere. A large sand wave currently exists at the site, which could be potentially covering an older feature.	6108 (db), 2044	15494 (UKHO)
7190	Magnetic	457638	5688438	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6107 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7191	Debris	458053	5688634	A2	13.3	5.1	0.0	-	Area of dark reflectors located on the edge of a sand wave. No associated magnetic anomaly, but could be partially buried non-ferrous debris.	6106 (sss)	-
7192	Magnetic	458173	5688643	A2	-	-	-	25	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6105 (mag)	-
7193	Dark Reflector	458551	5688577	A2	2.5	1.2	0.6	-	Dark reflector with large shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and could be a natural feature or a partially buried piece of non-ferrous debris.	6104 (sss)	-
7194	Magnetic	458425	5688745	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6103 (mag)	-
7195	Debris	458626	5688694	A2	4.3	0.7	0.7	17	Two dark reflectors with large shadows, located on the edge of a sand wave. Possibly associated with a magnetic anomaly, but this is uncertain. Possible piece of partially buried ferrous debris..	6101, 6102 (sss and mag)	-
7196	Dark Reflector	459008	5688663	A2	2.2	0.9	1.1	-	Dark reflector with large shadow but no associated magnetic anomaly. Located on the edge of a sand wave, and could be a natural feature or a partially buried piece of non-ferrous debris.	6100 (sss)	-
7197	Magnetic	459388	5689123	A2	-	-	-	9	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6099 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7198	Magnetic	460200	5689358	A2	-	-	-	16	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6098 (mag)	-
7199	Dark Reflector	460457	5689409	A2	3.0	0.5	0.6	-	Elongate dark reflector with shadow but no associated magnetic anomaly, located in an area of sand ripples. Could be natural or a piece of non-ferrous debris. Located next to a similar, smaller contact and could be related (not tagged).	6097 (sss)	-
7200	Wreck [Live]	460851	5689298	A1	90.7	32.1	4.4	64	Location of the known wreck <i>Tringa</i> , identified by all of the geophysical equipment. The wreck appears badly broken up, though still exhibits some structure and significant height. Medium magnetic anomaly suggests at least part of the structure is ferrous in nature. No scour or large debris field identified, just one piece of discrete debris some distance from the wreck. Orientated NE - SW.	6095, 6096 (sss, mag and db), 2029	15506 (UKHO) 121/226 (VIOE)
7201	Magnetic	461040	5689458	A2	-	-	-	48	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, possibly from nearby wreck 7200.	6094 (mag)	-
7202	Dark Reflector	461406	5689561	A2	2.3	0.6	0.7	-	Large dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6092 (sss)	-
7203	Dark Reflector	461482	5689613	A2	2.3	0.8	0.9	-	Large dark reflector with shadow but no associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6091 (sss)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7204	Magnetic	463391	5690163	A2	-	-	-	27	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6088 (mag)	-
7205	Magnetic	464335	5690448	A2	-	-	-	26	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6087	-
7206	Recorded Obstruction [Dead]	465231	5690719	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. Recorded as dead by UKHO and may have been an ephemeral feature that no longer exists, or be located elsewhere.	6086 (db), 2045	15520 (UKHO) (VIOE)
7207	Recorded Obstruction [Dead]	466392	5690773	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. Recorded as dead by UKHO and may have been an ephemeral feature that no longer exists, or be located elsewhere. A large sand wave currently exists at the site, which could be potentially covering an older feature.	6084 (db), 2046	15522 (UKHO)
7208	Magnetic	467863	5690633	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6082 (mag)	-
7209	Magnetic	467558	5690863	A2	-	-	-	31	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, though could be caused by the large sand waves in the area.	6081 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7210	Magnetic	467125	5691028	A2	-	-	-	74	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, though could be caused by the large sand waves in the area.	6080 (mag)	-
7211	Magnetic	467398	5691028	A2	-	-	-	52	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, though could be caused by the large sand waves in the area.	6079 (mag)	-
7212	Magnetic	466225	5690788	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6078 (mag)	-
7213	Magnetic	466545	5690940	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6077 (mag)	-
7214	Magnetic	466373	5690935	A2	-	-	-	47	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, though could be caused by the large sand waves in the area.	6076 (mag)	-
7215	Magnetic	465953	5690870	A2	-	-	-	50	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris, though could be caused by the large sand waves in the area.	6075 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7216	Magnetic	471268	5688860	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6074 (mag)	-
7217	Magnetic	469655	5689035	A2	-	-	-	13	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6073 (mag)	-
7218	Magnetic	470430	5688920	A2	-	-	-	11	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6072 (mag)	-
7219	Magnetic	470325	5688710	A2	-	-	-	29	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6071 (mag)	-
7220	Magnetic	468740	5689445	A2	-	-	-	18	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6070 (mag)	-
7221	Magnetic	468543	5689598	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6069 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7222	Magnetic	474883	5688625	A2	-	-	-	26	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6068 (mag)	-
7223	Magnetic	474233	5688825	A2	-	-	-	14	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6067 (mag)	-
7224	Magnetic	473320	5688805	A2	-	-	-	48	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6063 (mag)	-
7225	Debris	479141	5688334	A2	4.7	2.8	2.5	-	Large dark reflector with large shadow, located on the edge of a sand wave. Possibly associated with an 80nT magnetic anomaly, though this is more likely to have been created by the large sand waves in the area. Possible piece of debris, or a partially buried structure.	6062 (sss)	-
7226	Magnetic	482608	5688465	A2	-	-	-	109	Large, broad magnetic anomaly without any associated sidescan sonar or multibeam bathymetry contacts. Located along a line of noisy data, so could be noise, but is large so could also indicate a large piece of buried ferrous debris.	6061 (mag)	-
7227	Magnetic	483513	5688693	A2	-	-	-	25	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6060 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7228	Debris	483705	5688678	A2	3.1	1.3	1.1	-	Large dark reflector with large shadow but no associated magnetic anomaly. Shown by multibeam bathymetry data to be located within a large depression, approx. 25m x 25m x 0.5m. Possibly a piece of non-ferrous debris.	6059 (sss)	-
7229	Magnetic	484086	5689088	A2	-	-	-	93	Large magnetic anomaly without any associated sidescan sonar or multibeam bathymetry contact. Located along a single noisy line, and could be caused by turning a corner in the route during survey, though is a large anomaly and so could also indicate a large piece of buried ferrous debris.	6057 (mag)	-
7230	Rope / Chain	484661	5688954	A2	108.0	0.3	0.2	-	A linear alignment of short linear reflectors with small shadows but no associated magnetic anomaly. Probably a partially buried length of rope or chain, periodically exposed between small sand waves.	6056 (sss)	-
7231	Magnetic	485783	5689115	A2	-	-	-	28	Small magnetic anomaly without any associated sidescan sonar or multibeam bathymetry contact. Located in an area of numerous anomalies and is similar in nature. Could be created by a natural feature, or be indicative of a piece of buried ferrous debris.	6054 (mag)	-
7232	Bright Reflector	485792	5689328	A2	6.4	0.8	0.0	-	Elongate bright reflector without an associated magnetic anomaly. Could be natural or a piece of non-ferrous debris.	6053 (sss)	-
7233	Magnetic	485946	5689453	A2	-	-	-	63	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Probably indicative of a piece of buried ferrous debris.	6052 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7234	Debris	486591	5689324	A2	2.5	0.3	0.8	45	Well defined dark reflector with shadow and possibly associated with a medium magnetic anomaly. Possible piece of ferrous debris.	6051 (sss and mag)	-
7235	Magnetic	487777	5689755	A2	-	-	-	63	Two medium magnetic anomalies without any associated sidescan sonar or multibeam bathymetry contacts. Located in fairly close proximity, and could be indicative of the same piece of buried ferrous debris.	6049 (mag)	-
7236	Magnetic	488886	5689318	A2	-	-	-	12	Two adjacent, small but well-defined magnetic anomalies without any associated sidescan sonar or multibeam bathymetry contacts. Could be natural or indicative of a piece of buried ferrous debris.	6048 (mag)	-
7237	Debris	488954	5689528	A2	7.9	6.0	0.0	37	Area of seafloor disturbance containing at least one, possibly two, curvilinear dark reflectors. Associated with a medium magnetic anomaly, and probably an area of ferrous debris.	6047 (sss and mag)	-
7238	Magnetic	489976	5688985	A2	-	-	-	9	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6046 (mag)	-
7239	Magnetic	490396	5688960	A2	-	-	-	20	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous small anomalies, and could be natural or indicative of a piece of buried ferrous debris.	6045 (mag)	-
7240	Magnetic	492101	5688780	A2	-	-	-	64	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Possibly indicative of a piece of buried ferrous debris.	6043 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7241	Magnetic	492406	5688573	A2	-	-	-	26	Linear alignment of four small magnetic anomalies without an apparent sidescan sonar or multibeam bathymetry contact, trending NNE - SSW across the proposed cable route. Could be indicative of a buried cable or a piece of long, linear debris.	6041 (mag)	-
7242	Recorded Obstruction [Dead]	494196	5688380	A3	-	-	-	-	Location of a recorded obstruction, not identified by any of the geophysical equipment. Located right at the edge of the geophysical survey area, and could be an ephemeral natural feature or located elsewhere.	6040 (db), 2049	69611 (UKHO)
7243	Magnetic	494006	5688088	A2	-	-	-	109	Large magnetic anomaly without an associated sidescan sonar or multibeam bathymetry contact. Located in an area with numerous small anomalies, but is probably indicative of a piece of buried ferrous debris.	6039 (mag)	-
7244	Magnetic	494186	5687993	A2	-	-	-	83	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous small anomalies, but is probably indicative of a piece of buried ferrous debris.	6038 (mag)	-
7245	Magnetic	495223	5687898	A2	-	-	-	43	Medium, well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous small anomalies, and could be natural or indicative of a piece of buried ferrous debris.	6037 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7246	Magnetic	494791	5688000	A2	-	-	-	10	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous small anomalies, and could be natural or indicative of a piece of buried ferrous debris.	6036 (mag)	-
7247	Rope / Chain	498781	5687785	A2	46.6	0.2	0.0	11	Linear dark reflector without a shadow, but possibly associated with a linear alignment of three small magnetic anomalies. Possible length of rope or chain.	6033 (sss and mag)	-
7248	Rope / Chain	499489	5687643	A2	118.1	0.2	0.0	8	Long, curvilinear dark reflector without a shadow but possibly associated with a small magnetic anomaly. Possible length of rope or chain.	6030 (sss and mag)	-
7249	Magnetic	500226	5687710	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6026 (mag)	-
7250	Magnetic	507760	5687153	A2	-	-	-	19	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6025 (mag)	-
7251	Magnetic	500301	5687820	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6024 (mag)	-
7252	Magnetic	500806	5687655	A2	-	-	-	8	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6023 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7253	Magnetic	501011	5687443	A2	-	-	-	6	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6022 (mag)	-
7254	Magnetic	503618	5687320	A2	-	-	-	9	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6021 (mag)	-
7255	Magnetic	504243	5687528	A2	-	-	-	24	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6020 (mag)	-
7256	Debris	505219	5687483	A2	18.7	5.1	0.0	-	Two indistinct dark reflectors in close proximity without shadows or an associated magnetic anomaly. Possible an area of non-ferrous debris, or two parts of a partly buried structure.	6019 (sss)	-
7257	Seafloor Disturbance	505890	5687131	A2	5.2	2.2	0.0	-	Small area of possible seafloor disturbance, no associated magnetic anomaly. Could be natural or anthropogenic in origin.	6018 (sss)	-
7258	Debris	505947	5687220	A2	3.1	2.9	0.0	-	Strong, angular dark reflector without a shadow or associated magnetic anomaly. Possible piece of non-ferrous debris.	6017 (sss)	-
7259	Recorded Wreck [Live]	506371	5686959	A3	-	-	-	-	Recorded location of the remains of a fishing vessel, not observed by any of the geophysical equipment. Located right at the edge of the geophysical survey area and could actually lie just outside this area.	6016 (db), 2035	27313 (UKHO)

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7260	Magnetic	506543	5687043	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6013 (mag)	-
7261	Magnetic	506610	5687190	A2	-	-	-	12	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6012 (mag)	-
7262	Magnetic	506723	5687295	A2	-	-	-	26	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6011 (mag)	-
7263	Debris	506807	5687158	A2	4.8	0.1	0.0	-	Short, curvilinear dark reflector without a shadow or associated magnetic anomaly. Possible piece of linear, non-ferrous debris.	6010 (sss)	-
7264	Rope / Chain	506972	5686999	A2	37.5	0.2	0.0	33	Curvilinear dark reflector without a shadow but associated with a magnetic anomaly. Probably a length of chain.	6008 (sss and mag)	-
7265	Debris	507341	5687281	A2	7.8	2.7	0.0	-	Small area of dark reflectors with shadows but no associated magnetometer contacts. Possible small debris field.	6007 (sss)	-
7266	Dark Reflector	507408	5687122	A2	2.1	1.1	0.5	-	Dark reflector with shadow but no associated magnetic anomaly. In an area of variable seabed reflectivity, and could be natural or a piece of non-ferrous debris.	6005 (sss)	-
7267	Magnetic	507738	5687015	A2	-	-	-	20	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Could be natural or indicative of a piece of buried ferrous debris.	6004 (mag)	-

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7268	Dark Reflector	508877	5687144	A2	2.1	1.1	0.5	-	Small dark reflector with shadow. No associated magnetic anomaly but possibly with a small area of disturbed seabed. Could be natural or debris.	6002 (sss)	-
7269	Magnetic	510050	5686783	A2	-	-	-	23	Small but well-defined magnetic anomaly without any associated sidescan sonar or multibeam bathymetry anomaly. Located in an area with numerous small anomalies, and could be natural or indicative of a piece of buried ferrous debris.	6000 (mag)	-
7292	Recorded Wreck [Live]	464678	5691157	A3					Outside geophysical survey area. Wreck of the <i>Mariner</i> (possibly), lost 1979.	2030	15528 (UKHO)
7293	Recorded Wreck [Live]	483250	5688250	A3					Outside geophysical survey area. Wreck of the <i>A-15</i> (possibly)	2031	15773 (UKHO) 120/245 (VIOE)
7294	Recorded Wreck [Live]	488866	5689873	A3					Outside geophysical survey area. Wreck of the <i>Empire Path</i> .	2032	15514 (UKHO)
7295	Recorded Wreck [Live]	488905	5689964	A3					Outside geophysical survey area.	2033	76861 (UKHO)
7296	Recorded Wreck [Live]	493001	5688721	A3					Outside geophysical survey area. Wreck of the <i>Gold Shell</i> .	2034	15502 (UKHO) 121/254 (VIOE)
7297	Recorded Obstruction [Live]	463146	5690550	A3					Outside geophysical survey area.	2036	15842 (UKHO)

WA ID	Name / Classification	Easting	Northing	Arch Disc	L (m)	W (m)	H (m)	Mag Amp (nT)	Description	Source	External Refs
7298	Recorded Obstruction [Live]	495110	5688842	A3					Outside geophysical survey area.	2037	15504 (UKHO)
7299	Recorded Wreck [Dead]	465186	5689793	A3					Outside geophysical survey area. Wrecks of the SS <i>Kilmare</i> and <i>West Hinder</i> LTV.	2038	15510 (UKHO)
7300	Recorded Wreck [Dead]	476787	5688800	A3					Outside geophysical survey area. Wreck of <i>FL5</i>	2039	69607 (UKHO)
7301	Recorded Wreck [Dead]	479108	5688790	A3					Outside geophysical survey area. Wreck of <i>FL8</i>	2040	69498 (UKHO)
7302	Recorded Wreck [Dead]	489266	5689685	A3					Outside geophysical survey area. Wreck of <i>Boscobel</i> .	2041	15512 (UKHO)
7303	Recorded Wreck [Dead]	508791	5685728	A3					Outside geophysical survey area, wreck marked with buoy 1974.	2042	27305 (UKHO)
7304	Recorded Obstruction [Dead]	467411	5689778	A3					Outside geophysical survey area.	2047	15511 (UKHO)
7305	Recorded Obstruction [Dead]	484116	5687969	A3					Outside geophysical survey area.	2048	69710 (UKHO)
7307	Recorded Obstruction [Dead]	492108	5689124	A3					Outside geophysical survey area.	2050	69494 (UKHO)

APPENDIX IX – BELGIAN LANDFALL – TERRESTRIAL SITES GAZETTEER

This appendix includes a list and description of the data for the Belgian terrestrial sites produced by the VIOE (see **Figure 19**)

WA Number	Period	Name	Description	Lambert 72 Easting	Lambert 72 Northing	UTM31N Easting	UTM31N Northing	VIOE Location
1301	Roman	Harendjke (UK8)	Dating between the first and third centuries AD. Wooden building floor with baked tiles; as well as Pottery concentration contemporary of Camping Esmeralda	61781	222340	507231	5683653	75182 (De Haan)
1302	Roman	Port 1	Fire place probably from the second century AD	62842	222969	508280	5684301	75183 (Blankenberge)
1303	Medieval	Breeweg (U/171)	Medieval pottery concentration including Verhaeghe Group A.	65405	222882	510843	5684261	71847 (Blankenberge)
1304	Medieval	I molenstraat	Waste well	63591	223425	509020	5684770	76487 (Blankenberge)
1305	Medieval	Vogelghem	Farm	65034	223319	510464	5684691	72324 (Blankenberge)
1306	Medieval	Farm Raas Walle (U/51)	Site with moat of the type A1C (typology Verhaeghe) firstly mentioned in 1209. Medieval Pottery and Faience. Roof tile and metal fragments from undetermined period.	65635	223288	511066	5684671	71858 (Blankenberge)
1307	Late Medieval	Blankenberge Vaart 1	Abandoned site with moat. Yet clearly visible traces of micro-topographic (earthen embankment, surrounded by a wide moat, to 10m wide).	62477	221641	507940	5682967	70052 (Blankenberge)
1308	Late Medieval	Neptune Avenue I	Site with moat.	62089	221684	507551	5683003	70136 (Blankenberge)
1309	Late Medieval	Neptune Avenue (BE28)	Site with moat.	61729	222470	507177	5683781	70138 (De Haan)
1310	Late Medieval	Poseidon Avenue (BE29)	Site with moat.	62147	221923	507605	5683243	70139 (De Haan)

WA Number	Period	Name	Description	Lambert 72 Easting	Lambert 72 Northing	UTM31N Easting	UTM31N Northing	VIOE Location
1311	Late Medieval	A vestige B 2	Dyke	64853	222888	510291	5684257	71833 (Blankenberge)
1312	Late Medieval	Uitkerke 2	Dyke	63797	222900	509236	5684249	71834 (Blankenberge)
1313	Late Medieval	Blankenberge Dijk	Dyke	64160	222294	509610	5683650	71835 (Blankenberge)
1314	Late Medieval	Zeebrugge Avenue (U/181)	Farm, no evidence of moat	65190	223015	510626	5684390	71860
1315	Late Medieval	Loge Voorde	Farm	63318	222596	508763	5683937	72279 (Blankenberge)
1316	Late Medieval	Blankenberge Vaart 2	Remains of a tannery craft place composed of 3 round structure with oil substance.	62583	221748	508044	5683076	72282 (Blankenberge)
1317	Late Medieval	Lenebrug	A footbridge with handrails on Zwin Bommel, Just South of the mill Uitkerke.	64089	222321	509538	5683676	72286 (Blankenberge)
1318	Late Medieval	Mill Uitkerke	Mill. The lord of Uitkerke only had the mill right in the Craft Uitkerke. In the early 19th century, Corneille Pollet owner. Because his mill fell, he built a new 200 m east, the later Tytens' mill.	64066	222431	509513	5683786	72319 (Blankenberge)
1319	Post Medieval	Stake Bed	The various entries outline their function well: 1. a repository of the material for the seawall, which consist of stakes, brushwood and stone blocks 2. was an unloading bay for boats, 3. a house for the strandopziener.	65134	224200	510548	5685573	72326 (Blankenberge)
1320	Post Medieval	Stationsstraat/King Albert I-laan/Prinsenlaan	A flattened mound	64103	223394	509533	5684749	72322 (Blankenberge)
1321	Post Medieval	Hofstede Oostpoort	Homestead	64135	223669	509559	5685024	72323 (Blankenberge)
1322	Post Medieval	Telgerie	Brick and tile works (brickyard)	62792	222328	508242	5683659	72280 (Blankenberge)

WA Number	Period	Name	Description	Lambert 72 Easting	Lambert 72 Northing	UTM31N Easting	UTM31N Northing	VIOE Location
1323	Post Medieval	The Sloop	Non-walled farm site mentioned during the 17th century as a homestead or a manor	63335	222291	508785	5683632	72285 (Blankenberge)
1324	Post Medieval	Ovenkotstuk	Farm land from the 16th century	66319	223558	511744	5684953	72315 (Blankenberge)
1325	Roman, Early Medieval, and Post Medieval	By Haagstraat (U/8)	Roman Pottery (Clip terra sigillata, central Gaul). Early Medieval Pottery (Verhaeghe group A). Post Medieval undetermined occupation showed on the Map of Pourbus (1562-1571).	66707	223633	512131	5685036	71837 (Blankenberge)
1326	Roman and Medieval	Breeweg (U/17, U/95)	Roman pottery concentration over large area including Terra-sigillata. Early Medieval pottery concentration such as Badorf and Geglade. Late Medieval pottery concentration including Verhaeghe Group A. An also some organic material from undetermined period.	65725	222979	511161	5684364	71845 (Blankenberge)
1327	Roman and Medieval	Meeuwenlaan (U/104)	Roman sherds. Late Medieval pottery concentration including Verhaeghe Group A, and Badorf. Organic and metal material from undetermined period.	65132	222738	510573	5684112	71848 (Blankenberge)
1328	Medieval and Post Medieval	Castle Prince Gog or Castle of Uitkerke	Fortress associated with farm (bailey) and double circular moat. Destroyed by Dutch after an 80 years war (1568-1648), and destroyed again by the locals in 1849. There is also an 18 th century Mansion in rococo style in place. And finally a Motte Castrale dating probably at least of 1270.	64547	222431	509994	5683794	71817 (Blankenberge)

WA Number	Period	Name	Description	Lambert 72 Easting	Lambert 72 Northing	UTM31N Easting	UTM31N Northing	VIOE Location
1329	Medieval and Post Medieval	Groendijk (U15, U/16, U/138)	Several type of Early Medieval Pottery (such as Verhaeghe Group A). Other pottery of various type from the Late Medieval period (including Verhaeghe Group A), but without any apparent with the earlier period. Pottery and faience from the possibly from the 16 th century. Organic material, bricks and glass fragment from undetermined period.	66247	223357	511676	5684751	71844 (Blankenberge)
1330	Medieval and Post Medieval	Farm Oosthof (U/169)	Residential occupation of a site with moat during the Medieval and Post Medieval period.	66261	223648	511685	5685042	71857 (Blankenberge)
1331	Medieval and Post Medieval	Zeebrugge Avenue (U/9)	Farm occupation from Medieval period. Medieval pottery sherds, and post medieval stoneware including Raeren Majolica. Bone fragments of undetermined period.	65402	223051	510837	5684430	71859 (Blankenberge)
1332	Medieval and Post Medieval	Molenstraat II	Occupation site from the Medieval period to the 18 th century with fragments of pots and dishes, barrels, pottery, faience plate, key and shoe clips.	63660	223512	509088	5684858	72234 (Blankenberge)
1333	Medieval and Post Medieval	Tiendehof	Farm and barn demolished and transformed in cropland	64341	222294	509791	5683654	72318 (Blankenberge)

WA Number	Period	Name	Description	Lambert 72 Easting	Lambert 72 Northing	UTM31N Easting	UTM31N Northing	VIOE Location
1334	Medieval and Post Medieval	Oudengemse Sluis	Lock. The lock just west west of oudengem with the arranged drainage of the Church Corner of Reed. The water south of A vestige B flowed through three openings to the Eiesluis. Because the risk of breakthrough from the beachfront for a long time was present, remained until about 1500 with three openings of doors. The three locks, which could shut A vestige were Oudengemse Sluis, Sluis and the Boudin Meitin Koppe Luis.	65028	223015	510464	5684387	72325 (Blankenberge)
1335	Undetermined	Brick Kiln	Brick and tile works (brickyard)	63765	222719	509207	5684068	72278 (Blankenberge)
1336	Undetermined	Spoon Exhibit	Water place	62891	222180	508344	5683513	72281 (Blankenberge)
1337	Undetermined	Bekegem	Occupation site of a Farmhouse	65463	222940	510900	5684320	72314 (Blankenberge)

APPENDIX X – COORDINATES SYSTEM INFORMATION

WGS84 UTM31

Datum:	WGS84
Ellipsoid:	WGS84
Semi Major:	6378137.00
Semi Minor:	6356752.31
Inverse Flattening:	298.2572236
Projection:	Universal Transverse Mercator
Projection Type:	Universal Transverse Mercator
Zone:	UTM-31N
False Easting:	500000.00000000
False Northing:	0.00000000
Latitude of Origin:	0.00000000
Longitude of Central Meridian:	3.00000000
Scale Factor at the CM:	0.99960000
Survey Units:	International metre

British National Grid (OSGB36)

Datum:	OSGB36
Ellipsoid:	Airy 1830
Semi Major:	6377563.40
Semi Minor:	6356256.91
Inverse Flattening:	299.3249646
Projection:	UK and Ireland
Projection Type:	Transverse Mercator (Gauss Kruger)
Zone:	OSGB36
False Easting:	400000.00000000
False Northing:	-100000.00000000
Latitude of Origin:	49.00000000
Longitude of Central Meridian:	-2.00000000
Scale Factor at the CM:	0.99960127
Survey Units:	International metre

Belgium National Grid (Belge Lambert 72 datum)

Datum:	Belge 1972
Ellipsoid:	Int'l 1924
Semi Major:	6378388.00
Semi Minor:	6356911.95
Inverse Flattening:	297.0000000
Projection:	Belgium
Projection Type:	Lambert Conic (2SP Belgium)
Zone:	Belge Lambert 72
False Eastings:	150000.01256000
False Northings:	5400088.43780000
Latitude of the Origin of Projection:	90.00000000
Longitude of the Centre of Projection:	4.35693972
Latitude of Northern Parallel:	51.16666667
Latitude of Southern Parallel:	49.83333333
Survey Units:	International metre

French National Grid (RGF 1993 Lambert 93)

Datum: RGF93
Ellipsoid: GRS80
Semi Major: 6378137.00
Semi Minor: 6356752.31
Inverse Flattening: 298.2572221

Projection: France
Projection Type: Lambert Conic (2SP)
Zone: Lambert-93
False Easting: 700000.00000000
False Northing: 6600000.00000000
Latitude of the Origin of Projection: 46.50000000
Longitude of the Centre of Projection: 3.00000000
Latitude of Northern Parallel: 49.00000000
Latitude of Southern Parallel: 44.00000000
Survey Units: International metre

OSGB36 to WGS84 datum

Conversion carried out using OSTN 2 conversion

Belge Lambert 72 datum to WGS84 datum

Datum: Belge 1972
Ellipsoid: Int'l 1924
Semi Major: 6378388.00
Semi Minor: 6356911.95
Inverse Flattening: 297.0000000

Datum Shifts to WGS84:
Delta X(m): -99.100
Delta Y(m): 53.300
Delta Z(m): -112.500
Rotation X(sec): 0.4190
Rotation Y(sec): -0.8300
Rotation Z(sec): 1.8850
Scale(ppm): -1.0000000



Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk



FS 606559

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