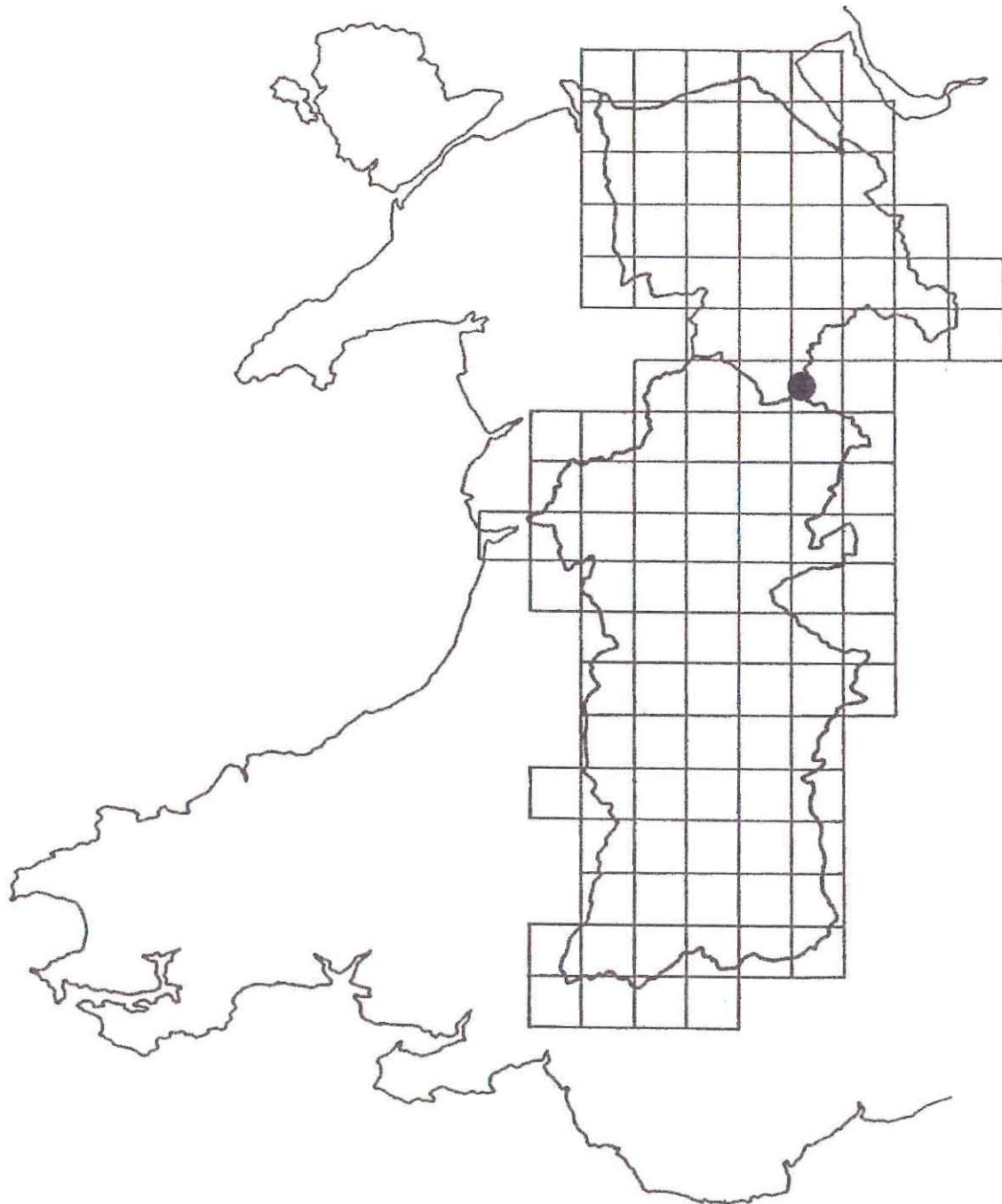


THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

*Brynkinallt Colliery, Chirk*

ARCHAEOLOGICAL WATCHING BRIEF



CPAT Report No 171

*Brynkinallt Colliery, Chirk*  
ARCHAEOLOGICAL WATCHING BRIEF

by **N.W. Jones**  
May 1996

Report prepared for Richards, Moorhead and Laing

**The Clwyd-Powys Archaeological Trust**

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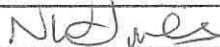
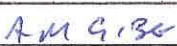


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## CPAT Report Record

### Report and status

CPAT Report Title: Brynkinallt Colliery, Chirk: Archaeological Watching Brief	
CPAT Project Name Brynkinallt Colliery	
CPAT Project No 660	CPAT Report No 171
Confidential (yes/no)	draft/final Final

### Internal control

	name	signature	date
prepared by	N.W. Jones		28/5/96
checked by			
approved by	A. M. Gibson		28/5/96

### Revisions

no	date	made by	checked by	approved by

### Internal memo


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## **CONTENTS**

- 1 INTRODUCTION
- 2 BACKGROUND
- 3 WATCHING BRIEF AND EXCAVATION
- 4 CONCLUSIONS
- 5 ACKNOWLEDGEMENTS
- 6 BIBLIOGRAPHY

APPENDIX 1: SITE ARCHIVE

APPENDIX 2: SPECIFICATIONS

## **LIST OF ILLUSTRATIONS**

- Fig. 1 Location
- Fig. 2 Ordnance Survey 1st edition 1873
- Fig. 3 Ordnance Survey 2nd edition 1899
- Fig. 4 Ordnance Survey 3rd edition 1912
- Fig. 5 NCB Plan 1949
- Fig. 6 NCB Surface Fire-fighting plan (undated)
- Fig. 7 Ordnance Survey 1973
- Fig. 8 Watching Brief: structures identified
- Fig. 9 Winding House
- Fig. 10 Fan House
- Fig. 11 Shaft No. 1
- Plate 1 Winding House
- Plate 2 Winding House
- Plate 3 Fan House
- Plate 4 Fan House
- Plate 5 Tunnel 2 and Tunnel 3
- Plate 6 No. 1 Shaft and Building 1



## 1 INTRODUCTION

- 1.1 The site of the former Brynkinallt Colliery at Brynkinallt Park, Chirk, lies 0.75km north-east of the village, centred at SJ 297382 (fig. 1).
- 1.2 The development at Brynkinallt Park involves the reclamation of a block of land to the east of Chirk known as Chirk Green. The site lies at 112m above Ordnance datum and is bounded to the south and east by Colliery Road, to the west by the houses of Middleton Terrace and by an unnamed lane on the north.
- 1.3 The Clwyd Archaeology Service (hereafter CAS), in their capacity as joint archaeological curators for the county, determined that an archaeological watching brief was necessary during the proposed development. Accordingly a brief was prepared by CAS (dated 19/10/95) which described the scheme of archaeological works required.
- 1.4 In November 1995 CPAT Contracts Section was invited by Richards, Moorhead and Laing Ltd., the consulting engineers, to prepare a tender and specification for an archaeological watching brief. This was subsequently accepted and CPAT Contracts were invited to undertake the work which was carried out in two phases between March 19th and April 11th, and May 8th and 14th 1996.

## 2 BACKGROUND

- 2.1 Brynkinallt Colliery was sunk about 1870 under the ownership of Lord Trevor, and in 1893 it was acquired by William Young Craig.
- 2.2 The development of the colliery is illustrated by the first three editions of the Ordnance Survey, dated 1873, 1899 and 1912 (figs 2-4).
- 2.3 A report for the National Coal Board in 1949 (Adkins 1949) gives much useful information about the colliery, from which the following details have been taken. An accompanying plan (fig. 5) identifies the main structures in use at this time. It is interesting to compare this plan with the Ordnance Survey 3rd edition of 1912 (fig. 4), although it must be assumed that only the buildings in use at that time are shown on the later plan.
  - 2.3.1 By 1912 the workings had extended eastwards almost as far as Gertrude Shaft at Ifton, owned by Lord Trevor. The shafts were sunk to 130yds when worked stopped during the First World War, at which time they were some 60-70yds above the main coal. A pit bottom was made at this juncture.
  - 2.3.2 The workings eventually connected to the Ifton Colliery at St. Martins and coal workings ceased in 1928 after which Brynkinallt was maintained as a ventilation shaft.
  - 2.3.3 Both shafts at Brynkinallt were 13' diameter, and had been sunk to 165yds when production ceased.
  - 2.3.4 The southern No. 1 Shaft was used for winding and equipped with a winding house on the east side of the shaft. This housed twin Death and Elwood 26" x 48" cylinders with a working pressure of 80lb/sq in, driving a 10' winding drum, 6' 2½" wide.
  - 2.3.5 The northern, No. 2 Shaft had an adjoining fan house, which was eventually converted to electricity, although steam power was retained as a backup. The Sirocco single inlet fan was installed in 1923 with an additional Schiele double inlet fan.
  - 2.3.6 In 1949 there were two 30' x 8'6" boilers in use for the winding engines, which were erected second-hand in 1942. Generally, only one boiler was needed with the other on stand-by. Water was supplied from the River Ceiriog and fuel transported by lorry from Ifton and tipped directly into bunkers. There appears to have been a single boiler house supplying power for both the Winding and Fan Houses, which adjoined the northern side of the Winding House with a chimney at the south-east corner.
- 2.4 A post-war surface fire-fighting plan (Shropshire Records and Research Unit) shows further detail of the surface structures identifying their function (fig. 6).



- 2.5 The cartographic sources available have been used to produce a composite plan (fig. 8) which attempts to interpret the surface structures. Additional detail has been added from the watching brief (see below), including the approximate location of some features identified.
- 2.6 Following the closure of Ifton Colliery in 1968, the Brynkinallt site was demolished and landscaped during the 1970s at which time both shafts were fenced-off (fig. 7). The only structural remains visible at ground level related to a brick and concrete structure surrounding No. 1 Shaft and slight earthworks indicating the location of the adjacent Winding House.
- 2.7 In 1995 a proposal by Glyndwr Borough Council to reclaim the site and cap the shafts led to the programme of archaeological recording described below.

### 3 WATCHING BRIEF AND EXCAVATION

- 3.1 The nature of the contractors work programme made comprehensive recording impractical, with the result that certain areas were recorded by photography only during the machine excavation.
- 3.2 The site works consisted of excavating an area surrounding both shafts, initially to a depth of c. 4m below the present ground level (see fig. 6). Eventually, the depth was increased to c. 8-9m, at which level the two shafts were then excavated of backfilled material to a sufficient depth to facilitate capping.
- 3.3 Work commenced around No. 2 Shaft, but the methods of working and the dangerous nature of the excavation made detailed recording impossible. It was evident that the remains of substantial stone and brick structures lay to the north of the shaft, presumably relating to the Fan House, but there was no opportunity to record these in detail until the first phase of excavation had been completed (see 3.11 below). A watching brief was maintained throughout the operations and a photographic record kept of those features revealed.
- 3.4 The cooperation of the contractors, allowing the use of a mechanical excavator, enabled much of the Winding House to be uncovered and recorded (see 3.6 below) while work was progressing elsewhere. Although the majority of the Winding House lay just outside the area of deep excavation, uncertainty regarding the need for later landscaping led to the decision to excavate and record the structure as far as was practicable.
- 3.5 The features revealed during the watching brief are described in the following sections.

#### **The Winding House (Fig. 9)**

- 3.6 The machine was used to remove up to 2.20m of colliery waste covering the structure, which was then clean and recorded in detail using EDM Total Station survey equipment. A full photographic record was maintained throughout (Plates 1-2).
- 3.7 Although much damaged by demolition in the 1970s, and also to some extent by the rapid machine excavation, the remains provided useful information about the structure (fig. 9). It was not possible to fully excavate the building and the original floor levels were not identified.
- 3.8 The structural remains suggested two main phases for the Winding House, evidenced by contrasting methods of construction. The original structure consisted of a brick building c. 13.5 x 9.5m overall aligned to Shaft No. 1. The Boiler House adjoined to the north, but was but uncovered during the groundworks.
- 3.9 Within the building two substantial sandstone plinths 1.7m wide presumably supported twin horizontal steam engines, as described in 2.3.4 above. Between the two plinths, aligned centrally to the shaft, a pit 1.95m wide would have housed the winding drum. This corresponds well with the known dimensions of the drum, which measured 10ft in diameter and 6' 2½" wide.
- 3.10 At some point the winding drum was removed and the pit bridged by three steel girders 4.5m long and 0.35m wide. At the same time a concrete floor was laid over the stone plinths. This was presumably a late development and must certainly date to the post-war period.



**The Fan House (Fig. 10)**

- 3.11 The Fan House adjoined the northern side of No. 2 Shaft. As mentioned above, the contractors work programme and the nature of the excavation meant that only a photographic record could be maintained during the early stages. As work progressed, it was apparent that a substantial part of the building had survived intact, buried beneath the landscaped surface, although this was largely demolished by the excavation.
- 3.12 An arrangement with the contractors enabled a brief period of recording once the initial excavation had been completed. At this stage up to 4m had been removed revealing the foundations and some internal detail. The building was rapidly cleaned and recorded using EDM Total Station equipment, to produce a detailed plan of the features visible (fig. 10 and Plates 3-4).
- 3.13 The level at which the recording took place was slightly above the original ground surface. The building appears to have had floors on three levels, the lowest of which was not observed. A brick floor measuring 2.0 x 2.5m survived at a higher level, with a disturbed concrete floor to the north. A second concrete floor was recorded at a level c. 1.00m higher, although much damaged and extending beyond the excavated face to the north.
- 3.14 Despite producing a detailed plan of part of the Fan House, it has not been possible to provide an interpretation of the features observed. The walls were of red brick, with some concrete reinforcement and the position of some timbers still evident. The building appeared to be divided into two main sections at different levels.
- 3.15 The eastern side consisted of two sets of parallel brick walls 3.95m apart, infilled with concrete, presumably as reinforcement, and aligned directly to No. 2 Shaft. The area between the walls contained the brick and concrete floors described above, together with a brick wall 4.5m long and 0.35m wide, set at a slight angle. A gap of 0.80m lay between the western wall and a further brick wall presumably formed the west wall of the Fan House.
- 3.16 The western side was generally at a lower level and contained a series of brick walls, some of which may have been support for machinery. At the south-west corner two parallel walls 1.18m apart extended beyond the investigated area to the south. At the north-west corner a yellow brick structure was visible at a higher level in the excavation face, having the appearance of a flue. Adjoining this to the east was a rectangular red brick feature measuring 1.8 x 2.5m (Plate 4).

**No. 1 Shaft (Fig. 11)**

- 3.17 This was the main winding shaft at Brynkinallt, with the Winding House to the east.
- 3.18 Prior to work commencing the shaft was visible within a fenced enclosure, with some structural evidence surrounding it. Limited hand excavation revealed a brick wall at least 7.85m long forming the south side of a building, with a second wall forming part of the east end. Within the angle between the two walls was a small area of concrete flooring. This would appear to be part of the structure enclosing the shafthead which is depicted on figs 3-4.
- 3.19 The watching brief during the excavations in the area of the shaft revealed that the shafthead was formed by substantial steel girders and concrete blocks, overlying the original yellow brick shaft lining. A brick-lined tunnel, Tunnel 3 (Plate 5), was seen joining the shaft on the northern side, but there was now opportunity to record it. This presumably provided access to the shaft.

**No. 2 Shaft**

- 3.20 This shaft was the ventilation shaft for the mine, which was later maintained as the upcast ventilation shaft for Ifon Colliery.
- 3.21 Landscaping of the site had completely obscured the shaft, the position of which was indicated by a fenced enclosure. As work progressed there was no indication of the shaft until c. 4m of material had been removed, at which point the yellow brick lining became visible. The watching brief failed to identify any features associated with the shaft other than the Fan House, and gave no indication of how the two structures were connected.

**Building 1**

- 3.22 During the excavations surrounding No 1 Shaft the remains of a substantial building were observed immediately to the south, extending beyond the excavated area. The building was of sandstone construction and coincided with the structure shown on the early Ordnance Survey maps (figs 3-4),



which indicated a plan measuring 8 x 5m. There was no opportunity for measured recording although a photographic record was maintained (Plate 6).

- 3.23 The substantial construction of the building, together its position close to the shaft, is typical of a late 19th century pumping engine house. However, there is no evidence to suggest that such a structure existed at Brynkinallt. The building is shown in two photographs dated 1912 (Kelly 1990, nos 6 and 10), although these give no clues as to its function.

#### **Tunnel 1**

- 3.24 A brick-lined, arched tunnel or culvert was identified during the watching brief immediately to the west of Building 1. This was visible in the exposed face following the initial phase of excavation, and its function is unknown.

#### **Tunnel 2**

- 3.25 A brick-lined, arched tunnel or culvert was identified during the watching brief midway between the two shafts, running east-west (Plate 5). This was visible in the exposed eastern face following the initial phase of excavation, and its function is unknown.

#### **Other features**

- 3.26 A substantial sandstone wall was seen during the watching brief running approximately north-south along the western edge of the excavated area. It would seem likely that this had some association with the railway sidings which formerly existed immediately to the west (fig. 4).

## **4 CONCLUSIONS**

- 4.1 The results from the watching brief have demonstrated that although the site had been levelled and landscaped during the 1970s substantial structural remains survived, buried beneath redeposited colliery waste. The excavations undertaken to cap both shafts revealed significant features some of which were recorded by photography only due to the nature of the work and health and safety considerations.
- 4.2 Apart from some detail relating to both shafts, the main structures identified were the Fan House and Winding House, both of which were recorded in some detail where exposed. In the latter case this has enabled some interpretation, which largely corresponds to the documentary evidence.
- 4.3 Although the reclamation scheme has led to the destruction of a significant area surrounding both shafts, other areas are likely to remain fairly intact, preserved beneath redeposited colliery waste.

## **5 ACKNOWLEDGEMENTS**

The writer wishes to thank the following: Glyn Owen and Pat Frost for their assistance with the watching brief and recording; Cliff Sheppard from Richards, Moorhead and Laing; David Williams from Jones Bros, Ruthin; Stephen Greuter, Clwyd Archaeology Service/Wrexham County Borough Council.

## **6 BIBLIOGRAPHY**

- Adkins, G.I., 1949. *Report on Ifton and Black Park Collieries*, National Coal Board NW Division No. 5 (North Wales) Area.
- Kelly, I, 1990. *The North Wales Coalfield - a collection of pictures*, Vol. 1, Bridge Books, Wrexham.



**Appendix 1**

**SITE ARCHIVE**

EDM Survey and DXF files

Photographic Record:

B/W Films, contacts and archive prints nos 443/9-36, 444/1-35, 445/2-34, 450/3-25

Colour slide films nos CS96/09/1-38, CS96/11/1-36, CS96/12/23-35

Photographic catalogue

Early edition OS surveys

NCB plan 1949

NCB Fire Fighting Plan

Interpretive site plans

## Appendix 2

### BRYNKINALLT PARK, CHIRK.

#### SPECIFICATION FOR AN ARCHAEOLOGICAL WATCHING BRIEF BY CLWYD-POWYS ARCHAEOLOGICAL TRUST

## **1 Introduction**

- 1.1 The proposed development at Brynkinallt Park involves the reclamation of a block of land to the east of Chirk known as Chirk Green (SJ297382). The site lies at 112m above Ordnance datum and is bounded to the south and east by Colliery Road, to the west by the houses of Middleton Terrace and by an unnamed lane on the north.
- 1.2 This area lies on the site of the former Brynkinallt Colliery known to have been operative between about 1870 and 1968.
- 1.3 The Clwyd Archaeology Service (hereafter CAS) in their capacity as joint archaeological curators for the county have determined that an Archaeological watching brief is necessary to assess the implications of the proposed development on the archaeological resource. Accordingly a brief has been prepared by CAS (dated 19/10/95) which describes the scheme of archaeological works required.

## **2 Objectives**

- 2.1 The objectives of the archaeological works are:
  - 2.1.1 to record the nature, condition, significance and, where possible, the chronology of any archaeological deposits and/or features revealed within the area of the proposed development during the development works in so far as these aims are possible;
  - 2.1.2 to prepare a report outlining the results of the watching brief.

## **3 Methods**

- 3.1 The watching brief will be carried out according to the guidelines submitted with the Curatorial Brief and will involve the examination of all the groundworks in the archaeological sensitive areas.
- 3.2 All archaeological deposits and/or features noted during the watching brief will be recorded by drawn section and/or photography.
- 3.3 In addition to the general requirements of a watching brief *sensu stricto*, officers of CAS have determined that there may be the need for selective excavation of features prior to their destruction in order to achieve aim 2.1.1 above. Any excavation will conform to the normal principles of stratigraphic excavation.
- 3.4 Site recording will conform to the requirements of the CAS brief (p.4).
- 3.6 Following the on-site work an illustrated and bound report will be prepared according to the principles laid out in the Brief (pp5-6). This will be in A4 format and contain conventional sections on: Site location, Topography and Geology; Historic Background; Catalogue of sites identified with notes on their condition and significance, Conclusions and Recommendations and References, together with appropriate appendices on archives and finds.
- 3.5 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 watching brief will be undertaken by a skilled and experienced archaeologist. Overall supervision will be by Dr A Gibson, 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 the same field archaeologist who conducted the watching brief.
- 4.3 It is anticipated that the watching brief will take no more than 12-16 days in all, dependent on the progress of the contractors, 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.

**A.M. Gibson**  
**8th November 1995**

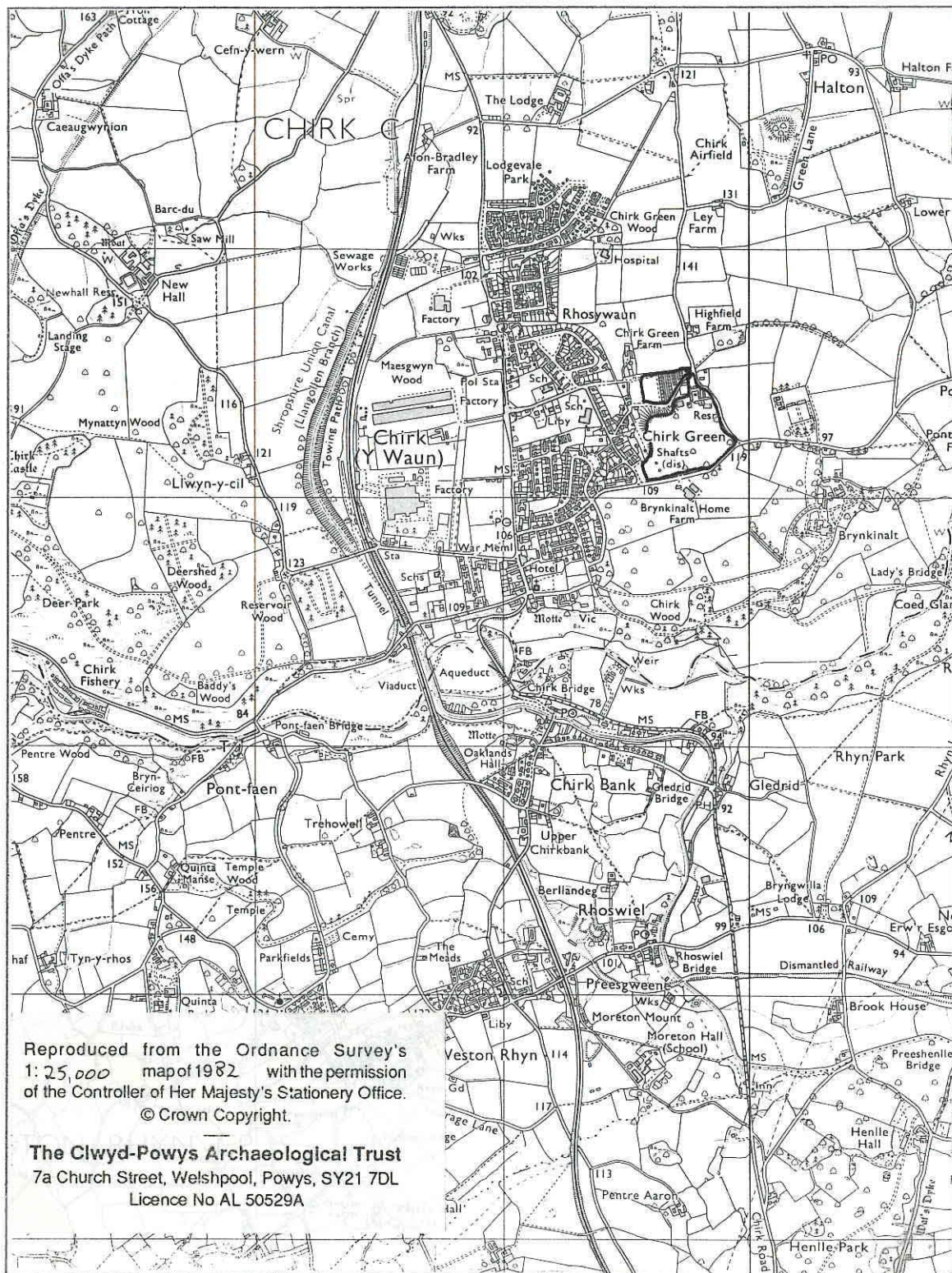


Fig. 1 Location, scale 1:25,000



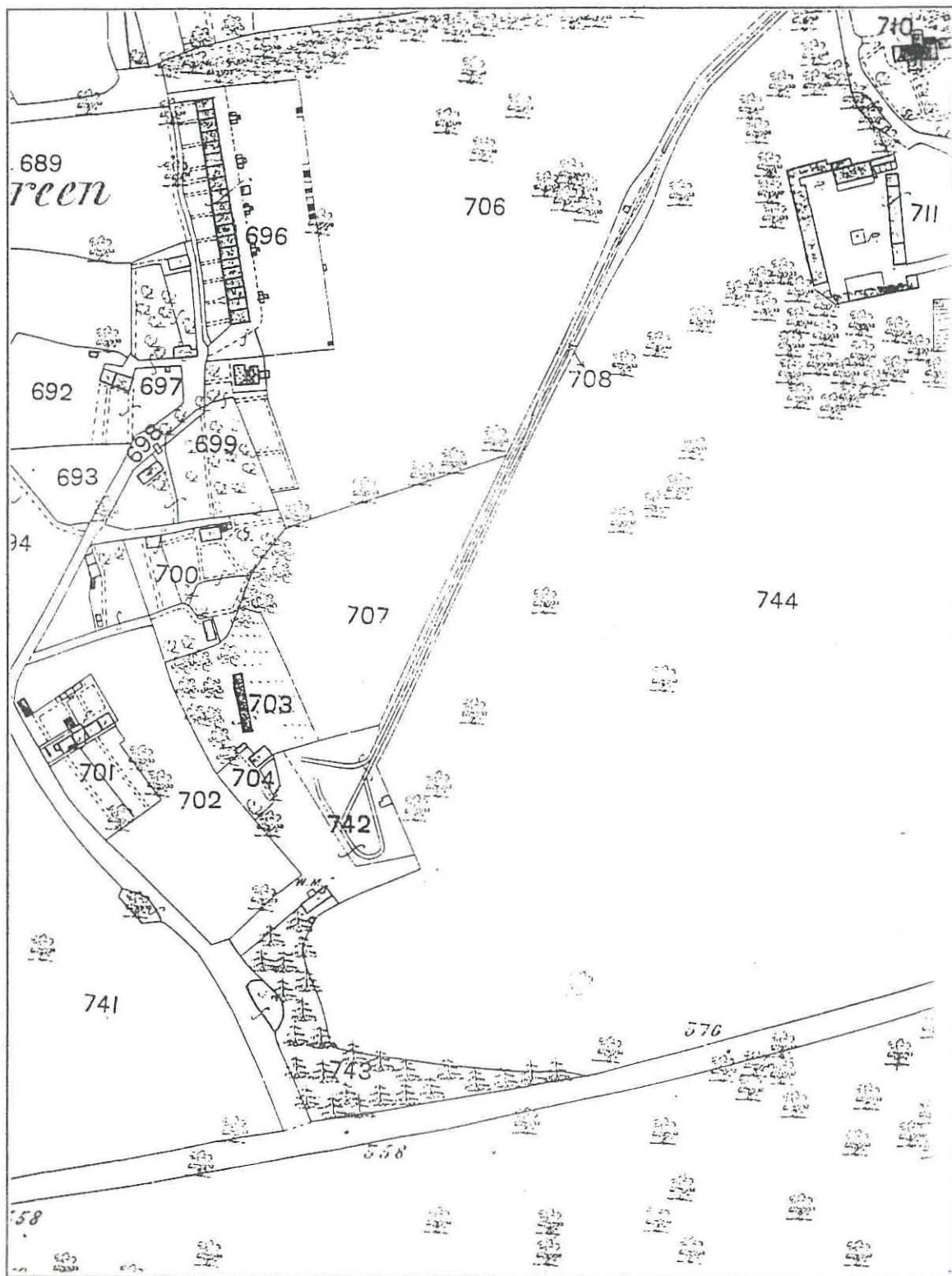


Fig. 2. Ordnance Survey 1st edition 1873, scale 1:2500

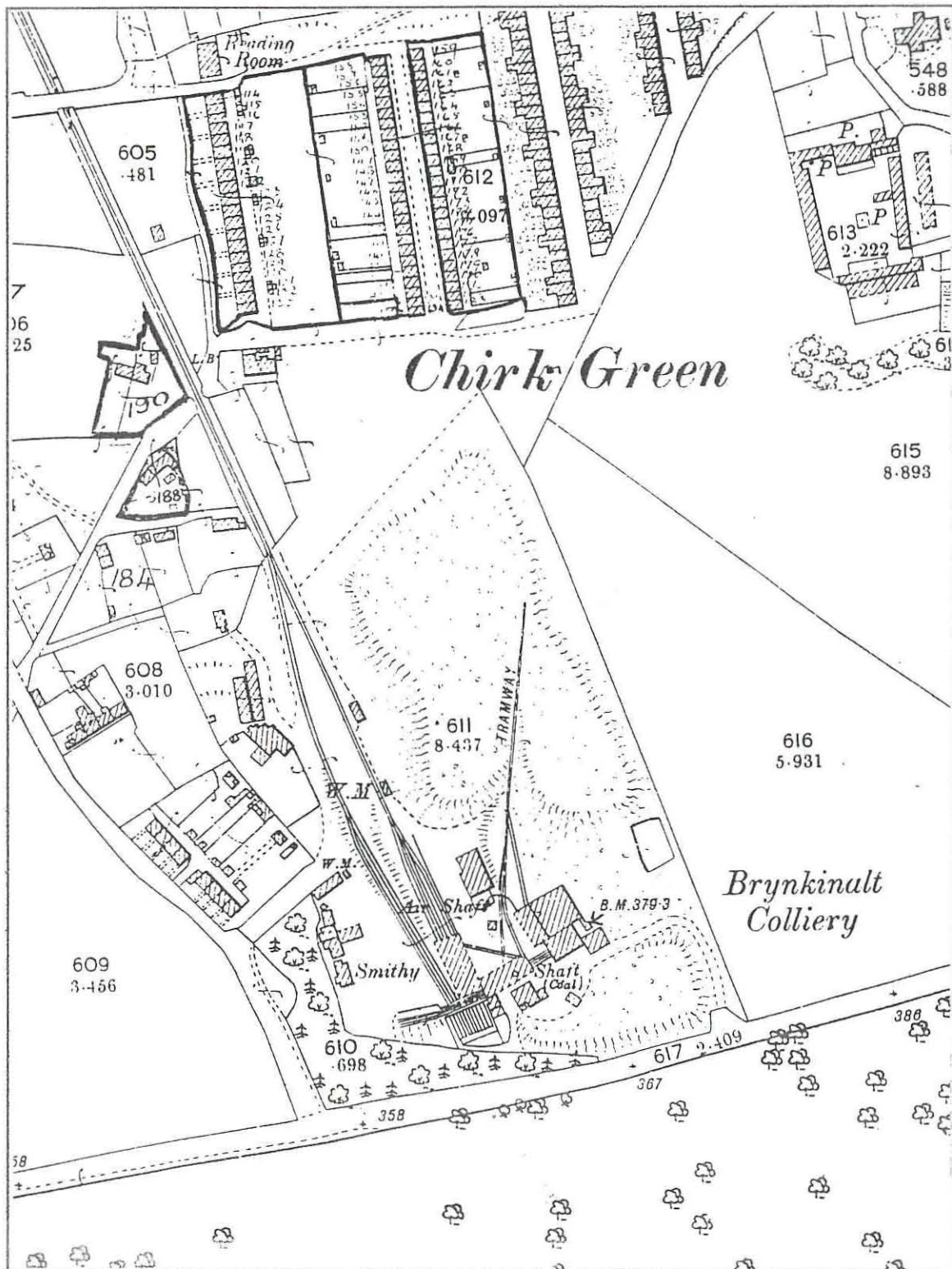


Fig. 3 Ordnance Survey 2nd edition 1889, scale 1:2,5000





Fig. 4 Ordnance Survey 3rd edition 1912, scale 1:2,5000

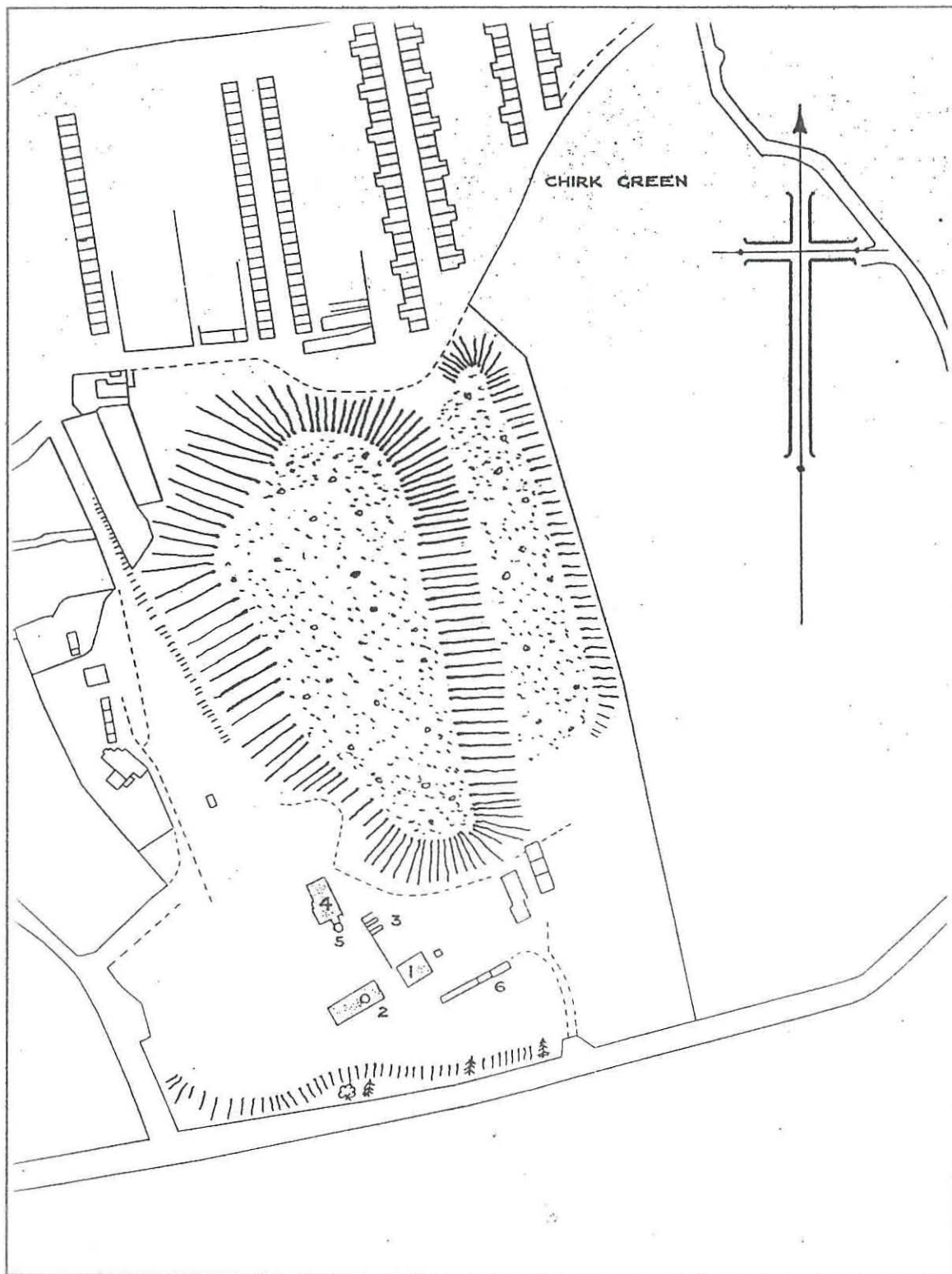


Fig. 5 NCB Plan 1949, scale 1:2,500. 1 Winding House 2 No 1 Shaft 3 Power Plant  
4 Fan House 5 No 2 Shaft 6 Lamp-room and Ambulance Room



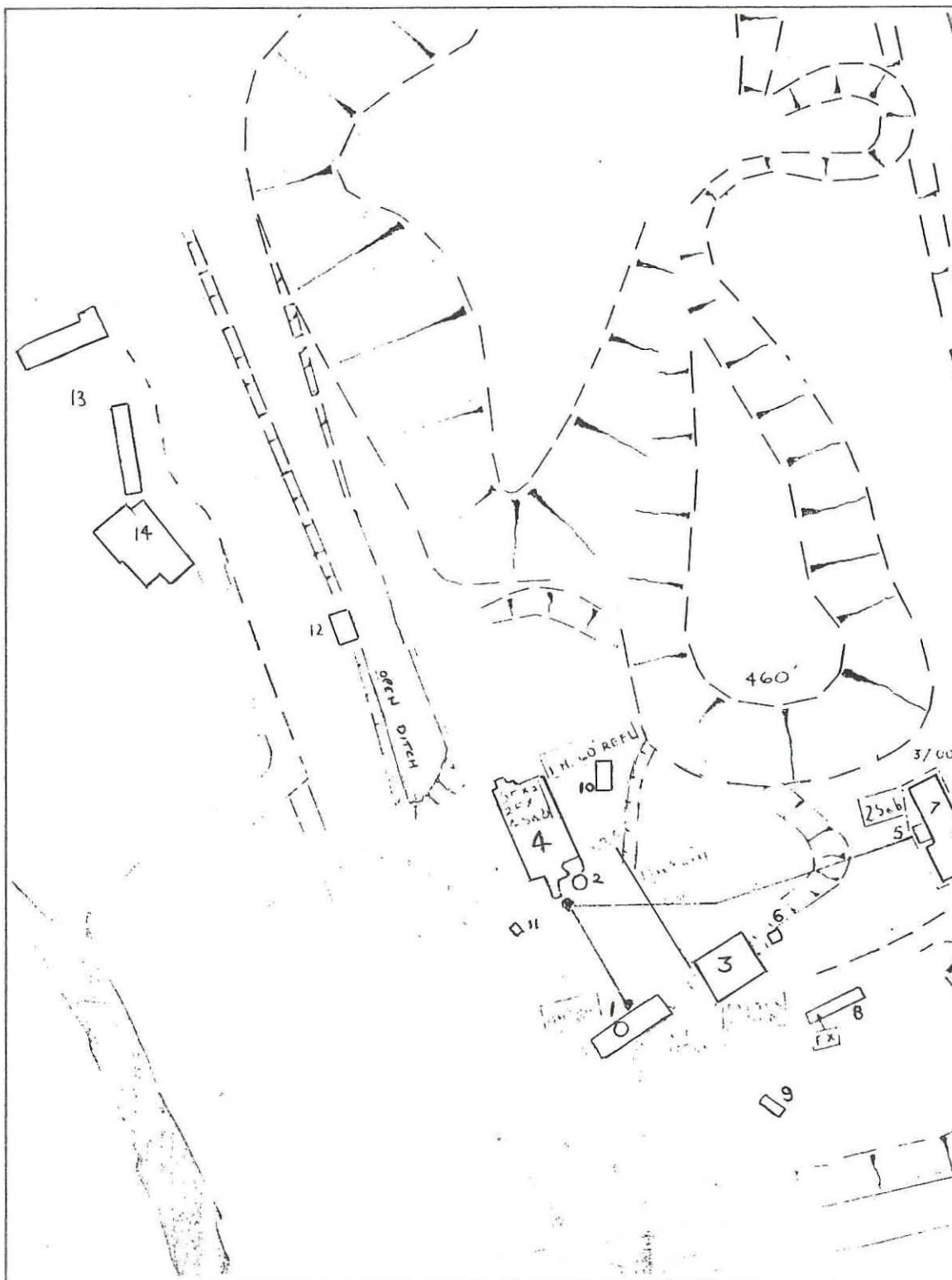


Fig. 6 NCB Surface Fire-fighting plan (undated) scale 1:1250 1Up-cast Shaft 2 Old Shaft  
3 Winder 4 Fan House 5 Pump 6 Chimney 7 Reservoir 8 Stores 9 Oil Stores  
10 Disused E/H 11 Septic tank 12 Toch Room 13 Garages 14 Cottages

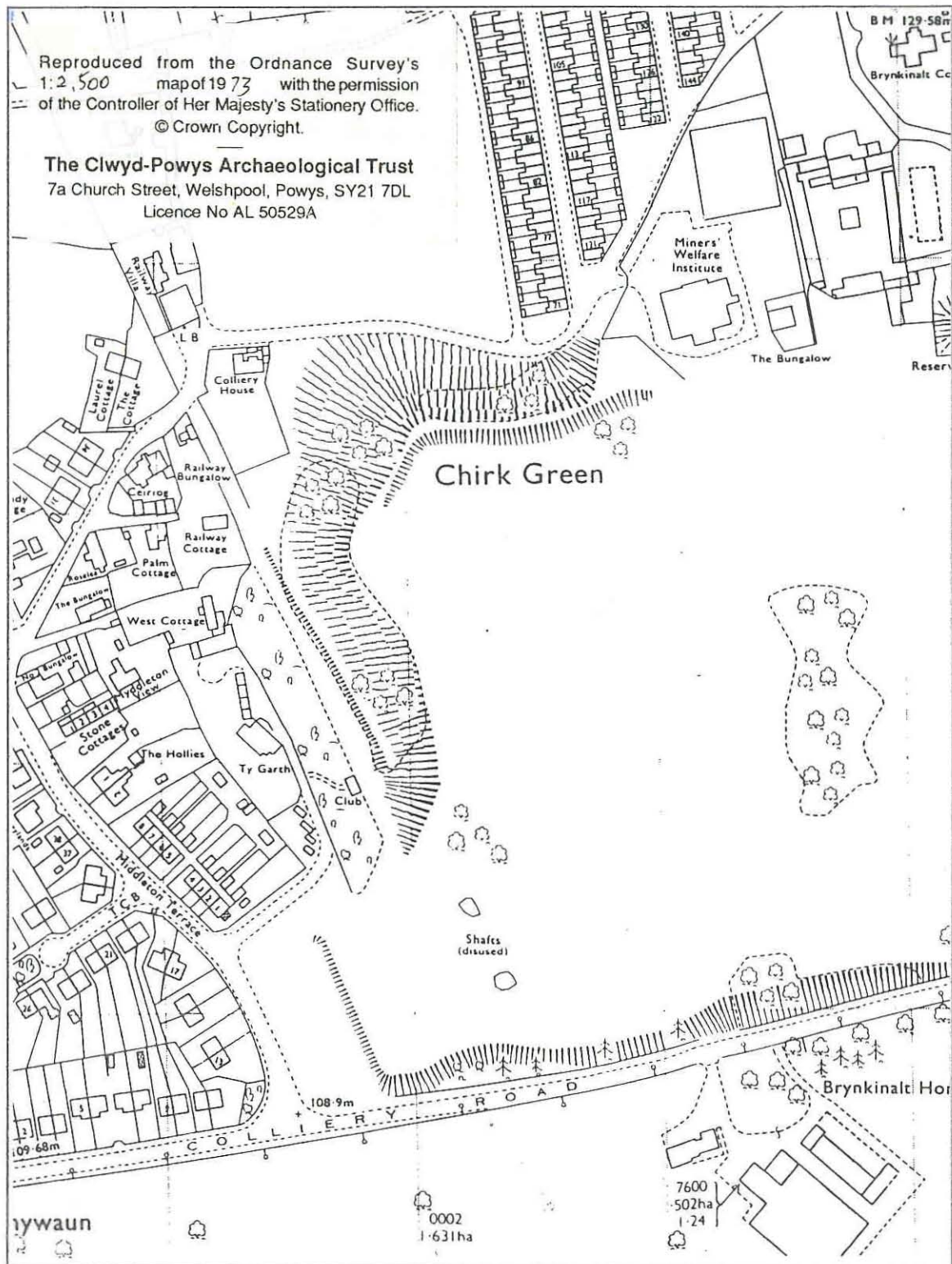


Fig. 7 Ordnance Survey 1973, scale 1:2,500



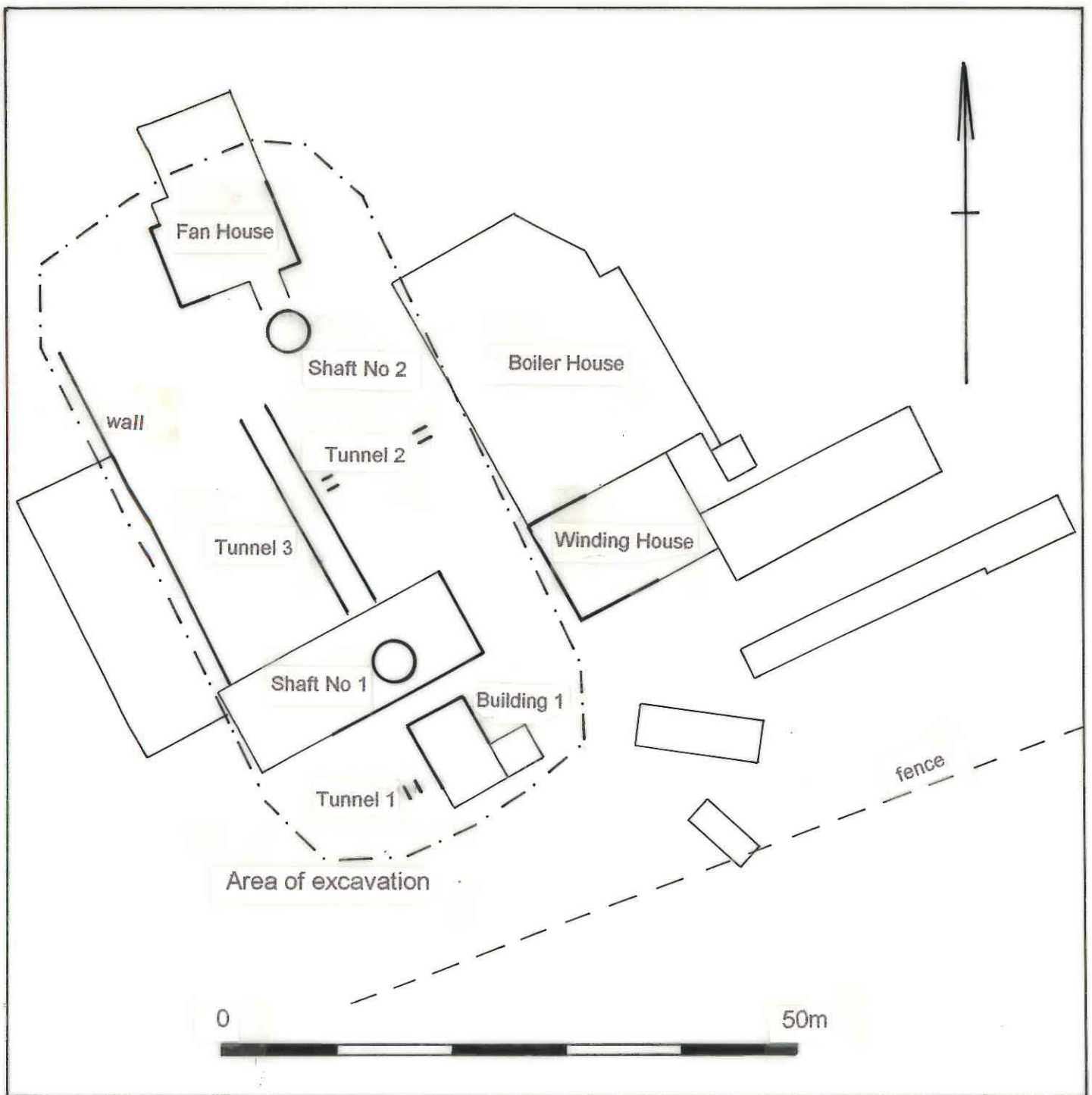


Fig. 8 Watching Brief: Structures identified, scale 1:500

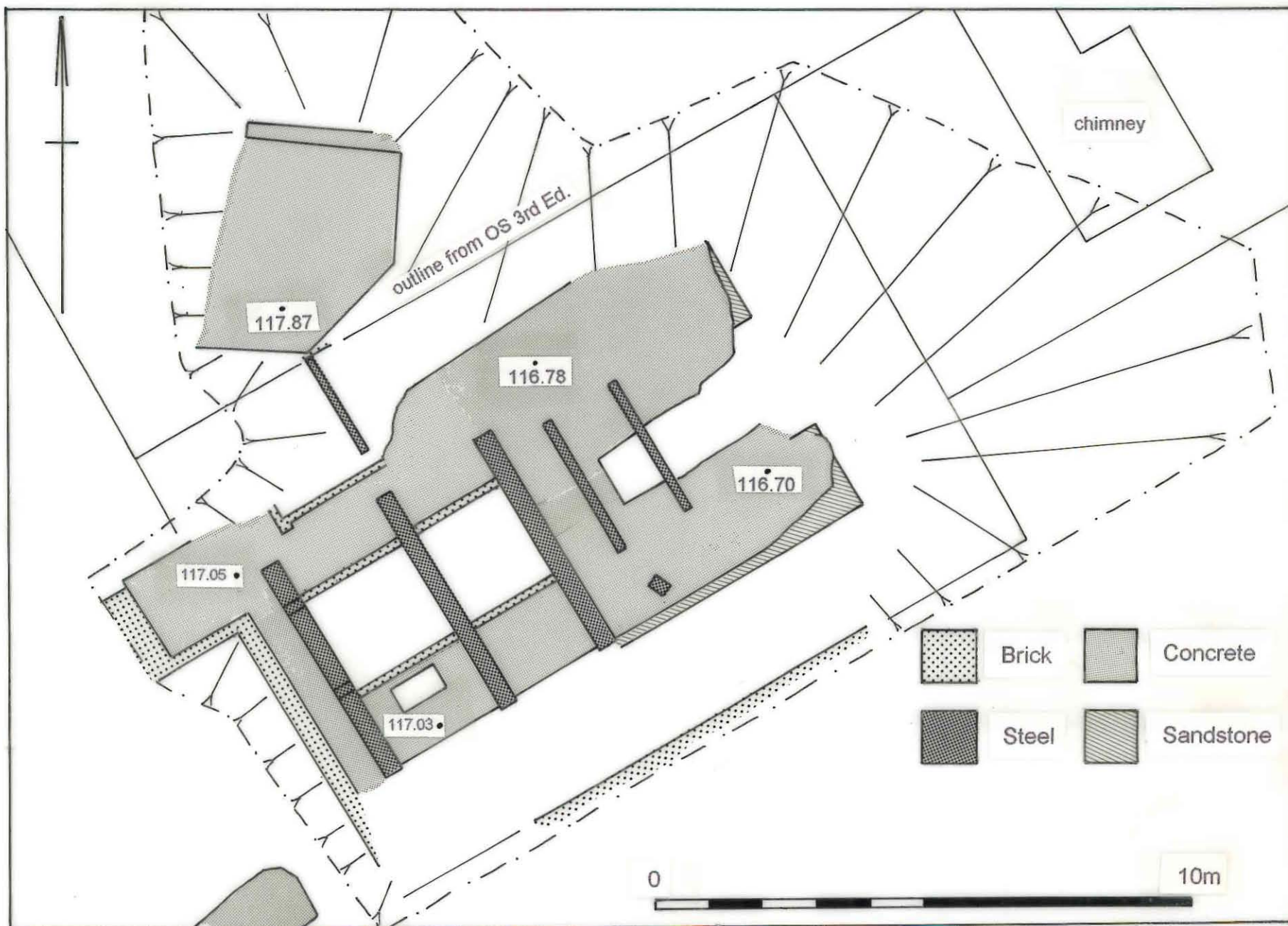


Fig. 9 Winding House. Levels to OD



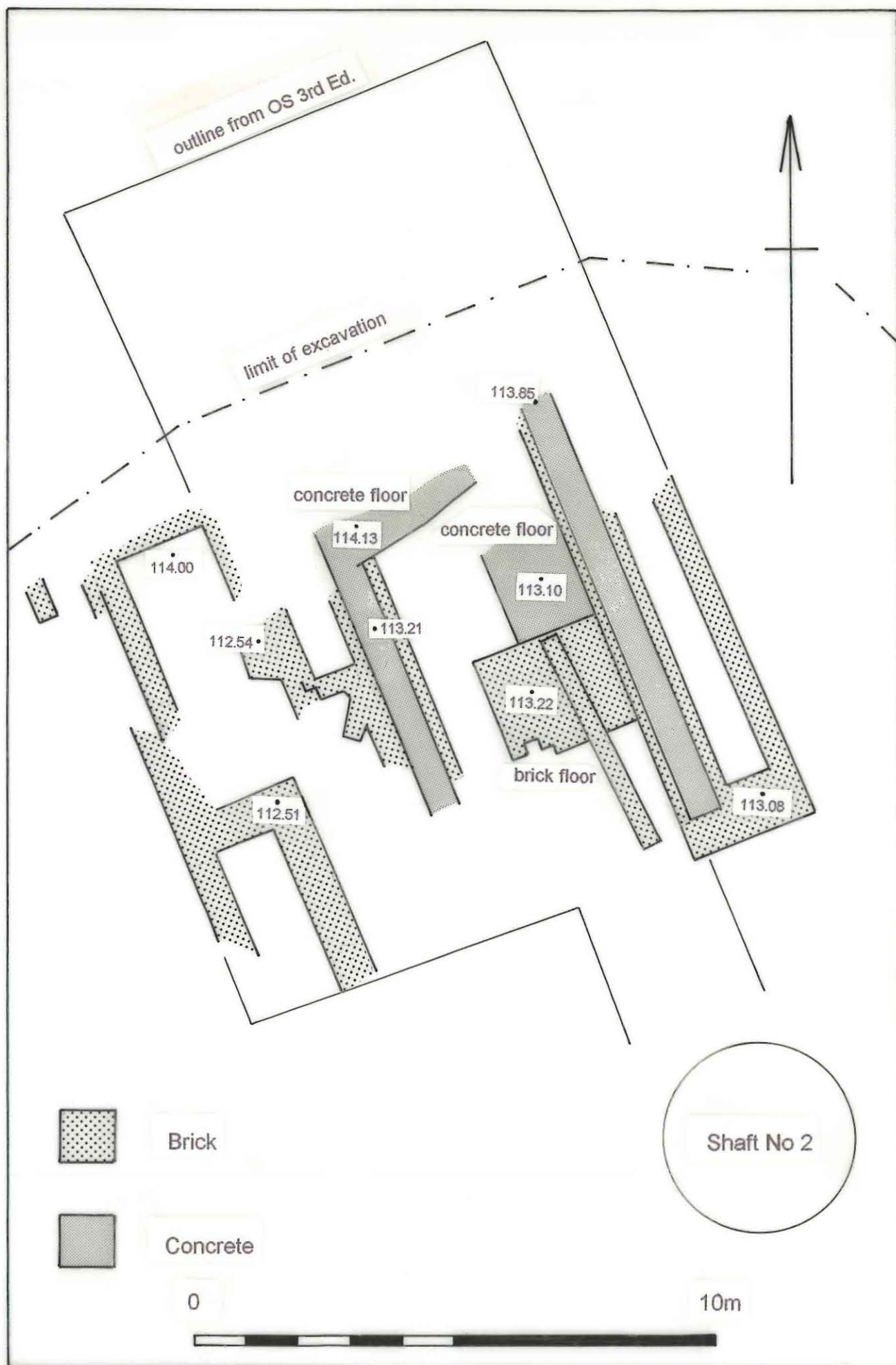


Fig. 10 Fan House. Levels to OD

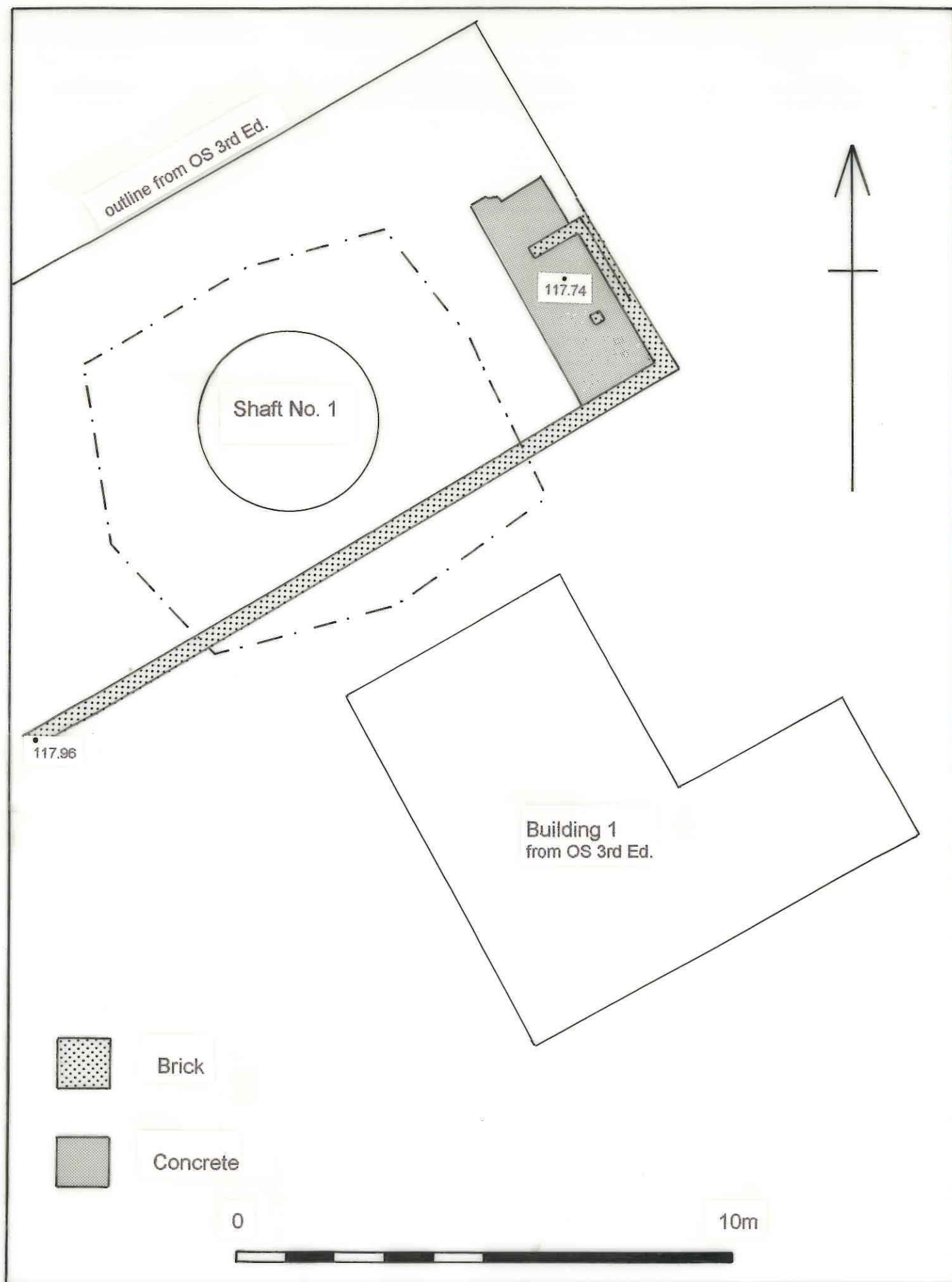


Fig. 11 Shaft No. 1. Levels to OD





Plate 1. Winding House from NE. Photo CPAT 443.11



Plate 2. Winding House from SE. Photo CPAT 443.14





Plate 3. Fan House from E. Photo CPAT 444.33



Plate 4. Fan House from S. Photo CPAT 445.9





Plate 5. Shaft No1 with Tunnel 2 (collapsed) and Tunnel 3. Photo CPAT 445.17



Plate 6. Shaft No 1 and Building 1 from E. Photo CPAT 445.12