

DOLAUCOTHI GOLD MINE, CARMARTHENSHIRE: ARCHAEOLOGICAL MONITORING AND RECORDING DURING PATH REPAIRS



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The National Trust



Heneb



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**DOLAUCOTHI GOLD MINE,
CARMARTHENSHIRE:
ARCHAEOLOGICAL MONITORING AND
RECORDING DURING PATH REPAIRS**

by

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DURING PATH REPAIRS**

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**DOLAUCOTHI GOLD MINE, CARMARTHENSHIRE:
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EXECUTIVE SUMMARY

Dyfed Archaeological Services were commissioned by The National Trust to undertake an archaeological monitoring and recording exercise during path repairs within the area of the scheduled monument of Dolaucothi Gold Mine, Carmarthenshire (CM208). The works were restricted to removing leaf litter to the top of the existing modern path ballast with no further excavation required. No deposits, features or artefacts of archaeological significance were recorded during the monitoring.

CRYNODEB WEATHERED

Comisiynwyd Gwasanaethau Archaeolegol Dyfed gan yr Ymddiriedolaeth Genedlaethol i gynnal ymarfer monitro a chofnodi archaeolegol wrth atgyweirio llwybrau yn ardal heneb gofrestredig Mwynglawdd Aur Dolaucothi, Sir Gaerfyrddin (CM208). Cyfyngwyd y gwaith i symud sbwriel dail i ben y balast llwybr modern presennol ac nid oedd angen unrhyw waith cloddio pellach. Ni chofnodwyd unrhyw ddyddodion, nodweddion nac arteffactau o arwyddocâd archeolegol yn ystod y gwaith monitro.

1 INTRODUCTION

1.1 Project Commission

- 1.1.1 Dyfed Archaeological Services, a contracting arm of Heneb: The Trust for Welsh Archaeology was commissioned by The National Trust to undertake archaeological monitoring and recording (previously known as an archaeological watching brief) during path repairs at Dolaucothi Gold Mine, Carmarthenshire (centred on NGR SN 66194042, Figs 1 and 2).
- 1.1.2 The path repairs involved the use of a 3-tonne 360° machine with a toothless bucket to remove leaf litter down to the modern path ballast. The section of path to be excavated was around 100m long (Fig 2).
- 1.1.3 Most of the repair work was within the area of the scheduled monument Dolaucothi Gold Mine (CM208). The mine has been utilized since the Roman period (1st to 4th centuries AD) but activity was greatest in the late 19th and early 20th centuries (Fig 2).
- 1.1.4 Scheduled Monument Consent was granted by Cadw for the works, subject to certain conditions, one of which states:

No works, including site clearance, shall commence until Cadw has been informed in writing of the name of an appropriately qualified archaeologist operating to CIfA published standards and guidance (<https://www.archaeologists.net/codes/cifa>) who is to be present to undertake a watching brief for any works or operation occurring within the scheduled area. No work shall commence until Cadw has confirmed in writing that the proposed archaeologist is acceptable.

1.2 Scope of the Project

- 1.2.1 A Written Scheme of Investigation (WSI) for archaeological monitoring and recording was prepared by Dyfed Archaeological Services prior to the commencement of the works (Appendix 1). The WSI outlined the project objectives as:

- Provision of a WSI to outline the methodology for the archaeological monitoring and recording which Dyfed Archaeological Services would undertake;
- To monitor ground works in order to identify the presence/absence of any archaeological deposits;
- To establish the state of preservation, character, extent and date range for any archaeological deposits identified;
- Production of a report and an archive of the results.

- 1.2.2 The overall work was summarised as:

The implementation of archaeological monitoring and recording during groundworks associated with path repairs at Dolaucothi Gold Mine, Carmarthenshire (NGR SN 66194042) which have the potential to expose, damage or destroy archaeological remains.

The proposed development includes the use of a 3 tonne 360° machine to remove leaf litter down to the path ballast.

- 1.2.3 The archaeological works were undertaken in accordance with the Chartered Institute for Archaeologists' *Standard for Archaeological Monitoring and Recording* (2023), its *Universal Guidance for Archaeological Monitoring and Recording* (2023) and its codes of conduct.

1.3 Report Outline

- 1.3.1 This report provides a summary and discussion of the archaeological monitoring and recording results.

1.4 Illustrations

- 1.4.1 Printed map extracts are not necessarily reproduced to their original scale. On maps, north is towards the top of the page unless otherwise indicated.

1.5 Timeline

- 1.5.1 The following timeline (Table 1) is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text.

Table 1: Archaeological and historical timeline for Wales.

Period	Approximate date	
Palaeolithic	c.450,000 – 10,000 BC	Prehistoric
Mesolithic	c. 10,000 – 4400 BC	
Neolithic	c.4400 – 2300 BC	
Bronze Age	c.2300 – 700 BC	
Iron Age	c.700 BC – AD 43	
Roman (Romano-British) Period	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period	c. AD 410 – AD 1086	
Medieval Period	1086 – 1536	
Post-Medieval Period*	1536 – 1750	
Industrial Period	1750 – 1899	
Modern	20th century onwards	

* The post-medieval and Industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Heneb: The Trust for Welsh Archaeology.



Figure 1: Location of Dolaucothi Gold Mine (red dot).

Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> (22/05/2024).

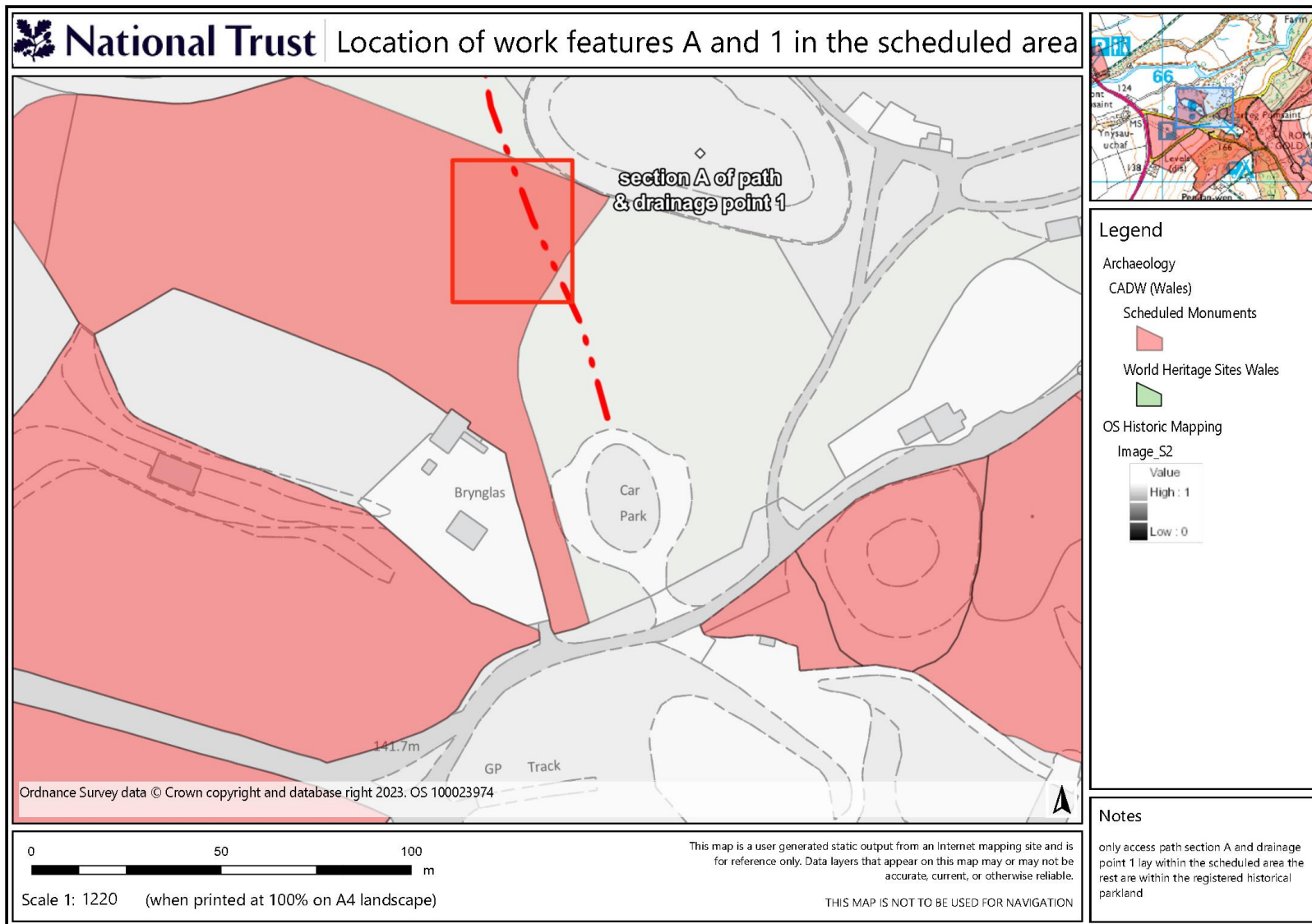


Figure 2: Location of planned works (red dot dash line). The scheduled area is shaded red.

Plan supplied by client.

2. THE SITE

2.1 Location and Topography

- 2.1.1 Dolaucothi Gold mine is located c.780m southeast of the village of Pumsaint, Carmarthenshire and 12km southeast of Lampeter town, Ceredigion (NGR SN 66194042, Fig 1). The site is situated around a saddle on the northern slopes of a line of hills running northeast to southwest which today are covered in woodland. 200m north of the site is the river Cothi which follows the Cothi valley. A path leads from the site to the riverside.
- 2.1.2 The underlying geology is a sedimentary bedrock of the Cwmere Formation. This is made up of mudstone and formed during the Silurian Period, between 443.8-433.4 million years ago. There are glaciofluvial deposits of sand and gravel which were formed during the Quaternary period, between 116-11.8 thousand years ago (BGS online).
- 2.1.3 To the south of the site where the visitor centre is located, the geology changes to a sedimentary bedrock of the Yr Allt Formation which is found in central Wales. It is a very silty mudstone with abundant siltstone laminae and scattered thin beds of sandstone formed during the Ordovician period (449 and 443.8 million years ago) (BGS online).

2.2 Archaeological and Historical Background

- 2.2.1 Dolaucothi Gold Mine is situated in an archaeologically rich area with most records dating to the Roman, medieval and post medieval periods. The earliest evidence found within the surrounding area is a Neolithic stone axe (PRN 1944) which is currently lost. This single artefact suggests the area was sparsely populated during this time.
- 2.2.2 Within the surrounding area lies a Bronze Age stone cairn (PRN 36033) and a standing stone (PRN 7560). The cairn survives and is well defined whereas the standing stone is now gone. The presence of these features suggests the landscape may have been a funerary and/or ceremonial space during the Bronze Age.
- 2.2.3 Iron Age occupation appears to be minimal in the area as there are no archaeological records.
- 2.2.4 Occupation greatly increases in the Roman period. During this time, mining starts at Dolaucothi Gold Mine which is the only known Roman gold mine in the UK. Due to this, the site is of national importance and is a scheduled monument (CM208).
- 2.2.5 Many of the Roman archaeological remains in the surrounding area are linked to gold mining and the lives of those who worked there. Remains include those of:
- an aqueduct which supplied water to the mine (PRN 1948)
 - a road connecting Pumsaint to Llandovery (PRN 33998)
 - a Roman fort (PRN 1956)
 - a small town (viscus) (PRN 44461)
 - a possible bathhouse which was excavated in 1831 (PRN 1945)
 - reservoir (PRN 11941)
 - a range of artefacts (PRN 1958; 1669; 12922; 1952; 12420)

The concentration and range of Roman remains suggest the area around Pumsaint was important and well populated during the Romano-British period.

- 2.2.6 There are few archaeological records relating to the early medieval period. A possible early medieval enclosure with a 'banjo' entrance was identified through aerial photographs (PRN 49255) and Pumsaint chapel (PRN 49254) is believed to have early medieval origins.
- 2.2.7 Archaeological records increase for the medieval period. Pumsaint village (PRN 11487; 40295) appears to grow and become more established during this time with the continuation of the chapel (PRN 1955), the addition of a holy well (PRN 1954) and continued mining at Dolaucothi (PRN 1946; 1950; 1957; 11927; 1952; 40297).
- 2.2.8 Expansion of Pumsaint and gold mining at Dolaucothi continues and increases into the post medieval and modern period with the addition of buildings, farmsteads and the establishment of Dolaucothi estate with its mansion (PRN 20428).

2.3 Previous Archaeological Investigations

- 2.3.1 A vast amount of previous archaeological work has been carried out both on and around the Dolaucothi Gold mine. The earliest excavation was on the Roman bathhouse south of the river in the 1830s however, the most extensive period of exploration was in the late 20th century.
- 2.3.2 During the 1960s and 70s, under the Dolaucothi Research Committee of the National Museum of Wales, there were two main projects. One focused on surface survey and selective excavation to understand Roman exploitation of the site (Lewis and Jones 1969) and the second looked at the accessible underground galleries of 19th and 20th centuries (Burnham and Burnham 2004; Jones and Lewis 1971).
- 2.3.3 Archaeological work continued in 1982 under the Department of Archaeology, University of Wales, Lampeter (Austin and Burnham 1984). This work discovered a water-driven mill complex, explored the southern area of the Roman fort in Pumsaint and involved survey work on the Roman adits. Additional work led to identification of further medieval features in the landscape.
- 2.3.4 Between 1987 and 1999 extensive work was carried out around and at Dolaucothi mine (Burnham and Burnham 2004). Large numbers of groups and individuals, including Dyfed Archaeological Trust, carried out excavation and survey work which was predominantly commissioned by The National Trust. This extensive work focused on the Roman fort at Pumsaint, the water systems associated with the mine, search for settlement evidence and exploration of the mill complex, expanding on discoveries in 1982.
- 2.3.5 Archaeological investigations in the area have also been carried out due to development. In 1995, Dyfed Archaeological Trust carried out a watching brief during the renewal of a water main in Pumsaint village which exposed possible Roman defence deposits (Murphy 1995).
- 2.3.6 In the following year, Dyfed Archaeological Trust carried out a watching brief during the replacement of the foul sewer pipeline southwest of Pumsaint. Possible Roman defences were found (Allen 1996).
- 2.3.7 In 2002, an archaeological watching brief by Cambria Archaeology was implemented during extension works on The Coronation Hall in Pumsaint. The site is within the Roman fort and therefore archaeological mitigation was required. No features, deposits or finds were identified, predominantly

due to the area's heavy disturbance by extensive drainage work (Page 2002).

- 2.3.8 In 2004, Cambria Archaeology undertook a detailed survey of the long adit at Dolaucothi Gold Mine after being commissioned by The National Trust. The Trust wanted to run tourist trains in the adit and therefore archaeological mitigation was required (Jamieson 2004).
- 2.3.9 More recently, in 2015, Dyfed Archaeological Trust carried out a watching brief during road works leading northeast from Pumsaint (The Brunant Highway Support Scheme). No archaeological deposits were identified due to earlier disturbances (Meek 2015).
- 2.3.10 In 2018, Dyfed Archaeological Trust was commissioned by Natural Resources Wales to undertake an archaeological watching brief during the construction of infrastructure (access roads, log storage and skyline) to enable the felling of two diseased larch plantations adjacent to Dolaucothi Gold Mine and associated aqueducts. No archaeological deposits or features were identified as they appeared disturbed by earlier activity and the plantation itself (Enright 2018).

3. MONITORING AND RECORDING METHODOLOGY

3.1 Fieldwork

- 3.1.1 The monitoring and recording was undertaken in accordance with the Chartered Institute of Archaeologists' *Standard for Archaeological Monitoring and Recording (CifA 2023)* and its *Universal Guidance for Archaeological Monitoring and Recording (CifA 2023)*.
- 3.1.2 A Written Scheme of Investigation (WSI) detailing the proposed archaeological works was prepared by Dyfed Archaeological Services (Appendix 1).
- 3.1.3 Recording of all archaeological features or deposits conformed to best current professional practice and was carried out in accordance with the Recording Manual used by Dyfed Archaeological Services (adopted from the Recording Manual developed by English Heritage Centre for Archaeology, a copy is always available on-site for inspection if required). A written, drawn and photographic record was maintained throughout the monitoring and recording, and all contexts encountered were recorded.
- 3.1.4 The area for development was excavated by a 3 tonne 360° mechanical excavator with a toothless bucket.

3.2 Timetabling of Fieldwork

- 3.2.1 The monitoring and recording took place on 17th April 2024. The weather was generally dry and sunny.

3.3 Post-Fieldwork Reporting and Archiving

- 3.3.1 All data recovered during the fieldwork will be collated into a site archive structured in accordance with specifications in Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth.
- 3.3.2 The results of the fieldwork have been assessed in local, regional and wider contexts. The report includes a desk-based research element to ensure that the site is placed within its wider archaeological context.
- 3.3.3 A report fully representative of the results of the fieldwork has been prepared.

4. MONITORING AND RECORDING RESULTS

- 4.1 Using a 3 tonne 360° excavator with a toothless bucket, around 100m of modern pathway had leaf litter removed down to the path ballast (Photos 1, 2 and 3). The width of excavation was restricted to the width of the modern path.
- 4.2 The section of path repairs observed were those that fell into the scheduled monument area (CM208) (Fig 2).
- 4.3 The leaf litter deposit was from the surrounding trees and varied between 0.05m and 0.10m thick. The material was loose and easily removed (Photos 3-6).
- 4.4 The leaf material lay directly on the modern path ballast and therefore no topsoil was present.
- 4.5 Due to the excavation stopping at the modern path ballast, no archaeological or natural deposits were disturbed or recorded, and no artefacts were found.



Photograph 1: Condition of modern path before repair works.



Photograph 2: Machines used for removing leaf litter.



Photograph 3: Section of modern path after leaf litter removed. 1x 1.0m scale.



Photograph 4: Section of modern path after leaf litter removed. 1x 1.0m scale.



Photograph 5: Side view of section of modern path after leaf litter removed. 1x 1.0m scale.



Photograph 6: Section of modern path after leaf litter removed. 1x 1.0m scale.

5. CONCLUSIONS

- 5.1 An archaeological monitoring and recording exercise was undertaken during groundworks associated with path repairs at Dolaucothi Gold Mine, Carmarthenshire. The archaeological condition was placed on the work as some sections of the path were situated within the Dolaucothi Gold Mine scheduled monument area (CM208).
- 5.2 The work involved the removal of leaf litter from the modern path down to the existing path ballast. Due to excavations being restricted to the path ballast, no topsoil, archaeological deposits or natural geology were disturbed.
- 5.3 No artefacts were identified during the archaeological monitoring and recording.
- 5.4 Overall, the archaeological monitoring and recording of path repairs at Dolaucothi Gold Mine identified no significant archaeological remains.

6. SOURCES

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APPENDIX I:

DOLAUCOTHI GOLD MINE, CARMARTHENSHIRE WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL MONITORING AND RECORDING DURING PATH REPAIRS

1 INTRODUCTION

- 1.1 This Written Scheme of Investigation (WSI) has been prepared by Dyfed Archaeological Services (a contracting arm of Henneb–The Trust for Welsh Archaeology) in response to a request from the National Trust to provide a scheme of archaeological mitigation during path repair works at Dolaucothi Gold Mine, Carmarthenshire (Figures 1 & 2; centred on NGR SN 66194042).
- 1.2 Most of the repair work falls within the scheduled monument of Dolaucothi Gold Mine (CM208). The mine has been utilized since the Roman period (1st to 4th century AD) but activity was greatest in the late 19th and early 20th century. The site is located around a saddle on the northern slopes of a line of hills running northeast to southwest. The mine consists of a large open cast working with passages leading to workings underground, additional open cast workings, aqueducts, trenches and adits. Today, there is a modern visitor centre on site.
- 1.3 These works are to be carried out within the scheduled area of Dolaucothi Gold Mine. Scheduled Monument Consent has been granted by Cadw for works to the mine subject to conditions. One such condition states:
No works, including site clearance, shall commence until Cadw has been informed in writing of the name of an appropriately qualified archaeologist operating to CIfA published standards and guidance¹ who is to be present to undertake a watching brief for any works or operation occurring within the scheduled area. No work shall commence until Cadw has confirmed in writing that the proposed archaeologist is acceptable.
- 1.4 This WSI relates specifically to the monitoring and recording (formerly known as a watching brief) element mentioned in that condition and outlines the methodology through which Dyfed Archaeological Services will undertake the monitoring and recording during repairs to the paths.
- 1.5 This Written Scheme of Investigation outlines the methodology through which Dyfed Archaeological Services will undertake archaeological monitoring during repair works to the paths which have the potential to expose, damage or destroy archaeological remains.
- 1.6 The archaeological monitoring and recording will allow any archaeological remains to be archaeologically recorded and provide a suitable mitigation strategy if required. This document has been prepared for the client and specifically refers to Dyfed Archaeological Services to undertake the required archaeological works. The WSI cannot be used by any third party.
- 1.7 The Written Scheme of Investigation is prepared in accordance with the Chartered Institute for Archaeologists' *Standard for archaeological monitoring and recording* (CIfA, 2023) and its *Universal guidance for archaeological monitoring and recording* (2023).

¹ Chartered Institute for Archaeologists <https://www.archaeologists.net/codes/cifa>.

- 1.8 Dyfed Archaeological Services has considerable experience of this type of project and always operates to best professional practice. Heneb has its own Health and Safety Policy, and all works are covered by appropriate Employer's Liability and Public Liability Insurances. Copies of all are available on request.
- 1.9 Heneb is a CIfA Registered Organisation.



Figure 1: Site location marked in red. Base map: www.openstreetmap.org accessed 10/04/2024

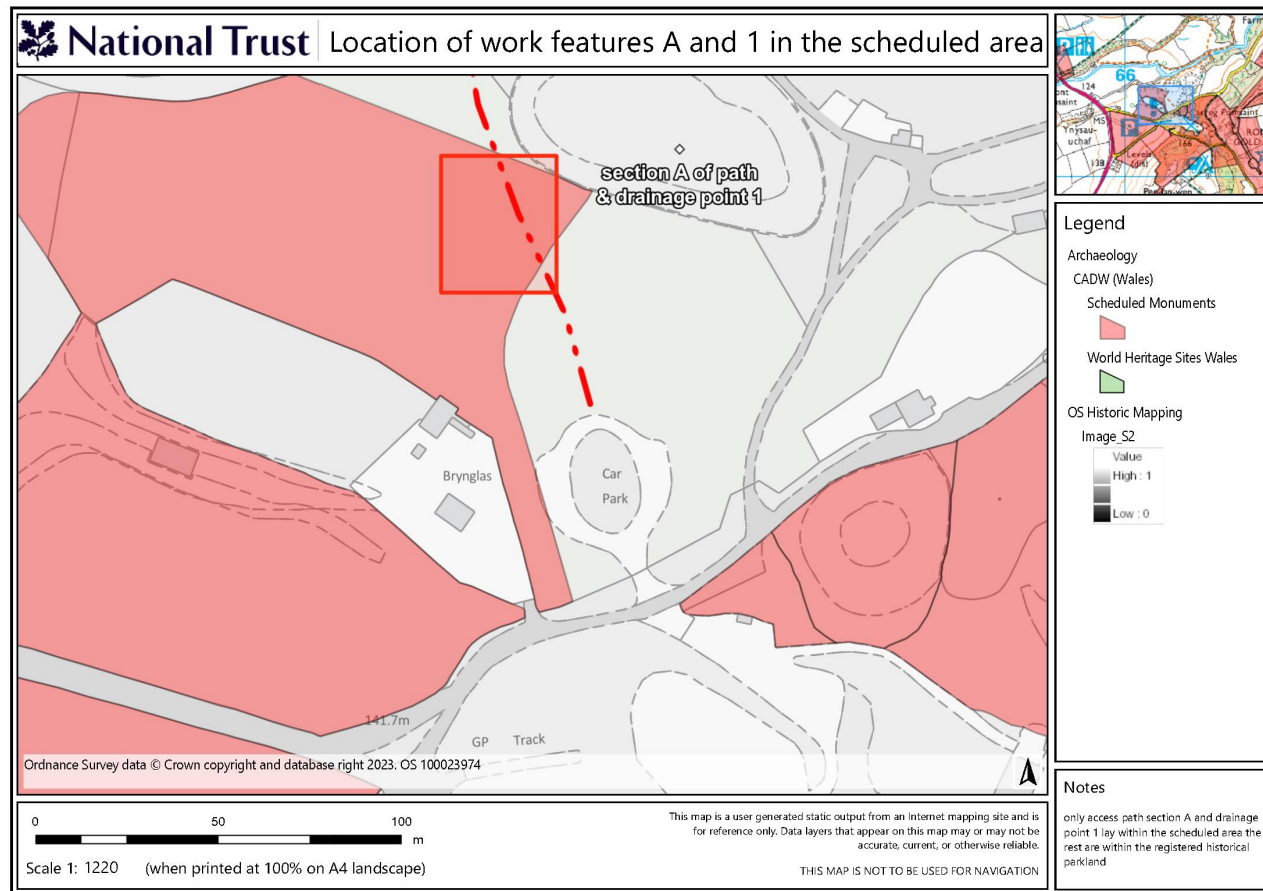


Figure 2: Site plan showing the location of planned works (red dashed line).
Plan supplied by the client, not reproduced to scale.

2. AIMS AND OBJECTIVES OF THE PROJECT

2.1 This document provides a scheme of works for:

- **The implementation of archaeological monitoring and recording during works associated with the repair of paths at Dolaucothi Gold Mine Carmarthenshire, which have the potential to expose, damage or destroy archaeological remains related to the scheduled Ancient Monument Dolaucothi Gold Mine (CM208) and any associated archaeological remains. Appropriate investigation and recording of any such remains will be undertaken if revealed. A report shall be prepared on the results of the monitoring and recording, and an archive created.**

2.2 The following tasks will be completed:

- Archaeological attendance during repair works to appropriately investigate and record any archaeological deposits affected by the works, in order to identify the presence/absence of any archaeological deposits and to establish the character, extent and date range for those archaeological deposits;
- Production of a report on and an archive of the results of the archaeological monitoring and recording and the historic building recording.

3 ARCHAEOLOGICAL MONITORING AND RECORDING

3.1 The definition of archaeological monitoring and recording, taken from the Chartered Institute for Archaeologists Standards and Guidance: for Archaeological Monitoring and Recording (CIfA S&G: AWB 2023) is:

a formal programme of observation, investigation and recording conducted during works carried out for non-archaeological reasons, where there is a possibility that archaeological deposits may be disturbed or destroyed. This will be within a specified area or site on land, in an inter-tidal zone or under water. This definition and Standard do not cover chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains in situ.

3.2 The purpose of monitoring and recording, as laid down in the CIfA S&G AWB is:

Archaeological monitoring and recording will record and report on the archaeological resource within a specified area, using methods that are described in a project design (written scheme of investigation) that is fit for purpose.

The programme of work undertaken will be carried out by suitably competent persons in accordance with that project design and the CIfA Code of conduct and give due regard to the guidance for archaeological monitoring and recording.

All archaeological monitoring and recording will result in a report, published accounts where appropriate, and a stable, ordered, accessible archive.

Monitoring and Recording Fieldwork

- 3.3 The monitoring and recording work will entail an archaeologist being present during all repair works where there is a potential for archaeological remains to be exposed, damaged or destroyed. This will be carried out during repair works which could include, but are not limited to repointing, consolidation and selective rebuilding.
- 3.4 The site contractor's method statement is given in Appendix II.
- 3.5 It is essential coordination between the site contractors and archaeologist is established at the outset to avoid any potential disturbance to archaeology without an archaeologist being present, or unnecessary visits to the site when works are being carried out that do not require the presence of an archaeologist.
- 3.6 The archaeologist will monitor the repair works and aim to identify any archaeological remains that may require recording. They will have the authority to halt the works in areas where archaeological remains are identified until they have been further investigated and recorded.
- 3.7 Adequate time must be made available to the visiting archaeologist to ensure that appropriate recording can be undertaken of any archaeological features or deposits exposed during repair works.
- 3.8 All deposits/features will be recorded by archaeological context record sheet, scale drawing, photography and site notebooks. All individual deposits will be numbered using the open-ended numbering system in accordance with a recognised system, such as Dyfed Archaeological Services Recording Manual. Significant deposits will be recorded by scale drawing (no less than 1:20); drawn plans will be related to Ordnance Datum and, where possible, known boundaries. A digital photographic record will be maintained as a minimum using a high-resolution camera, with photographic information recorded for all photographs taken.
- 3.9 All archaeologically significant artefacts, ecofacts and samples will be retained and, where possible, related to the contexts from which they derived. Sensitive materials will be stored in appropriately stable conditions. Finds will be temporarily stored by Dyfed Archaeology in stable conditions. All finds, except those deemed to be Treasure, will remain the property of the landowner, but it is assumed that permission will have been given by the landowner for these to be stored as part of the archive in a suitable repository (ownership will still be with the landowner).
- 3.10 Under the 1996 Treasure Act, "treasure" can be summarised as:
- Any object other than a coin containing at least 10% gold or silver and at least 300 years old;
 - Any prehistoric assemblage of base metal;
 - Coins found together which contain 10% gold or silver (but no single coins) and groups of at least 10 coins of other metals, provided they are at least 300 years old;
 - Any object found associated with treasure except unworked natural objects; and
 - Any object which would have been Treasure Trove before the 1996 Act but not covered above.
- 3.11 In the event that unforeseen archaeological discoveries are made during the development, or that archaeological remains of high significance are exposed, Dyfed Archaeological Services shall have the power to halt any

ground works and shall inform the site agent/project manager and Cadw. Dyfed Archaeological Services will prepare a written statement and plan detailing the archaeological evidence. Following assessment of the archaeological remains by all parties, if required, a contingency scheme for salvage excavation of affected archaeological features may need to be implemented. This event would need to be covered by contingency financial arrangements within the project budgets.

- 3.12 In the event of the discovery of human remains, all remains will be left in situ. If removal is necessary, it will only take place following the granting of all permissions in writing by the relevant authorities (a burial licence granted from the Ministry of Justice).

4 POST-FIELDWORK REPORTING AND ARCHIVING

- 4.1 All data recovered during the building recording will be collated into a site archive.
- 4.2 An archive will be prepared for the archaeological monitoring and recording, if it meets the requirements of Heneb-Dyfed Archaeology archive retention policy (2018). If it does, then data recovered during the monitoring and recording will be collated into a site archive.
- 4.3 The site archives will be collated in accordance with the specifications in *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth. The *National Standards for Wales for Collecting and Depositing Archaeological Archives* produced by the Federation of Museums and Art Galleries of Wales will also be adhered to. Digital archives will be collated using the Royal Commission on the Ancient and Historical Monuments of Wales systems (2015) and deposited with the RCAHMW. The Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) shall be followed.
- 4.4 A Data Management Plan (DMP) (Appendix I) for this project has been produced in accordance with the Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (CIfA 2014, updated 2020).
- 4.5 A report will be produced covering the results of the building recording and archaeological monitoring and recording. The results of the fieldwork will be assessed in local, regional and wider contexts.
- 4.6 The report will include a brief research element to place the site into its wider context within the area.
- 4.7 The project archive, including all significant artefacts and ecofacts (excepting those which may be deemed to be Treasure) will be deposited with an appropriate body following agreement with the landowner (if retained and containing more than just digital information).
- 4.8 Dyfed Archaeological Services will arrange for the deposition of finds, and ascertain the costs of storage and deposition, with an approved body before the project commences and inform the curator of the arrangement which has been made.
- 4.9 A summary of the project results, excluding any confidential information, may be prepared for wider dissemination (e.g. Archaeology in Wales and special interest and period-specific journals).
- 4.10 The report will be prepared to follow the Chartered Institute for Archaeologists' *Standard for archaeological monitoring and recording* (CIfA,

2023) and its *Universal guidance for archaeological monitoring and recording* (2023).

4.11 A digital copy of the report will be submitted to Cadw for their approval.

4.12 Appropriate specialists to be used by Dyfed Archaeological Services include:

- Animal Bones – Worcester Archaeology
- Conservation - Phil Parkes (Cardiff University)
- Environmental / Pollen analysis – Worcester Archaeology or AOC Archaeology
- Fish bones – Jennifer Browning (University of Leicester Archaeological Services)
- Geophysics – Luke Jenkins (Heneb)
- Human Remains – Kate Hemer (UCL University)
- Industrial Archaeology –Jennifer Protheroe-Jones, Principal Curator – Industry, National Waterfront Museum, Swansea
- Metallurgical analysis - Dr Tim Young (Geoarch)
- Post-medieval / medieval pottery – Dee Brennan (local independent specialist)
- Prehistoric Pottery – Dr Alex Gibson (formerly of University of Bradford / now independent pottery specialist)
- Prehistoric Flint – Dr Andrew David (formerly of English Heritage, now independent lithics specialist)
- Radiocarbon dating - Beta Analytic
- Roman Glass – Ken Murphy (Heneb)
- Roman Pottery – Peter Webster (Freelance)

5. STAFF

5.1 The project will be managed by Fran Murphy MCIfA, Head of Dyfed Archaeological Services.

5.2 The on-site works will be undertaken by appropriately experienced archaeologists, from Dyfed Archaeological Services.

6. QUALITY ASSURANCE

6.1 Dyfed Archaeological Services has considerable experience of undertaking all categories of archaeological fieldwork and always operates to best professional practice, adhering to CIfA guidelines where appropriate. Heneb is a Registered Organisation with CIfA and all staff abide by their code of conduct and adhere to their relevant standards and guidance.

6.2 Dyfed Archaeological Services operates robust internal monitoring procedures that ensure that the standard of each project is maintained from commencement to completion.

7. MONITORING

7.1 The fieldwork may need to be monitored by Cadw who should be provided access to the site at any time during the monitoring and recording. The

Head of Dyfed Archaeological Services may also monitor the on-site works intermittently.

8. HEALTH AND SAFETY

- 8.1 Dyfed Archaeological Services will carry out a health and safety risk assessment to ensure that all potential risks are minimised.
- 8.2 All relevant health and safety regulations must be followed, including compliance with Welsh Government guidelines on working practices and guidance issued by CIfA.
- 8.3 All site inductions, H&S procedures, H&S constraints and site rules of the client or any on-site contractor will be made known to Dyfed Archaeological Services staff at the start of the works.
- 8.4 Safety helmets, high visibility vests and boots are to be used by all site personnel as necessary.
- 8.5 Working with machinery: Dyfed Archaeological Services staff must ensure that their presence on site is communicated to all relevant site staff, especially the machine operator. The archaeologist observing the machine will establish a safe working procedure with the machine operator at the start of work. This will also include discussing the methodology for safe working, ensuring that no machining is done without an archaeologist being present.
- 8.6 The site staff will go through the risk assessment prior to the works commencing and all site staff must sign the document to confirm that they have read, understood and will comply with the document.

9 ARBITRATION

- 9.1 Any dispute or disagreement arising out of a contract in relation to this work shall be referred for a decision to the Chartered Institute of Archaeologist's arbitration scheme.

APPENDIX II:

DATA MANAGEMENT PLAN

This Data Management Plan (DMP) is produced in accordance with the *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (Chartered Institute for Archaeologists 2014, updated 2020)*. The table below is based on the Work Digital / Think Archive guidance for digital archives prepared by DigVentures, on behalf of Archaeological Archives Forum and in partnership with the Chartered Institute for Archaeologists. The project was funded by Historic England (Project No. 7796).

Section 1: Project Administration

Project Ref. No and name
FS23-078 Dolaucothi Gold Mine, Carmarthenshire
PRN (if known)
130785
Project Type
Archaeological monitoring and recording.
Client
National Trust
Project Manager / Data Contact
Fran Murphy MCIfA
Principal Archaeologist on site
Luke Jenkins
Date DMP created
10/04/2024
Date DMP last updated
10/04/2024
Related data management policies
Written Scheme of Investigation Chartered Institute for Archaeologists (CIfA) <i>Standards & Guidance</i> Heneb-Dyfed Archaeology, 2018, archive retention policy Brown 2011, Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation NPAAW, 2017, The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017 RCAHMW, 2015, RCAHMW guidelines for Digital Archives, Version 1 WAT, 2018, Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)

Section 2: Data Collection

Data Type (Delete as appropriate)
Documents Written Scheme of Investigation, Risk Assessment – Word doc & PDFs Context sheets, site registers, site notes - paper copies, scanned and saved as PDFs. Site plans – permatrace, scanned and saved as PDFs. Final report – Word doc & PDF Illustrations – Adobe Illustrator/Affinity Designer files, PDFs Specialist assessments (Finds, Environmental etc) – Word doc, PDF, Excel Spreadsheet
Images Site photographs – Jpeg & Tiff (for archive)

Other collected data (scans, archive material, social media images etc) – Jpegs
Survey In house surveys - .dxf files, GIS files (see below) External surveys – Dependent on external contractor, eg .dxf, .dwg, .rwv etc
GIS Mapinfo files, Esri Shapefiles.

Data acquisition
All data will be collected as per the methodologies and guidance stated in the WSI (Fieldwork / Methodology).

Section 3: Documentation and metadata

Documentation and metadata accompanying the data
All data recovered will be archived in accordance with the guidance stated in the WSI (Post Fieldwork Reporting & Archiving)

Section 4: Ethics and legal compliance

Management of any ethical, copyright and Intellectual Property Rights (IPR) issues
All personal data collected during the course of the project will be handled in accordance with Heneb-Dyfed Archaeology's <i>Personal Data Protection Policy</i> (2018, revised 2020) and current <i>Code of Practice</i> . Licence agreements will be established, and Copyright permissions will be sought as appropriate (eg reproduced mapping extracts, archive material, specialist reports) prior to the submission of the data and/or inclusion in the publication of the project results.

Section 5: Data Security: Storage and Backup

Data storage, accessibility, and safety during research
All site-produced data will be stored digitally at the first available opportunity. All digital information is stored on the Heneb-Dyfed Archaeology server, accessible by members of the staff. This will be checked regularly by the Project Manager. All digital data on the server is backed-up at regular intervals. The server contains ample capacity for all anticipated site data, and appropriate protocols are in place to manage any potential digital malfunction or cyber attack.

Section 6: Selection and Preservation

Data retention, sharing, and preservation
Data will be retained as per Heneb-Dyfed Archaeology's <i>Archive Retention Policy</i> (2018).
Long-term preservation plan for the dataset
The digital archive relating to the project will be deposited with the NMR, held and maintained by the RCAHMW, Aberystwyth and will be created in accordance with their practices. The final report will be submitted to the regional Historic Environment Record in PDF format, along with any additional information they require. If a different digital repository to the NMR is used, their own procedures will be established at the outset of a project and followed. If a project includes artefacts to be deposited at a museum, arrangements will be made prior to the commencement of the project, and a copy of the digital archive will be sent with the artefacts. Archiving costs are included within the project budget.

Section 7: Data Sharing

Sharing and accessibility
The dissemination of data is detailed in the WSI (Post-Fieldwork Report and Archiving).

Section 8: Responsibilities

Responsibilities
Data collection, storage and manipulation will be carried out by the site team. The Project Manager will be responsible for the implementation of the data management plan.