

London Gateway Port: Channel Clearance and Dredging
ARCHAEOLOGICAL EXCLUSION ZONES AND MONITORING REGIMES

Method Statement

Draft 28/08/08



ARCHAEOLOGICAL EXCLUSION ZONES AND MONITORING REGIMES

Method Statement

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. As part of the London Gateway Port archaeological mitigation strategy Archaeological Exclusion Zones will be implemented around sites of special archaeological interest, and monitored during clearance and dredging operations (LG Archaeological Methods and Procedures). A copy of the relevant sections from the London Gateway Port: Channel Clearance and Dredging Archaeological Methods and Procedures document are included for information.

1.1.2. The Port of London Authority (PLA) will undertake the monitoring of the Archaeological Exclusion Zones (AEZs) with Wessex Archaeology providing archaeological support.

1.1.3. Three sites have been identified prior to the commencement of dredging operations that require AEZs. These are: the *King* (5019), *London* (5029), and the Iron Bar Wreck (5020).

1.1.4. This document provides a rationale for the AEZs and describes the general principles of the monitoring regime that will be implemented for all three sites. The specific extents of the AEZ and the specific details of the monitoring regimes for individual sites are described in **Appendices I to III**.

1.1.5. Details of the locations, site histories, investigations to date, and the full mitigation strategies adopted for these sites is documented in their Clearance Mitigation Statements (CMS).

2. AIM AND OBJECTIVES

2.1. The aim of Archaeological Exclusion Zones is to provide an area of protection for the sites in question and demonstrate that the sites are not impacted by direct or indirect impacts from the construction process.

2.2. The archaeological objectives are:

- Define a geographic boundary of the AEZ
- Specify geophysical surveys for monitoring purposes
- Specify the criterion for further investigations

3. METHODOLOGY

3.1. INTRODUCTION

3.1.1. The sites will be monitored primarily through geophysical survey of the seabed before, during, and after dredging operations take place. If significant changes in the



seabed topography are observed, and wreck material is exposed, diver investigation will be undertaken to establish the quantity, character and nature of material that has been exposed. At this stage dredging operations within the vicinity of the AEZ will be suspended and a preservation strategy will be devised and implemented.

3.2. GEOPHYSICAL SURVEY REGIME

3.2.1. Geophysical surveys will be carried out over the sites at key stages in the dredging process:

Pre dredge	To establish baseline conditions before dredging operations
After first load from area	To monitor for immediate impact and riverbed movement
Interim surveys	To monitor for cumulative effect of dredging operation
After completion of dredging	To establish conditions post dredging

3.3. GEOPHYSICAL SURVEY SPECIFICATION

3.3.1. The geophysical surveys will be undertaken using a high resolution multibeam bathymetric system, either a Reson 8125 or 7125 sonar system (or equivalent). The surveys will be undertaken to ensure that full coverage of the riverbed is achieved within the area including the AEZ and a 100 metre buffer around it.

Data processing

3.3.2. The geophysical survey data will be reviewed by an archaeological contractor to assess whether any archaeological material has been exposed.

3.4. ARCHAEOLOGICAL DIVER INVESTIGATION

3.4.1. If archaeological material has been exposed on the riverbed it will be subject to diver investigation. This will be undertaken to establish the character and nature of the exposed material.

3.4.2. Diving investigations will undertaken in accordance with **Appendix I: Archaeological Recording; Appendix II: Diving; and Appendix IV: Finds Management** of the London Gateway Port: Channel Clearance and Dredging Archaeological Methods and Procedures document.

3.5. PROTECTION STRATEGY

3.5.1. Based on the information from the geophysical survey and the archaeological diver investigation the threat to the exposed material will be assessed. A strategy devised to reduce the impact of dredging operations and protect the material on the riverbed.

3.5.2. The strategy will be devised by the DP World Archaeological Liaison Officer and the Port of London Authority.

3.5.3. English Heritage will be informed of the strategy on its implementation.

4. REPORTING

4.1. Reports will be submitted to the PLA at each phase of the monitoring process.



- 4.2. After every geophysical monitoring survey a short report detailing equipment specifications, survey extents, the result of the survey and the differences between surveys will be submitted. In the results section the key features and changes in seabed morphology will be described and any differences in equipment specifications will be noted. Further recommendations will be proposed based on the results.
- 4.3. The pre-dredge survey will be compared to the most recent survey of each site as listed in the CMS.
- 4.4. In the event that archaeological diving investigation surveys are undertaken a report will be submitted which details the methods and results. It will outline the threat to the site at this stage.

5. REFERENCES

London Gateway Port: Channel Clearance and Dredging: Archaeological Methods and Procedures. (Draft 31/10/07)



London Gateway Port: Channel Clearance and Dredging

Appendices: Method Statements



APPENDIX I ARCHAEOLOGICAL RECORDING

BASICS

1. All recording will be based on the WA unique site identifiers used in the ES and subsequently.
2. All archaeological finds and deposits will be recorded using a pro forma recording system, based on a running matrix of assigned contexts for each site. Numbers will be allocated in blocks that are unique to that site. A number log will be maintained.
3. The spot height of all principal features and levels will be calculated in metres relative to Ordnance Datum, correct to two decimal places. Plans, sections and elevations will be annotated with spot heights as appropriate. The maximum level of principal features and of the seabed will be converted to metres relative to Chart Datum.
4. Plans of each investigation will be prepared at a scale of 1:1250 or larger, showing all investigation areas and their relation to more permanent topographical features. Each plan will show the location of contexts observed and recorded in the course of the investigation.
5. Plans, sections and elevations of archaeological features and deposits will be drawn as necessary at 1:10, 1:20 and 1:50 as appropriate. Drawings will be made in pencil on permanent drafting film, or in an accessible digital format.
6. A full photographic record will be maintained using digital video and stills photography. Recovered material will be subject to photographic recording by monochrome prints and colour transparencies. Additional illustrative photographs will be taken as appropriate.
7. Surveys will be carried out to a single datum and co-ordinate system, namely UTM Zone 31N projected from WGS84.

ACOUSTIC TRACKING

8. The position of the diver will be derived using an acoustic navigation system. The position will be integrated into a diver tracking and recording system where the position of objects on the seabed can be compared to the geophysical data, and the extent, and character of features recorded.
9. An Ultra Short Baseline (USBL) acoustic tracking system SCOUT manufactured by Sonardyne International will be used for acoustic tracking.
10. The SCOUT system consists of three main components: the vessel mounted acoustic transceiver, the diver mounted transponder, and the surface command module running the control software.
11. The position of the diver is calculated by measuring range and bearing from the vessel mounted transceiver to the transponder mounted on the diver's umbilical, using the signal properties of the acoustic energy emitted from the transceiver.



12. The range is calculated from the signal travel time and the bearing is calculated from the phase difference of the return signal across the transducer array within the surface transceiver.
13. The transponder work on frequencies between 35kHz and 55kHz. The stated operating range for the system is 500m and the acoustic coverage is +/- 90 degrees below the transceiver.
14. The SCOUT USBL Transceiver will be mounted on a pole over the side of the diving support vessel.
15. The following peripheral sensors will be integrated with the SCOUT USBL system to provide accurate absolute positioning:
GPS receiver operating with either RTK or differential corrections (Leica 500 system);
Gyro compass (TSS Meridian Surveyor);
Heave Compensator providing data for Heave Pitch and Roll (TSS HRP-10 MRU).
16. Prior to fieldwork, all instruments will be surveyed on the vessel to calculate offsets. The offset values will be configured into the SCOUT software. All external instruments were connected to the SCOUT surface command module. Both external and internal sensors will be calibrated before use
17. In the event of system failure, diver position will be determined by taped measurements from a shotline (positioned by GPS) and/or features mapped from geophysical data.

RECORDING SYSTEM

18. All archaeological recording will undertaken using Wessex Archaeology's bespoke digital recording system 'Diva'. Diva is a real time recording system working with three-dimensional position information. It comprises a Microsoft Access database working in conjunction with ESRI ArcGIS 9.0. The database is used to store the information and the GIS is used to provide a graphic display and to georeference information.
19. The position of the tracked diver is output from the Sonardyne SCOUT surface command module in real world co-ordinates into the Diva system and displayed in real time with geophysical data stored in the GIS system. The diver track can also be displayed and saved separately on the SCOUT system.
20. Observations made by divers will be entered into the database by the archaeological recorder on board the vessel. These observations, stored in the Diva database, include the three-dimensional position, comments typed in by the recorder and mapping labels for display in the GIS system.
21. Diver observations can be displayed as different layers in ArcGIS, grouped for example by mapping labels, observation type, etc.
22. Diver observations will be used to correlate separate records for contexts, finds, samples, photographs and so on.



23. The Diva system can operate independent of acoustic tracking, though positions have to be recorded manually instead of being provided automatically. In the event that Diva fails, paper records will be maintained.



APPENDIX VI. DIVING

MANAGEMENT

1. Diving will be carried out under the Diving at Work Regulations 1997.
2. Wessex Archaeology will apply the Approved Code of Practice (ACOP) for *Commercial Diving Projects Inland/Inshore* (HSC 1998).
3. Unless otherwise stated, Wessex Archaeology will be the Diving Contractor and will meet its obligations as such under the applicable regulations.
4. Wessex Archaeology understands that the Port of London Authority will be the Client, and will meet their obligations under the applicable regulations.
5. Wessex Archaeology's operations will be subject to periodic inspection by its Health and Safety Co-ordinator, and by its health and safety consultants.

DIVING PROJECT PLAN

6. Diving operations will be subject to preparation of a diving project plan (DPP) based on a risk assessment, as provided for in the Diving at Work Regulations 1997. Wessex Archaeology prepares its DPP in three parts:

Part I (DPP I) is the Generic Risk Assessment and Standard Operating Rules.

Part II (DPP II) is the Project Risk Assessment and Diving Project Plan. A DPP II is prepared for each diving project by the Project Manager, and copied to the Supervisor(s), other members of the diving team, other relevant people (boat crew, client etc.) and to Wessex Archaeology's Health and Safety Co-ordinator.

Part III (DPP III) is the Operation Risk Assessment and Diving Project Plan for each diving operation, which takes the form of a checklist in the diving operation record. It is to be compiled by the Supervisor at the start of each diving operation. DPP III constitutes an on-site review of the risk assessment and diving project plan.

TEAM SIZE AND STRUCTURE

7. The diving team used by Wessex Archaeology will be no less than four. In addition, an archaeological recorder will be present. The team will alternate, subject to competence, in the following roles: Supervisor; Diver; Standby Diver; Tender; Archaeological Recorder.
8. All members of the diving team will be qualified to HSE III or above and in First Aid at Work, and will have a valid and in-date medical certificate. Supervisors will be appointed in writing and will normally be certified under the ADC Diving Supervisor scheme.
9. The vessel crew will not be counted as part of the diving team. However, as the vessel will be moored during diving operations, the crew will be on hand to render assistance if required.



DIVING PROCEDURES

10. Wessex Archaeology diving operations will be conducted using Surface Supplied Diving Equipment (SSDE). Both diver and standby will be equipped with SSDE. The breathing gas will be air, supplied to the diver via an umbilical from a high-pressure bank on the surface. In addition to the bank there will be a HP reserve on the surface, and the diver/standby will be equipped with a bailout cylinder. The high pressure bank will be recharged with compressed breathing air on the diving vessel between diving operations. Umbilicals will include lifeline, hard wire communications and pneumo.

11. Every dive will be recorded on miniDV tape using a colourwatch digital video system with hat mounted camera.



APPENDIX IV FINDS MANAGEMENT

DEFINITIONS AND PRINCIPLES

12. The finds anticipated in the course of the London Gateway Wreck Clearance fall into two principal categories
Finds that are of archaeological, historical or cultural interest.
Finds that are of no archaeological, historical or cultural interest.
13. All finds that are of archaeological etc. interest will form the material archive of the project. Decisions regarding recording, handling, treatment, disposal etc. will be informed by archaeological and archival standards. Records and photographs etc. of such finds will be incorporated within the project archive.
14. Finds that are not of archaeological etc. interest will be discarded by WA and handed to the PLA as soon as is convenient. Any records or photographs obtained by WA will be incorporated within the project archive, noting that the material was discarded.
15. Both categories – finds of archaeological etc. interest and finds of no archaeological interest – are also likely to fall within one or more other categories to which additional legal provisions apply, namely:
 - 'Wreck'
 - Ordnance
 - Military aircraft
 - Human remains
16. Ordnance, military aircraft and human remains all warrant special procedures, which are detailed below.
17. 'Wreck' includes all forms of material lost or deposited from a vessel, including (elements of) hull, propulsion, fittings, cargo, personal possessions etc. 'Wreck' also includes material lost or deposited from aircraft.
18. It has been agreed that wreck that is not of archaeological etc. interest will be subject to the PLA's powers to dispose of wreck as set out in Section 120 of the Port of London Act 1968.
19. Wreck that is of archaeological etc. interest will be subject to the procedures relating to wreck in the Merchant Shipping Act 1995.
20. Finds that are not wreck include items deposited other than by a vessel or aircraft, including prehistoric finds deposited at the coast or on former landsurfaces, and (elements of) coastal, navigational and military infrastructure constructed on the shore or seabed.
21. For the purposes of these procedures, 'disposal' is taken to mean the handover of finds to the organisation or individual that is taking responsibility for their subsequent curation or care, which may be the owner or another party. 'Discard' is taken to mean that finds will not be subject to further curation or care. WA regards itself as



being responsible for any finds that it discovers up until the point of disposal or discard.

22. It is anticipated that the archive (finds; paper; digital) arising from LG Wreck Clearance will be deposited on the basis of agreement prior to fieldwork between the PLA and a recognised archival institution. WA will observe the requirements of the archival institution in numbering and ordering project finds and documentation in the course of fieldwork. It is anticipated that the archive will be deposited following implementation of the proposals for analysis and publication made in the post-excavation assessment.
23. Procedures for finds and samples will be guided by the IFA *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*, 2001, and guidance provided by the archival institution.

GENERAL PROCEDURES

24. Except in the case of ordnance etc., military aircraft and human remains (see below), the procedures set out here will generally come into effect upon recovery of the find to the surface.
25. Finds will normally be held by WA. For extensive assemblages and large, unwieldy or otherwise sensitive finds, provision may be made – by prior agreement – for finds to be transferred to and held by an appropriate institution.
26. Finds that are not ‘wreck’ and which are of archaeological, historical or cultural interest will be held by WA pending decisions on ownership, disposal and/or discard. Normally, the owner of the seabed will be the owner of finds that are not wreck. The permission of the landowner to donate finds that are not wreck to the organisation curating the archive will be sought.
27. Finds that are ‘wreck’ and which are of archaeological, historical or cultural interest are subject to the Merchant Shipping Act 1995. It is the PLA’s responsibility to notify the Receiver about wreck that is of archaeological interest found or taken into possession of WA in the course of its services to PLA. WA will prepare a droit and a list of wreck on behalf of the PLA, to be signed and sent to the receiver by the PLA’s River Regime and Environment Manager. Such droits and lists will be prepared and submitted periodically (e.g. monthly or at the close of the relevant phase of site investigations) by WA to the PLA RREM. At the end of the project a list of finds will be provided to the RoW by the PLA.
28. It is noted that owners have up to one year to make a claim to the Receiver in respect of wreck and it is anticipated that the Receiver will not generally make a decision about disposal in less than one year. However, an earlier decision will be sought under Section 240 of the Merchant Shipping Act 1995 if the wreck is so perishable that early disposal (to a museum capable of providing active conservation, for example) will favour the survival of the find.
29. Pending the decision of the Receiver, wreck will be held by WA on behalf of the PLA. WA will, on behalf of PLA, comply with directions given by the Receiver. WA will inform the Receiver of any change in the location where the finds are held.



FINDS: ORDNANCE, MILITARY AIRCRAFT AND HUMAN REMAINS

30. Procedures for reporting ordnance, military aircraft and human remains will normally come into effect upon discovery, i.e. with the material still on the seabed, unless the character of the find only becomes apparent upon recovery.
31. Any finds that are suspected of being ordnance, firearms, explosives etc. will be reported immediately by WA to the PLA's River Regime and Environment Manager (PLA RREM). The PLA RREM will inform the Joint Services EOD Operations Centre. Any subsequent actions will be guided by advice received from JS EOD.
32. Any finds that are suspected of being military aircraft will be reported immediately to the PLA RREM. The PLA RREM will inform the Service Personnel and Veterans Agency (SPVA: Joint Casualty and Compassionate Centre – SO3 Historic Casualty Casework). Any subsequent actions will be guided by *Crashed Military Aircraft of Historical Interest: Licensing of Excavations in the UK – Guidance Notes for Recovery Groups*, April 2007, and by advice received from SPVA. In the case of a military aircraft being investigated under licence, any human remains will be reported immediately in accordance with paragraph 14 of *Guidance Notes for Recovery Groups*, April 2007.
33. In the case of any other human remains, as of 1st June 2007 the requirement for issuing and conditions attached to licences for the excavation of human remains is subject to legal review.
34. Until such time as the legal position has been clarified by the Ministry of Justice, WA will, in the event of discovery of human remains, immediately inform the PLA RREM. The PLA RREM will inform the Coroner, the Police and the Ministry of Justice via submission of the relevant application form.
35. The human remains will initially be left *in situ*, covered and protected. Where a licence for their excavation is issued by the Ministry of Justice, the requirements of that licence will be followed.
36. Where the Ministry of Justice is unable to issue a licence and it is reasonably determined that the remains are likely to be subject to further unavoidable disturbance or deterioration, the PLA RREM will advise the Ministry of Justice of their intention to excavate the remains with due decency and in accordance with the general conditions formerly attached to licences issued for excavation of human remains under similar circumstances.
37. Should human remains be excavated and recovered, all excavation and post-excavation will be in accordance with the standards set out in the IFA *Technical Paper No 7 Guidelines to the Standards for Recording Human Remains* (IFA 2004).
38. The final placing of human remains following analysis will be subject to the requirements of the Ministry of Justice Licence.
39. As ordnance, military aircraft and human remains may also be of archaeological etc. interest, and constitute or be immediately associated with 'wreck', then the general procedures set out below will also apply, insofar as they are compatible with the special procedures set out above.



HOLDING AND TRANSPORTING FINDS

40. WA will provide and maintain suitable facilities onboard the diving vessel for a reasonable quantity of small and medium sized finds to be held passively. Generally, WA will keep finds onboard until there is a suitable opportunity to transport the material to its Salisbury base.
41. Where extensive recoveries are anticipated, additional onboard provision will be made.
42. If necessary, WA will set up a suitable temporary local facility onshore, within which the finds will remain the responsibility of WA.
43. WA will seek to transport finds between the diving vessel, any local facility, and WA's Salisbury base in the course of its normal operations. However, WA will arrange additional transport of finds if necessary due to volume, storage constraints, urgent treatment etc.
44. In the case of large, unwieldy or otherwise sensitive finds, special arrangements will be made for handling, storing, transporting etc. the find. Where possible, these arrangements will be made prior to the find being recovered from the seabed.
45. WA maintains facilities at its Salisbury base to hold passively a reasonable quantity of small and medium sized finds. This provision will be maintained for up to one year after recovery pending implementation of decisions on disposal/discard. WA may hold finds for more than one year after recovery if decisions and/or their implementation are delayed.

FINDS PROCESSING

46. All retained finds will be registered in WA's Finds Management database and any special requirements noted. A monitoring and maintenance programme will be prepared and implemented.
47. All retained finds will be processed in accordance with the Institute of Field Archaeologists' *Standard and guidance for the collection, documentation, conservation and research of archaeological material* (2005). All finds will be recorded and labelled appropriately.
48. Objects that require immediate conservation treatment to prevent deterioration will be treated according to guidelines laid down in *First Aid for Underwater Finds* (Robinson 1998). WA will make a full record of any treatment given and these records will form part of the archive.
49. Finds handling and initial processing will normally be carried out by WA's field staff, with telephone/email support from WA Finds Staff based in Salisbury. In the event that finds need to be assessed by WA Finds Staff onboard or at any local facility, or external advice is required onboard or at any local facility, WA will make appropriate provision.

CONSERVATION OF FINDS

50. All material held by WA will be subject to a Conservation Assessment within four weeks after recovery to gauge whether special measures are required while the material is being held. This Conservation Assessment will be carried out by WA with



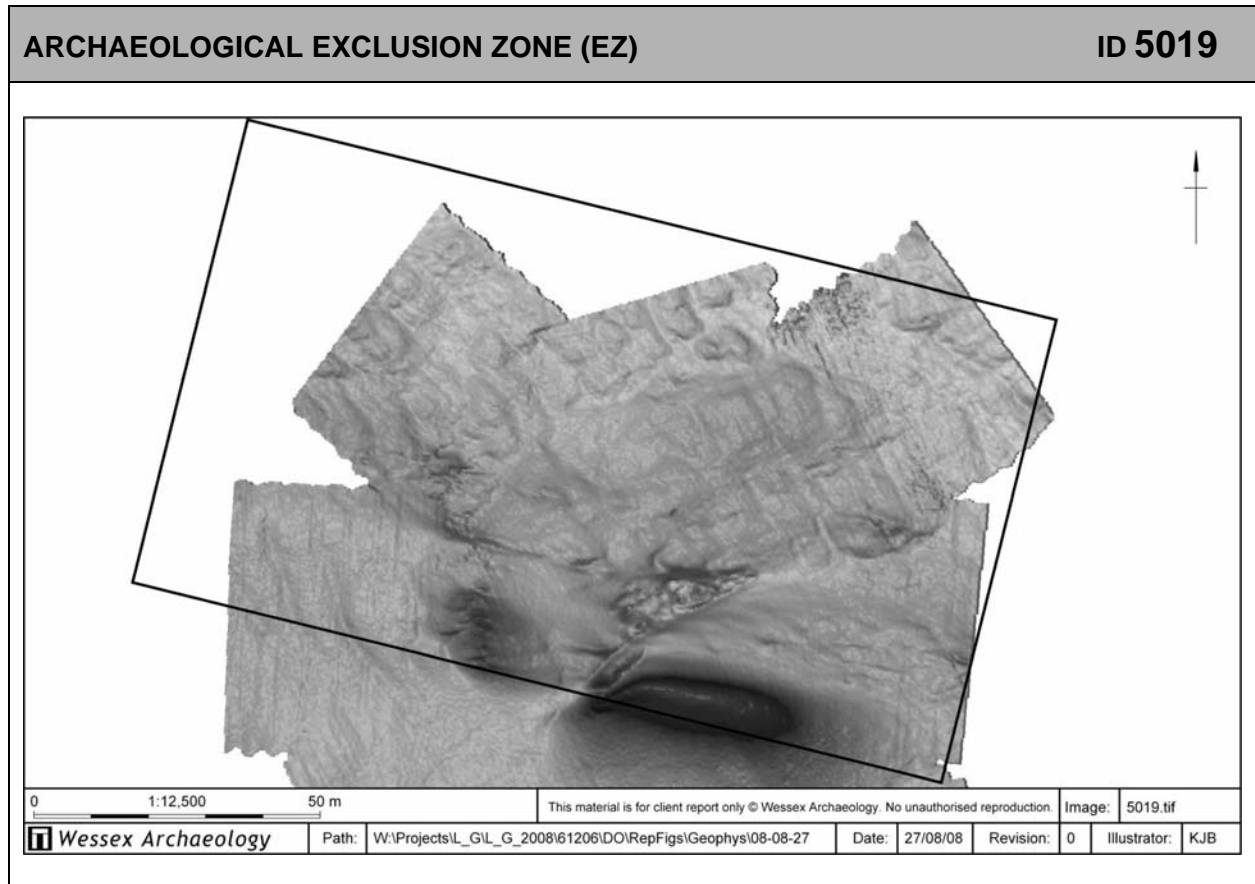
advice from Wiltshire Conservation Centre and/or other appropriate specialists. In some cases it may be more appropriate to carry out all or part of the Conservation Assessment at an earlier stage - in advance of recovery, or onboard immediately following recovery, for example.

51. WA will implement recommendations arising from the Conservation Assessment for the duration that finds are held by WA.
52. Where no special measures are recommended, finds will be conserved, bagged and boxed in accordance with guidelines set out in the United Kingdom's Institute for Conservation's Conservation *Guidelines No 2* (UKIC 1984).

SAMPLES

53. Deposits (i.e. sediments) of archaeological/historical/cultural interest that do not comprise artefactual remains will not be considered to be 'finds' but may be subject to sampling. Any artefactual material subsequently discovered in the course of processing such samples will be treated as finds thereafter.
54. Selection of palaeoenvironmental samples for processing will be undertaken on the advice of WA's Environmental Staff. Between 50% and 100% of samples will be processed. Processing and assessment of samples shall follow the following guidelines:
 - Bulk samples selected for processing will be wet-sieved/floated and washed over a 500 μ mesh for the recovery of palaeobotanical and other organic remains, and refloated to maximise recovery;
 - Non-organic residues will be washed through a nest of sieves of 10mm, 5mm, 2mm and 1mm mesh to maximise finds recovery;
 - Both organic and non-organic residues will be dried under controlled conditions;
 - The dried inorganic residues will be sorted for small finds or any non-buoyant palaeoenvironmental remains and scanned with a magnet to recover ferrous debris such as hammerscale;
 - The dried organic fractions will be sorted under a light microscope to identify the range of species or other material on a presence/absence basis, the degree of preservation of the bio-archaeological material and the rough proportions of different categories of material present;
 - In the event that waterlogged deposits are sampled, further processing will undertaken as appropriate, including paraffin flotation to recover insect remains. Any such remains will be scanned to identify and assess their potential;
 - All organic residues will be stabilised and preserved for storage.

PROPOSED ARCHAEOLOGICAL EXCLUSION ZONE THE KING 5019

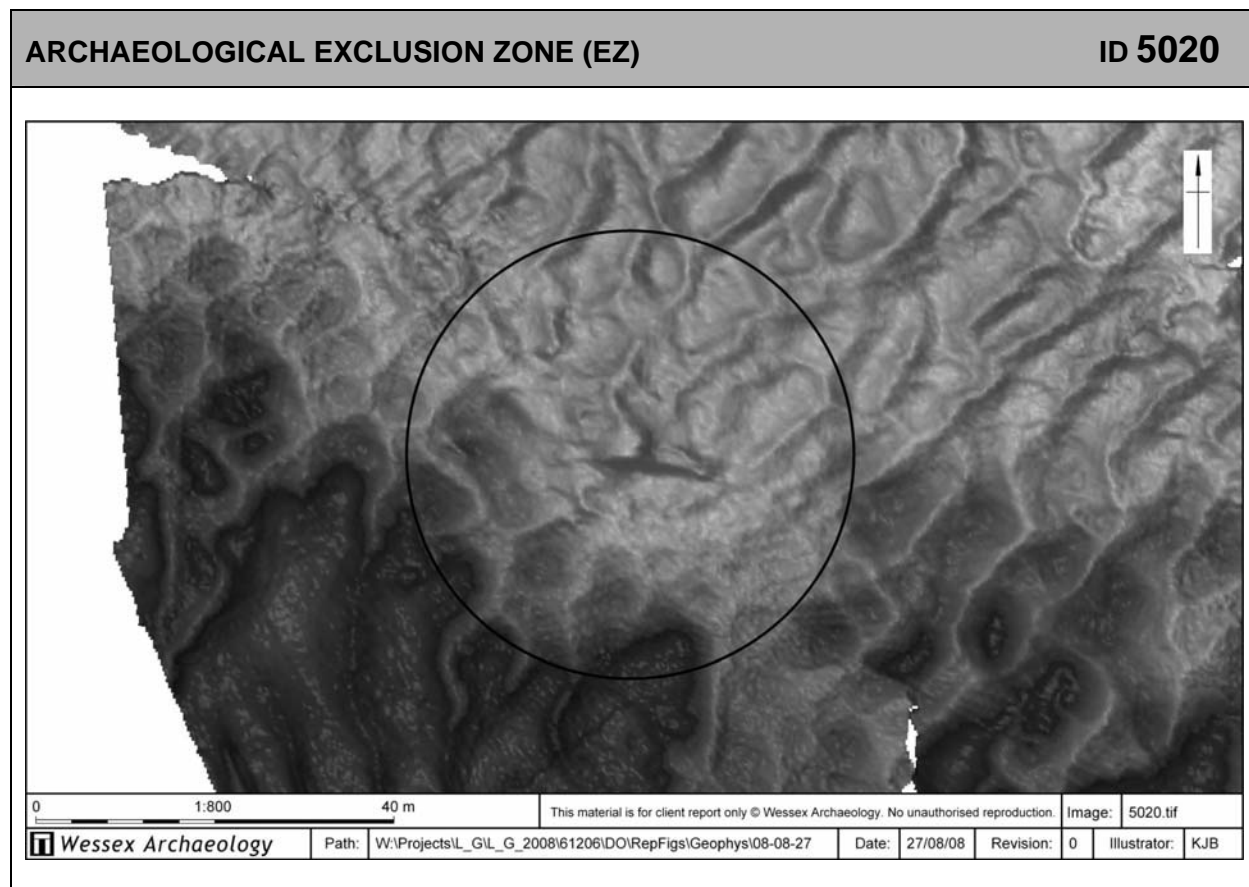


EZ Co-ordinates (UTM 31N)	Node	Easting	Northing
	A	342609	5707463
	B	342751	5707428
	C	342731	5707347
	D	342589	5707382

Description	The Exclusion Zone comprises a rectangular box: the eastern boundary is defined by a 50m offset from the centre of the eastern section of the site; the western boundary is defined by a 50 metre boundary from the western section of the site; the northern extent is defined by a 50m boundary from the centre of the western section of the site; and the southern extent of the boundary is constrained by the channel edge.
Distance Sites – Channel Edge	0 metres
Distance EZ – Channel Edge	0 metres

REVIEW OF ARCHAEOLOGICAL EXCLUSION ZONE (EZ)					
ADDITIONAL INFORMATION					ID 5019
PLA RECORD					ID 5019
Survey Date	9/03/2006	Site Dimensions	60m x 45m	EZ Size	75m x 55m
Site Description	Remains of HMS London sunk 07/03/1665				
PRIMARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5019.02)		Survey Quality	Good	
Assessment Date	March 2006		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	9/03/06		Site Dimensions	60 metres x 45 metres	
Equipment type	Multibeam bathymetry Reson 8125		Magnetic Amplitude	N/A	
SECONDARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5029.02)		Data Quality	Good	
Assessment Date	August 2007		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	August 2007		Site Dimensions	40 metres x 33 metres	
Equipment type	Side scan sonar EG&G 272 dual frequency analogue towfish.		Magnetic Amplitude	N/A	

ARCHAEOLOGICAL EXCLUSION ZONE IRON BAR WRECK 5020

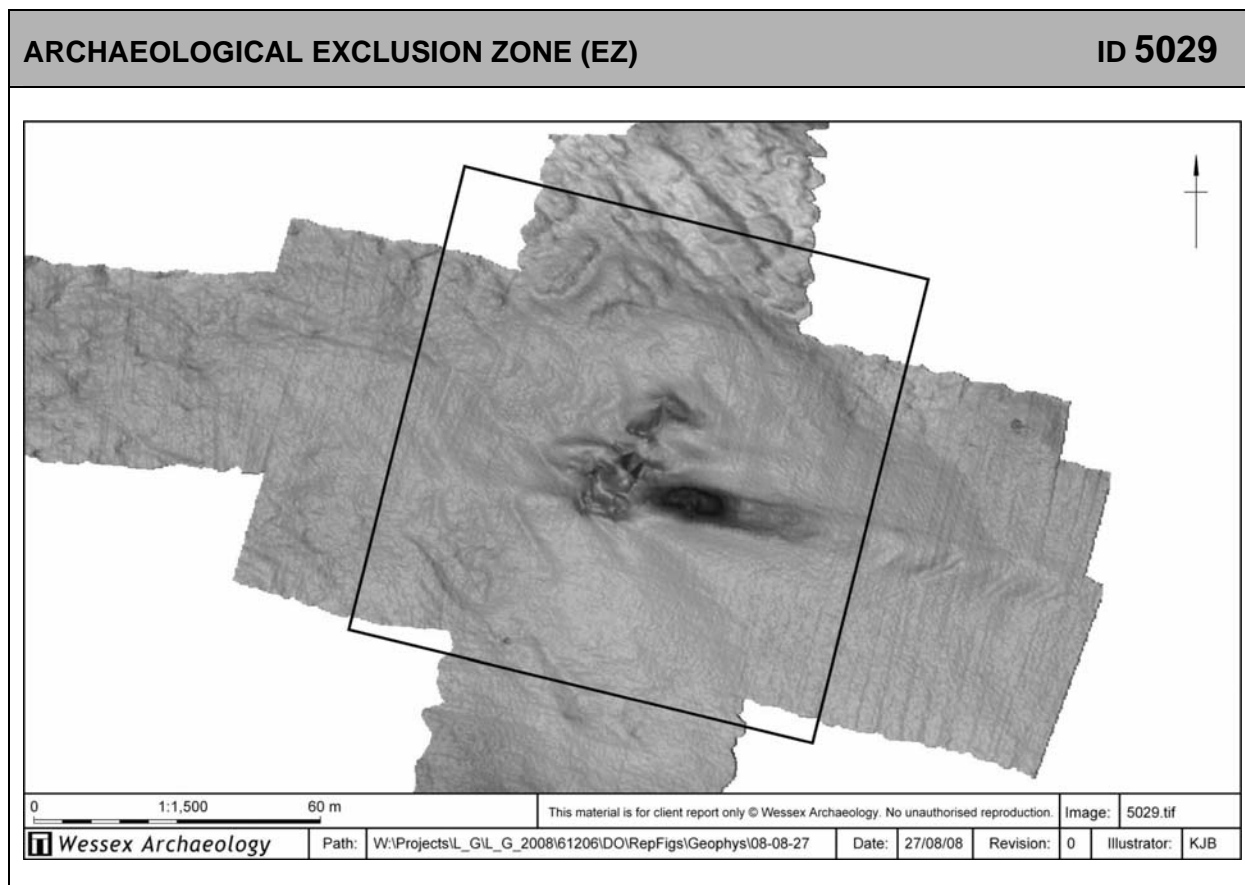


EZ Co-ordinates (UTM 31N)	Node	Easting	Northing
	Centre point	341912	5707550
	25 metre radius circle from the centre point		

Description	The Exclusion Zone is defined by a 25 metre radius circle around the centre of the site.
Distance Site – Channel Edge	46m
Distance EZ – Channel Edge	61m

REVIEW OF ARCHAEOLOGICAL EXCLUSION ZONE (EZ)					
ADDITIONAL INFORMATION					ID 5020
PLA RECORD					ID 5020
Survey Date	9/03/2006	Site Dimensions	Unknown	EZ Size	50m square box
Site Description					
PRIMARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5020.02)		Survey Quality	Good	
Assessment Date	March 2006		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	9/03/06		Site Dimensions	Unknown	
Equipment type	Multibeam bathymetry Reson 8125		Magnetic Amplitude	N/A	
SECONDARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5029.02)		Data Quality	Good	
Assessment Date	August 2007		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	August 2007		Site Dimensions	Unknown	
Equipment type	Side scan sonar EG&G 272 dual frequency analogue towfish.		Magnetic Amplitude	N/A	

PROPOSED ARCHAEOLOGICAL EXCLUSION ZONE LONDON 5029



EZ Co-ordinates (UTM 31N)	Node	Easting	Northing
	A	343079	5707422
	B	543176	5707399
	C	343151	5707302
	D	343054	5707325

Description	The Exclusion Zone comprises a 50 metre square from the maximum point of protrusion of the wreck from the river bed, which is located at the centre of the site, towards the northern edge of the southern section.
Distance Sites – Channel Edge	147 metres
Distance EZ – Channel Edge	140 metres

REVIEW OF ARCHAEOLOGICAL EXCLUSION ZONE (EZ)					
ADDITIONAL INFORMATION					ID 5029
PLA RECORD					ID 5029
Survey Date	9/03/2006	Site Dimensions	Unknown	EZ Size	50m square box
Site Description	Remains of HMS London sunk 07/03/1665				
PRIMARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5029.02)		Survey Quality	Good	
Assessment Date	March 2006		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	9/03/06		Site Dimensions	40 metres x 33 metres	
Equipment type	Multibeam bathymetry Reson 8125		Magnetic Amplitude	N/A	
SECONDARY GEOPHYSICAL ASSESSMENT					
Assessor	WA (Report refs. Clearance Mitigation Statement 61209.5029.02)		Data Quality	Good	
Assessment Date	August 2007		Discrimination	High	
Survey Company	PLA.		Confidence	High	
Survey Date	August 2007		Site Dimensions	40 metres x 33 metres	
Equipment type	Side scan sonar EG&G272 dual frequency analogue towfish.		Magnetic Amplitude	N/A	