



# QUARRY WAREHOUSE, DALLAM TOWER ESTATE, SANDSIDE,

CUMBRIA

## Archaeological Building Investigation



**Oxford Archaeology North**

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**Dallam Tower Estate**

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OA North Job No: L10256

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SANDSIDE, CUMBRIA

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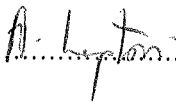
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**Position:** Senior Project Manager  
**Date:** September 2010

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## SUMMARY

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The Dallam Tower Estate were granted planning permission by the South Lakes District Council (SLDC) for the refurbishment and conversion of the property known as Quarry Warehouse, Sandside, Cumbria (SD 48054 80842). The Cumbria County Historic Environment Service (CCHES) advised that a condition be imposed for a programme of archaeological investigation to take place prior to redevelopment. A verbal brief was issued, and, due to the condition of the building, an external only English Heritage Level-II investigation was recommended. Oxford Archaeology North (OA North) was commissioned to carry out the work, which was duly undertaken in June 2010.

The Quarry Warehouse is located approximately 2km to the south-west of the village of Milnthorpe, immediately to the north of Sandside Quarry. It stands to the west of a disused double limekiln, and to the immediate south of a dismantled railway line.

The gable-end stone-built building is rectangular in plan, and set into the hillside, making it three storeys to the front elevation and only two to the rear. The earliest documentary evidence for the warehouse suggests it had origins in at least the late eighteenth century. The building has retained its plan since first appearing on the Haverbrack tithe map of 1839. At this time the warehouse had a wharf, suggesting it was being used to store goods being moved by either river or sea, at least until the construction of the Furness Railway in 1876.

The building investigation serves as a full record of the warehouse and no further work, other than a photographic survey of the interior, is recommended.

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## ACKNOWLEDGEMENTS

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Oxford Archaeology North would like to thank the Dallam Tower Estate for commissioning the project and providing photographs, and to JB Birch Architects for providing the plans and elevations of the building. Thanks are also due to the staff of the Cumbria Record Office, Kendal, for their assistance with this project.

Liz Murray undertook the building investigation fieldwork, and also compiled the report. Mark Tidmarsh produced the illustrations. Alison Plummer managed the project, and also edited the report.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Following the application for planning permission for the conversion of the Dallam Tower Estate Quarry Warehouse, a planning condition was imposed by the SLDC specifying a programme of archaeological building investigation should be undertaken prior to demolition. Cumbria County Historic Environment Service (CCHES) issued a verbal brief for an external English Heritage Level-II Building Investigation and Oxford Archaeology North (OA North) was duly commissioned to carry out the work, which was undertaken in June 2010. The survey was restricted to the external elevations due to the unsafe nature of the building.
- 1.1.2 This report sets out the results of the building investigation in the form of a short document.

### 1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 1.2.1 The Dallam Tower Estate Quarry Warehouse is located approximately 2km to the south-west of Milnthorpe, in the small settlement of Sandside overlooking Morecambe Bay (SD 48054 80842; Fig 1) and adjacent to the east shore of the River Kent. The warehouse lies immediately next to Quarry Lane and stands just to the north of Sandside Quarry, still an active concern. Adjacent to the warehouse is a disused railway and a limekiln lies close by.
- 1.2.2 The distinctive landscape of the area was determined largely by outcrops of Lower Carboniferous Limestone dating from 345 and 280 million years ago (British Geological Survey 2007). Overlying the solid geology are drift deposits of glacial material. Glacial deposits, mainly boulder clay (till), constitute most of the valleys separating the limestone hills. In post-glacial times the area experienced a series of sea-level changes (Hodgkinson *et al* 2000). The soils of the Milnthorpe area are of the Denbigh 1 Series, are typical brown earths (Soil Survey of England and Wales 1983) and characteristically form good agricultural land.

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## 2. METHODOLOGY

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### 2.1 PROJECT BRIEF

- 2.1.1 The verbal brief issued by the CCHES Planning Archaeologist took into consideration the advanced state of disrepair, and unsafe nature of the warehouse and an external record was recommended. At the time of the building investigation the exterior had been surrounded on three sides by scaffolding rising from the ground to the eaves.
- 2.1.2 The work was consistent with the relevant standards and procedures of the Institute of Archaeologists (IfA) and English Heritage 2006, and generally accepted best practice.

### 2.2 BUILDING INVESTIGATION

- 2.2.1 **Historic Research:** the main aim of the rapid research was to place the warehouse into its historical context, and to provide an overview of its development. The principal sources of information consulted were historical and modern maps, although published and unpublished secondary sources were also reviewed where available.
- 2.2.2 **Cumbria County Record Office, Kendal (CRO):** the County Record Office in Kendal was visited, primarily to consult documents specific to the study area. Historic maps, including any tithe maps and Ordnance Survey (OS) maps, were also examined. A search was made for any relevant historical documentation drawing on the knowledge of the archivists.
- 2.2.3 **Descriptive Record:** written records using OA North *pro forma* record sheets were made of all principal building elements, the majority being external, although internal details were recorded where possible, as well as any features of historical or architectural significance. Particular attention was also paid to the relationship between parts of the building, especially those that would show its development and any alterations. These records are essentially descriptive, although interpretation is carried out on site as required.
- 2.2.4 **Site drawings:** architects plans were annotated in order to show the form and location of structural features and/or features of historical interest. Where necessary, these drawings were enhanced using hand-survey techniques. The hand-annotated field drawings were digitised using an industry standard CAD package to produce the final drawings.
- 2.2.5 **Photographic Archive:** photographs were taken in both black and white, and colour print 35mm formats. The photographic archive comprises both general shots of the building and shots of specific architectural details. A digital archive was also produced for the purposes of illustrating the report. As the warehouse was surrounded on three sides with scaffolding, digital photos taken by the Dallam Tower Estate Secretary have been included in the archive, as agreed previously with the Planning Archaeologist at CCHES.

2.2.6 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). OA North practice is to deposit the original record archive of projects with the appropriate County Record Office (Kendal). The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.



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## 3. HISTORIC RESEARCH

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### 3.1 INTRODUCTION

3.1.1 The following section outlines the historical background and development of the warehouse. This is followed by a map regression analysis.

### 3.2 HISTORICAL BACKGROUND

3.2.1 The earliest reference to the warehouse is in a document from 1778 in the form of a lease for 99 years from Daniel Wilson to John Wakefield of Kendal, a shearmandyer (WD/D/Ha 18). The document is for the lease of a warehouse at Sandside for '£5 15s and 10d yearly'. John Wakefield was listed in Bailey's Northern Directory (1781, 215) as a merchant and manufacturer, and again in 1790 'Wakefield, John and Sons' were still listed as merchants in Milnthorpe (The Universal British Dictionary 1790, 476).

3.2.2 The next reference to the warehouse comes in a lease and release dated March 4th, 1820, and refers to a 'tenement barn or warehouse lying and being at or near Sandside'. According to the lease Robert Foxcroft appears to have bought the warehouse at a cost of £110 and an annual rent of 5s. A number of documents regarding this particular change in occupier exist, however, an earlier document dated 1805 states that the executors of Richard Towers' will, sold the warehouse at auction to Robert Foxcroft for £102 (WD/D/Ha 22), some fifteen years earlier.

3.2.3 By 1836 ownership had changed again and George Wilson leases the warehouse to John Gibson of Gray's Inn. The lease makes note of a building 'used as a warehouse situate at Sandside aforesaid formerly the estate of Robert Foxcroft and now in the tenure or occupation of Walter Berry or his undertenants'. Presumably, George Wilson was an undertenant of Walter Berry (WD/D/D1/3). The Pigot & Co's Trade Directory (1824, 652) lists Walter Berry as a daily carrier of goods from Kendal to Milnthorpe. According to his own ledger records, Walter Berry is a carrier/dealer in salt, fire and common bricks, Milnthorpe (WDB/1/5-6). He carries everything from oil to liquor to sugar to bricks, and also made money from leasing out horses, carts and boys to work. He appears to pay for much of his yearly rent by carrying out work for George Wilson.

### 3.3 MAP REGRESSION ANALYSIS

3.3.1 *Haverbrack Tithe Map 1839*: the tithe map is the earliest available cartographic evidence illustrating the warehouse (Fig 2), and it is shown as a rectangular building marked as warehouse, just adjacent to the shoreline of the River Kent, with the high tide line also marked. The tithe apportionment states that the building is a warehouse and wharf owned by George Wilson Esq, of Dallam Tower. John Jackson and others, who also occupied three local cottages, the limekiln and associated shed, and part of a nearby orchard, occupy it. Together with the evidence from the 1836 lease (*Section 3.2.3*), the

detail from the tithe apportionment suggests that there were several under tenants of the warehouse.

- 3.3.2 **Ordnance Survey, First Edition, 25" to 1 mile, 1859:** this shows little change, and provides less detail than the 1839 Tithe map (Fig 3). It is interesting to note the presence of 'Ferry Cottage' to the north-east of the warehouse, which provides further evidence for the use of the river as a transport route.
- 3.3.3 **Ordnance Survey, Second Edition, 25" to 1 mile, 1898:** the landscape has changed quite considerably by 1898. A programme of land reclamation has facilitated the construction of a railway line and possibly station to the west of the warehouse (Fig 4). The Arnside to Hincaster line of the Furness Railway was opened in 1876 (<http://cumbrianrailwayassociation.org.uk>). A branch line of this appears to service the warehouse, or at least passes directly in front of the building en-route to Sandside quarry. The limekiln to the east now has two working kilns.
- 3.3.4 **Ordnance Survey, Third Edition, 25" to 1 mile, 1914:** the warehouse retains its original shape, but several small buildings appear to the north-east, presumably relating to the processing and extraction of lime. A goods shed has also been constructed and the adjacent building is labelled as station.

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## 4. BUILDING INVESTIGATION RESULTS

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### 4.1 INTRODUCTION

4.1.1 The subject of the building investigation is a warehouse belonging to the Dallam Tower Estate, and this is located just to the south-west of Milnthorpe, near the village of Sandside. At the point that the building investigation was undertaken, the warehouse was surrounded on three sides by scaffolding, which extended from the floor to the eaves (Plate 3). The only elevation left exposed was heavily obscured by vegetation. The building is currently in a state of disrepair with no internal access possible.

### 4.2 GENERAL DESCRIPTION AND LAYOUT

4.2.1 The warehouse is built into the hillside, consequently, it has three storeys to the front elevation and two storeys to the rear (Fig 6; Plate 1). It is located to the west of Sandside quarry, and is adjacent to Sandside double limekiln (Plate 2), and a disused railway line. A high limestone wall skirts the back of the building, and the front faces into the River Kent.

4.2.2 **Fabric:** the main fabric of the structure is uncoursed rubble limestone bonded with lime mortar, with large alternating quoins to the corners. The walls have been heavily pointed obscuring much of the stonework. More recent alterations and repairs were undertaken using refractory brick.

4.2.3 The roof is of gable construction, although the rear pitch is a modern corrugated sheeting replacement due to the collapse of the previous pitch. The front pitch of the roof is constructed from head-nailed, rough-cut Lake District slate.

### 4.3 EXTERNAL DETAILS

4.3.1 **Principal Elevation (north-west):** the front elevation (Fig 6) of the warehouse faces immediately on to Quarry Lane (Plate 4). At ground floor level at the left hand side of the building is a goods doorway under a limestone-constructed segmental arch. The sill is constructed from refractory brick and is not original. To the right of the elevation is a window with brick voussoirs. The window appears to be set within a blocked doorway, also beneath a large stone segmental arch, and mirroring that to the left. To the first floor is a centrally placed loading doorway with the same arch as those seen below but with a deep limestone sill. To the right of this is a window heavily covered in vegetation. The second floor has the central loading doorway as the floor below, but this has been adapted to house a window, with the lintel lying in the eaves. A further window is located each side of this former doorway. A large timber has been utilised as a vertical wall tie-plate on the far left of the elevation.

4.3.2 **Gable end of warehouse (north-east):** there is a single buttress to the bottom right hand corner of this elevation, extending to the first floor (Fig 7; Plate 7).

This almost certainly adds additional support to the wall, which may have been weakened by the goods doorway in the front elevation, and by its split-level construction. Three stringcourses of through-stones are present in the gable.

- 4.3.3 ***Gable end of warehouse (south-west):*** this elevation (Fig 7) has a single door under a large stone lintel to the bottom left corner (Plate 5). It is possibly a later addition to the building, as the area surrounding the door has been heavily re-pointed, and the door jambs are constructed from refractory brick. Although this elevation is quite heavily covered in vegetation, three rows of through stones are evident between the first floor and the eaves (Plate 6). The purlins of the replacement rear pitch of the roof can be observed under the right side of the eaves.
- 4.3.4 ***Rear elevation (south-east):*** the rear elevation (Fig 7) of the building is two storeys in height, with a wide centrally-placed goods doorway on each floor (Plate 8).

#### 4.4 INTERNAL DETAILS

- 4.4.1 Although the building investigation was intended to be an external survey only, the scaffold allowed a slightly more detailed internal survey than was previously intended. Although access to the interior was not possible, it was however, possible to view most of the internal arrangements of the building safely from a distance (Fig 8).
- 4.4.2 ***Ground floor plan:*** access to the ground floor would have been via both the single door in the south-west gable, and the large arched doorway to the front. The ground floor comprised at least two separate rooms. Currently, access is only possible from the gable door, which leads into a stable comprising two stalls, a hayrack, and a manger attached to the rear wall (Plate 9). Beyond this is a further room accessed more easily through the arched doorway on the front elevation. The function of this room is unclear as it was full of collapsed material from the floors above, and access was not possible, but the arched doorway certainly suggests access for a cart or small wagon.
- 4.4.3 ***First Floor plan:*** the first floor comprised one large open storage area, with a centrally-placed loading door to both the front and rear elevations, presumably to move goods in and out onto carts below.
- 4.4.4 ***Second floor plan:*** the second floor comprises one main room similar to the first floor, but with a timber partition in the front left-hand corner, which presumably functioned as an office. The loading door on the front elevation has been altered to function as a window, and a large workbench is located directly in front of it. A tall cupboard sits between the 'office' and the workbench (Plate 10).
- 4.4.5 The roof is supported by two through-purlin tie-beam trusses. There are three lapped and truncated purlins to the original pitch of the roof. The trusses are supported within the external wall construction. The timbers for the replacement roof pitch are all modern.

- 4.4.6 How, if at all, access was possible between floors is unclear. There are no obvious signs of a staircase, and the floors have too many voids within them to be sure if any were purposefully for access between floors. The more likely option is that access was via ladder, either internally or externally.

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## 5. DISCUSSION

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### 5.1 THE WAREHOUSE

5.1.1 The Quarry warehouse comprises a rectangular-shaped building, which as cartographic evidence would suggest, has changed little in plan. Although the original date of construction for the building is uncertain, documentary evidence suggests a date in the late eighteenth century, with the earliest mention of the building being from 1778.

### 5.2 PHASE 1

5.2.1 The earliest documentary reference for the building suggests it was in existence from as early as 1778 (WD/D/Ha 18). The warehouse had centrally placed wide doorways to the first and second floor for the loading and unloading of goods. The location of the adjacent wharf suggests that goods were being transported via either river or sea, as access to both is possible from this position on the River Kent

### 5.3 PHASE 2

5.3.1 This comprises small alterations to the building, mostly using refractory brick, including the blocking of doors and their subsequent replacement with windows. The warehouse was being used to store a range of goods including bricks, oil, liquor and sugar and Walter Berry (1836) was also leasing out horses and carts. The blocking of entrances and the alterations undertaken on a number of the loading doors suggests that at some point there was a move away from purely storage to workshop facilities.

### 5.4 CONCLUSION

5.4.1 The warehouse does not change in plan at any point during its lifespan. The building is always referred to as a warehouse and, as such, it is known to have stored a variety of goods. It is likely that at some point it was used to store lime produced at the nearby limekilns. Although very little can be said about the development of the warehouse, it is known that at some point between 1859 and 1876 it ceased to be served by vessels in the bay. It either became partly reliant on the branch line of the Furness railway for the movement of goods, or changed in function to a workshop.

5.4.2 Access to the warehouse was limited, particularly to the interior, so it is recommended that should the opportunity arise, a photographic survey of the interior of the building is undertaken.

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## 6. BIBLIOGRAPHY

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### 6.1 PRIMARY SOURCES

#### *Cartographic Sources*

1839 Haverbrack Tithe Map

1859 OS first edition 25" : 1 mile

1898 OS second edition 25" : 1 mile

1914 OS third edition 25" : 1 mile

#### *Kendal Record Office*

Bailey's Northern Directory (extracts) 1781

Pigot & Co's Directory, Cumberland and Westmorland 1834

The Universal British Dictionary, 1790

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## ILLUSTRATIONS

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Figure 1: Site Location

Figure 2: Extract from the Haverbrack Tithe Map, 1839

Figure 3: Extract from the Ordnance Survey, First Edition, 6" to 1 mile Map, 1859

Figure 4: Extract from the Ordnance Survey, Second Edition, 25" to 1 mile, 1898

Figure 5: Extract from the Ordnance Survey, Third Edition, 25" to 1 mile, 1914

Figure 6: Architect's Elevations of the former Quarry Warehouse

Figure 7: Floor plans of the former Quarry Warehouse

Figure 8: Cross-section through the former Quarry Warehouse

### 7.2 LIST OF PLATES

Plate 1: Dallam Estate Quarry Warehouse (Reproduced with kind permission of the Dallam Tower Estate)

Plate 2: The warehouse as viewed from the limekilns

Plate 3: Scaffolding surrounded the warehouse on three sides at the time of the building investigation

Plate 4: The front (north-west) elevation of the warehouse (Reproduced with kind permission of the Dallam Tower Estate)

Plate 5: The south-west gable of the warehouse

Plate 6: Detail of the through-stones in the south-west elevation (Reproduced with kind permission of the Dallam Tower Estate)

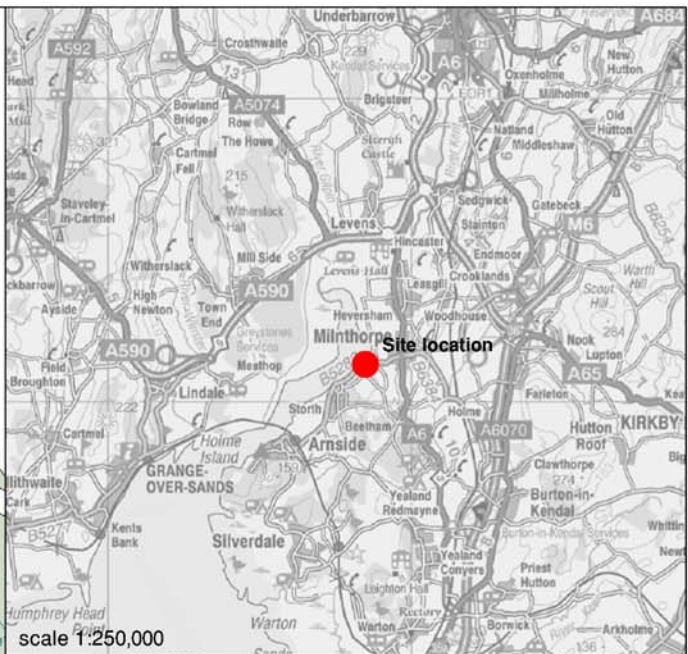
Plate 7: The north-east gable of the building (Reproduced with kind permission of the Dallam Tower Estate)

Plate 8: Detail of the doorways on the rear (south-east) elevation of the building

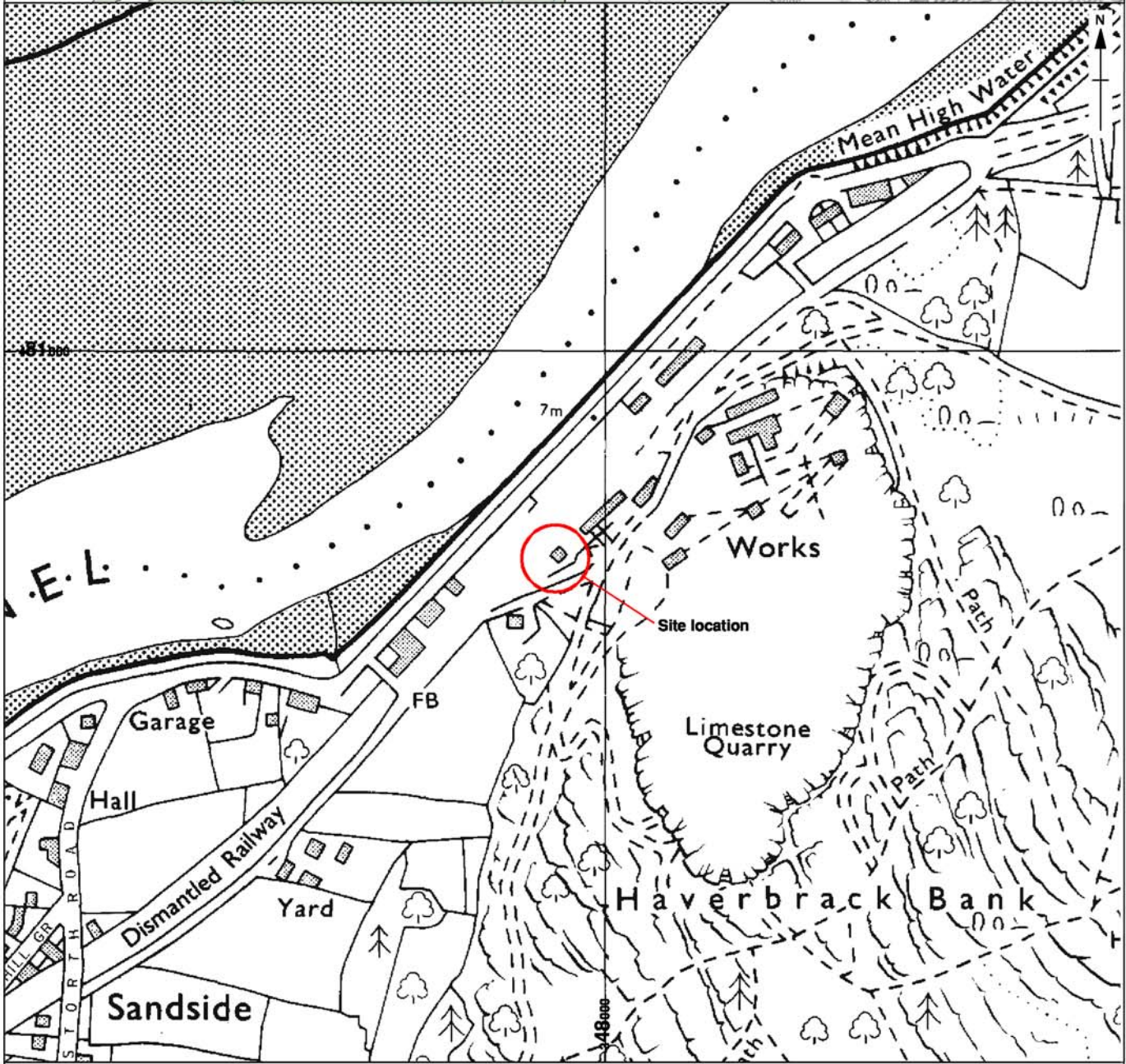
Plate 9: Detail of stables with manger on ground floor

Plate 10: Office partition on second floor, with cupboard and workbench under window





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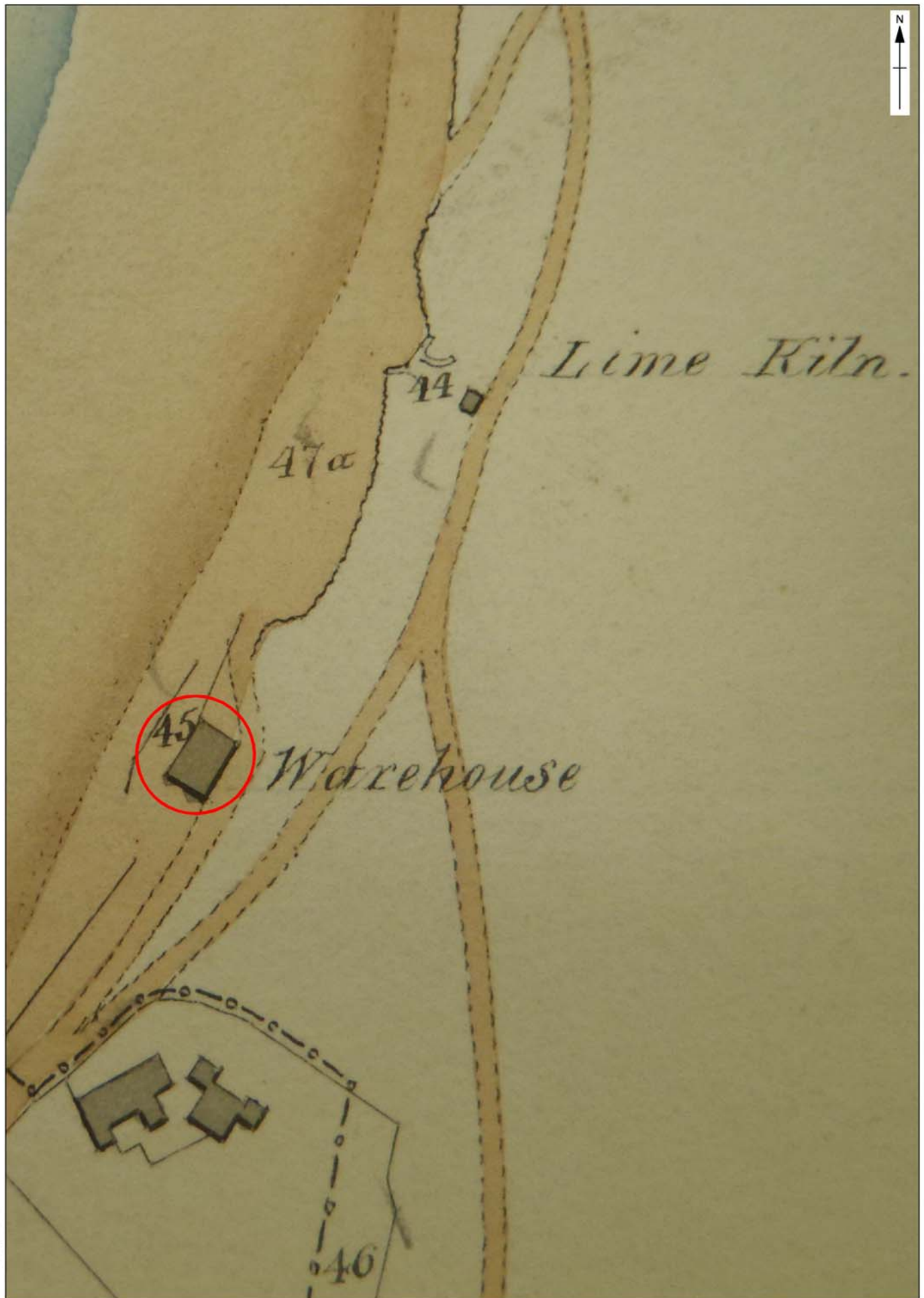


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Figure 1: Site location



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○ Location of Warehouse

Not to Scale



Figure 2: Extract from the Haverbrake Tithe Map, 1839



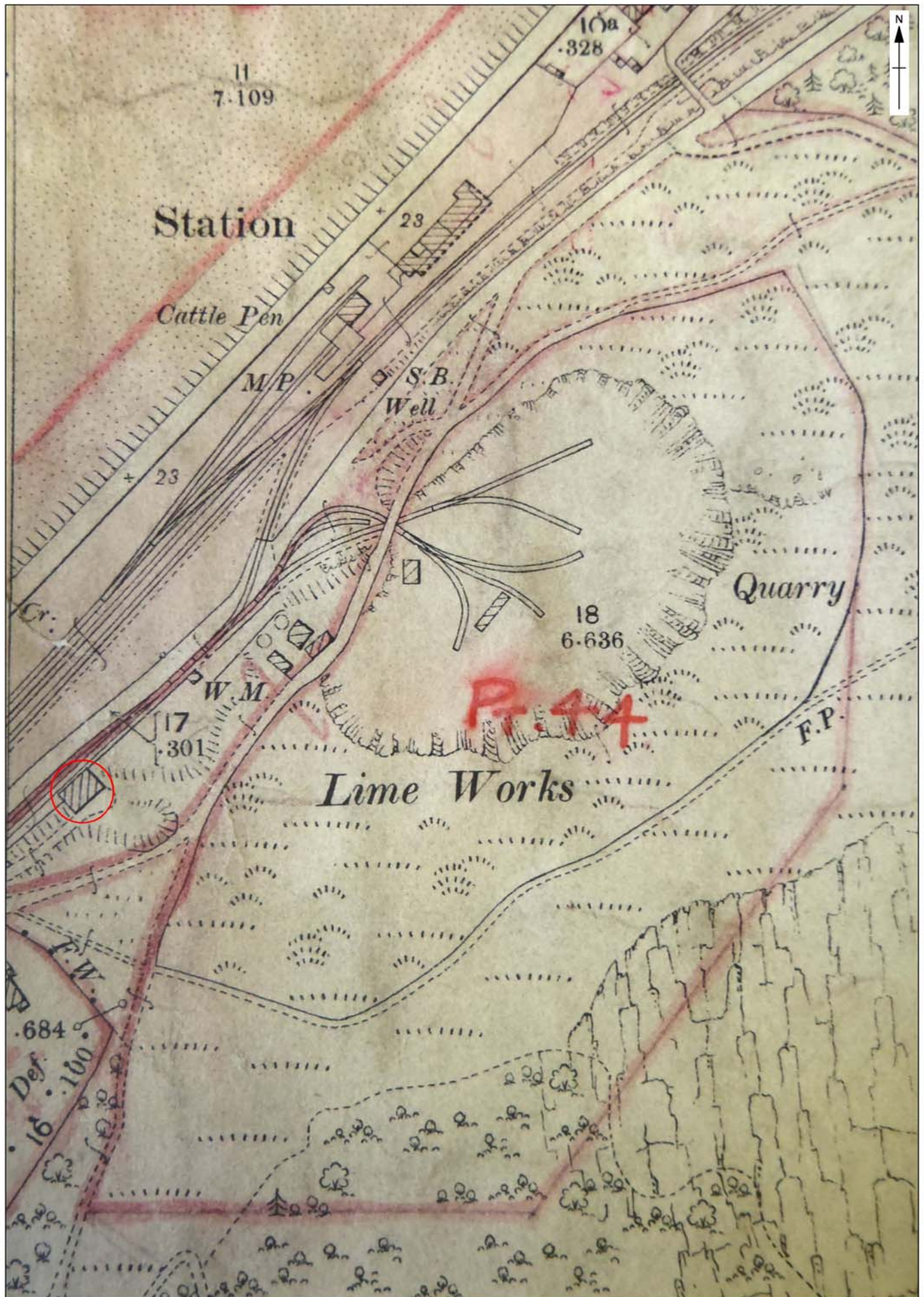
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○ Location of Warehouse

Not to Scale



Figure 3: Extract from the Ordnance Survey First Edition 6" to 1 mile Map, 1859



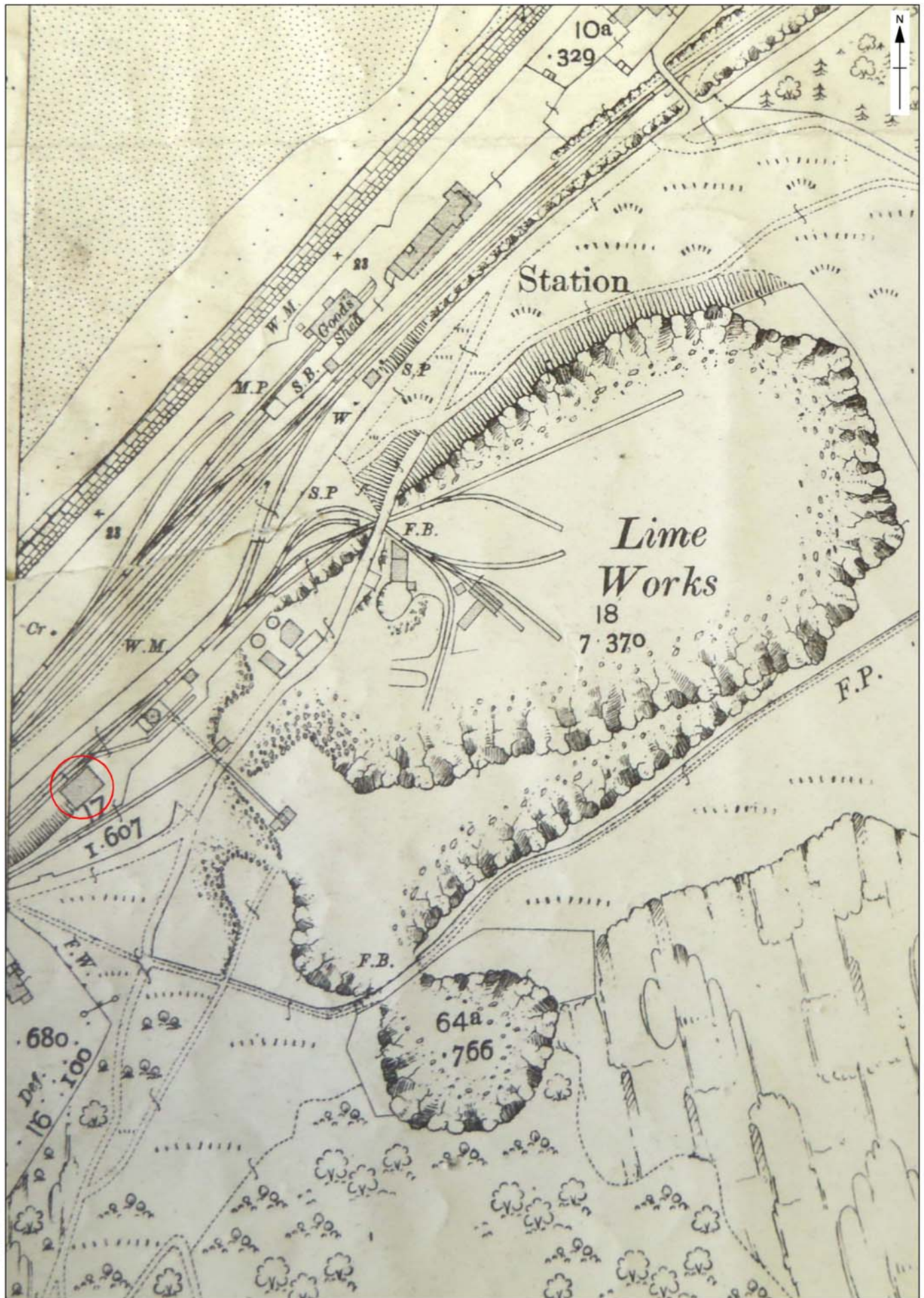
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○ Location of Warehouse

Not to Scale



Figure 4: Extract from the Ordnance Survey Second Edition 25" to 1 mile Map, 1898



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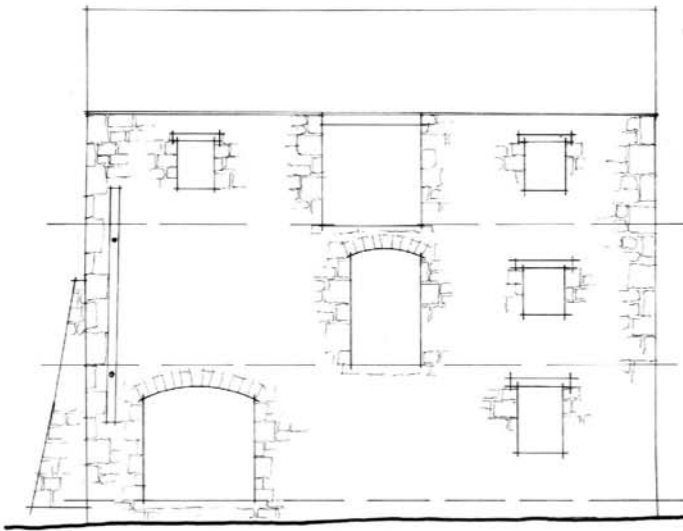


Location of Warehouse

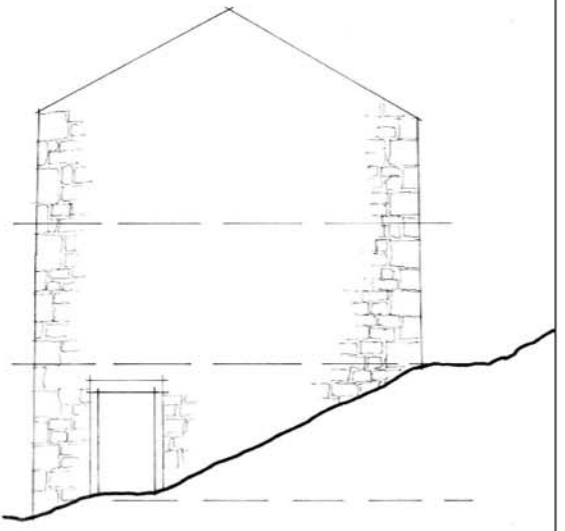
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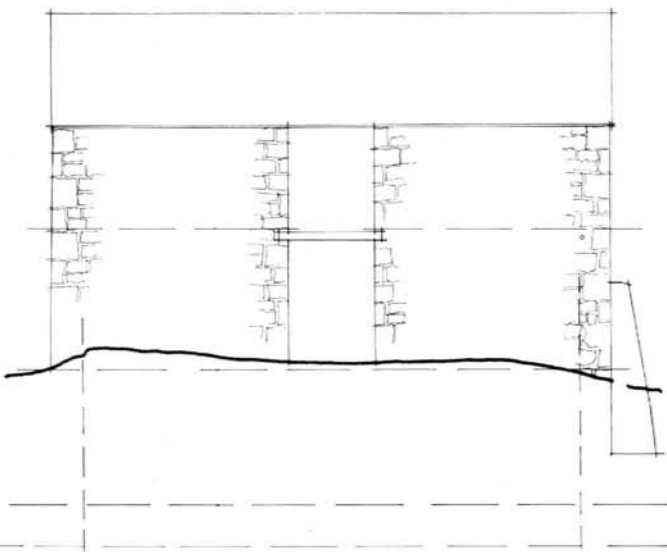
Figure 5: Extract from the Ordnance Survey Third Edition 25" to 1 mile Map, 1914



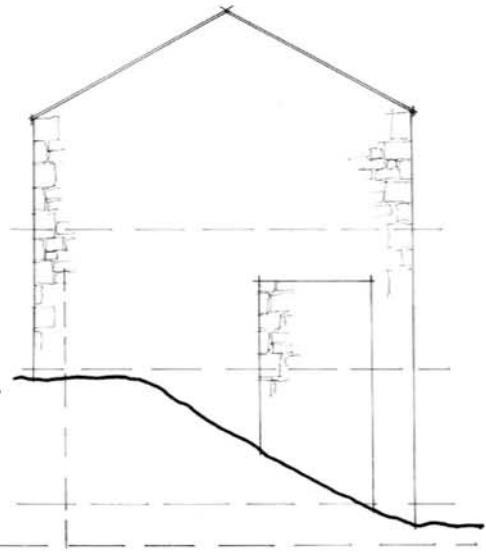
North-west elevation



South-west elevation

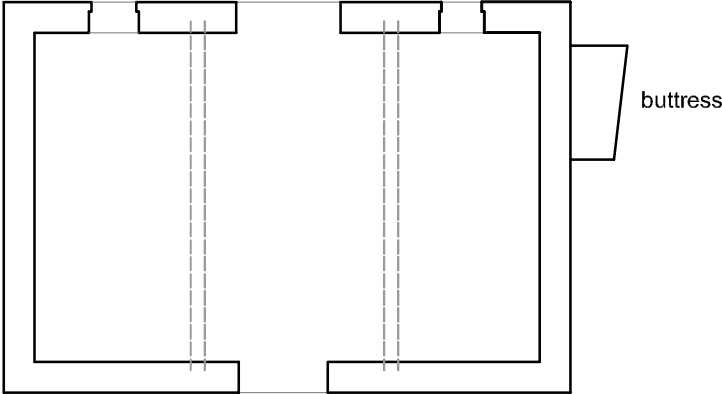


South-east elevation

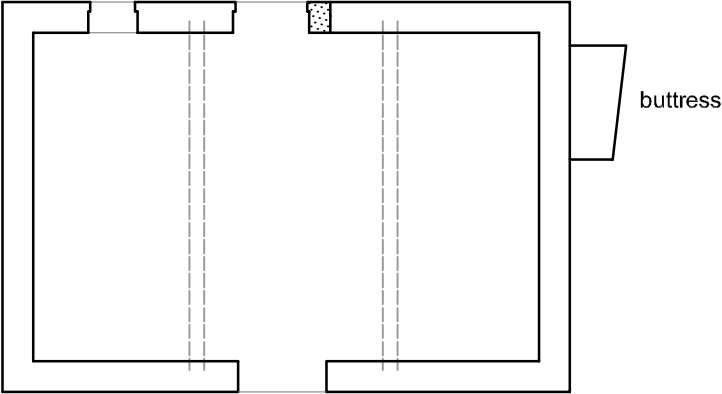


North-east elevation

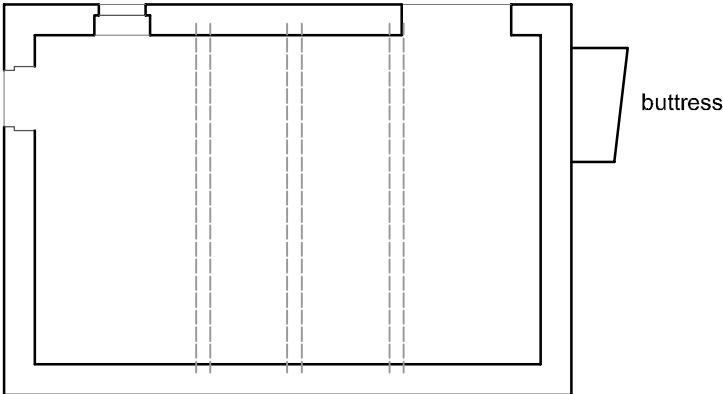
Figure 6: Architect's Elevations of the former Quarry Warehouse







Second Floor Plan



First Floor Plan



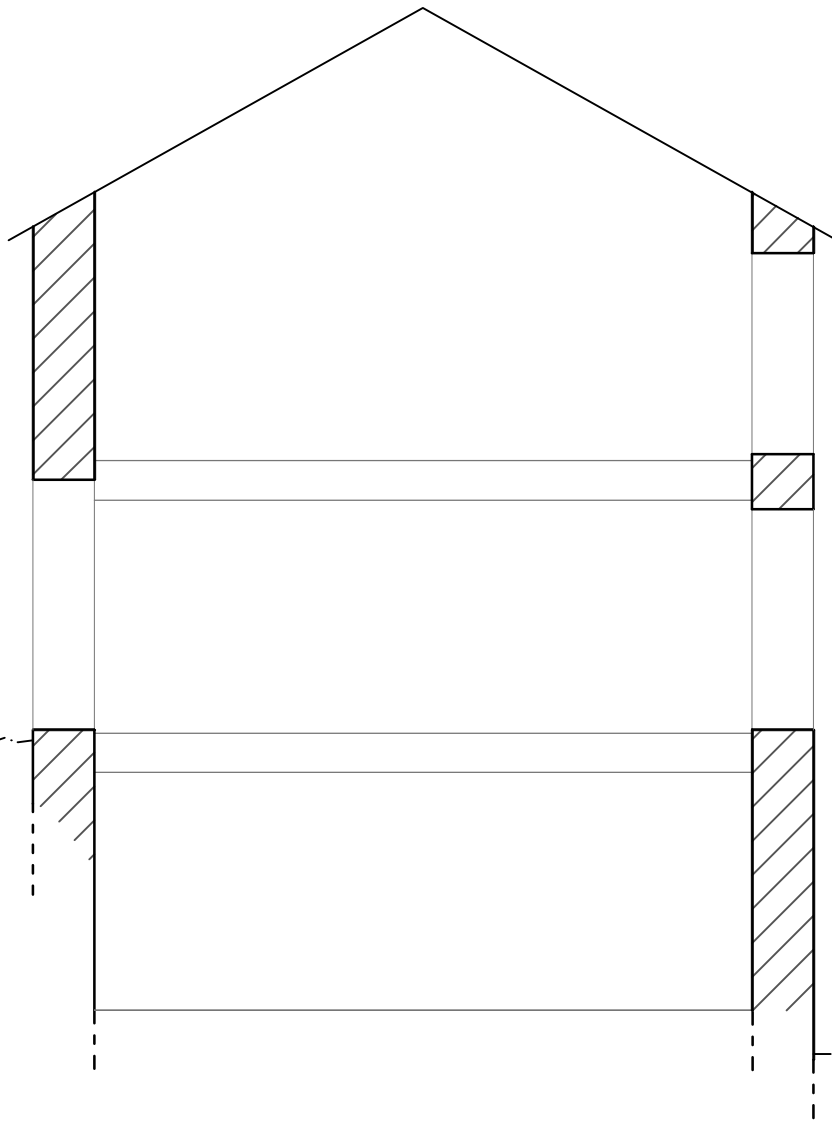
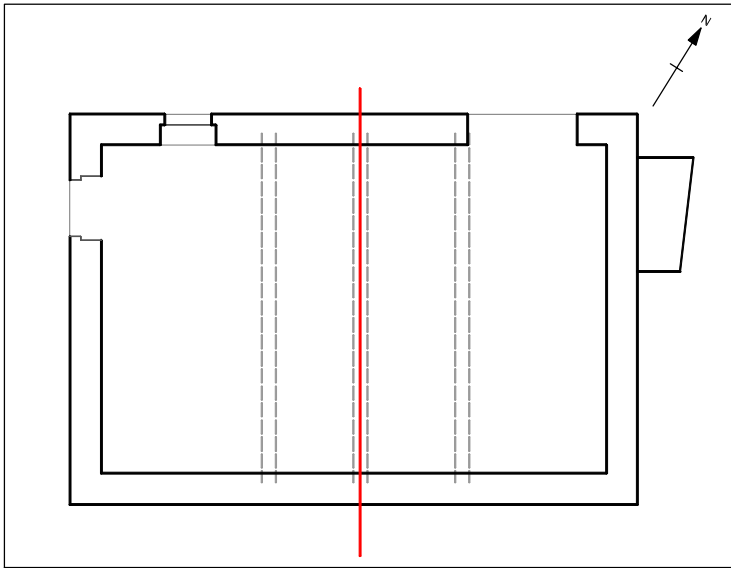
Ground Floor Plan

-  main walls
-  door
-  window
-  blocking

0 2.5 m  
1:100 @ A4



Figure 7: Floor plans of the former Quarry Warehouse



sectional wall



sectional timber

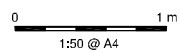


Figure 8: Cross-section through the former Quarry Warehouse



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## PLATES

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Plate 1: Dallam Estate Quarry Warehouse  
(Reproduced with kind permission of the Dallam Tower Estate)



Plate 2: The warehouse as viewed from the limekilns



Plate 3: Scaffolding surrounded the warehouse on three sides at the time of the building investigation



Plate 4: The front (north-west) elevation of the warehouse  
(Reproduced with kind permission of the Dallam Tower Estate)



Plate 5: The south-west gable of the warehouse



Plate 6: Detail of the through-stones in the south-west elevation  
(Reproduced with kind permission of the Dallam Tower Estate)



Plate 7: The north-east gable of the building  
(Reproduced with kind permission of the Dallam Tower Estate)

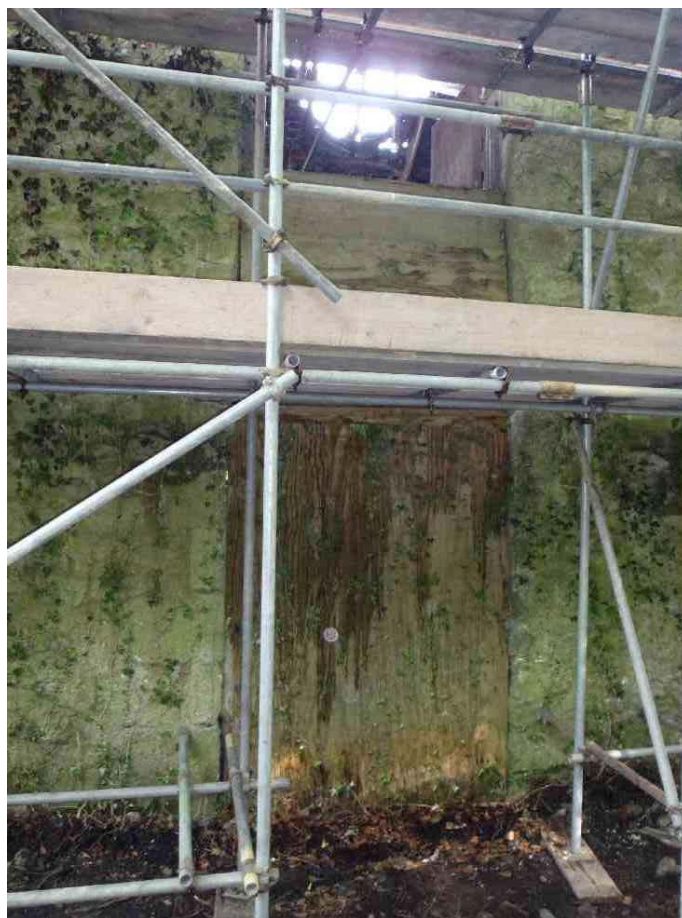


Plate 8: Detail of the doorways on the rear (south-east) elevation of the building



Plate 9: Detail of stables with manger on ground floor



Plate 10: Office partition on second floor, with cupboard and workbench under window