

CAMBRIAN ARCHAEOLOGICAL PROJECTS LTD.

# Genwen Quarry, Bynea, Carmarthenshire

Archaeological Watching Brief



By  
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CAP Report No.251

**ARCHAEOLOGICAL WATCHING BRIEF**

**Genwen Quarry, Bynea,  
Carmarthenshire.**

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## Non Technical Summary

*This following report details the results of a watching brief undertaken at Genwen Quarry, Bynea, near Llanelli Carmarthenshire by Cambrian Archaeological Projects Ltd (CAP) on behalf of Wardell Armstrong, Cardiff. The work was required as part of a scheme for the regeneration of the disused Genwen Quarry at Bynea including the restoration of the currently ruined engine house, which is designated as a scheduled monument. The results of the watching brief briefly examined the engine house for details informing on its structural development that was concealed by a dense cover of vegetation. During ground disturbances related to the uncovering of suspected mine shafts, several remains of former structures and features were examined that were associated with the operation of the colliery. These features were related to two brick vaults that may contain the mineshafts, a series of walls associated with either the railway or retaining walls associated with entry to the mineshafts. The blocked entrance to a mine/adit constructed of stone was also uncovered to the west of the engine house, this entrance was located at a depth of some 4.60m below present ground surface.*

## 1 Introduction

### 1.1 Location and scope of work

- 1.1.1 In March 2003 Cambrian Archaeological Projects (CAP) carried out an archaeological watching brief on the proposed redevelopment site at Genwen Quarry, Bynea, Carmarthenshire SS54579957 (Fig 1) for Wardell Armstrong.
- 1.1.2 The regeneration scheme of the disused Quarry is for amenity use. The proposals for the site include the restoration of the currently ruined engine house, including the replacement of the roof and stabilisation works (AI No: CM263A). It was expected that engineering, site investigation and landscaping works would reveal structures and related features.

### 1.2 Geology and topography

- 1.2.1 Genwen Quarry lies in the north-eastern slope surrounded by the village of Bynea, overlooking the Burry inlet. The site of the proposed regeneration is located to the north of the village centre on the north side of the B4297 (Fig 2). The site is situated within a disused quarry (Area C) covering approximately 4 hectares. The quarry, which slopes gently away to the south, is bounded by properties to the south, east and to the north.
- 1.2.2 The underlying solid geology of the quarry comprises Grovesend sandstone situated in the northern zone of the quarry and Penyscallen coal under the engine house area.

### **1.3 Archaeological and historical background**

- 1.3.1 Coal mining at Genwen commenced around 1766 with the colliery founded by Londoner Chauncey Townsend. Coal production was inconsistent possibly due to Townsend's financial limits or concern for his other industrial enterprises. The colliery expanded under General Warde, who built the existing beam engine house in 1805-6 to house a 52 inch cylinder engine made by Boulton and Watt to drain mines in the vicinity. The engine house was altered in 1837 when a larger engine was installed. However, it was to close between 1867 and 1898, the pit was later re-opened and continued in use until 1908, eventually closing probably in 1925. An adit opened in the 1830's lies to the west of the engine house.
- 1.3.2 The quarry at Bynea was established around 1837 and although the date of its closure is uncertain, it is known that small-scale coal working from levels around the quarry occurred after the closure of Genwen Colliery. There is no evidence that these industries at Genwen directly stimulated the growth of the surrounding communities, however the site was consistently viewed as a leading hope to represent and spark the industrial advancement of Llanelli.
- 1.3.3 Genwen Engine House is a rare example of its type and has been modified over time in response to technological developments in steam engines. The building is enhanced by an extensive archive of relevant contemporary documents, allowing better understanding of the history of the site. Records made by CADW and the RCAHMW reconstruct the operational engine house with the pump on the northern side of the building, with a winding shaft to the west and possible other structures in the area. Other than these basic surveys, no archaeological research appears to have been carried out at the site.

## **2 Aims and Objectives**

### **2.1 Field Evaluation**

- 2.1.1 The watching brief is intended to have two broad aims, firstly to prevent damage to archaeological remains and secondly to obtain information on buried features in the immediate vicinity of the engine house. The specific objectives of the exercise may be set out as follows:
- 2.1.2 To ensure that no damage to the derelict engine house is caused during dense vegetation removal and subsequent burning of removed material;
- 2.1.3 To examine parts of the engine house presently concealed by vegetation for details informing on its structural development;
- 2.1.4 To inspect the ground surface as clearance progresses for remains of former structures or features associated with the operation of the colliery and quarry;

- 2.1.5 To assess the archaeological importance and potential interpretative value of any such remains;
- 2.1.6 To ensure the preservation or recording of any such remains as appropriate;
- 2.1.7 To ensure the retaining and safe storage of materials such as fallen masonry, that could be reused in the restoration of the engine house.

### 3 Evaluation Methodology

#### 3.1 Scope of Fieldwork

- 3.1.1 The evaluation consisted of four machine-excavated trenches (Fig 3) that were excavated to locate the position of mine shafts. Trench 1 was 7.60m long and 8.50m in width. Trench 2 was 'T' shaped measuring 9 m northwards and 5.20 m east west. Trench 3 was 7.30m long and 3.50m in width. Trench 4 was 3.90m in width and 2.25m in length. A mechanical excavator fitted with a toothless bucket removed the overburden and deposits/fills under close archaeological supervision.
- 3.1.2 Site director Kevin Trott undertook the watching brief under the overall direction of Kevin Blockley (MIFA). Trenches 1-3 were recorded as excavated and quickly cleaned by hand when possible. Trench 4 was too deep to enter and recorded from the top of the sections, sample sections were recorded and drawn at a scale of 1:50. All trenches were photographed using colour slide, black and white print film and digital photography.
- 3.1.3 All works were undertaken in accordance with both the IFA's *Standards and Guidance: for an archaeological desk-based assessment and archaeological evaluation* and current Health and Safety legislation.

#### 3.2 Finds

- 3.2.1 There were no finds recovered during the watching brief except for two iron coal truck rails that were recovered from the base of Trench 4.

### 4 Watching Brief Results

#### 4.1 Soils and ground conditions

- 4.1.1 Generally the site and weather conditions were good with constant sun and warm temperatures. The ground surface remained dry throughout the watching brief, as each trench was machined the ground became wetter, it was noted that the base of Trench 4 started to become waterlogged.

#### 4.2 Distribution of deposits



- 4.2.1 The topsoil and subsoil layers were consistently present in all four trenches although their thickness did vary slightly. At no time during the excavation of the four trenches did the underlying geology appear.

#### 4.3 Descriptions

##### *Trench 1 (Figs 3&4)*

- 4.3.1 The topsoil (101) was removed revealing a stone edged wall enclosing a brick arch (blocked) and brick built vault (102) situated at the western end of the trench. The top of five stone walls were recorded on the alignment, north south (103), east west (104) & (105). A further east west stone wall (106) was situated to the north end of this trench. Two stone walls (105) and (106) abutted the robbed-out eastern dressed stone wall (107) of a structure that lies part standing to the west of the excavated area. The deposits encountered between structure (102) and (103) consisted of a series of thick infill deposits of shale and clay. Deposit (109) consisted of a black friable shale. This overlay a decayed coal and shale deposit (110) that in turn sealed a yellow mottled sandy clay (111). At the level of a concrete offset a thick layer of re-deposited yellow clay was recorded. The deposits recorded to the east of wall (103) consisted of three dumped clay in-fills, Deposit (113) consisted of a mottled yellow and light blue clay that sealed a yellow sandy clay that contained fragmented shale, this in turn sealed a yellow clay that contained brick fragments. The section recorded to the north of wall (104) consisted of a rotational dump or tipping deposits of yellow clay (113) and shale (114). This subsequent section was capped with mottled yellow clay.

##### 4.3.2 *Trench 2 (Figs 3&4)*

- 4.3.3 The removal of the topsoil (201) in this 'T' shaped trench revealed a substantial brick vault (202). This vault abutted the north side of the engine house (where a concrete blocking pad was in evidence) and extended northward (4.50m) towards a stone wall (203). This wall was clearly constructed to block the northern end of the brick vault (202). A small trench was excavated to the west of the vault to establish if wall (103) terminated, it was discovered that the angle of the western portion of the brick vault may relate to a blocked door situated to the west of the engine house (402). The final feature to be uncovered within Trench 2 was an east west aligned stone constructed wall (204) that abutted wall (203), it was not possible to ascertain the function of this feature.

##### *Trench 3 (Figs 3&4)*

- 4.3.4 This trench was located to the south of the engine house to identify an entrance to a mineshaft. The removal of topsoil (301) revealed the stone and brick constructed wall that concealed a brick built arch (302). A deposit of dark sandy clay containing concrete and bricks (303) was encountered in the eastern part of the trench. This overlaid a thick deposit of shale and coal (304) that in turn sealed a thin layer of ash (305). Below this a yellow clay (306) encompassed a series of stone constructed walls aligned north south

(308) & (309). Wall (308) abutted a concrete constructed gully (310) that was capped with stone, this gully was observed continuing westwards under (302). To the north of this feature a further east west aligned stone wall was partly exposed (311), the western end of this wall abutted the northern brick arch springer of (302).

#### *Trench 4 (Fig 3)*

- 4.3.5 Trench 4 was located in the north west part of the site abutting the Western Wall (401) that was keyed into the Western Wall of the engine house. The exposed wall constructed of stone displayed a blocked arched door measuring 1m wide and 1.20m from the base to apex of the arch (402), as mentioned before this door may have lead into the brick vault of (202). At a depth of 1m below the lower door sill the top of a dressed stone arch was uncovered (403) the excavation of this feature revealed it was the probable entrance to the adit. The base of the blocked entrance was recorded at 3.20m below present ground level; it was at this level that the two fragments of iron railway line were recovered. The infill deposits abutting the blocked adit entrance consisted of a topsoil (407) that sealed a blue sticky clay (404) that in turns sealed a yellow clay (405). At the base of these deposits a black shale and coal deposit was recorded (406).

#### *Engine House*

- 4.3.6 The removal of a dense cover of ivy surrounding the engine house was monitored to prevent any further degradation of the surviving structure. The roof had in recent years (1999) survived with its slate covering, approximately a few months ago the roof had collapsed inwardly and had caused minor damage to the inside of the lower south side window. A few roof battens and loose slates remained on the southern gable and were subsequently removed for safe storage.
- 4.3.7 The removal of vegetation exposed the true condition of the surviving structure; it was noted that the eastern side had suffered significant damage around a stone blocked southern window and around the northern robbed window and door apertures. Situated at the central-top eastern side, a brick blocked window was also uncovered. Two further windows were exposed on the southern facing side. A stone blocked window situated to the eastern end probably relating to the earliest phase of the engine house construction. A further brick blocked window was exposed within the central portion of the southern gable of the south side. Both the brick blocked windows on the east and south-facing sides may relate to the later phase of the engine house development. No further features were revealed under the dense cover of vegetation.

## **5 Finds**

- 5.1.1 Two iron rails were recovered from the base of Trench 4. No further finds were recovered. It was noted that the topsoil layers did produce fragments of glass bottles and Staffordshire Transfer Printed wares alongside discarded iron and ceramic building material.

## **6 Discussion And Interpretation**

### **6.1 Reliability of field investigation**

- 6.1.1 The watching brief uncovered several stone and brick blocked windows on the east and south sides of the engine house during the removal of the dense cover of ivy. A future detailed survey of this building will deal with the structural development of this engine house. During the vegetation removal no damage was sustained and timbers and slate associated with the roof were safely removed and stored inside the shell of the engine house for future use.
- 6.1.2 The overall findings of the watching brief excavation revealed a series of stone and brick built features associated with the operational workings of the colliery and its subsequent abandonment. The excavation to the north of the engine house (Trench 2) was implemented to locate the site of a mineshaft. The discovery of a substantial brick constructed vault situated under the site of the wooden beam would suggest that the vault conceal the exact workings associated with the mineshaft entrance. The stone wall blocking the northern entrance suggests that this may relate with the southern concrete area and sealing of the western door to the phase of activity when the mine was abandoned.
- 6.1.3 The siting of Trench 1 exposed a brick built vault and stone blocked entrance; this was associated with a series of walls that may have two functions. The 1891-1939 maps display the terminal ending of railway lines in this area. It is possible that these walls are associated with the railway or ground stabilisation to allow access to the mineshaft that could lie under the blocked brick vault structure.
- 6.1.4 Trench 3 was also excavated to locate a mine entrance, this excavation revealed a series of robbed walls and a crude built brick arch aligned east west. No mine entrance was located in this trench, other than structures relating to the phase of the colliery workings.
- 6.1.5 Trench 4 exposed two levels of colliery workings. The door to the northern brick vault and the entrance to the adit . It was not possible to extend the trench to ascertain the relationship between these features and the standing engine house. If the base of the adit was ground level then the engine house could have two buried stories! At some point after 1924 there was a huge movement of ground levelling and landscaping in and around the engine house.

### **6.2 Significance**

- 6.2.1 The watching brief revealed that the proposed development site is likely to be archaeologically rich with anticipated consequences resulting from further impact of any ground development works.

## **7 Acknowledgements**

**7.1.1 Thanks to; Kevin Blockley for his help and advice during the compilation of this report.**

**7.1.2 Also thanks to; Jenny Emmett and Richard Smyth at Wardell Armstrong, and Johnathan Hellard and Gwyfor Phillips for on site assistance.**

**ARCHIVE COVER SHEET****RCAMMW**

|  |  |
|--|--|
| <b>Site Name:</b>                      | <b>Genwen Quarry, Bynea, Carmarthenshire</b> |
| <b>Site Code:</b>                      | <b>GQB/03/WB</b>                             |
| <b>PRN:</b>                            | <b>94443</b>                                 |
| <b>NPRN :</b>                          | <b>N/A</b>                                   |
| <b>SAM:</b>                            | <b>CM263A</b>                                |
| <b>Other Ref No:</b>                   | <b>CAP 251</b>                               |
| <b>NGR:</b>                            | <b>SS54579957</b>                            |
| <b>Site Type:</b>                      | <b>Post Medieval</b>                         |
| <b>Project Type:</b>                   | <b>Watching Brief</b>                        |
| <b>Project Officer:</b>                | <b>Kevin Trott</b>                           |
| <b>Project Dates:</b>                  | <b>March 2003</b>                            |
| <b>Categories Present:</b>             | <b>N/A</b>                                   |
| <b>Location of Original Archive:</b>   | <b>RCAHMW</b>                                |
| <b>Location of duplicate Archives:</b> | <b>N/A</b>                                   |
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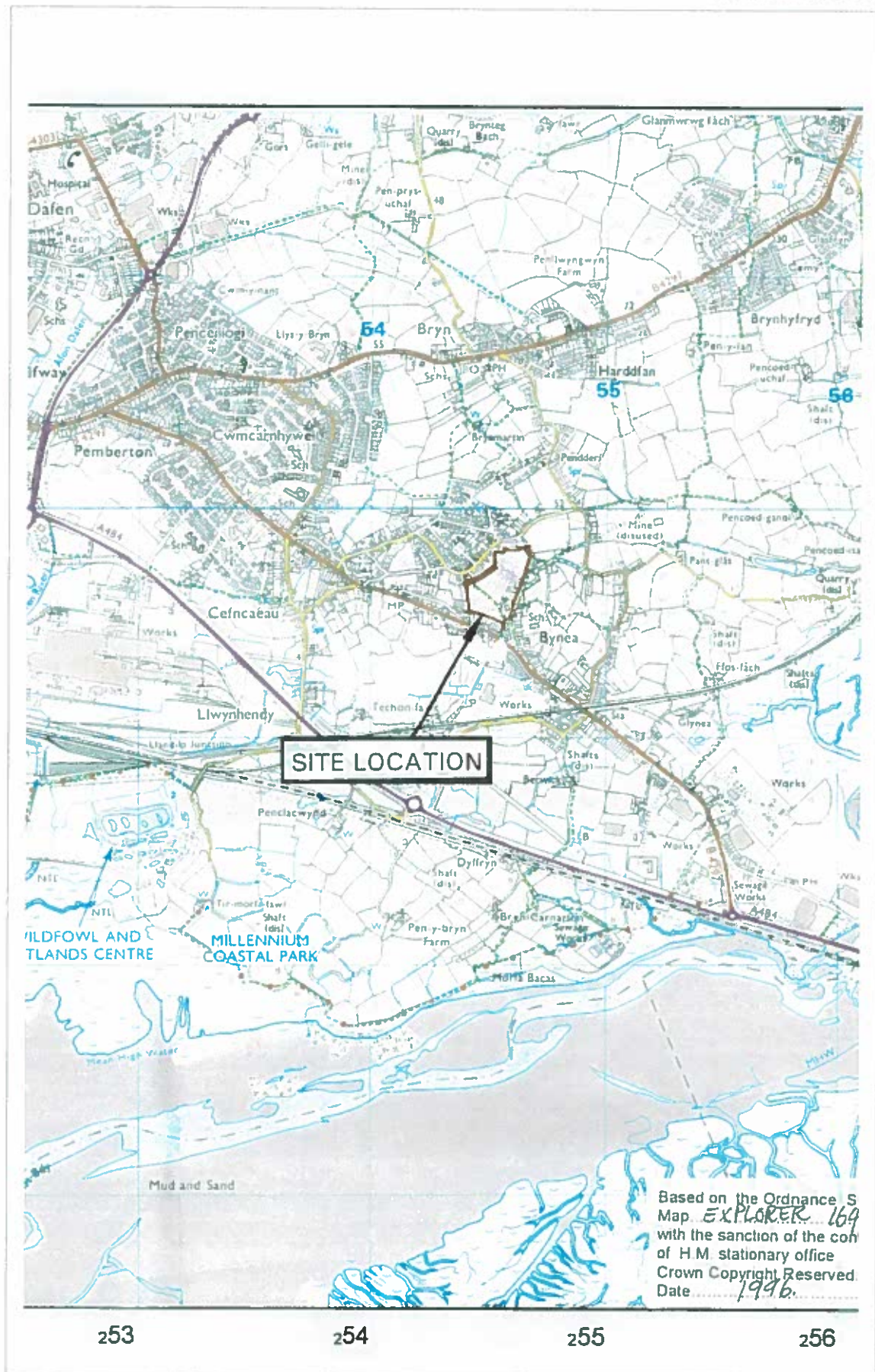


Fig 1: General Location Map



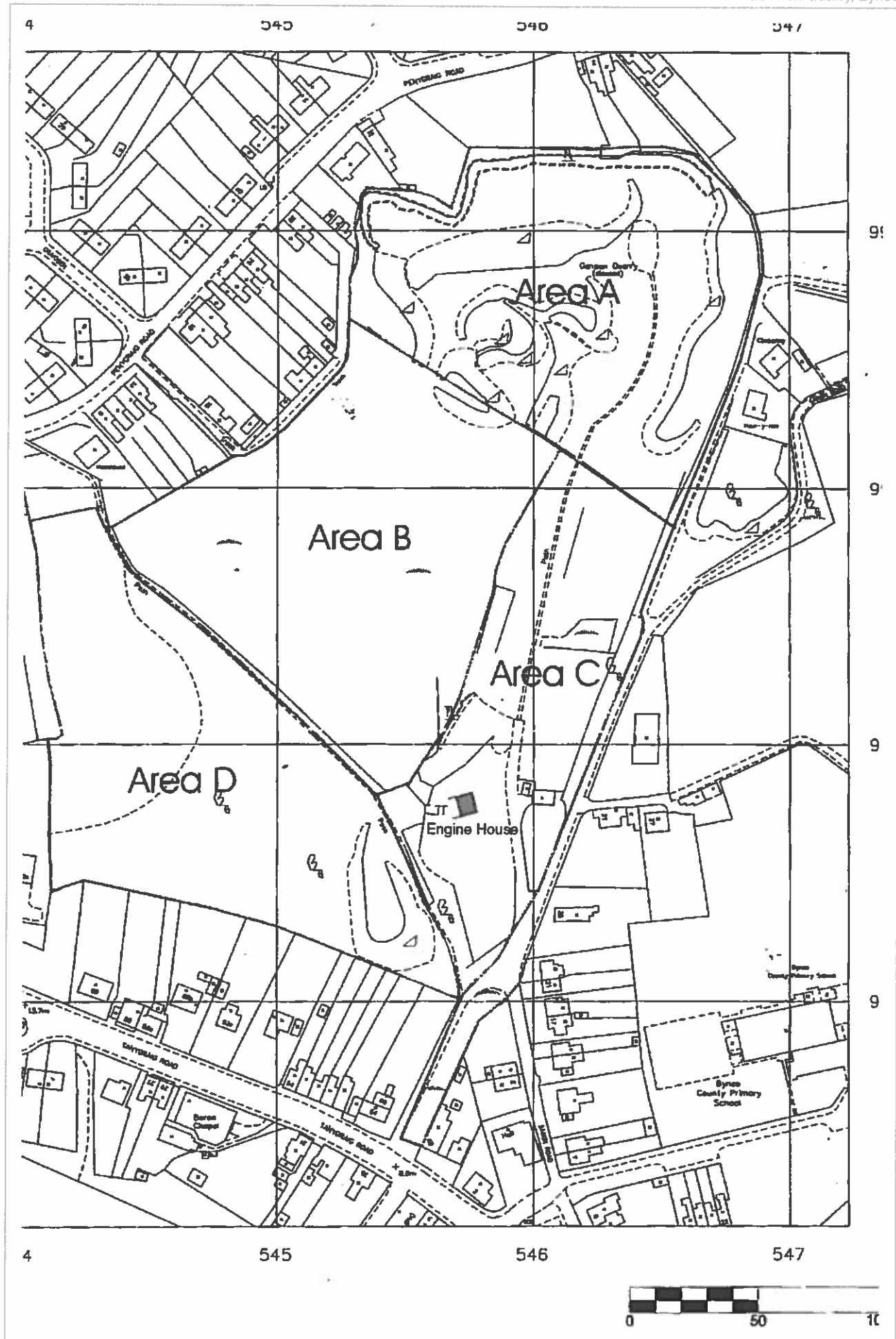
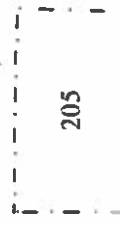


Fig 2: Detailed location map



**Fig 3: Detailed Plan Showing Walcling Brief Area With Features.**

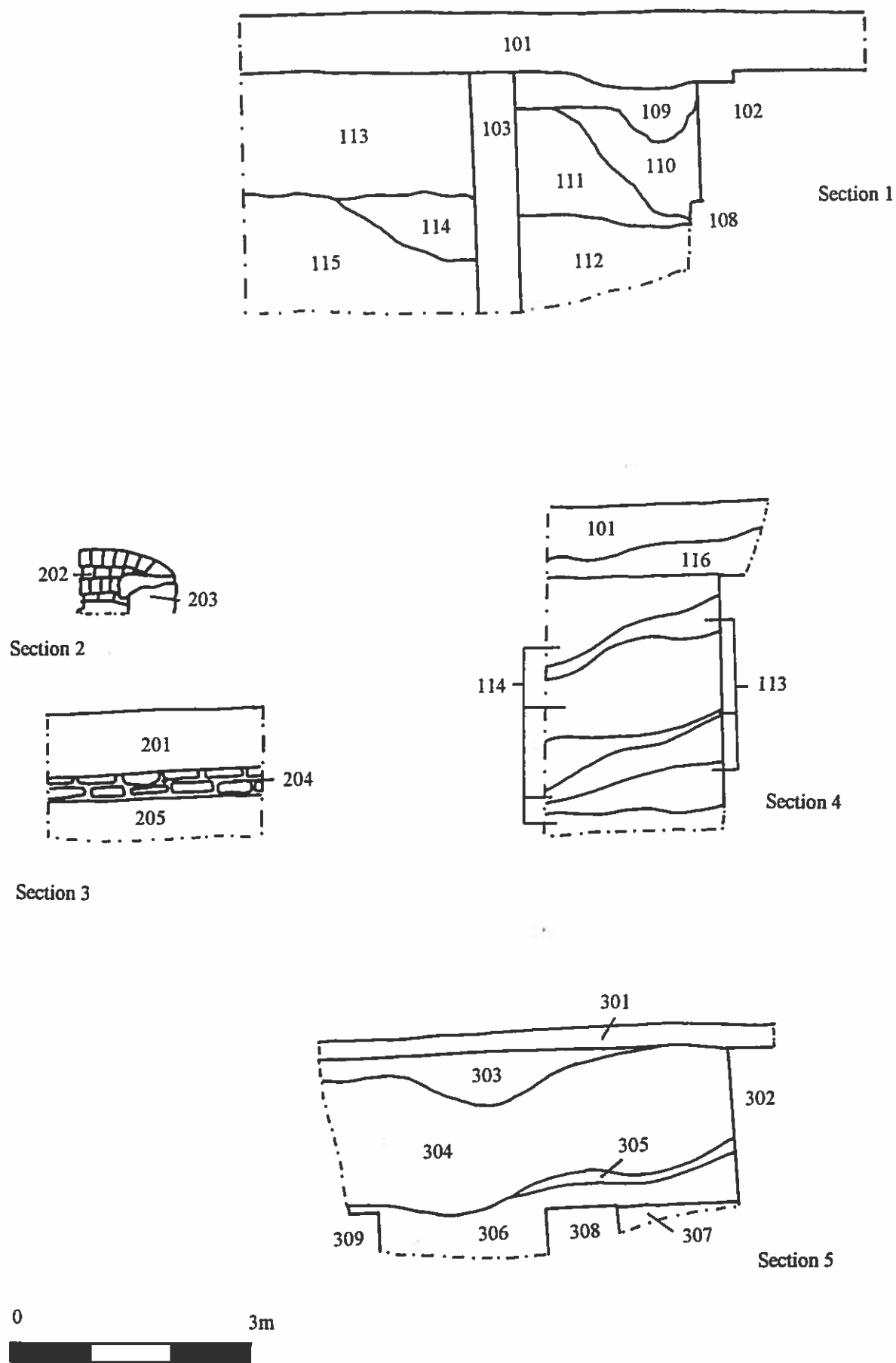
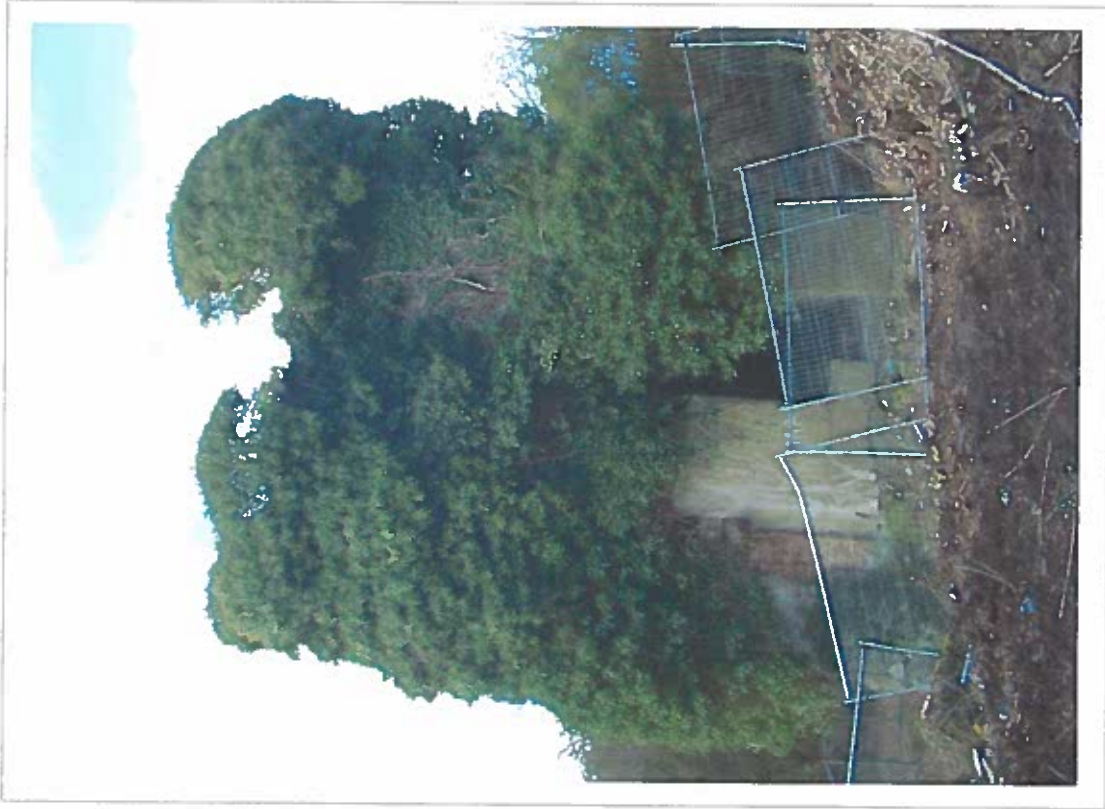


Fig 4: Trenches 1, 2 & 3 North Facing Sections



**Plate 1: East Facing Side**



**Plate 2: North Facing Side**





**Plate 3: South and West Facing Side**



**Plate 4: West Facing Side**





**Plate 5: West Facing Side**



**Plate 6: South Facing Side**





**Plate 7: East Facing Side**



**Plate 8: North Facing Side**



**Plate 9:** Trench 1 detailing brick vault [102], scale 1m, looking west



**Plate 10:** Trench 2 detailing brick vault [202] and wall [204], scale 1m, looking south. CAP Report No. 251





**Plate 11:** Trench 3 detailing brick arch [302], scale 1m, looking west.



**Plate 12:** Trench 4 detailing the blocked mine adit [406], scale 1m, looking North.