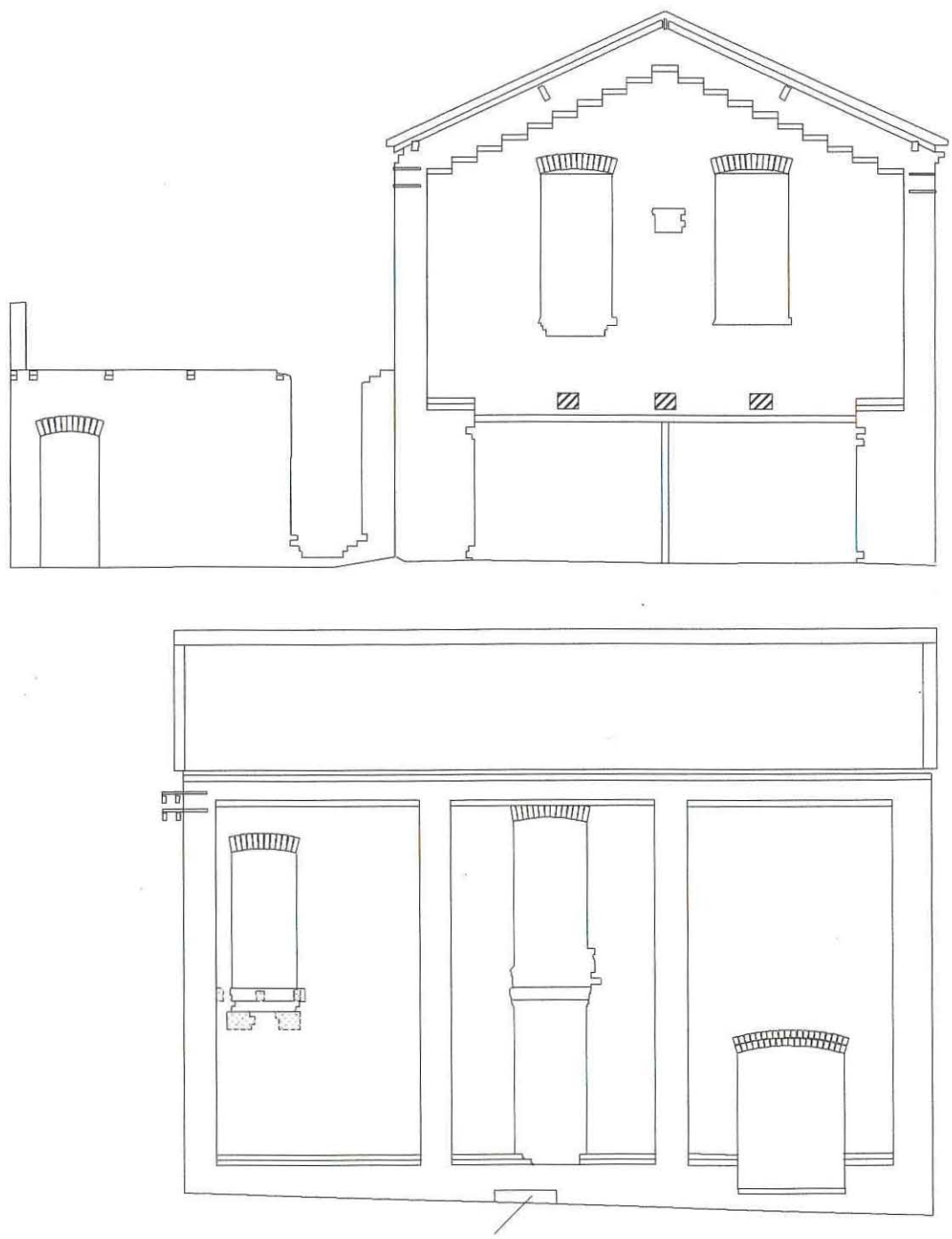
THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

# Colliery Winding Engine House, Bannel Lane, Buckley, Flintshire

## ARCHAEOLOGICAL BUILDING SURVEY



CPAT Report No 430

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# Colliery Winding Engine House, Bannel Lane, Buckley, Flintshire

## ARCHAEOLOGICAL BUILDING SURVEY

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July 2001

Report for Mr J B Whitley

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**CPAT Report Record**

**Report and status**

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| CPAT Report Title | Colliery Engine House, Bannel Lane, Buckley, Flintshire: Archaeological Building Survey | |
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**Internal memo**

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**CONTENTS**

## 1 INTRODUCTION

1.1 The development (planning application P99/0/1310) involves the conversion of the Winding House, Bannel Lane, Buckley, Flintshire into a dwelling.

1.2 The Curatorial Section of the Clwyd-Powys Archaeological Trust, in their capacity as archaeological advisors to the local planning authority, determined that a building survey was required in advance of the development being undertaken. Accordingly a brief (No BR 392 dated 27 July 2000) was prepared by MJ Walters, which described the scheme of archaeological works required.

1.3 The engine house is located in a field of rough pasture south of Bannel Lane, 1km south-east of Buckley (fig. 1; SJ 29476301).

## 2 HISTORICAL BACKGROUND

2.1 A desk-top study was undertaken which involved the examination of all the readily available primary and secondary documentary, cartographic, pictorial, photographic and oral sources. Repositories consulted included the following: Regional Sites and Monuments Record (SMR), CPAT, Welshpool; the National Monuments Record, Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW), Aberystwyth; the National Library of Wales, Aberystwyth; Flintshire County Record Office, Hawarden (CROH).

2.2 The Regional SMR has no records relating to the engine house or any other associated sites in the immediate area. The site lies within an area of intensive coal mining activity and a number of collieries and shafts are recorded within the general area, but there is no evidence to associate any with the site in question.

2.3 The Tithe Survey for Hawarden parish of 1843 (fig. 2) shows the area before the construction of the Wrexham, Mold and Connahs Quay Railway in 1866 (Baughan 1991, 54), which is depicted on the Ordnance Survey 1:2,500 2nd edition of 1899 (fig. 3), having by then been taken over by the London and North Eastern Railway. The Ordnance Survey 3rd edition, revised in 1909 and published in 1912 (fig. 4), and Provisional edition, revised in 1938 and published in 1948 (fig. 5), show the area to be unchanged.

2.4 A report on the Buckley Collieries in 1923 (CROH D/DM/355/16 and 18) records the construction of the engine house in 1923-4, at which time the area was leased to Mr Hancock for £20 until 1925 (fig. 6). It would seem likely that the Hancock referred to was William Hancock, who owned one of the Buckley brickworks at this time (CROH D/BP/582). The colliery appears to have been known as Bannel Pit (fig. 7) or Bannel Colliery, and was worked as a drift mine, a section of which is recorded in 1945, in association with Padeswood Hall Colliery further to the south (fig. 8). It seems likely that the machinery was electrically powered as the 1923 report that 'recently, improvements have been effected by changing over from steam to electricity, ample current being available by transmission line from the Shotton works'.

2.5 In 1923 it was estimated that 'the completion of the equipment and development of this Dye-eye working involves further expenditure of £7,475'. The estimated expenditure for 1924 totalled £5,735 (fig. 8), while the net profit over the following 11 years was estimated at £78,652.

2.6 It is not known how long the colliery remained in operation, although the following estimates only suggest a maximum projected working life of 11 or 12 years (CROH D/DM/355/16):

> Brassey Seam . . . the thickness was found to be 3' 5" and there is a life of 12 years
> Main Coal . . . the best and most profitable seam. At Bannel there is 10 years life or longer.

2.7 Vertical aerial photographs taken by the RAF in 1947 show the engine house with a linear earthwork to the south, presumably a spoil tip, and a possible trackway curving from the engine house to the north-west, towards Brook Farm.

## 3 BUILDING SURVEY (figs 10-11; plates 1-10)

3.1 The building survey was undertaken in accordance with the broad specification set for a Level 3 Survey set out by the Royal Commission on Ancient and Historical Monuments of England (RCAHME 1996). This included: a written description of the structure; full internal/external photographic survey using 35mm format colour slide, colour and black and white print; plans and elevations of each floor and facade.

3.2 The survey was undertaken over a two-day period on 11 and 12 July 2001 using a Leica TCR305 Reflectorless EDM in conjunction with Penmap survey software. Post-survey processing was undertaken using AutoCAD13 to produce the illustrations for this report.

3.3 The engine house is entirely of brick construction with simple detailing and a slate roof with ceramic ridge tiles and coping. The main building measures 11.15 x 8.05m overall, with walls 0.46m thick at the base, narrowing to 0.35m above a blue brick plinth. An adjoining single storey building at the north-east corner, measuring 5.8 x 3.3m, with walls 0.23m thick, appears to be a later addition as the plinth of the main building continues along the east wall. Some of the red bricks are stamped CBC, while some blue bricks from the plinth bear the stamp of W Hancock, Buckley, who leased the land when the engine house was constructed.

### Ground Floor

3.4 The ground floor (fig. 10) is divided into two rooms, the northern of which measures 7.1 x 3.17m internally, with a solid concrete floor. The northern wall is largely taken up by a wide doorway (see below), while the other walls have no openings. There is a single opening in the ceiling at the north-eastern corner, leading up to the first floor. The larger, southern room also has a solid concrete floor and contains a substantial concrete support, measuring 5.25 x 3.4m at floor level and extending to the ceiling at a height of 2.75m. There are three paired horizontal recesses within the support (plate 1), each measuring 0.31m wide, 0.84m long and 0.33m high, with the exception of the north-eastern recess, which is 0.4m wide. These correspond with a series of vertical recesses in the machine base on the first floor (see below) and were presumably designed to accommodate the fixing bolts for the winding machinery. The gap (0.6m wide) between the support and the east wall of the building may extend below the general floor level to form a rectangular pit, now infilled with rubble.

3.5 The ancillary building at the north-east corner has a solid concrete floor and was accessed via a doorway at the east end of the north wall. Each elevation has a single window opening and there are no surviving internal fittings.

### First Floor

3.6 The first floor (fig. 10) is open-plan and appears to have been accessed externally via a doorway at the north-west corner (see below). The room is open to the apex of the roof, revealing two simple roof trusses (plate 2). The main feature is the concrete machine base (plates 3-4) towards the south-east corner, which presumably held the winding gear. Measuring 3.2 x 2.75m overall, the base has three pairs of vertical recesses for fixing bolts extending into the substantial concrete support on the floor below. The only surviving feature is what may be a small flywheel pit set off-centre at the northern end. There are a number of small iron fixing bolts within the floor on the north side of the machine base.

3.7 A conduit (plate 5) in the north-east corner of the room leads into the floor below, although its purpose is unknown. There are, however, a series of fixings attached along the upper interior of the east wall which could have an associated function. The concrete floor preserves several linear recesses (plate 6) where former fixtures or fittings have been removed, notably adjacent to the conduit mentioned above, and also in a pattern suggesting a possible partition of the north-east corner of the first floor.

### Elevations (fig. 11)

3.8 The north elevation (plate 7) stands to a height of 8.2m to the apex. The ground floor has a large opening with a steel lintel above, a single central supporting girder and vertical timbers attached to the east and west jambs. The first floor has a matching pair of window openings, each measuring 1.08m wide and 2.1m high between sill and lintel, with blue brick arches and internal timber lintels. Both window frames and sills have been removed. There are three ventilation grills below the windows, just above floor level, and a single small opening between the windows. The single-storey brick ancillary building adjoining the eastern end of the elevation has a doorway at the east end, 0.85m wide and 2.0m high with a blue brick arch. A window opening at the west end, 1.05m wide, has

no surviving arch or lintel, with the frame and sill also removed. Five simple brick corbels survive at the top of the wall.

3.8 The south elevation (plate 8) has no openings on the ground floor, but has two asymmetric windows at first floor-level, both of which have blue brick arches and internal timber lintels. The eastern window measures 2.8m high and 1.08m wide, while the western window measures 1.96m high and 2.25m wide. The south elevation of the ancillary building has a single window opening slightly off centre to the west, measuring 1.06m wide with no surviving lintel, frame or sill.

3.9 The west elevation (plate 9) is divided into three by brick pilasters. The southern section has a wide doorway on the ground floor, 0.97m wide and 2.05m high, with a blue brick arch and missing internal lintel. The central section has matching window openings on both floors, 1.08m wide, with a blue brick arch above the upper opening. Frames, sills and lintels have been removed. The northern section has a single doorway opening on the first floor, 2.1m high and 1.6m wide, with a blue brick arch. Below the doorway are three sockets which would presumably have held timbers projecting out, possibly to support a stairway running along the face of the elevation, the base of which may have been the concrete slab at ground level midway along the elevation.

3.10 The east elevation (plate 10), like the west, is divided into three by brick pilasters. There is a single first floor window opening, centrally placing and measuring 2.05m high and 1.06m wide, with a blue brick arch above. The frame, sill and lintel have been removed. The ancillary building at the northern end of the elevation has a central window opening 1.1m wide and 2.15m high, with a blue brick arch above. Again the frames, sill and lintel have been removed. The gable stands to *c.* 4.25m, and the roof, now fallen inwards, would have been supported on external brick corbels.

## 4 CONCLUSIONS

4.1 The study of documentary and cartographic sources has revealed that the engine house was built in 1923-4 as a winding house for a drift mine, powered by electricity. Part of the Buckley Collieries, the mine was known as Bannel Pit or Colliery and leased to Mr Hancock of Buckley, owner of one of the local brickworks which supplied at least some of the bricks for the construction. The mine is likely to have had a fairly short working life with original estimates of only 11 or 12 years of production, and was certainly disused by 1946.

4.2 The surviving structure is in reasonably good condition although stripped of all fixtures and fittings. Consequently, it is now difficult to interpret what remains. It is clear, however, that the winding gear was located on the first floor towards the south-east corner, where the concrete machine base survives in part. This was supported on a substantial concrete structure on the ground floor, to which it was bolted. The machine base was positioned in line with the eastern window opening in the south elevation, through which the winding must have operated. There is now no indication of what operations may have been undertaken within the remainder of the first floor, or in the northern room of the ground floor. The ancillary building at the north-east corner may have been that can be associated with the supply of electricity, although this is by no means certain.

4.3 There is now no trace of the drift itself, which must in part be buried beneath the linear spoil tip lying to the south of the winding house. In fact, the spoil tip is the only obvious surviving feature associated with the winding house.

## 5 ACKNOWLEDGEMENTS

5.1 Thanks are due to the following for their assistance and co-operation: the staff at Flintshire County Record Office, Hawarden, and National Monuments Record, Aberystwyth; Perminder Gill, Leica Geosystems.

## 6 REFERENCES

### Published sources

Baughan, P E, 1991. *A Regional History of the Railways of Great Britain, Vol. 11, North and Mid Wales, 2nd edition.* Nairn: David St John Thomas Publishing.

RCAHME 1996. *Recording Historic Buildings: a descriptive specification, 3rd edition.* Swindon: Royal Commission on the Ancient and Historical Monuments of England.

### Cartographic sources

Tithe survey for Hawarden parish, 1843
Ordnance Survey 2nd edition 1:2,500, Flintshire 14.10 surveyed 1869, revised 1898, published 1899
Ordnance Survey 3rd edition 1:2,500, Flintshire 14.10, revised 1909, published 1912
Ordnance Survey provisional edition 6", Flintshire 14SW, revised 1938, published 1948
Ordnance Survey 6" Flintshire SJ26SE revised 1960-3, published 1964

### Documentary sources

Report on Buckley Collieries, 1923 CROH D/DM/355/16
Statistical returns for Bannel Pit 1924 CROH D/DM/355/18
Section through Bannel and Padeswood Hall Mine Workings 1945 CROH FC/S/1/5
Plan of Crank Coal workings, Buckley, 1922/3 CROH D/HC/A/38

**Vertical aerial photographs** (source RCAHMW)

| | |
|---|---|
| BGTUD/UK/192/8068-9 | 1946 |
| CPE/UK/1935/2238 | 1947 |
| 540/488/4423 | 1951 |
| 58/RAF/5171/98-99 | 1962 |
| 18/73/215 | 1973 |
| 14/80/264 | 1980 |
| BKS/95/33/79-80 | 1995 |

## APPENDIX 1

## CONVERSION OF COLLIERY WINDING ENGINE HOUSE, BANNEL LANE, BUCKLEY SPECIFICATION FOR AN ARCHAEOLOGICAL BUILDING SURVEY BY CLWYD-POWYS ARCHAEOLOGICAL TRUST

### 1 Introduction

1.1 The proposed development (planning application P99/0/1310) involves the conversion of the Winding House, Bannel Lane, Buckley, Flintshire into a dwelling.

1.2 The Curatorial Section of the Clwyd-Powys Archaeological Trust in their capacity as archaeological advisors to the local planning authority, have determined that a building survey is required in advance of the development being undertaken. Accordingly a brief (No BR 392 dated 27 July 2000) has been prepared by MJ Walters, which describes the scheme of archaeological works required.

### 2 Objectives

2.1 The objectives of the survey are:

2.1.1 to reveal by means of a combination of desk-based assessment and building survey, the nature, condition, significance and, where possible, the chronology of the archaeology within the area of the proposed development in so far as these aims are possible;

2.1.2 to record and describe all key elements of the structure and any internal and external fittings;

2.1.3 to prepare a report detailing the results of the survey;

### 3 Methods

3.1 Stage one of the evaluation will involve the examination of all the readily available primary and secondary documentary, cartographic, pictorial, photographic and oral sources. Repositories consulted will include the following: County SMR, CPAT, Welshpool; the National Monuments Record, RCAHMW, Aberystwyth; the National Library of Wales, Aberystwyth; Flintshire County Record Office, Hawarden.

3.2 Stage two will take the form of a building survey in accordance with the broad specification set out in a RCAHM Level 3 Survey. This will include: a written description of the structure; full internal/external photographic survey using 35mm format colour slide, colour and black and white print; plans and elevations of each floor and facade.

3.3 Following the on-site work an illustrated and bound report will be prepared according to the principles laid out in the Curatorial Brief. This will be in A4 format and contain conventional sections on: Site location, Topography and Geology; Historic Background; Building Survey; Conclusions and Recommendations and References, together with appropriate appendices on archives and finds. A draft report will be sent to the Curator and Client prior to the production of the final report.

3.4 The site archive will be prepared to specifications laid out in Appendix 3 in the Management of Archaeological Projects (English Heritage, 1991).

### 4 Resources and Programming

4.1 The evaluation will be undertaken by a small team of skilled archaeologists under the direct supervision of an experienced field archaeologist, who will also be responsible for undertaking the

desk-based assessment. Overall supervision will be by Nigel Jones, a senior member of CPAT's staff who is also a member of the Institute of Field Archaeologists.

4.2 All report preparation will be completed by or with the assistance of the same field archaeologist who conducted the evaluation.

4.3 It is anticipated that the assessment and evaluation will take no more than 5 days in all and that the subsequent report would be prepared immediately thereafter, dependent on the client's instructions and the arrangement of a suitable timetable. The date of commencement, at the time of writing, has yet to be agreed with the client, and will be dependent on the state of the site and negotiated access. The archaeological curator will be informed of the detailed timetable and staffing levels when agreement has been reached with the client.

4.4 Requirements relating to Health and Safety regulations will be adhered to by CPAT and its staff.

4.5 CPAT is covered by appropriate Public and Employer's Liability insurance.

N.W.Jones
18th September 2000

## APPENDIX 2

## SITE ARCHIVE

Black and white negative film No. 1076, contacts and archive prints
Colour print film No. 1077
Colour slide film No. CS01/11
Photographic catalogue

**Digital archive**

Digital survey: Penmap3

| | |
|---|---|
| Bannel.pts and dxf | Elevations and ground floor |
| Bannel2.pts and dxf | survey of 1st floor |

AutoCAD13

| | |
|---|---|
| North.dwg | North elevation |
| South.dwg | South elevation |
| East.dwg | East elevation |
| West.dwg | West elevation |
| Plan.dwg | Ground floor plan |
| 1stfloor.dwg | 1st floor plan |
| plans.dwg and dxf | ground and 1st floor plans |
| elevat.dwg and dxf | elevations |

Mapinfo

| | |
|---|---|
| plans.tab | Fig. 10 plans |
| elevat.tab | Fig. 11 elevations |

Correspondence and paper archive

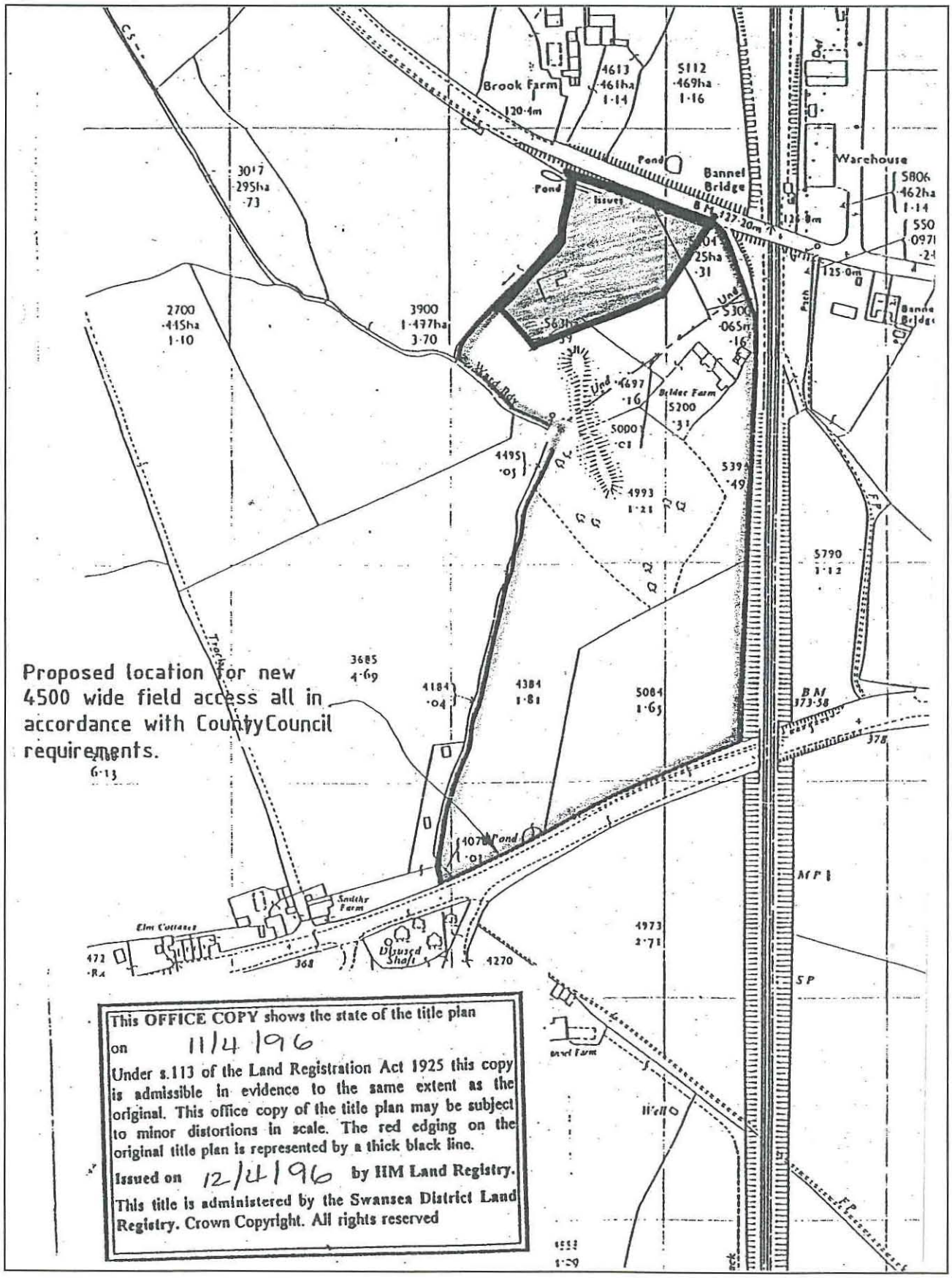



Fig. 1 Site location. Scale 1:2,500

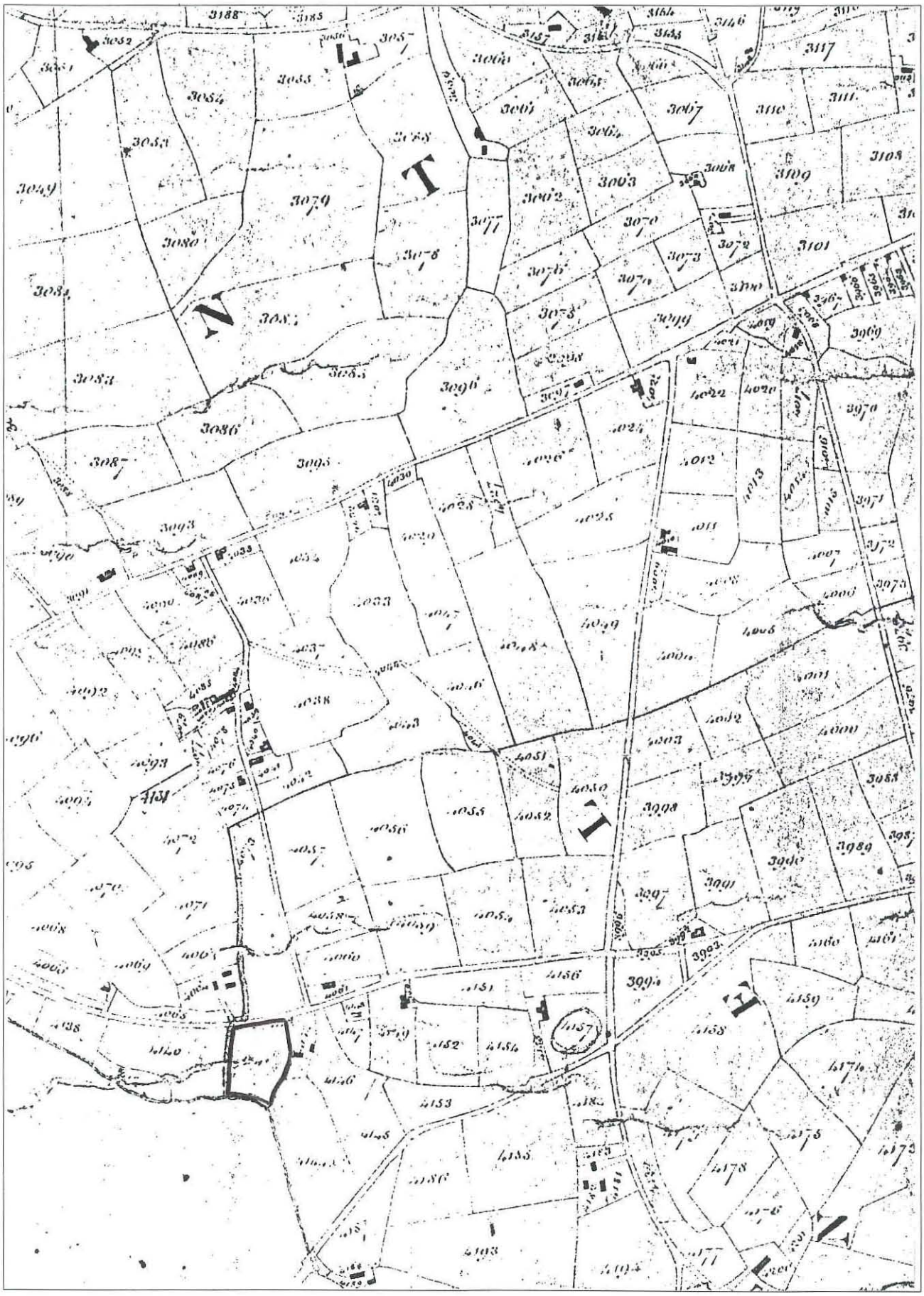


Fig. 2 Tithe Survey of Hawarden parish 1843

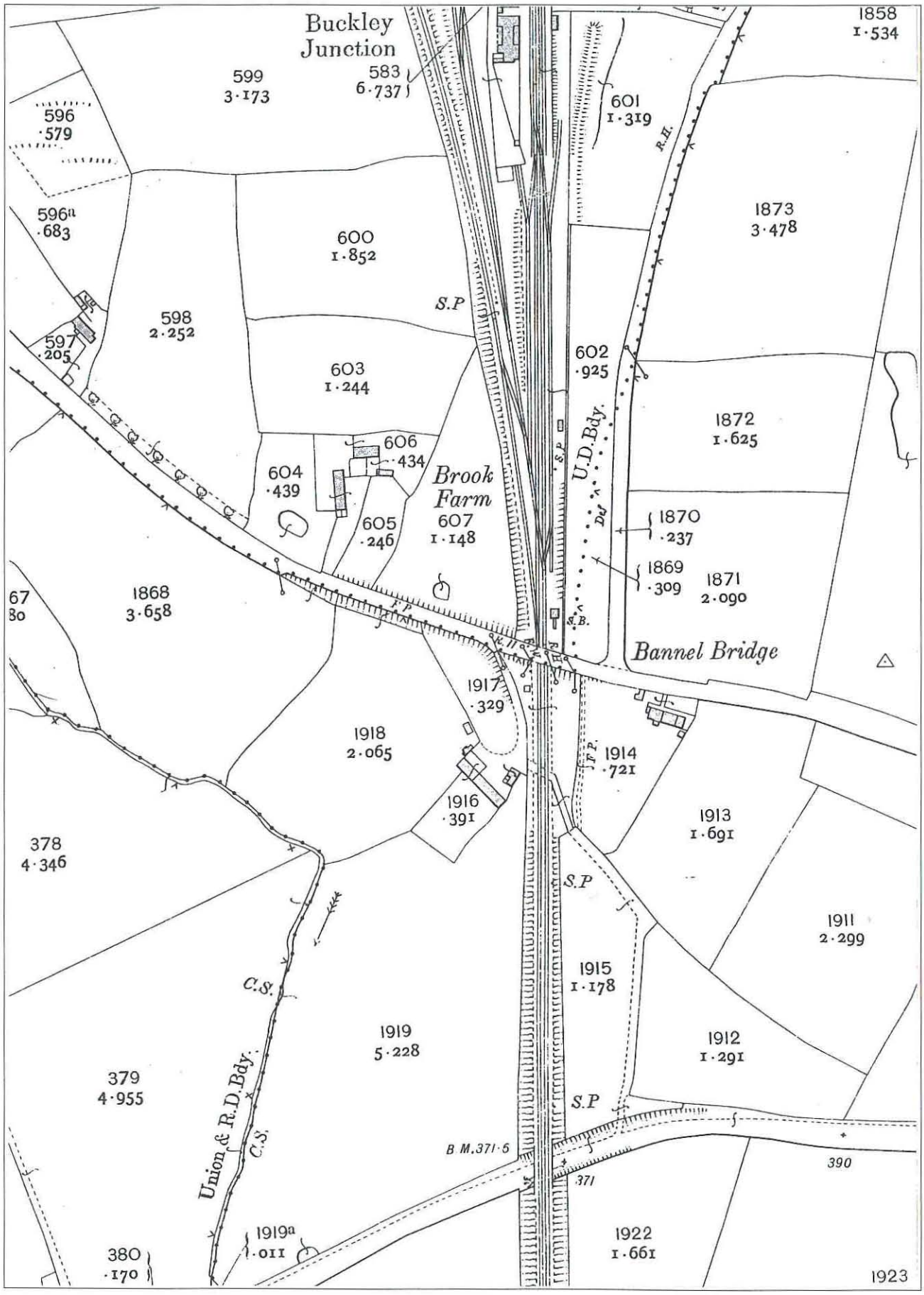



Fig. 3 Ordnance Survey 2nd edition 1:2,500 Flintshire 14.10, published 1899

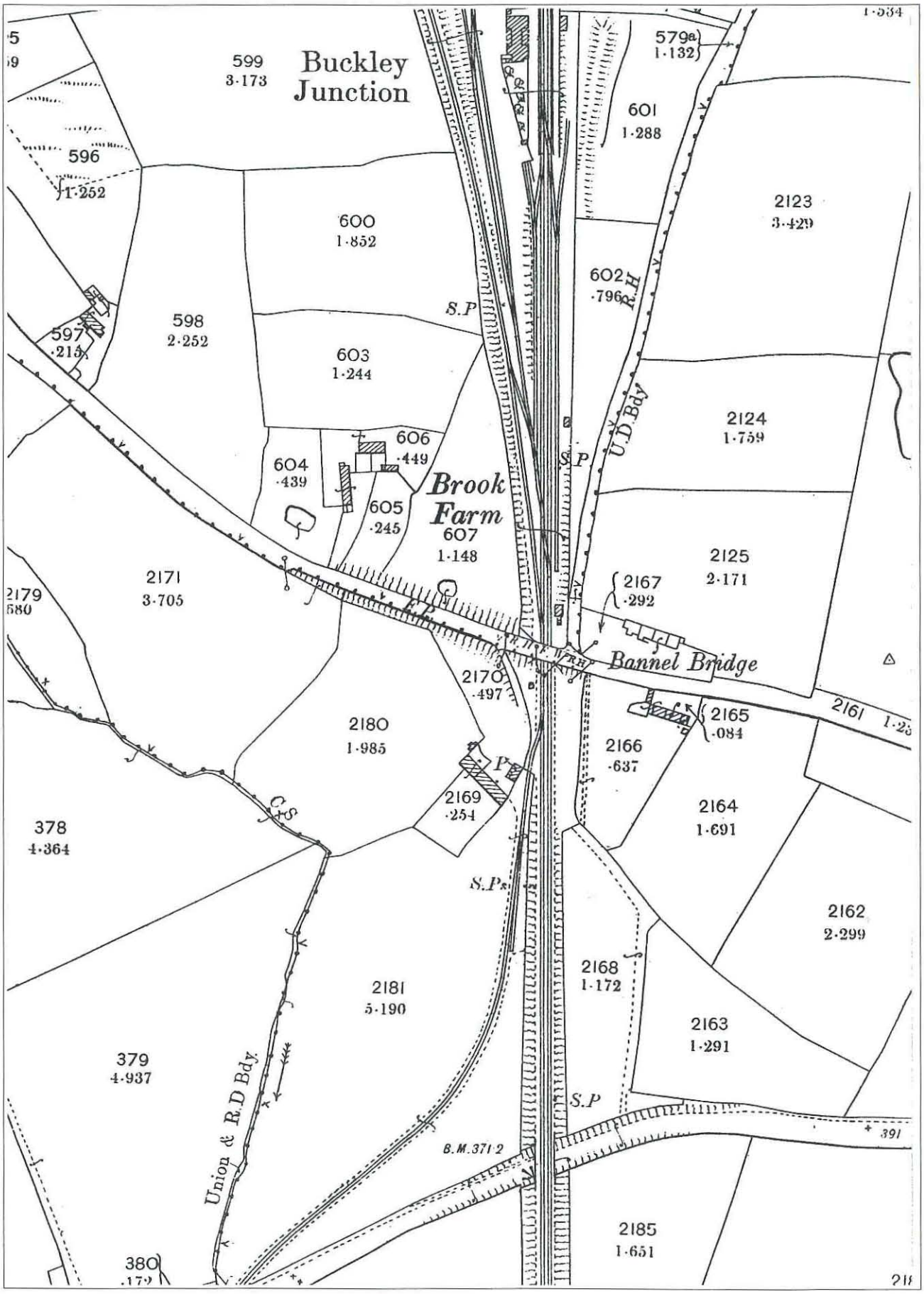



Fig. 4 Ordnance Survey 3rd edition 1:2,500 Flintshire 14.10 published 1912

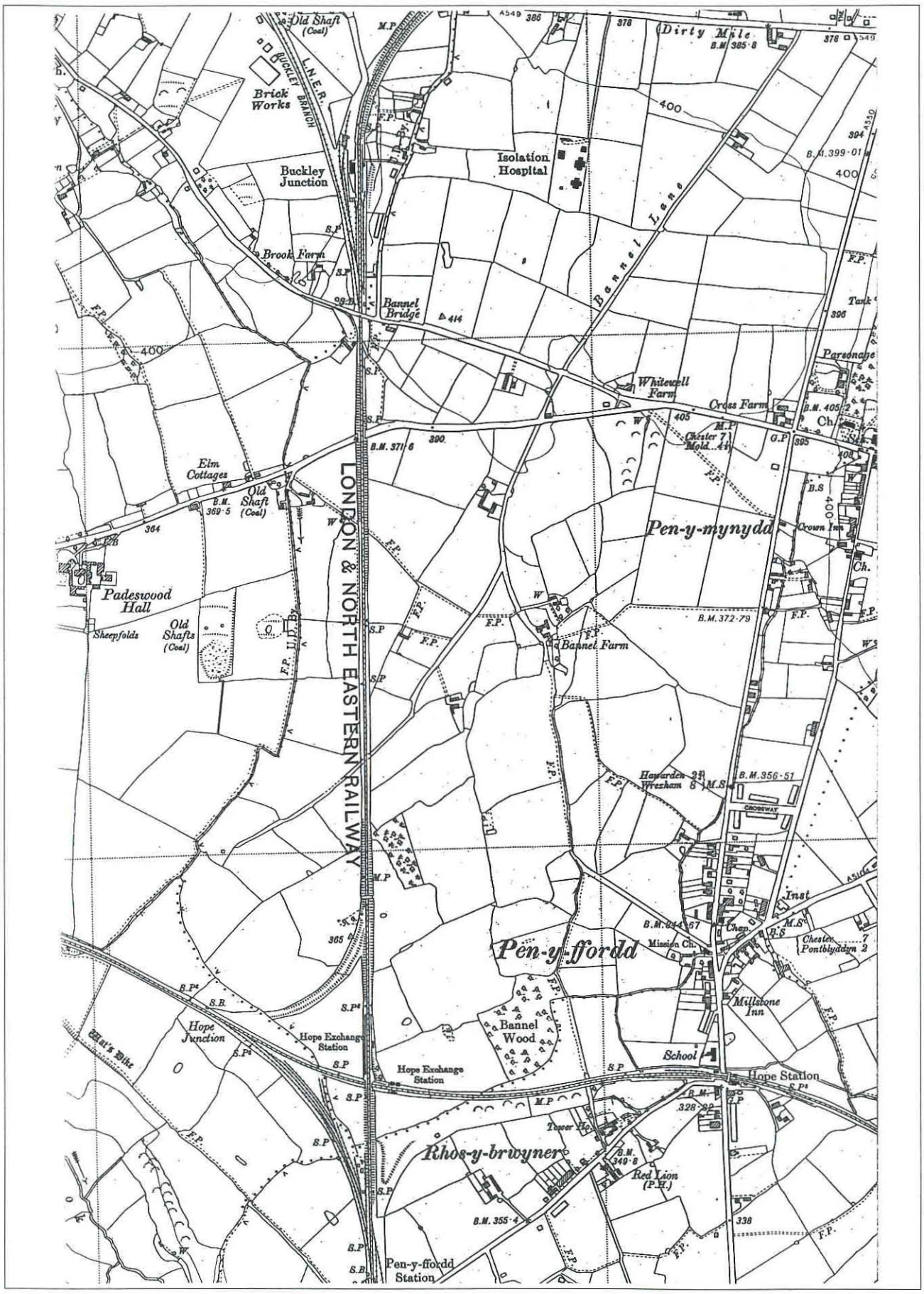



Fig. 5 Ordnance Survey Provisional edition 6" published 1948, revised 1909 and 1938

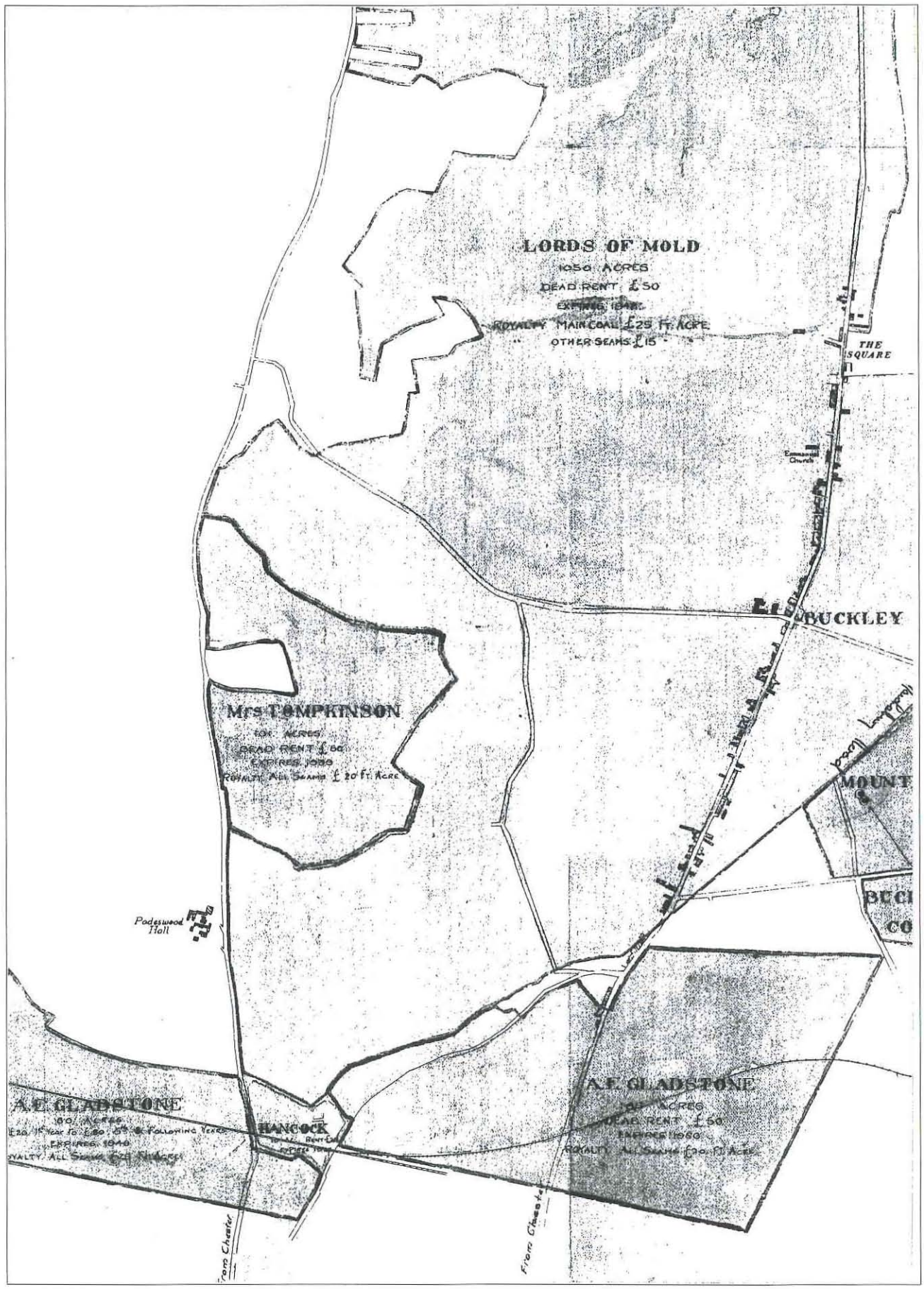



Fig. 6 Extract from Buckley Collieries Main Seam plan 1923 (CROH D/DM/355/16)

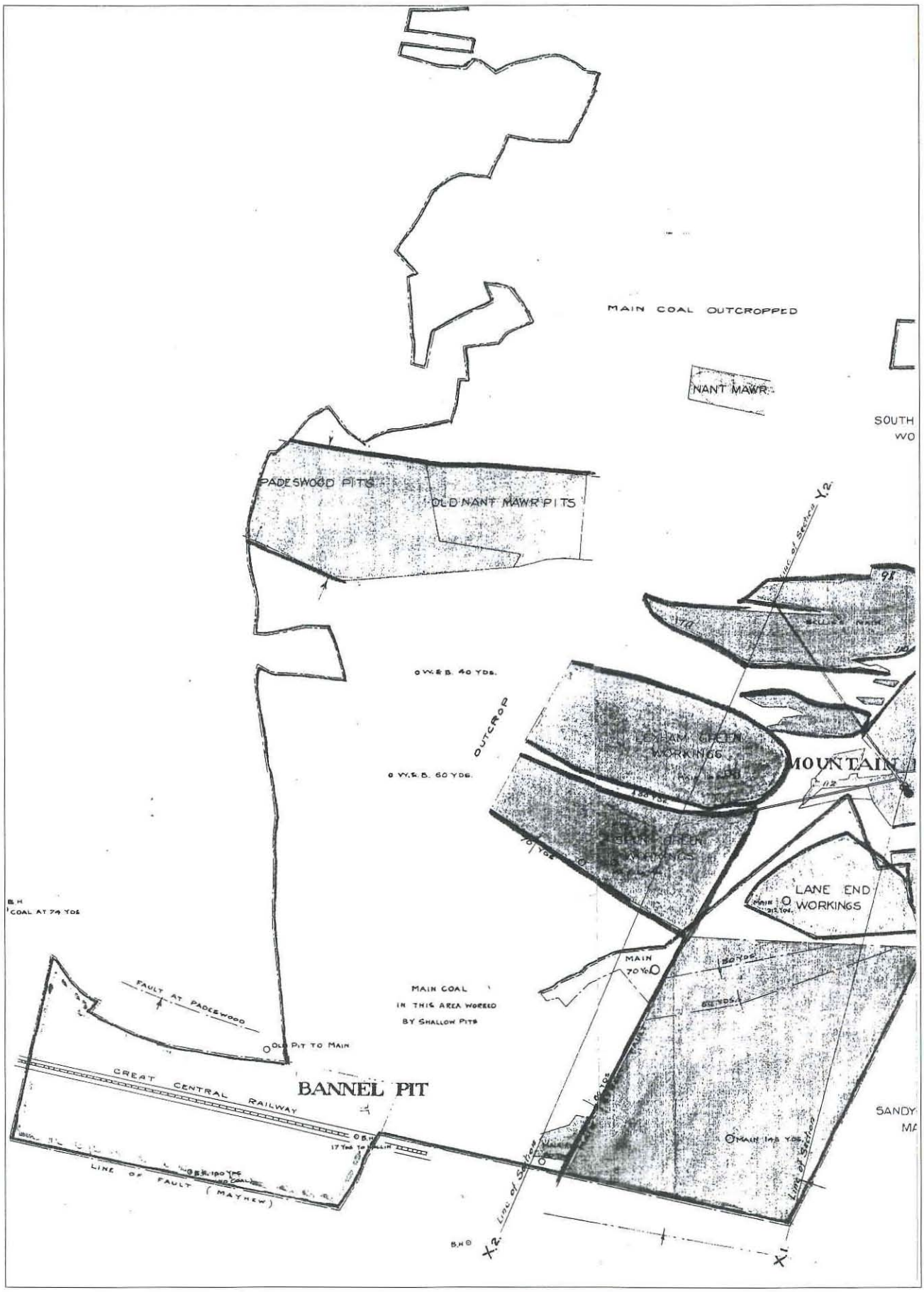



Fig. 7 Extract from Buckley Collieries Mineral Area 1923 (CROH D/DM/355/16)

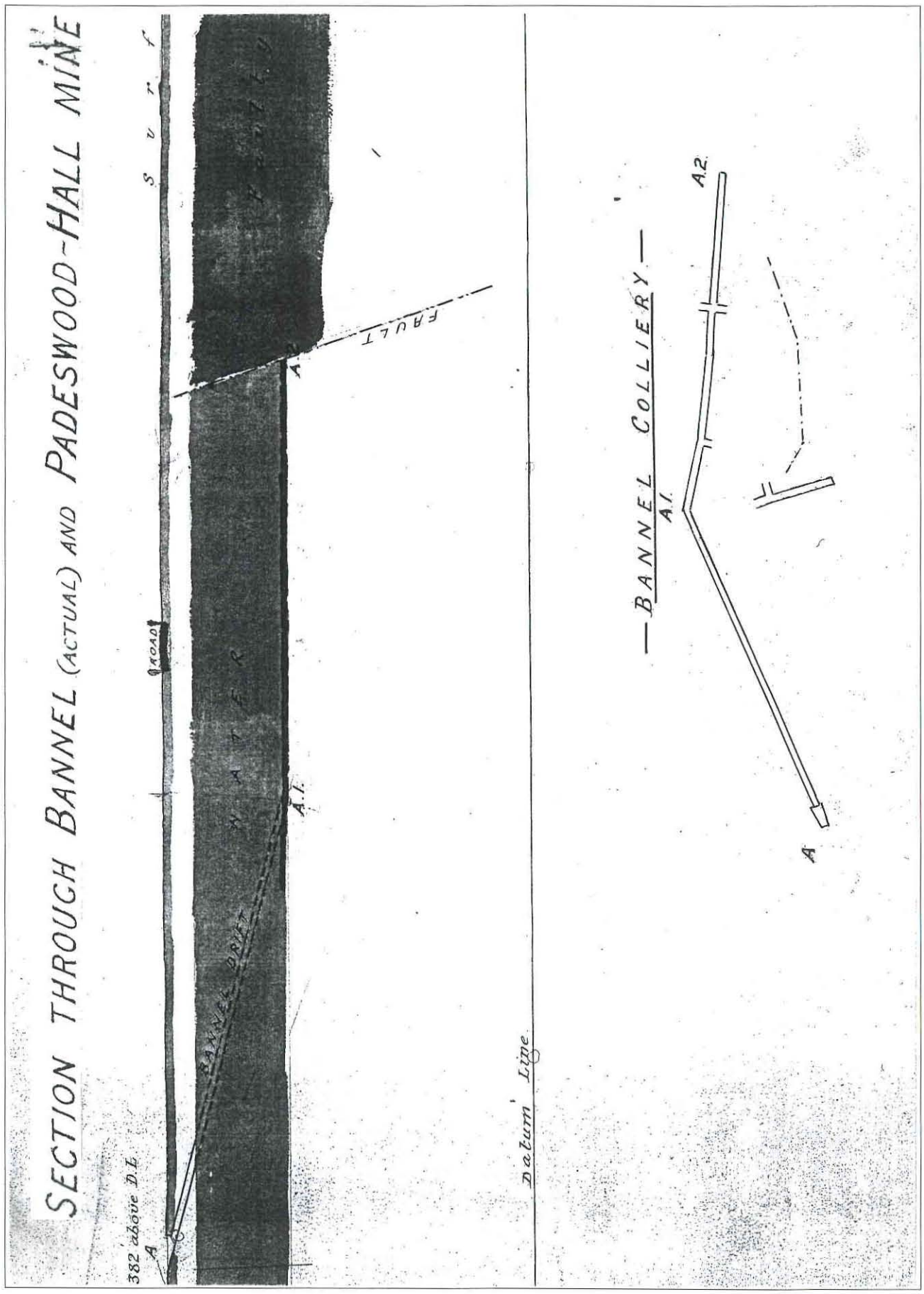



Fig. 8 Bannel Colliery section from a report on Buckley Collieries 1923 (CROH D/DM/355/16)

APPENDIX 13.

BANNEL COLLIERY.

COMPLETION OF EQUIPMENT AND DEVELOPMENT.

| | | (All in 1924) COST. |
|---|---|---|
| **Surface.** | | |
| Building Engine house (labour not hitherto charged) | | £ 450 |
| Railway, 700 yards, materials and laying | | 795 |
| Screen and retaining wall .. .. .. | | 250 |
| Gantry and tramway to Screens .. .. | | 340 |
| Haulage gear and ropes .. .. .. .. | | 200 |
| Tub weighing machine .. .. .. .. | | 200 |
| Railway weighing machine and house . .. | | 350 |
| Office, lamproom and smithy .. .. .. | | 400 |
| Lamps (200) .. .. .. .. .. .. | | 200 |
| Powder store .. .. .. .. .. .. | | 60 |
| Fan Motor and fixing .. .. .. .. | | 400 |
| Motor lorry (2 tons) .. .. .. .. | | 300 |
| Labour .. .. .. .. .. .. .. | | 600 |
| | TOTAL SURFACE | £4,545 |
| **Underground.** | | |
| Drifts to Main coal and Brassey, 80 yards .. .. .. .. | £ 480 | |
| Rock Drills .. .. .. .. | 130 | |
| Rails and sleepers . .. .. | 60 | |
| Two pumps, motors and switch gear | 520 | |
| | TOTAL UNDERGROUND | £1,190 |
| | TOTAL SURFACE AND UNDERGROUND | £5,735 |

Fig. 9 Bannel Colliery expenditure 1924 from a report on Buckley Collieries 1923 (CROH D/DM/355/16)

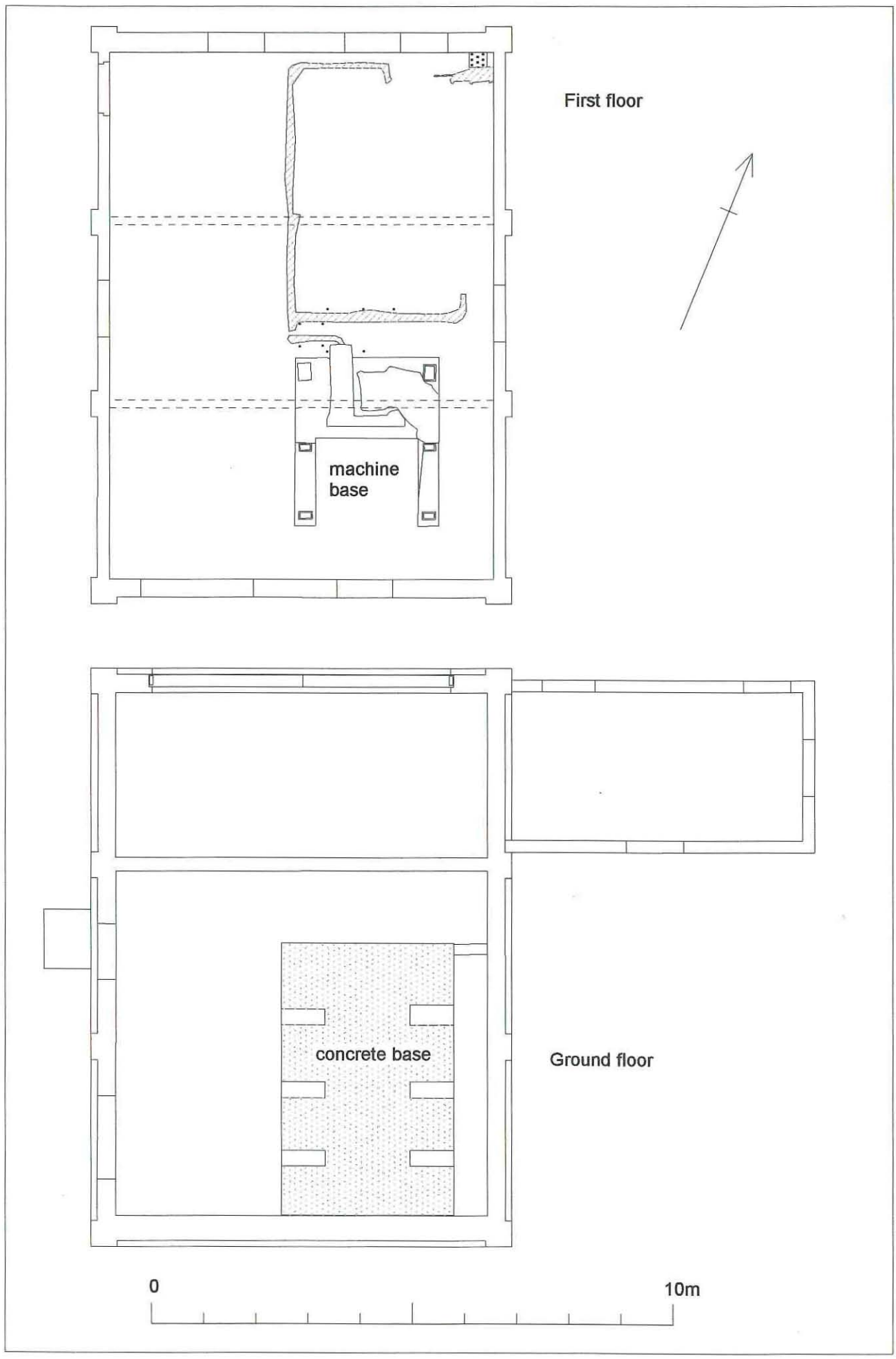
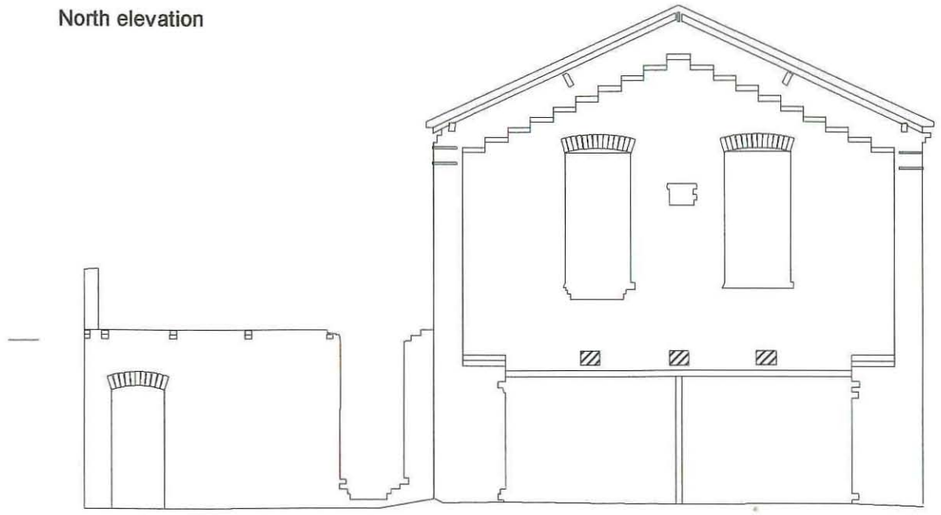
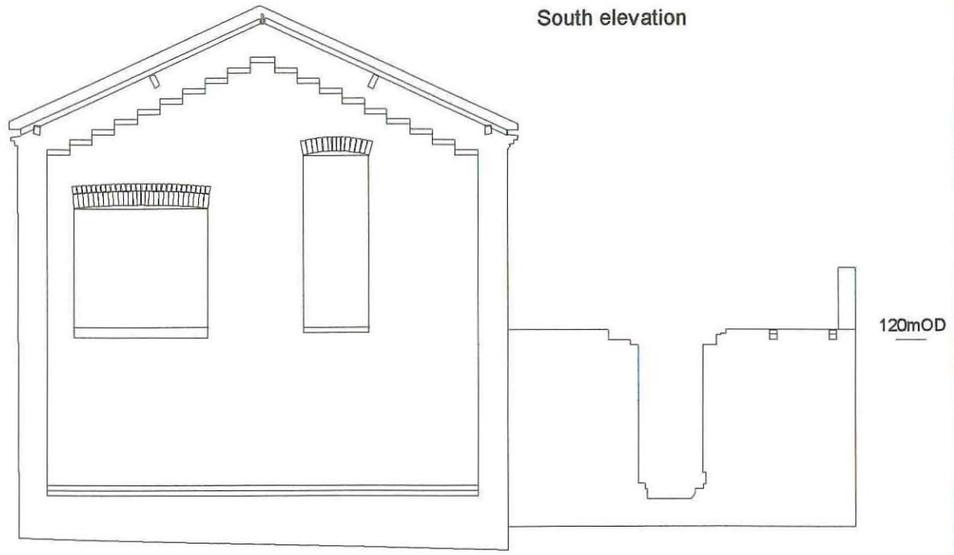



Fig. 00 Floor plans, scale 1:100

North elevation



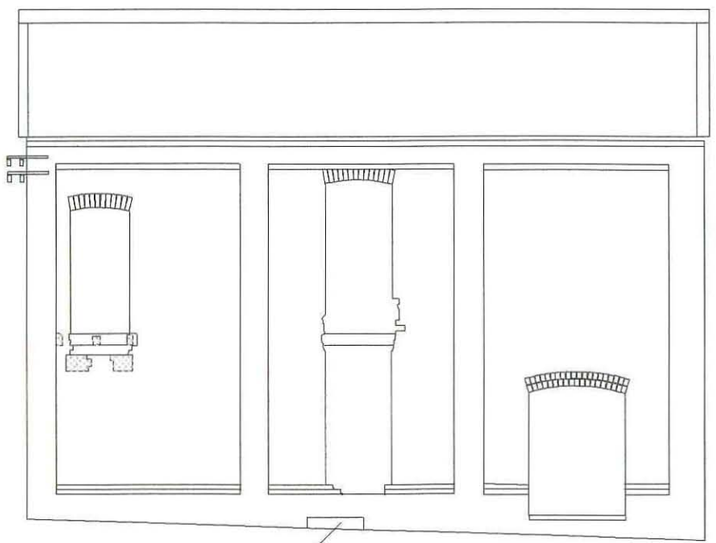
South elevation



120mOD

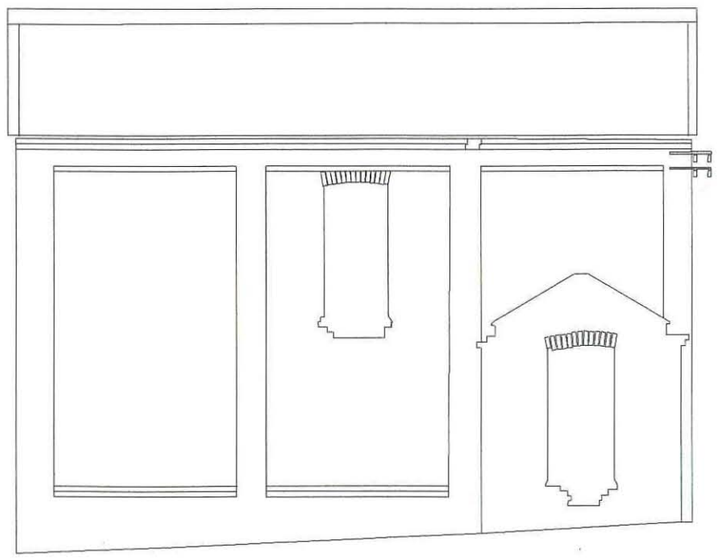
ventilation grills

West elevation



concrete slab

East elevation



120mOD

0 10 20m

Fig. 11 Elevations, scale 1:100

Plate 1 Ground floor: concrete support for winding gear. Photo CPAT 1077.16

Plate 2 Northern roof truss. Photo CPAT 1077.17

Plate 3 Machine base for winding gear. Photo CPAT 1077.19

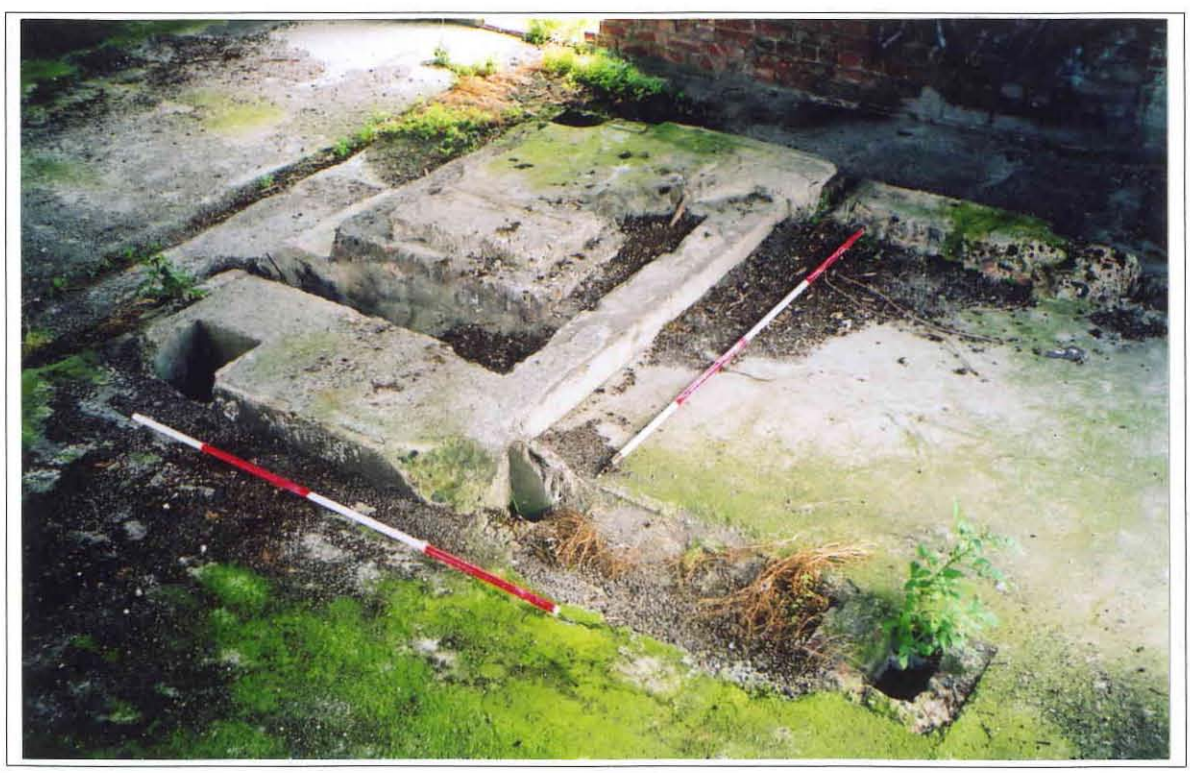


Plate 4 Machine base for winding gear. Photo CPAT 1077.23

Plate 5 Conduit in first floor, north-east corner. Photo CPAT 1077.21

Plate 6 Position of fittings on first floor. Photo CPAT 1077.24

Plate 7 North elevation. Photo CPAT 1077.14

Plate 8 South elevation. Photo CPAT 1077.4

Plate 9 West elevation. Photo CPAT 1077.7

Plate 10 East elevation. Photo CPAT 1077.1