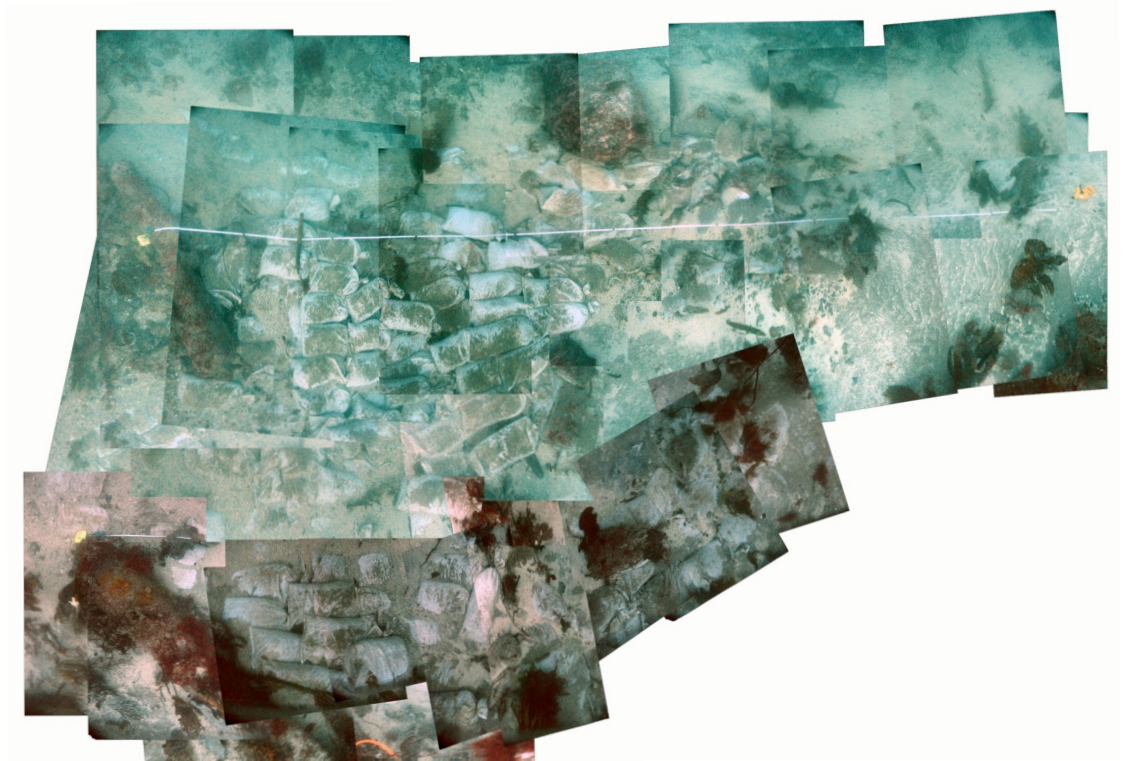


Wessex Archaeology

Duart Point, Sound of Mull

Designated Site Assessment
Full Report



Ref: 53111.03I

March 2004

**ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS
ACT (1973)**

DUART POINT, SOUND OF MULL

DESIGNATED SITE ASSESSMENT: FULL REPORT

Prepared by:

Wessex Archaeology

Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB

Prepared for:

Historic Scotland

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

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ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

DUART POINT, SOUND OF MULL

DESIGNATED SITE ASSESSMENT: FULL REPORT

Ref: 53111.031

Summary

Wessex Archaeology was commissioned by Historic Scotland to undertake a Designated Site Assessment of Duart Point: a designated wreck located off Duart Point in the Sound of Mull. The work was undertaken as part of the contract for archaeological services in relation to the Protection of Wrecks Act (1973) and was conducted following instruction from the Contracts Manager, Ian Oxley of English Heritage, and consultation with Gordon Barclay of Historic Scotland. A programme of monitoring works was devised following discussion between Wessex Archaeology and the site licensee Dr Colin Martin.

The site is almost certainly the wreck of the *Swan*, a small Commonwealth warship driven onto Duart Point and lost during a storm during 13th and 14th September 1653 whilst on campaign to quell Jacobite unrest in western Scotland.

Diving operations took place between the 6th and 12th November 2003. The aim of the diving operations was to obtain sufficient data to determine the current condition of the site and also to assess the effectiveness of measures taken to stabilise and protect the site by the licensee. Tasks included the preparation of a sequence of digital photographs of the site taken from recorded and repeatable observation points and directions, and photo-mosaics of the areas excavated by the licensee in 2003.

The results represent initial baseline monitoring data but nevertheless do appear to demonstrate that the existing site stabilisation measures are working satisfactorily. Indeed the condition of the site does not appear to have deteriorated significantly since the last diving operations carried out by the ADU on the site in June 2000. The licensee has concluded from his extensive work that the stabilisation measures that he has put in place since the site came into public knowledge in 1991 are working, and on the basis of this visit Wessex Archaeology accepts this conclusion.

Nevertheless the process of erosion that has been observed, which has necessitated the excavation and site stabilisation programs, may remain a threat. Given that the longevity of the existing site stabilisation measures are not yet proven, there is a continuing need for monitoring. Therefore the licensee wishes, in co-operation with Historic Scotland, Wessex Archaeology and other relevant parties to devise and put in place a comprehensive monitoring program to ensure the continuing success of the site stabilisation and protection measures.

It is likely that a strategy for monitoring and further study will be put in place following the completion of ongoing post-excavation work by the licensee, probably in 2005. In the meantime a number of monitoring visits will be carried out by or under his direction to

undertake similar work to that carried out by Wessex Archaeology in 2003. Co-operation will continue between Wessex Archaeology and the licensee in this respect.

It should be noted that there is scope for the future monitoring strategy to be an innovative blend of studies carried out by amateur and professional groups of various disciplines and for it to become a model for other important historic wrecks, both in Scotland and further afield.

ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

DUART POINT, SOUND OF MULL

DESIGNATED SITE ASSESSMENT: FULL REPORT

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Acknowledgements

Wessex Archaeology was commissioned by Historic Scotland to undertake a Designated Site Assessment of Duart Point: a designated wreck site located off Duart Point in the Sound of Mull, Argyle, Scotland. Wessex Archaeology would like to acknowledge the assistance of Gordon Barclay and Deirdre Cameron of Historic Scotland and Ian Oxley and Annabel Lawrence of English Heritage.

Wessex Archaeology would also like to thank the following people:

- Dr Colin Martin, licensee, for considerable assistance and information in the planning, fieldwork and report stages;
- Philip Robertson, Lochaline Dive Centre, for assistance and information in the fieldwork stage;
- Peter Pritchard, diving contractor and marine archaeologist, for logistical and diving support in the fieldwork stage;
- George Mair, skipper and owner, *MV Loyal Mediator*, and crew member Heather Irvine.

The fieldwork was carried out by Graham Scott, Simon Adey-Davies, Jenny Black, Frank Mallon and Peter Pritchard. The report was compiled by Graham Scott, and edited by Steve Webster and Antony Firth. Graham Scott and Frank Mallon assembled the photo-mosaics and Kitty Brandon prepared the illustrations. The project was managed for Wessex Archaeology by Steve Webster.

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- Digital use of Chart 2390.

A copy of the report will be sent to UKHO.

ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

DUART POINT, SOUND OF MULL

DESIGNATED SITE ASSESSMENT: FULL REPORT

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ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

DUART POINT, SOUND OF MULL

DESIGNATED SITE ASSESSMENT: FULL REPORT

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1. INTRODUCTION

- 1.1.1. This document constitutes a Designated Site Assessment: Full Report for a programme of archaeological work undertaken as part of the contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973). The document has been prepared by Wessex Archaeology (WA) for Historic Scotland (HS). It constitutes an assessment of Duart Point: a designated wreck site located in the Sound of Mull, Argyll, Scotland (**Figure 1**).
- 1.1.2. The work was conducted in accordance with a verbal brief provided by HS and following consultation with the licensee. Diving operations took place between the 6th and 12th November 2003 during wider field operations within the Sound of Mull. The team comprised of archaeological divers Graham Scott, Simon Adey-Davies, Jenny Black, Frank Mallon and Peter Pritchard, and boat skipper George Mair and crew Heather Irvine from the diving support vessel *MV Loyal Mediator*.

2. OBJECTIVES

- 2.1.1. The overall objective for the assessment was to collect initial baseline data and thereby to begin the process, in co-operation with the licensee, of establishing a methodology for monitoring the overall condition of the site and the site stabilisation and protection measures put in place by the licensee.
- 2.1.2. This was further defined, specifying the following tasks:
- An initial general visual inspection;
 - Monitoring photography of site features from recorded points and directions;
 - Close visual inspection of certain features, particularly the sandbags placed by the licensee to protect the back-filled 2003 excavation trenches;
 - Digital photo-mosaics of all areas of sandbags placed to protect excavation trenches.
- 2.1.3. Since 1992 the site has been the subject of comprehensive and highly detailed archaeological survey work by the licensee. As a result it has been recorded to Level 3b overall, and Level 3c in the excavation trenches. As a result it was agreed with the

licensee that further archaeological survey work was unnecessary and that monitoring work was the priority.

3. EXISTING SITE DATA

3.1.1. The position of the centre point of the designated area, as defined in the Statutory Instrument, is as follows:

Lat.	56° 27.45' N
Long.	05° 39.32' E
OSGB 36	

3.1.2. The statutory instrument number is 1992/1151. From the centre point the designated area consists of a circle with a radius of 75 meters (**Figure 1**). The current licensee is Dr Colin Martin. A short history of the site is presented in **Appendix I**.

3.1.3. Other information available prior to the assessment was as follows:

- The National Monument Record of Scotland entry for the site (NMRS Number NM73NW 8005);
- The UK Hydrographic Office records for the site (UKHO No. 2762);
- Various excavation reports and site plans produced by the licensee and others.

3.1.4. The licensee briefed WA with regard to the excavation work that had taken place on the site during 2003 by e-mail. This indicated that two excavation trenches had been opened, a 5 x 5 metre trench inshore of the west ballast mound that included Gun 5, and a 4 x 5 metre trench extending west of Gun 1 and south of Gun 3, abutting the 2000 excavation trench (**Figure 2**). Relatively few finds were recovered, however important parts of the stern structure were located and identified, including port after frames to above the waterline.

3.1.5. Both trenches were partially back-filled and then covered with a layer of sandbags to stabilise the seabed and to protect unexcavated archaeological deposits below. A total of approximately 200 sandbags were laid in 2003. These were mainly placed within the two trenches, however sandbags were also laid in other locations around the site in order to provide additional protection to those areas. The sandbags were of standard size and consisted of a plastic material filled with washed gravel. The current total number of sandbags laid on the site is approximately 750 (Colin Martin, pers. comm.).

4. METHODOLOGY

4.1.1. The following methodology was used: diver survey [still and video photography] and diver survey [monitoring]. Details of the methodologies used during the 2003 PWA survey are detailed in a separate document (WA 2003b).

5. CONTACT WITH THE LICENSEE AND OTHER PARTIES

5.1. LICENSEE

5.1.1. The licensee has directed extensive survey and excavation work on the site since 1992. WA consulted the licensee when planning diving operations, and the objectives for the work and individual tasks were jointly agreed. The licensee, who could not be present during the operations due to pre-existing commitments, further assisted WA's operations by arranging for Philip Robertson to be present. Subsequently, the Results section of this report was drafted after consultation with the licensee.

5.2. OTHER PARTIES

5.2.1. Philip Robertson is the training officer for NAS Scotland, the recognised training body in Scotland for sports divers wishing to become involved in avocational maritime archaeology. WA facilitated the use of *Loyal Mediator* during diving operations to enable Mr Robertson to run an advanced NAS Scotland training course for experienced trainees. This enabled them to learn about contractor operations on designated sites and the survey and monitoring methodologies being used WA. An article on the course has been published in *Scottish Diver* magazine (Philip Robertson 2004).

5.2.2. Trainees Tim Walsh, John Macleod and Alison Fish conducted a survey of a small section of the site using direct tape measurements. This survey, together with site photographs are held within the WA and NAS Scotland archives, from where they are available to the licensee if required. The running of this course did not adversely affect the efficiency of the diving operations.

6. RESULTS

6.1. SITE POSITION

6.1.1. The site lies immediately at the base of the shallow cliff fringing Duart Point (**Figure 1**). As a result the diver tracking system could not be deployed on site due to the proximity of the shoreline. Therefore no position-fix was obtained, although it should be noted that the site has already been adequately positioned by the licensee.

6.2. DIVING AND ENVIRONMENTAL CONDITIONS

6.2.1. Five dives were achieved on the site, with a total bottom time of 249 minutes. Available dive time was restricted by daylight hours, the timing of dive windows in the tidal cycle and the complications of mooring the dive support vessel close inshore. Maximum depth recorded ranged from 8.5 to 12.5, reflecting different states of tide rather than the site topography.

6.2.2. Diving took place on the flood tide, with the diving support vessel moored offshore of the site. Two mooring configurations were tried; both of which used the main bow anchor and a shore-line. The bow anchor was deployed clear of the designated area and well clear of the known extent of the site. Diving on the ebb tide is not practicable or safe due to a strong tidal current that runs across the site from west to east at up to 1.5 knots.

- 6.2.3. If, as has been suggested, the destabilisation of the site is related to the flow of current, then it is likely that the effect is greatest during the ebb tide.
- 6.2.4. Visibility was generally good and was reported by the divers to range from 2-3 metres up to over 10 metres, with over 6 metres being typical. Particulate matter in the water column caused by diver disturbance of the seabed caused problems for photography at times but in general it was quickly removed by the slight current.
- 6.2.5. Kelp cover was fairly heavy for November, possibly due to the above average temperatures experienced in the locality during 2003 (Philip Robertson, pers. comm.). This did not hinder operations significantly because the licensee had cleared much of it earlier in the year. However, the extent of kelp cover is likely to be a factor when planning future monitoring work, as it may cause problems with photography, particularly for mosaics.

6.3. GEOLOGY, TOPOGRAPHY AND FLORA

- 6.3.1. The site is immediately offshore of the shallow rocky cliff that surrounds Duart Point. From the base of this cliff, the seabed shelves gently offshore until well beyond the known site where there is a substantial drop-off. The seabed in the vicinity of the site is fairly level and consists predominantly of sand with isolated spreads of larger particles, typically up to rock size (0.25 to 1 metre) but with isolated boulders (larger than 1 metre), particularly along the base of the cliff (see **Plates 1-19**). There are also two ballast mounds associated with the wreck. The seabed in the vicinity of the site has been mapped by the licensee by means of a highly detailed planning frame survey, with all objects over 0.05 metres in any dimension being mapped.
- 6.3.2. As noted above, the site is subject to heavy kelp cover for several months from spring onwards. The licensee has discovered that two different types of kelp grow on the site, one a species found in relatively high-energy environments and the other in environments of relatively low energy. The distribution of the high-energy species appears to correspond with the areas believed to be most at risk of erosion, although no formal study has been carried out (Colin Martin, pers. comm.).

6.4. TECHNICAL

- 6.4.1. The shots for the photo-mosaics (**Plates 18 and 19**) were produced by means of a diver following a pre-planned route around the site, taking digital still photographs from positions and angles determined by the diving supervisor, using the real time images of the diver hat mounted video camera (see 6.4.5. below) as a guide. The images produced were efficient in terms of dive time and are readily repeatable during future operations on the site.
- 6.4.2. However, the monitoring photographs (**Plates 1-17**) were only of mixed quality in terms of choice of position and direction and resolution. WA is liaising with the licensee with regard to the choice of positions and directions and will be jointly implementing a revised schedule of these for future monitoring work. When fully developed the equipment (still camera and scale) and necessary skills are likely to be readily available to both professional and avocational divers alike.

- 6.4.3. The digital still mosaics were produced by means of a diver swimming above and along a reel tape placed on the surface to be recorded and taking a sequence of sufficient single shots to ensure complete coverage, whilst pointing the camera vertically downwards. Although this very simple technique inevitably produced inaccuracies, it was nevertheless highly successful in that it produced a sufficiently accurate image for monitoring (absolute positional or shape accuracy not being required). In particular this method was highly economic in terms of dive time. The technique is capable of producing a very large amount of information that is accessible to those not familiar with the site.
- 6.4.4. All photographs were taken using a Canon G3 digital stills camera in an underwater housing with wide-angle lens (0.56x wide-angle conversion lens). All images were taken using available light only. All images in the plates have been enhanced to remove colour casts and to enhance sharpness and contrast and saturation using Paint Shop Pro 7 where appropriate. Images assembled into mosaics were enhanced after merging layers and, where appropriate, have been deformed before merging to rectify variations in camera height from the seabed and angle in order to obtain 'best fit'. Original copies of all of the still images without enhancement are available in the WA site archive.
- 6.4.5. Unless stated otherwise photographic scales in the plates are 0.5 metre, with yellow / black or yellow / red 0.10 metre bars. Tape measures are marked by narrow black bars at 1 metre intervals.
- 6.4.6. Extensive video footage was shot using a Colourwatch digital hat-mounted camera. This footage, available in the WA site archive, comprises a complete visual and audio record of the diving operations. Whilst the still images that can be produced from this footage are known to be of high quality for an umbilical-dependant system, they have not been produced or presented because of the availability of superior images from a stills camera.
- 6.4.7. Close visual inspection of a number of sandbags was undertaken. No intrusive techniques were involved and no sandbags were moved.

6.5. MONITORING

- 6.5.1. The monitoring shots (as presented in **Figure 2** and **Plates 1-19**) are intended to represent baseline data, therefore immediate comment upon the results with regard to erosion or other site disturbance is difficult. Limited comment is made as follows:

Monitoring Point	Plate No.	Details	Notes
1033	1	Looking WSW from E of Gun 1. The gun is in the background, cascabel to left (out of shot). Sandbags laid in 2003 are foreground left.	No evidence of erosion or other disturbance since the laying of the sandbags is apparent.
1034	2	Looking NW from S of Gun 1. The cascabel of Gun 1 is background centre. Sandbags in foreground laid in 2003.	No evidence of erosion or other disturbance since the laying of the sandbags is apparent.

Monitoring Point	Plate No.	Details	Notes
1035	3	Looking ENE from W of Gun 1. The gun is in the background, cascabel to right (out of shot).	No evidence of erosion or other disturbance is apparent.
1036	4	Looking SW from NE of Gun 2. The gun is in the background, muzzle to the right. Ballast stones from E ballast mound are in the foreground.	No evidence of erosion or other disturbance is apparent.
1037	5	Close-up looking SW from NE of Gun 2. The gun is in the background.	The object arrowed (Figure 2) is reported to be a concretion that may have become detached from the gun. This identification is highly uncertain and the diver could not locate the point that it detached from.
1038	6	Close-up looking SE from NNE of Gun 2.	The arrow (Figure 2) identifies the concretion described above.
1039	7	Looking NE from SW of Gun 2. The cascabel of Gun 2 is background right. The E Ballast mound is in the foreground.	No evidence of erosion or other disturbance is apparent.
1040	8	Looking SW from NE of Gun 3. The gun is in the background, cascabel to the right. Sandbags covering the 2003 E excavation trench are in the foreground.	The sandbags are not laid flat and are partly buried and in-filled. No evidence of erosion or other disturbance is apparent.
1041	9	Raised elevation view, looking NE from SW of Gun 3. The diver is positioned on the base of the low cliff. Gun 3 is central, with the cascabel to the left.	In the background are sandbags in the 2003 E excavation trench, already in-filled and partly buried.
1044	10	Looking W across northern edge of 2001 excavation trench.	The sandbags only lightly covered are believed to have been laid by the licensee in 2003 as additional protection.
1046	11	Looking SE from NW of the 2003 W excavation trench. In the middle ground is the large boulder shown in the site plan and Gun 5 is in the background.	The sandbags are covering the trench, with a double layer to the right. They are covered with a thin layer of sand but are not yet buried or in-filled. No evidence of erosion or other disturbance is apparent, other than that caused by the excavation.
1048	12	Looking SW from NE of the anchor. The anchor is in the middle ground. The seabed is not sandbagged.	No evidence of erosion or other disturbance is apparent. It should be noticed that the anode from the cathodic protection study is no longer attached.
1051	13	Looking SW from NE of Gun 6. The gun is in the background with cascabel to the right. The seabed is not sandbagged.	No evidence of erosion or other disturbance is apparent. The apparent angle of the seabed is caused by camera tilt.

Monitoring Point	Plate No.	Details	Notes
1052	14	Looking S from N of the 2001 excavation trench between the ballast mounds. The sandbagging covers the area excavated in 2001 and the surviving hull structure between the ballast mounds. The unburied sandbags in the foreground were laid by the licensee in 2003 as additional protection.	There is a moderate kelp cover. No evidence of erosion or other disturbance is apparent.
1053	15	Raised elevation view, looking N from S of the same 2001 excavation trench. The sandbags shown were laid in 2001 and are now partly buried and largely, but not entirely, in-filled.	There is a moderate covering of kelp, some growing directly on the sandbags. No evidence of erosion or other disturbance is apparent.
1054	16	Looking W from the 'pink rock'. Gun 1 is barely visible in the far background. The sandbags are a mixture of those laid in 2000/2002, which are largely buried, and those laid in 2003, which are not yet buried or in-filled. The seabed to the right of centre is unprotected.	No evidence of erosion or other disturbance is apparent.
1055	17	Looking N from the 'pink rock', which is in the foreground. The seabed shown is unexcavated and unprotected.	No evidence of erosion or other disturbance is apparent.

- 6.5.2. The above numbers refer to WA diver observations, details of which are held in the WA site archive but are not presented here (other than as summarised in the text), because of the absence of positional information.
- 6.5.3. At the conclusion of the licensee's excavations in 2003, the western excavation trench was partially back-filled and then covered with a layer of sandbags, with two layers overlaid where the trench was sufficiently deep along the north edge. Along that edge the sandbags were placed to overlap the edge of the eastern ballast mound (**Plate 18**).
- 6.5.4. During the excavation the southern edge of the trench reached almost as far as the low cliff on the landward edge of the site and a bank of loose sand at the base of the cliff was partly removed. Gun 5 was fully exposed during this excavation (Brian Hession, pers. comm.). The photo-mosaic of this trench (**Plate 18**) appears to show that the coverage of sandbags is complete, but that there are gaps between a large proportion of the bags, demonstrating that in-filling has not yet occurred to an extent that is visible.
- 6.5.5. There is a light covering of sand on all of the bags, probably indicating that the process of burial and in-filling has slowly started. Otherwise the sandbags appear to be in an as-laid condition. The diver reported observing a small piece of timber just protruding through the sandbags, but it appeared to be secure. Close visual inspection demonstrated that the fabric of randomly selected sandbags was in good condition and that they appeared to be physically stable (**Plate 18**). The cathodic protection

measures taken in respect of Gun 5 during the 1990s are now moribund and the connection to the gun is insecure and ineffective. The anode was not observed.

- 6.5.6. The photo-mosaic (**Plate 18**) also demonstrates that the original level of the seabed has not been completely re-instated. Gun 5 is still exposed to its full length whereas the pre-2003 site plan shows the chase and swell to be buried. Sandbags on the southern edge are partly buried by sand, indicating that either the remaining bank of sand at the base of the cliff is moving north or that further accumulation of sand is occurring along the bank.
- 6.5.7. Immediately to the west and east of the trench there are low mounds of rocks and cobbles removed from the trench during excavation (Brian Hession, pers. comm.). It is possible that the reinstatement of the seabed has left a very shallow hollow that did not exist prior to disturbance, but this is by no means certain. Insufficient dive time was available to take the necessary measurements to confirm whether this is the case or not.
- 6.5.8. The 2003 eastern excavation trench was similarly back-filled and covered by sandbags. The photo-mosaic (**Plate 19**) shows that reinstatement and protection was complicated by the presence of sandbags laid during previous years in order to protect other excavation trenches, and by a shallow slope running down from the northern edge of the trench. As a result the sandbags have in places been laid to overlap, and they also overlap layers of sandbags laid in previous years, particularly along what appears to be the southern edge of the trench.
- 6.5.9. In places the sandbags have been fully or partially buried by sand. However, elsewhere, particularly along the northern edge next to Gun 3 and the southern edge where the sandbags appear to have been laid in a less consistent manner, there is little or no covering of sand and no significant in-filling. In these areas the sandbags appear to be in an as-laid condition (**Plate 19**).
- 6.5.10. The sandbags at the southern edge of the trench appear to have created a low ridge where they are overlain by sediment and it is therefore likely that reinstatement has altered the local topography of the seabed in this way. Close visual inspection demonstrated that the fabric of randomly selected sandbags was in good condition and that they appeared to be physically stable.
- 6.5.11. The photo-mosaic (**Plate 19**) shows that the sandbags laid prior to 2003, in particular those laid in 1999 are either fully or partially buried and that gaps are well in-filled. Close visual inspection demonstrated that the fabric of randomly selected sandbags was in moderate to good condition where exposed and that they appeared to be physically stable.
- 6.5.12. The sandbags covering the 2001 excavation trench between the two ballast mounds were also inspected. Here the kelp had not been cleared and there was moderate growth that precluded the preparation of images for a photo-mosaic. However, the diver reported that the sandbags were partially buried and that gaps between them were well in-filled. No anomalies were observed, and close visual inspection demonstrated that the fabric of randomly selected sandbags was in good condition and physically stable. A number of sandbags have been laid in other areas to enhance

protection. These were not closely examined but general visual inspection did not suggest any cause for concern.

7. CONCLUSIONS

- 7.1.1. No evidence of active erosion was observed during the diving operations, other than possibly one loose piece of concretion observed next to Gun 2. The existing measures for the protection of the site therefore appear to be working well. Consequently it is not recommended that further protective measures be taken in the short term but that the site should continue to be monitored at regular intervals for erosion or other disturbance.
- 7.1.2. The sandbags on the site appear to have been laid with considerable care to ensure that a reasonable fit between them was achieved. The licensee has chosen to deliberately leave gaps between the sandbags in the expectation that these would in-fill naturally from sand and other particulate matter either moved across the seabed by current or dropped out of suspension in the water column (Colin Martin, pers. comm.).
- 7.1.3. The licensee believes that the success of this technique depends to a large extent upon the development of a natural kelp cover on the sandbags. This acts as a 'boundary layer' that drastically reduces water movement close to the seabed, and therefore allows the accumulation of sediment (Colin Martin, pers. comm.). In general this technique also has the advantage that it allows any gaps between the bottom of the sandbags and the irregular archaeological surface below to in-fill.
- 7.1.4. It is possible that this process may have seasonal variability and it follows that there may be little in-filling or burial of newly laid sandbags until such time as kelp cover has had time to spread and grow. The licensee believes that the cutting of kelp and other disturbances in 1991-2 (see Appendix I) may provide some explanation as to why signs of site instability were observed at that time (Colin Martin, pers. comm.).
- 7.1.5. The condition of the sandbags laid during the years prior to 2003 suggests that the stabilisation method adopted by the licensee works well over time. In the case of the sandbags laid in 2003, unfilled gaps clearly exist after two months and most of the sandbags appear to be only lightly covered with sand. Therefore the process of in-filling and inundation is not rapid and it is likely to be several months before these sandbags will be either fully or partially buried. This does not appear to affect the overall effectiveness of the protection system but the slow rate of in-filling may result in some risk of adverse biological action in the archaeological layers below.
- 7.1.6. The licensee accepts that an unquantified risk exists but argues that it is acceptable when weighed against the advantages of the system and operational constraints. WA agrees with this view. Nevertheless, it is recommended that the sandbags covering the 2003 excavation trenches should be closely examined in 2004 and that simple remedial work should be considered if there are any gaps that have not in-filled adequately. The preferred method would be artificially in-filling the gaps by hand rather than by movement of the sandbags as the latter would in itself impose a risk of further exposure to biological action and could cause mechanical damage to the vulnerable archaeological surface below. Similarly it is recommended that the

sandbags resting on the ballast mound and any vulnerable sandbags in the SE trench should be examined for wear and damage and replaced or repositioned if necessary.

- 7.1.7. The baseline data for a regular monitoring program has been acquired during the diving operations in 2003. A full monitoring strategy and schedule will be developed by the licensee in consultation with WA following the post-excavation phase of the recent excavation work, probably in late 2004 or early 2005. In the meantime monitoring visits will be carried out, predominantly by the licensee but also by WA if directed to do so by HS. The tasks undertaken during subsequent monitoring visits are likely to be similar to those devised by WA for the diving operations in 2003, although these may be expanded in the light of experience and further consultation with the licensee. In the long term it would be desirable for studies of kelp distribution and water movement to be incorporated into the monitoring strategy, subject to the necessary resources being available.
- 7.1.8. Given the possible infrequency of contractor visits, the licensee may also seek voluntary assistance from other appropriate sources. A wide range of factors, including: archaeological importance; the threat of erosion; the combination of protected and unprotected deposits; the extent of the existing survey; ease of access to the site and the involvement of an expert and committed licensee, means that there is considerable potential for the monitoring work at Duart to become a model for monitoring and management work on other historic wrecks, both in Scotland and more generally throughout the UK. It is also likely to provide an invaluable source of both professional and avocational training and to continue to involve a very wide range of stakeholders, from local businesses and communities to academic researchers and life-long learners.

8. ARCHIVE

- 8.1.1. The electronic and paper field records have been compiled to form an indexed and internally cross-referenced archive, which is currently held at the offices of Wessex Archaeology under the project code 53111. Abbreviated copies of this archive will be deposited, in due course, with RCAHMS and the licensee.

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APPENDIX I: NOTES ON THE SITE HISTORY

The site was located in 1979 by John Dadd, at which time some archaeological material was recovered. In 1991, John Dadd reported his find to the ADU and they subsequently conducted an undesignated site assessment. The site was revisited by the ADU in 1992 and extensive destabilisation was noted. This and the realisation that material was being removed from the site by members of the Dumfries and Galloway branch of the Scottish Sub-Aqua Club (who had stumbled upon it in 1992) resulted in the site being designated under the Protection of Wrecks Act (1973).

The site was believed to be environmentally unstable and therefore in 1992 on behalf of Historic Scotland the ADU recovered artefacts believed to be at risk. Subsequently between 1993 and 1996 an extensive pre-disturbance survey was conducted by a team led by the current licensee, then an academic member of staff at the Scottish Institute of Maritime Studies. Site stabilisation measures, including the attaching of experimental anodes to the guns and the covering of extensive areas of the site with sandbags were taken by archaeologists and members of the Dumfries and Galloway SAC under the direction of the licensee.

From 1997 to 2003 the site has been the subject a programme of partial excavation, concentrating on those areas of the site perceived to be at greatest risk from destabilisation. The standard of excavation, recording and finds handling has been very high. The site has produced a rich and varied assemblage of finds, and organic survival is generally very good. Of particular note are the wooden carvings, including the badge of the heir apparent to the English throne and the famous cherub, which represent a very rare survival of 17th Century ship decoration and which have contributed to the probable identification of the vessel. Also of particular note is the relatively recent discovery of the importance of finds associated with the ship's armament (Colin Martin, pers. comm.).

The site is believed to be the wreck of the *Swan*, a small Commonwealth warship lost during a storm between 13th and 14th September 1653 whilst engaged in a punitive expeditionary action against supporters of the Royalist cause in western and northern Scotland. The Commonwealth force, comprising a fleet of six ships and a large body of soldiers had occupied Duart Castle, the seat of the rebellious Macleans, and it is presumed that the ships were anchored nearby, perhaps in the shelter of the bay to the west (Colin Martin, pers. comm.). The finds from the site point towards a mid-seventeenth century date (Martin, 1995) and an English origin for the vessel and the only known contemporary loss was that of three vessels from this fleet. Additionally the finding of ship decoration with Royal insignia suggests a warship and the *Swan* is the only vessel amongst the three losses known to have been a warship (Martin, 1995 & 1998). The extent and nature of the vessel remains match approximately what is known or can be surmised about the *Swan* west (Martin, 1995 and pers. comm.). The mechanism of loss appears to be that of simply being driven, presumably by force of weather, against the low cliffs of Duart Point, with the ship sinking to the bottom against the cliff (Martin, 1998). Subsequent rapid collapse and burial is probable.

The *Swan* itself is significant in that it represents a thus far unique survival of a class of small fast warship that was to lead eventually to the development of the frigate. This type of warship was intended for anti-piracy work and for the carrying of cargoes requiring speed in delivery, such as despatches, and was based on fast Dutch designs. The *Swan* spent a good deal of her life carrying despatches and undertaking patrols for Charles I in the Irish Sea before falling

into the hands of Parliament as a probable result of the King's failure to pay the crew (Eames, 1961 and Martin, 1998). Interestingly, the evidence of extensive internal panelling in the stern of the vessel and of the survival of external ornamentation suggests that compromises were made to the requirements of designing for speed (Colin Martin, pers. comm.). The vessel may have been overbuilt in a manner not calculated to enhance its sea worthiness or prestige, although it does appear to have been reasonably successful in the duties that it was assigned too. Remarkably, the nearby designated wreck of the *Dartmouth* is a similarly rare survival of a ship type that is also considered to be significant in the later development of the frigate class of warship (Colin Martin, pers. comm.).

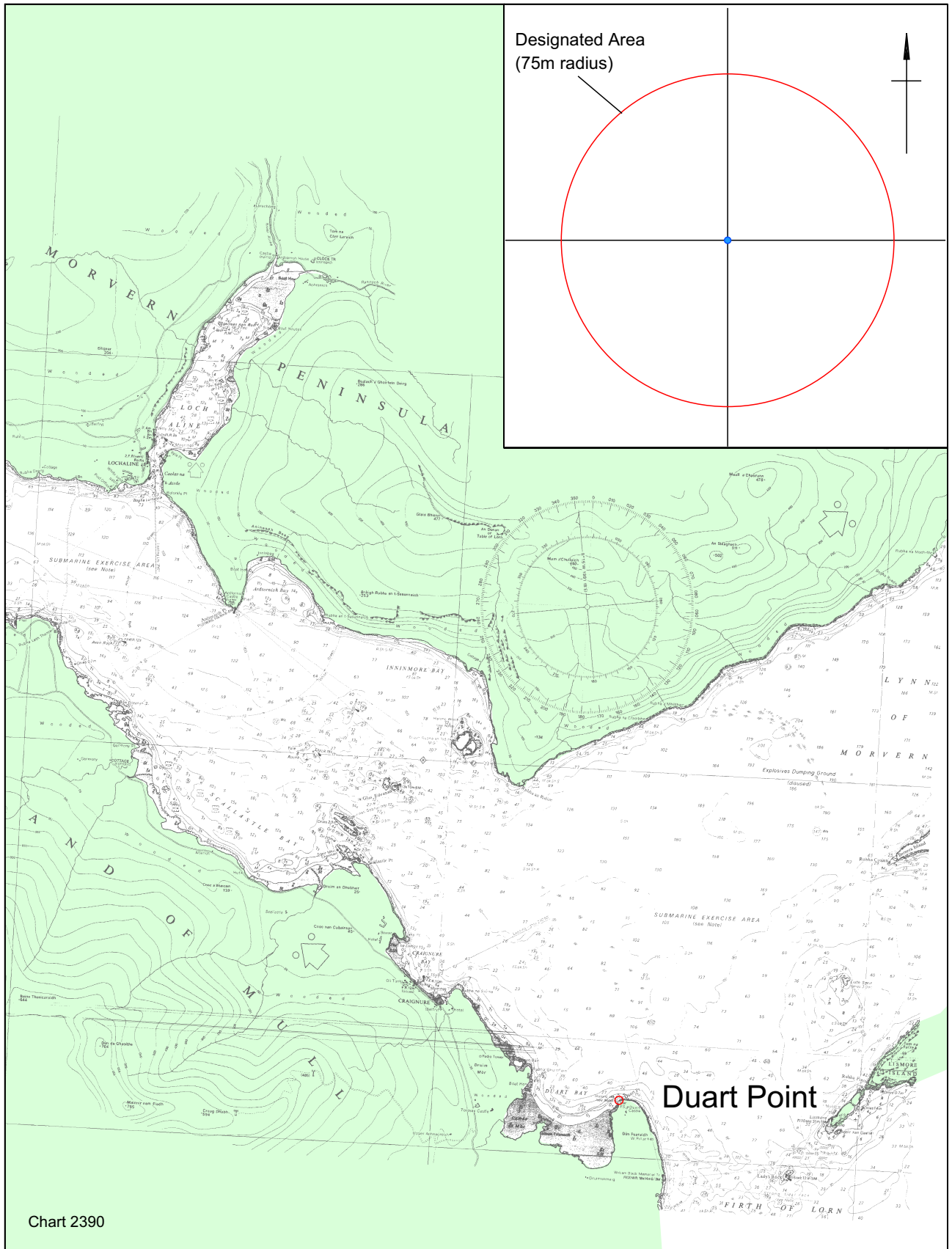
Investigation of the site by the licensee has now moved into the post-excavation phase. Funding has been previously secured for a 12-month study and it is expected that the site report should be available thereafter (Colin Martin, pers. comm.). However, WA understands that the licensee may apply for a licence to recover a very limited number of further items considered important to the interpretation or presentation of the site in 2004. These are artefacts that have previously been excavated but then reburied. This would be subject to the necessary resources being in place (Colin Martin, pers. comm.). The licensee has had the benefit of the active co-operation of the National Museum of Scotland and the finds from the site have been added to the Museum's collection. They are currently receiving active conservation at the NMS conservation facility.

The site has an excellent record in respect of publication and outreach. An interim site report has been published as well as several technical reports and appropriate entries for work carried out to 1998 have been made in the NMRS. The site investigations have considerable public interest, both locally and nationally, and have been the subject of numerous magazine and newspaper articles as well as two television documentaries, both of which are regularly repeated in the UK and further afield. Furthermore the site is also being used for educational purposes and has formed the subject of an innovative and successful diver trail run by Philip Robertson.

It is intended that a monitoring strategy will be developed in respect of the site and comment has been made upon this elsewhere in the report.

APPENDIX II: DIVE DETAILS

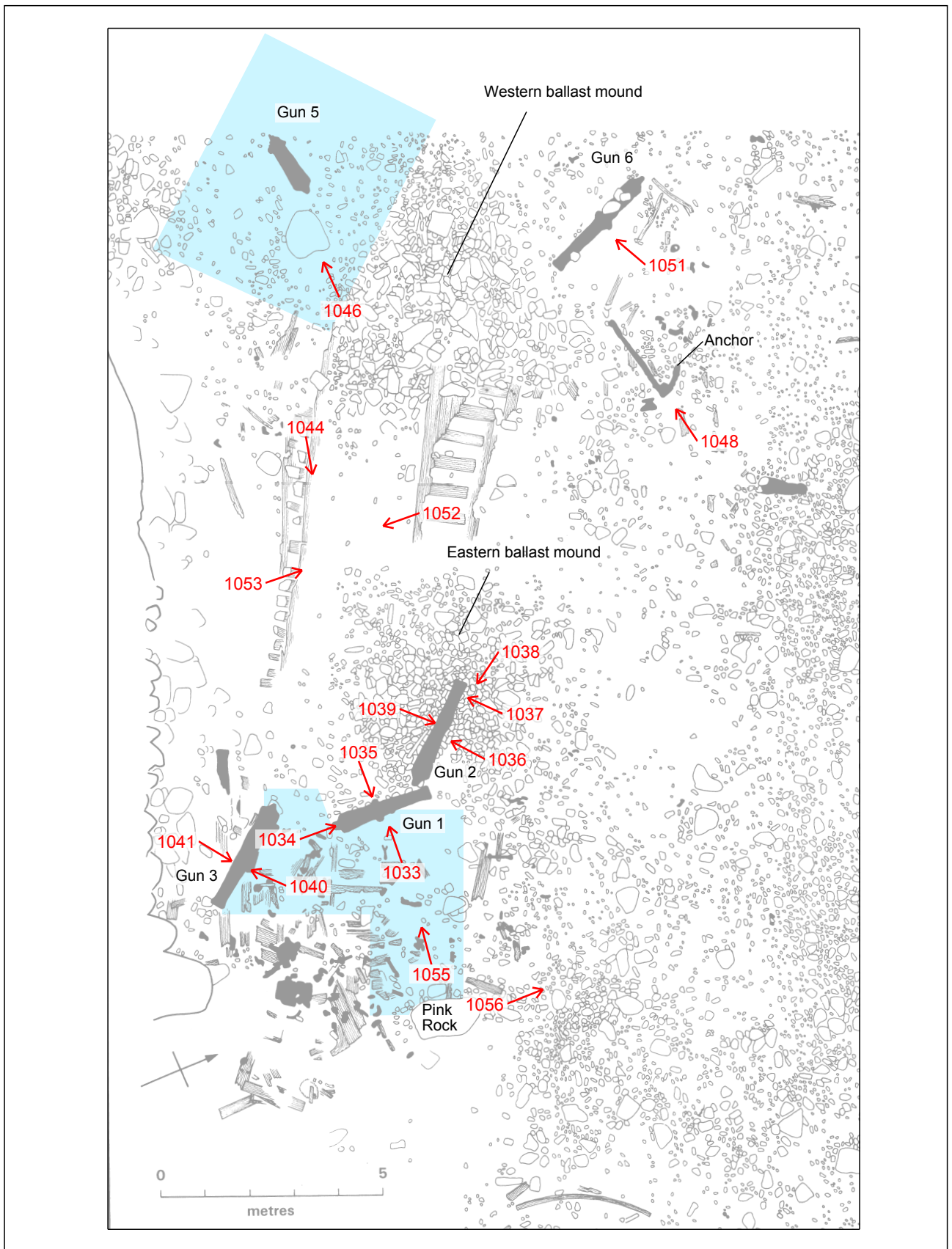
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2003/095	06.11.03	F. Mallon	12.5	64	Slack	8
2003/096	06.11.03	S. Adey-Davies	10.5	9	Slack	2-3
2003/110	06.11.03	G. Scott	9.0	68	Slight	10
2003/112	06.11.03	S. Adey-Davies	8.5	43	Slight	6-7




<ul style="list-style-type: none"> ● Centre of search area 56°27.45" N 05°39.32" W 	<p>This product has been derived, in part, from Crown Copyright Material with the permission of the UK Hydrographic Office and the Controller of Her Majesty's Stationary Office (www.ukho.gov.uk) All rights reserved. (Wessex Archaeology Licence Number 820/020220/11) NOT TO BE USED FOR NAVIGATION WARNING: The UK Hydrographic Office has not verified the information within this product and does not accept liability for the accuracy of reproduction or any modifications made thereafter.</p>			
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Duart Point site location

Figure 1



<p>1034 WA monitoring photograph</p> <p> Approximate extent of 2002-3 excavation trenches</p>	<p>This material © Colin Martin and Wessex Archaeology, assigned to the Crown for the purposes of the contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973). No unauthorised reproduction.</p>		
<p></p>	<p>Date: 27/01/04</p>	<p>Revision Number: 0</p>	<p>Illustrator: KJB</p>
	<p>Scale: 1:125</p> <p>Path: W:\Projects\53111\Drawing Office\Report Figs...\2003_Duart Point\Fig 3.dwg</p>		

Pre-2000 site plan and the locations of 2002-3 excavation trenches and WA monitoring photographs

Figure 2

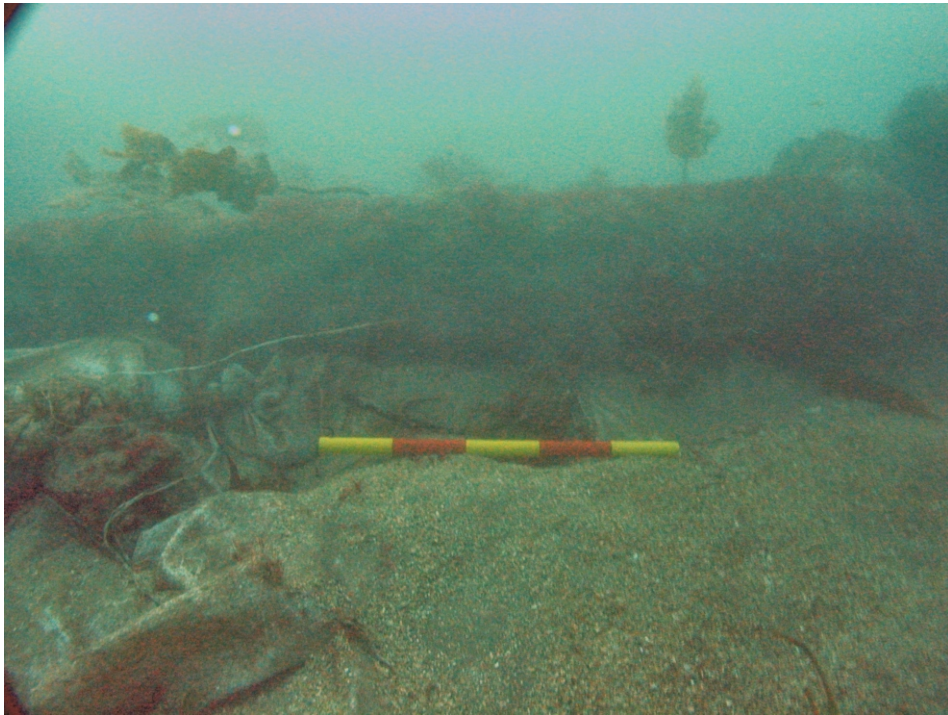


Plate 1: Monitoring photograph 1033

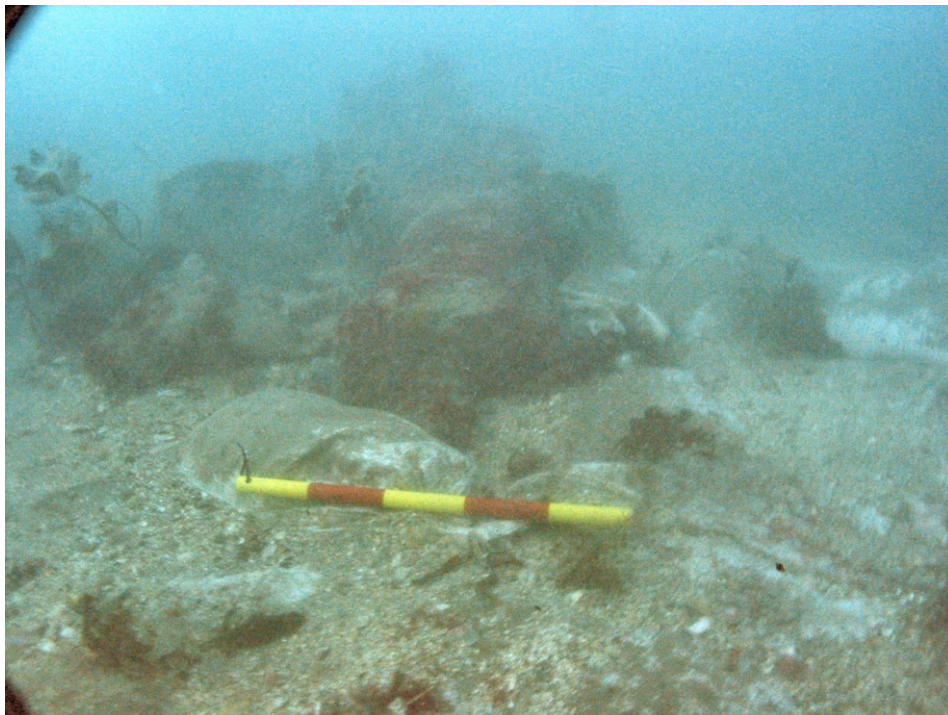


Plate 2: Monitoring photograph 1034

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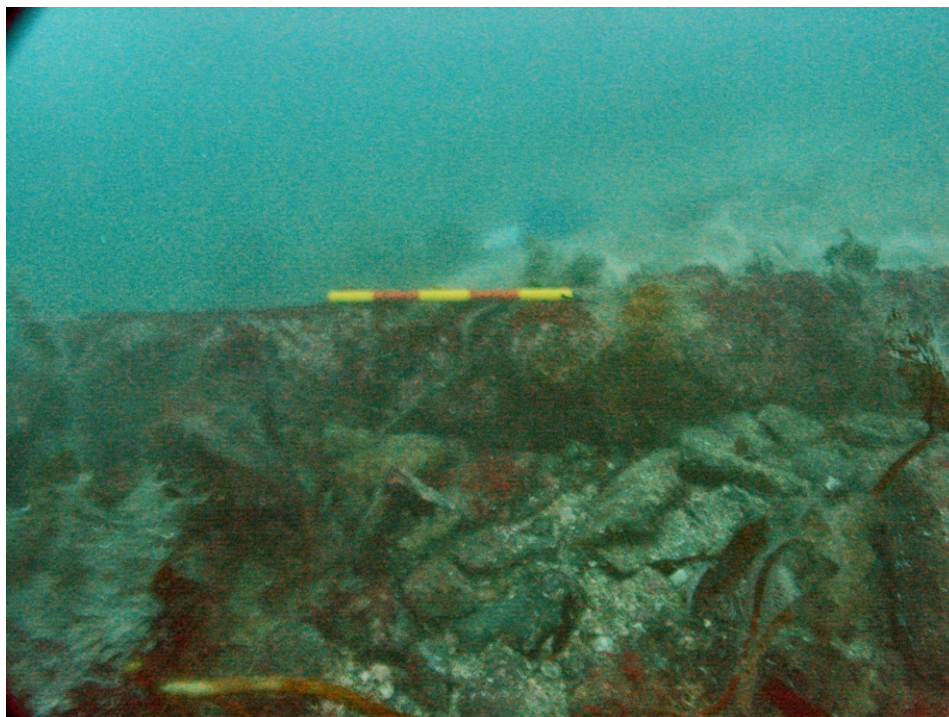


Plate 3: Monitoring photograph 1035

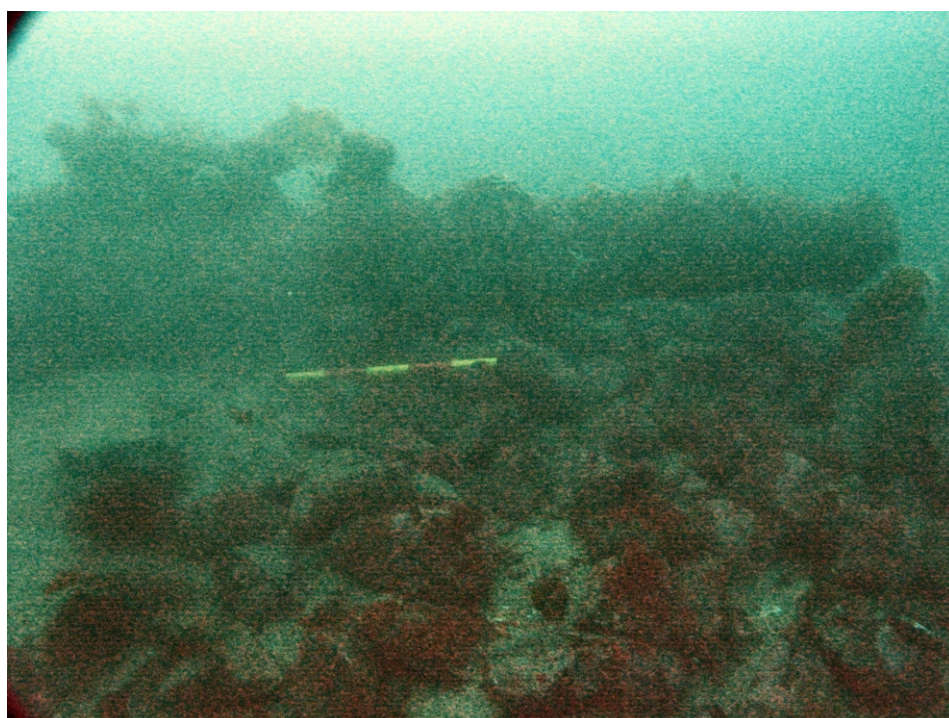


Plate 4: Monitoring photograph 1036

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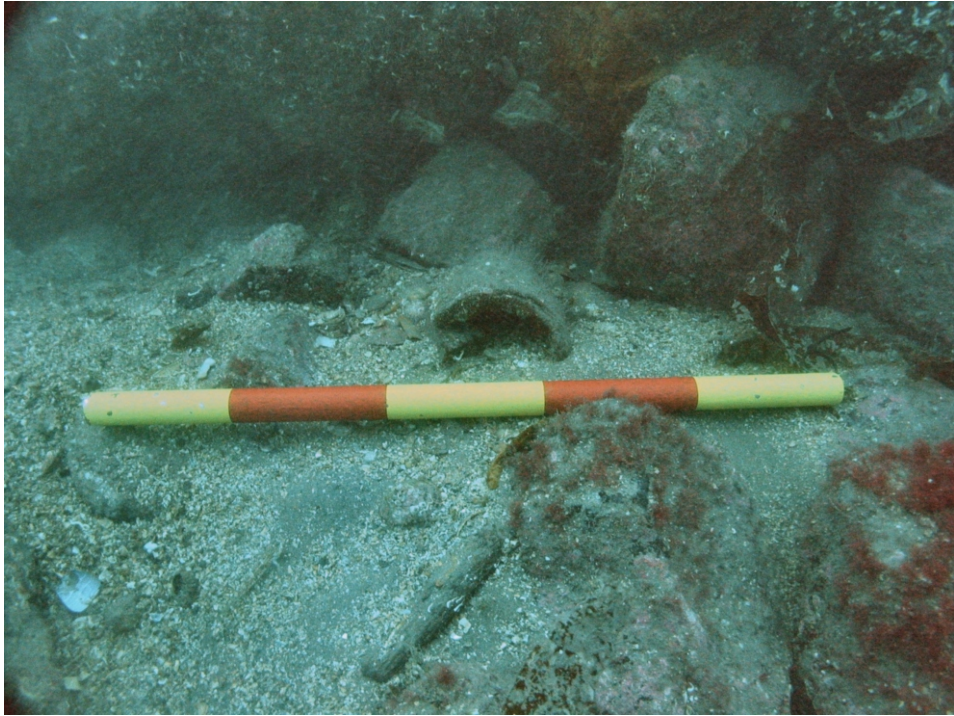


Plate 5: Monitoring photograph 1037

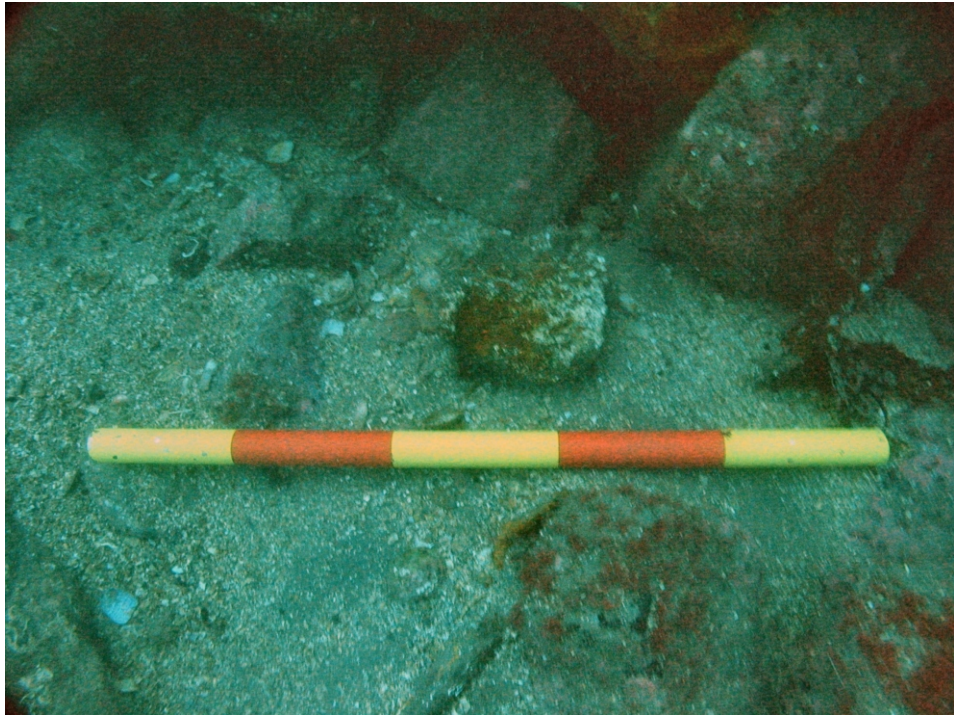



Plate 6: Monitoring photograph 1038

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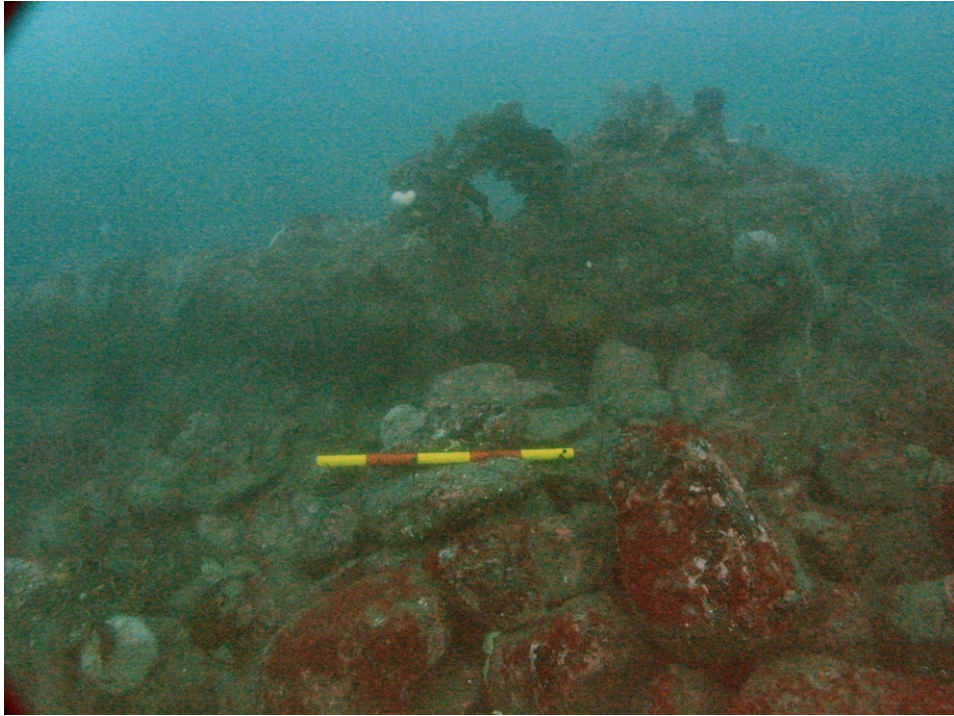



Plate 7: Monitoring photograph 1039



Plate 8: Monitoring photograph 1040

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 <p><i>Wessex Archaeology</i></p>	Date:	30/01/04	Revision Number:	0
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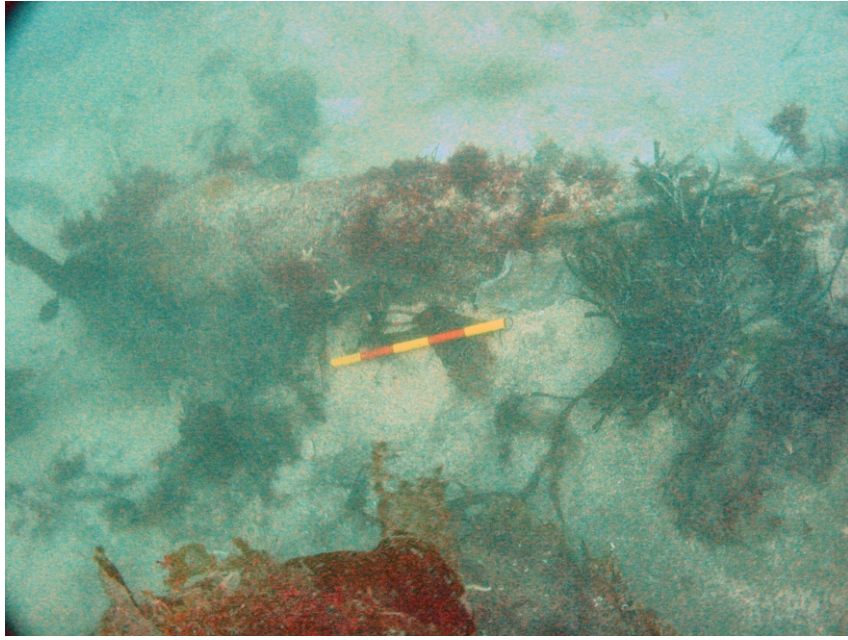


Plate 9: Monitoring photograph 1041



Plate 10: Monitoring photograph 1044

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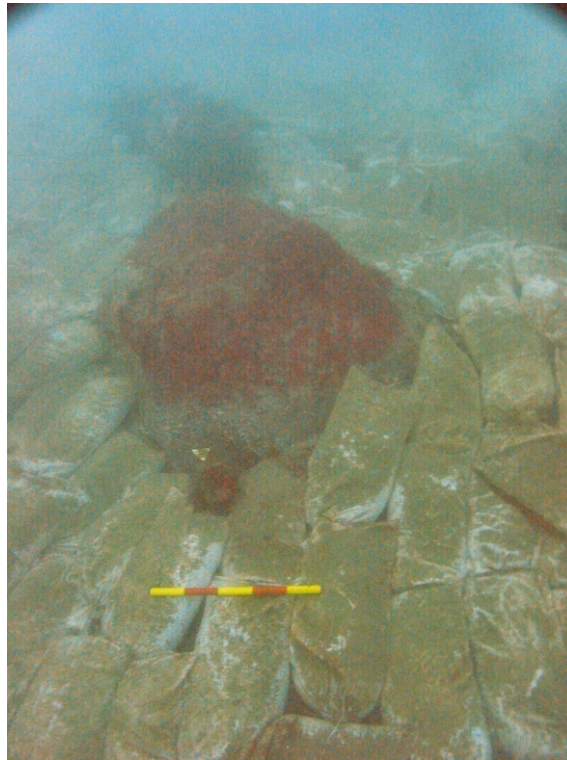


Plate 11: Monitoring photograph 1046

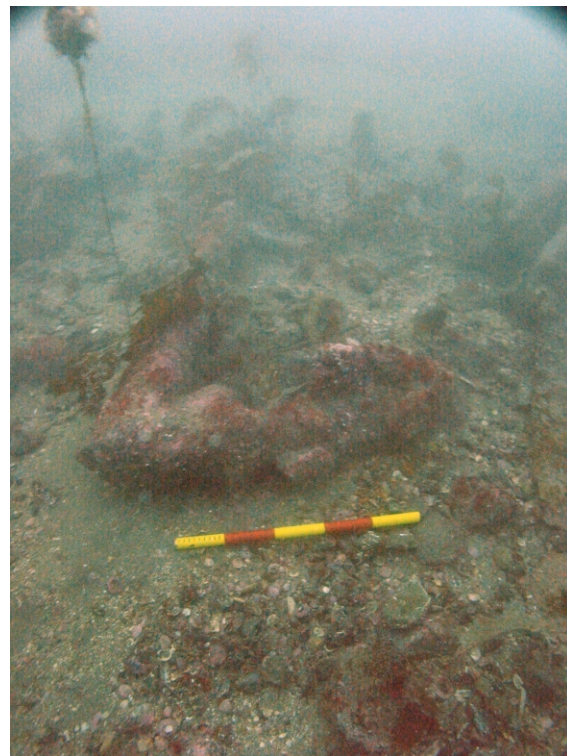


Plate 12: Monitoring photograph 1048

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Plate 13: Monitoring photograph 1051

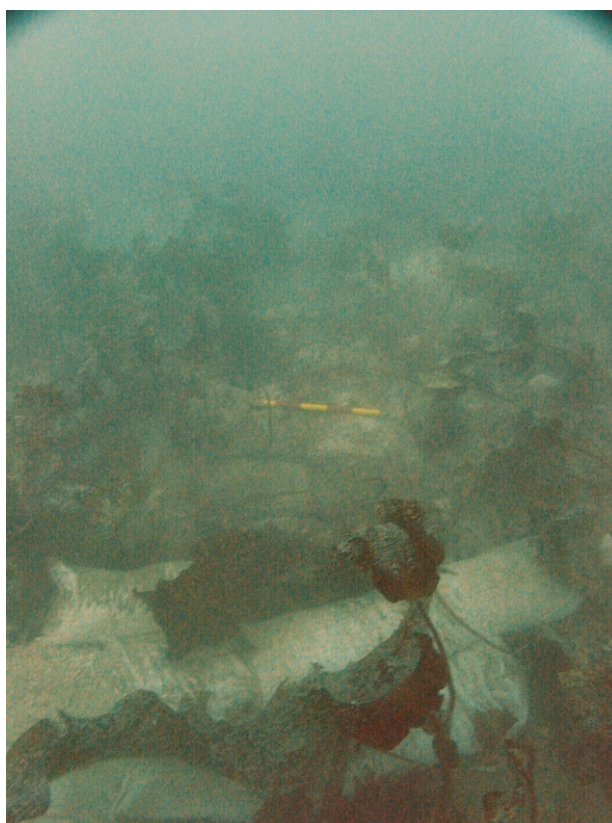


Plate 14: Monitoring photograph 1052

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Plate 15: Monitoring photograph 1053

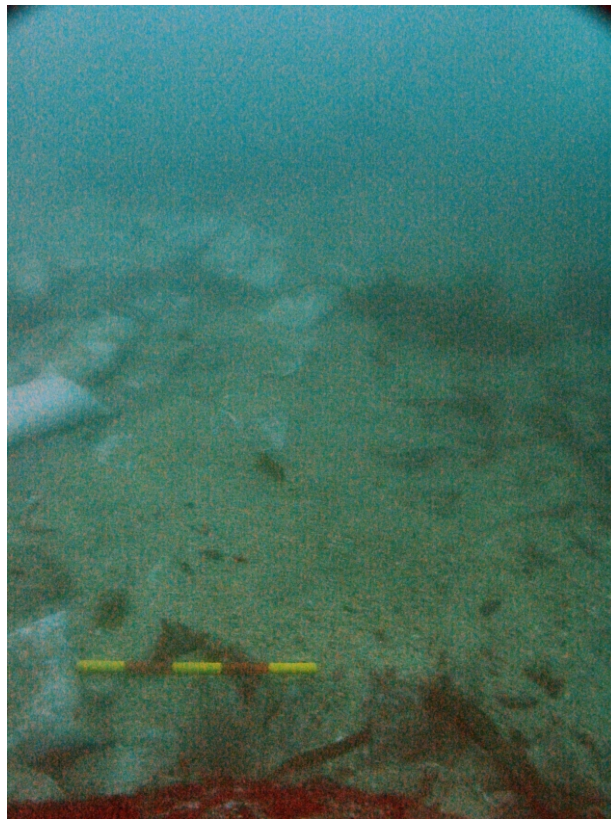


Plate 16: Monitoring photograph 1055

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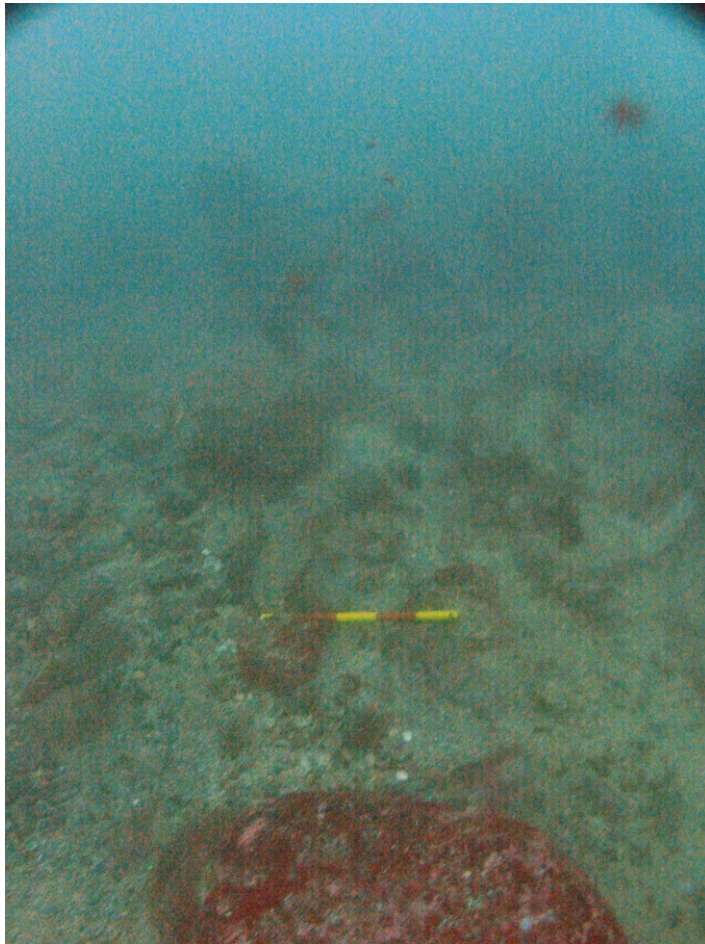


Plate 17: Monitoring photograph 1056

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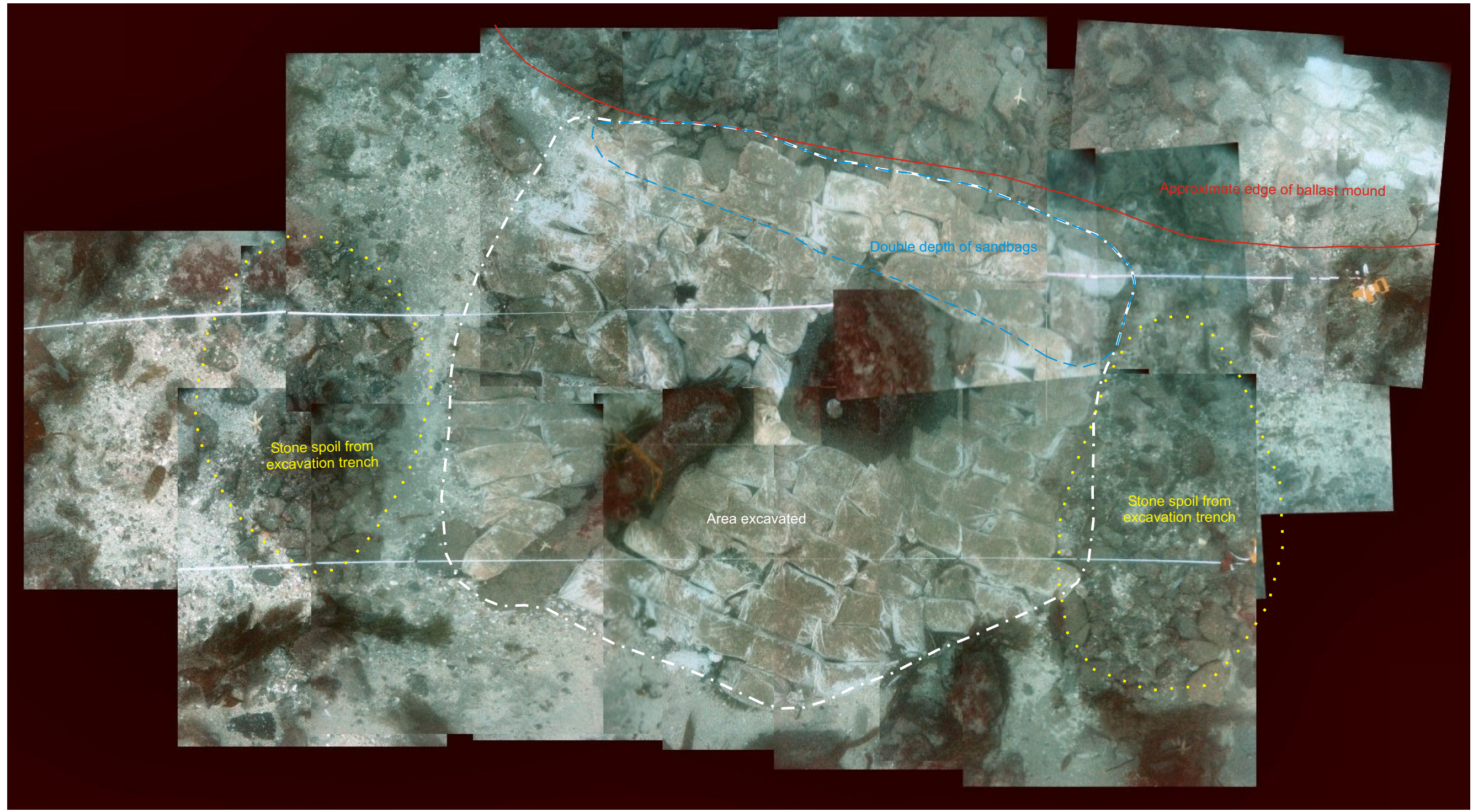
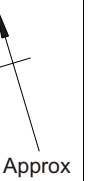


Plate 18: Photo-mosaic showing the 2003 western excavation trench

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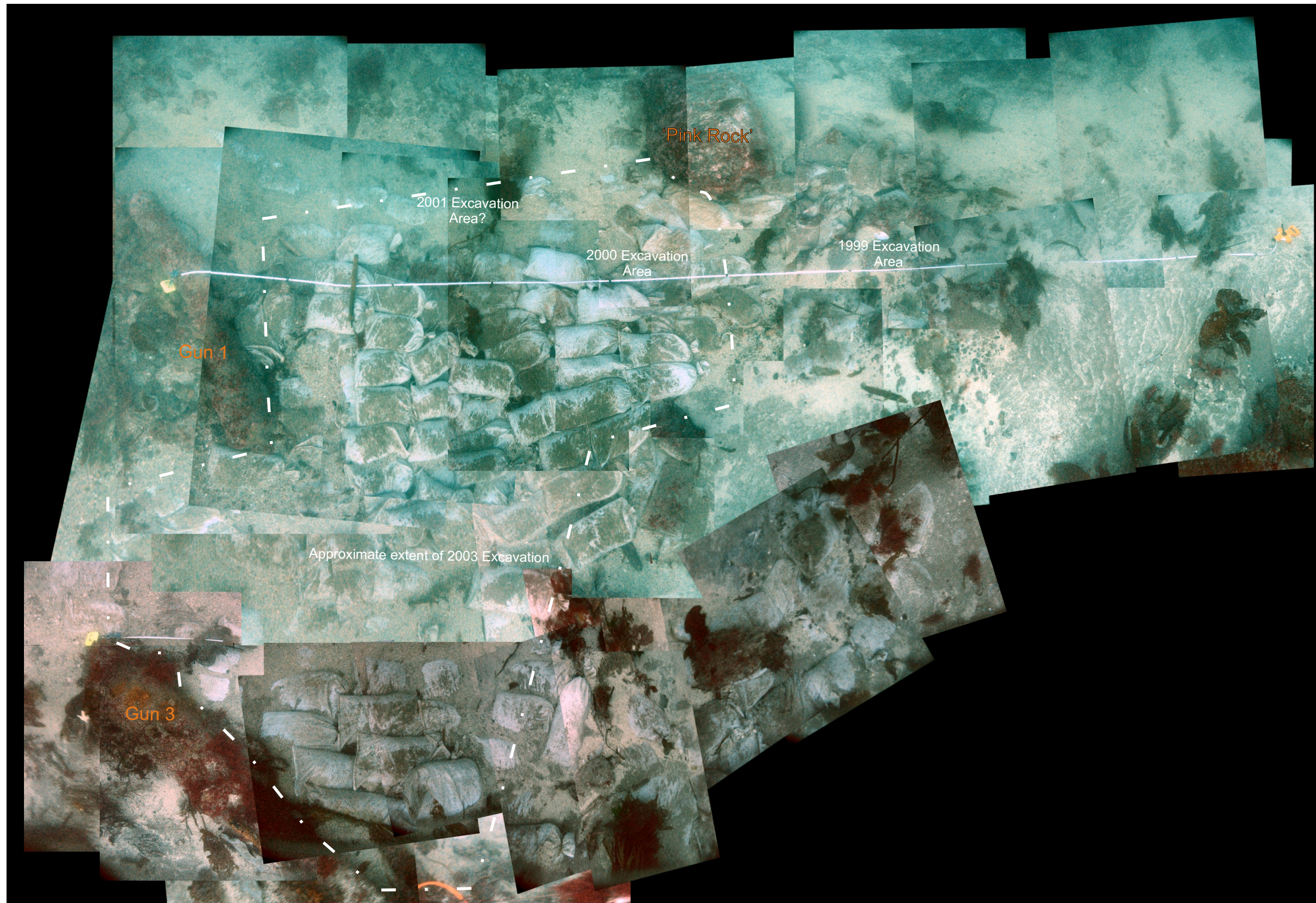
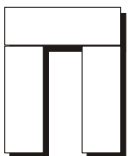


Plate 19: Photo-mosaic showing the 2003 eastern excavation trench



THE TRUST FOR WESSEX ARCHAEOLOGY LTD.

Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB

Tel:(01722) 326867 Fax:(01722) 337562

E-mail:info@wessexarch.co.uk www.wessexarch.co.uk

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