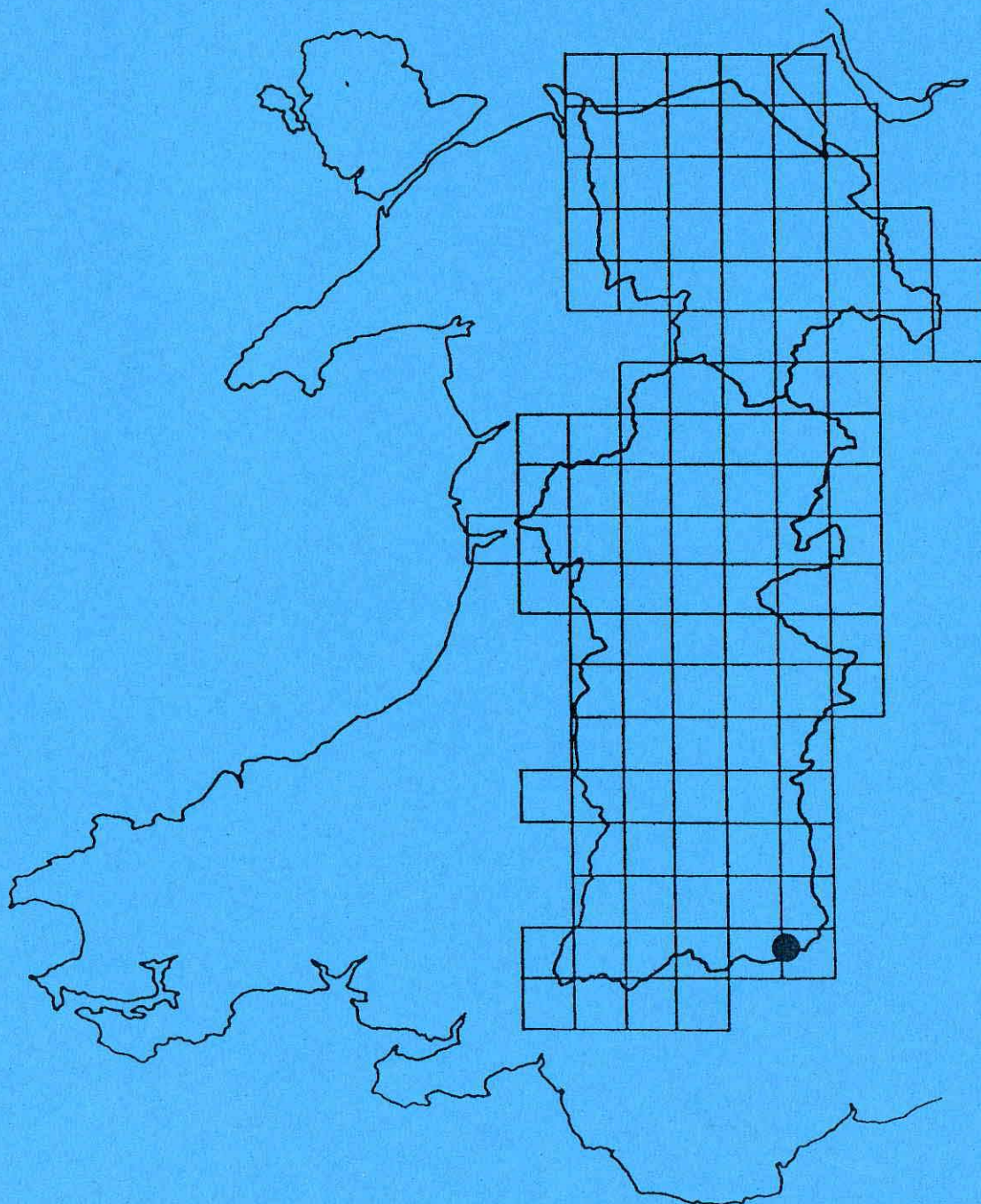


THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

*Hillside, Llangattock, Powys:*  
*Water Main renewal*  
ARCHAEOLOGICAL WATCHING BRIEF



CPAT Report No 176

*Hillside, Llangattock, Powys:*

*Water Main renewal*

ARCHAEOLOGICAL WATCHING BRIEF

by R. Hankinson

May 1996

Report prepared for Dwr Cymru/Welsh Water

**The Clwyd-Powys Archaeological Trust**

7a Church Street Welshpool Powys SY21 7DL

tel (01938) 553670, fax 552179

© CPAT 1996

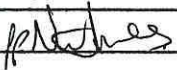




## CPAT Report Record

### Report and status

CPAT Report Title: Hillside, Llangattock, Powys: Water Main renewal. Archaeological Watching Brief	
CPAT Project Name: Llangattock	
CPAT Project No 669	CPAT Report No 176
Confidential (yes/no)	draft/final Final

### Internal control

	name	signature	date
prepared by	R. Hankinson		14/5/96
checked by	N. W. Jones		14/5/96
approved by	A. M. Gibson		15/5/96

### Revisions

no	date	made by	checked by	approved by

### Internal memo


### The Clwyd-Powys Archaeological Trust

7a Church Street Welshpool Powys SY21 7DL

tel (01938) 553670, fax 552179

© CPAT

## 1 INTRODUCTION

**1.1** On 14th April 1996 Clwyd-Powys Archaeological Trust (CPAT) Contracts Section was contacted by Dwr Cymru/Welsh Water and requested to provide a quotation for an archaeological watching brief along part of the line of a proposed new water main at Hillside, Llangattock, Powys (SO 2050 1582, Fig. 1). The watching brief had been recommended by the Curatorial Section of CPAT, acting in their role as the archaeological curator, due to the presence on the proposed line of the watermain of industrial features related to the former Llangattwg limestone quarries to the north-west of Pant-y-rhiw Holding (SO 2040 1584).

**1.2** The quotation was accepted verbally by Dwr Cymru/Welsh Water on the 16th April 1996, and later confirmed on the 18th of April. The watching brief was carried out between the 17th and 24th of April and this report prepared immediately afterwards.

## 2 GEOGRAPHICAL BACKGROUND

**2.1** The length of trench examined during the pipeline installation was approximately 150m, commencing at SO 2044 1583 and making a rising traverse to the west before changing direction and heading on a level course to the south-east from SO 2038 1584, adjacent to Pant-y-rhiw Holding, up to the completion of the watching brief at SO 2044 1576 (section A-B, Fig. 2).

**2.2** The solid geology of the area in which the watching brief was carried out is composed entirely of Carboniferous limestone. The soil derived from this underlying geology is an orange or red-brown sandy loam containing variable quantities of stone; the maximum

dimension of these included stones can approach 1m. The topsoil overlying this locally derived subsoil was a dark grey silty loam, although it is unlikely that any of the topsoil observed during the watching brief remained undisturbed by activities related to the limestone quarrying.

## 3 THE WATCHING BRIEF

**3.1** Throughout the pipeline installation the trench was machined to an approximate 1.1m depth and 0.7m width.

**3.2** The east-west aligned section of pipe trench from the commencement of the watching brief at SO 2044 1583 revealed a dark grey loamy topsoil layer, 0.2m-0.3m thick, overlying orange/red-brown sandy loam. No evidence was seen relating to the course of the incline, site (1), referred to in the CPAT Curatorial Section letter to Dwr Cymru/Welsh Water, dated 15/12/96.

**3.3** The ramp at the upper end of the supposed incline was cut by the pipe trench which revealed that its lower (eastern) part is composed of angular stones (each stone < 0.6m across) set in a matrix of loose dark grey soil. This layer which is up to 0.6m in thickness, overlies a 0.2m thick layer of brown clayey loam, which in turn overlies the natural subsoil. As the pipe trench was continued in a westward direction, the brown clayey loam thickened to replace the layer of angular stones, before thinning and being itself replaced by an underlying layer of loose rubble composed of stones (< 0.8m across) set in a mid-grey/brown sandy loam matrix. This rubble, which overlies the natural subsoil, itself thinned as the course of the north-west/south-east aligned tramroad was approached.



**3.4** The north-west/south-east aligned section of tramroad which passes from Pant-y-rhiw Holding towards Whitewalls section C-D, Fig. 2), appeared to be composed of a single phase of construction. The tramroad material was generally seen to be a 0.5m thick layer of small stones in a mixed dark grey and orange sandy clay loam matrix; this material overlies the natural orange/red-brown sandy loam subsoil containing occasional very large stones (up to at least 1m max. dimension). Within the tramroad material, regularly spaced squared stone blocks were found at intervals of 1m along the line of the track (Plate 1); these blocks were generally 0.2m in thickness and occasionally had iron staining and/or were worked on their upper surface. The blocks appeared to have been present throughout the area in which the pipeline trenching was observed, suggesting that in the areas where they are not evident on the surface they have been covered by an later accumulation of material, perhaps where the road has been resurfaced by local residents.

**3.5** A chance conversation with a member of the Chelsea Speleological Society, who have a clubhouse at Whitewalls, resulted in the writer being presented with a cast-iron tie-bar sleeper which had been found by members of the club in the vicinity. A small part of the sleeper had been lost due to breakage, but it was evidently 1.27m in length with a flat "chair" at either end, measuring 0.11m x 0.11m, in which an L-shaped rail would probably have been set. Comparison of the sleeper with the squared stone blocks referred to in the previous paragraph shows that it was of the type used on this tramroad. The sleeper is unusual in that it does not appear to have been fixed to the stone blocks and probably rested on them (Plates 2 and 3).

**3.6** Discussions with Dwr Cymru/Welsh Water and the contractor Tomlinson Thompson's representatives on site resulted in the pipe trench being routed along the north-eastern part of the trackway between Pant-y-rhiw Holding and Whitewalls, this has preserved a greater number of the surviving tramroad features than would have been the case if the centre line of the tramroad had been used. Some disturbance to the blocks on which the sleepers would have rested resulted from working constraints adjacent to Pant-y-rhiw holding, but the area which had been identified as being well-preserved, site (2) referred to in the CPAT Curatorial Section letter to Dwr Cymru/Welsh Water of 15/12/96, remained largely undisturbed with only three blocks being unavoidably displaced due to machining difficulties. The watching brief was terminated at SO 2044 1576, at which point the pipe trench was routed in the north-eastern verge of the track, away from the line of the former tramroad.

**3.7** In order to assist with the repair of the trackway to Pant-y-rhiw Holding, it was agreed on site that a thin layer of the stone used to backfill the pipe trench would be spread over the surface of the tramroad. This should protect the tramroad surface from further disturbance.

## **4 CONCLUSIONS**

**4.1** The layers related to the supposed incline ramp (para 4.3) suggest that it is composed of tipped material and was constructed after the horizontal north-west/south-east aligned tramroad. It does not appear to have been an integral part of the tramroad structure, which suggests that it may not have been an incline and was possibly the upper part of a trackway; this may have been used as



access to Pant-y-rhiw Holding at the time the tramroad was in operation.

**4.2** The method of construction of the horizontal north-west/south-east aligned tramroad from Pant-y-rhiw Holding to Whitewalls can be well understood from the evidence gathered by the watching brief. The initial phase of construction would have been the levelling of a terrace along the hillside, this would then have been covered by a 0.30m thick compacted layer of mixed topsoil and subsoil containing small stones. Following this, squared stone blocks would have been placed on the compacted layer and held in place by similar compacted material. Cast-iron tie bar sleepers, spaced at 1m intervals, would then have been laid on the stone blocks, and L-shaped plate rails (probably in sections 1m long) located in the "chairs" at either end of the sleepers and held in place by wedges.

**4.3** The only difficulty with the interpretation above is that there should be some method of ensuring that the sleepers do not become displaced with the passage of traffic on the tramroad. The worked hollows in the upper surface of some of the stone blocks may have provided a measure of security, but this would surely not have been sufficient if the tramroad was subjected to a significant volume of traffic.

**4.4** None of the sources consulted have referred to a similar form of sleeper and rail arrangement as the one which has been discovered. L-shaped plate rail is generally found on tramways constructed up to the early 19th century, but it is normally fixed directly to stone sleeper blocks. The only reference to the use of cast-iron tie-bar sleepers that has been found relates to their use on the Banwen Ironworks Railway (constructed

in 1846-7), but in this case the rail used was the more modern edge rail.

**4.5** It would seem that the rail and sleeper arrangement used on the tramroad observed during this watching brief was of an unusual type, and perhaps, therefore, of local manufacture. The Old Series Ordnance Survey 1inch:1mile map of 1832 depicts the tramroad running from the quarries towards the "Beaufort Furnace" in the Clydach Gorge, presumably to deliver limestone to the iron works. This suggests that the sleepers are likely to have been cast there. As the tramroad is of single phased construction, was evidently in use in 1832, and is relatively advanced for a type using L-shaped plate rails, it seems most likely that it was constructed in the earlier part of the 19th century.

## **5 ACKNOWLEDGEMENTS**

**5.1** The writer would like to thank the Chelsea Speleological Society and the staff of Dwr Cymru/Welsh Water and Tomlinson Thompson for their help and assistance during the watching brief.

## **6 REFERENCES**

- Boyd J.I.C., 1991. *The Wrexham, Mold and Connah's Quay Railway*, Oakwood Press, Headington, Oxford.
- Hughes S., 1990. *The Archaeology of an Early Railway System: The Brecon Forest Tramroads*, RCAHMW.
- Margary H., 1992. *The Old Series Ordnance Survey Maps of England and Wales - VI (Wales)*, Lympe Castle, Kent.



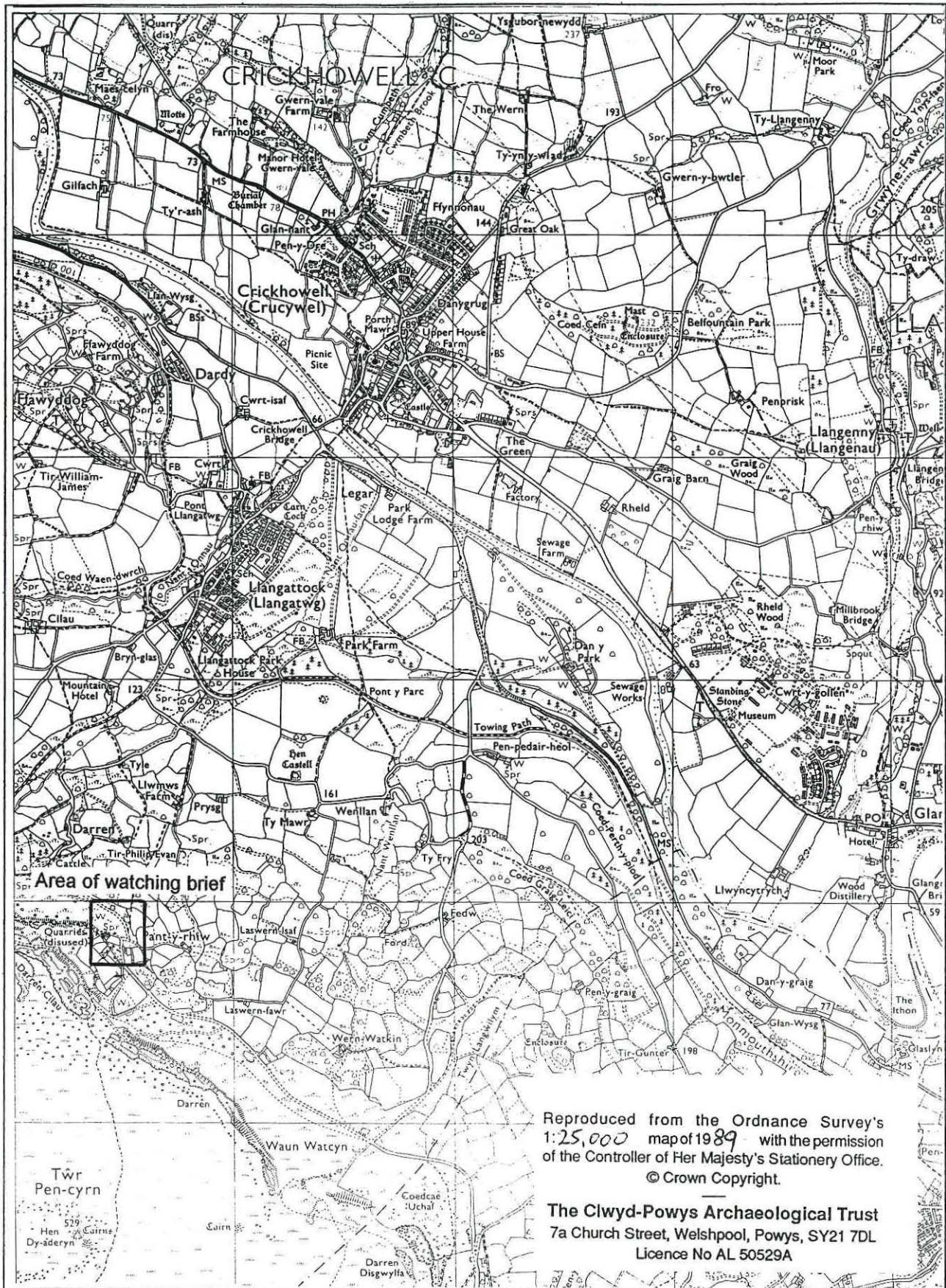


Fig. 1: Location of section subject to watching brief. Scale 1:25,000



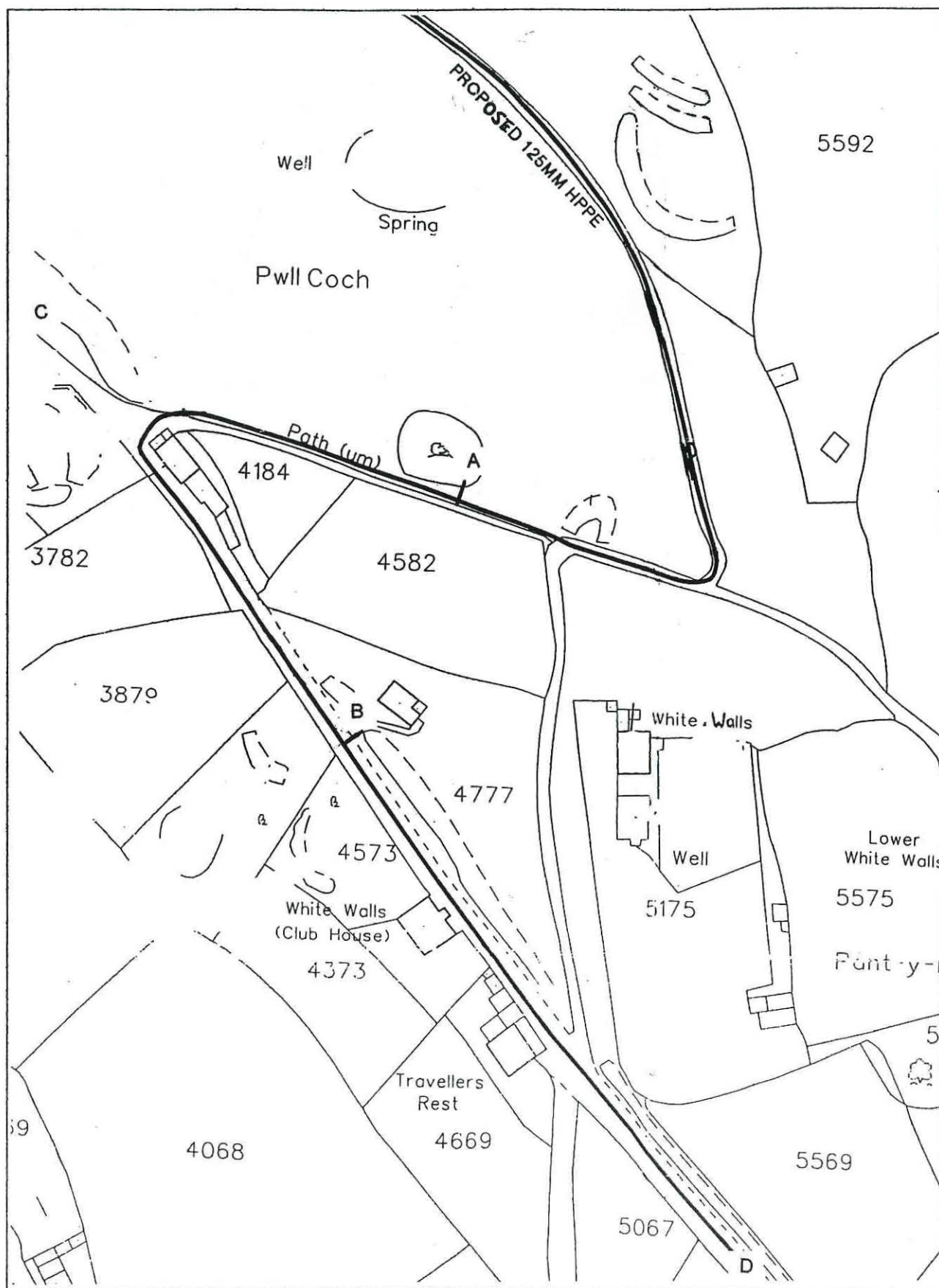


Fig. 2: Approx. course of pipeline and former Tramroad. Scale 1:1,250



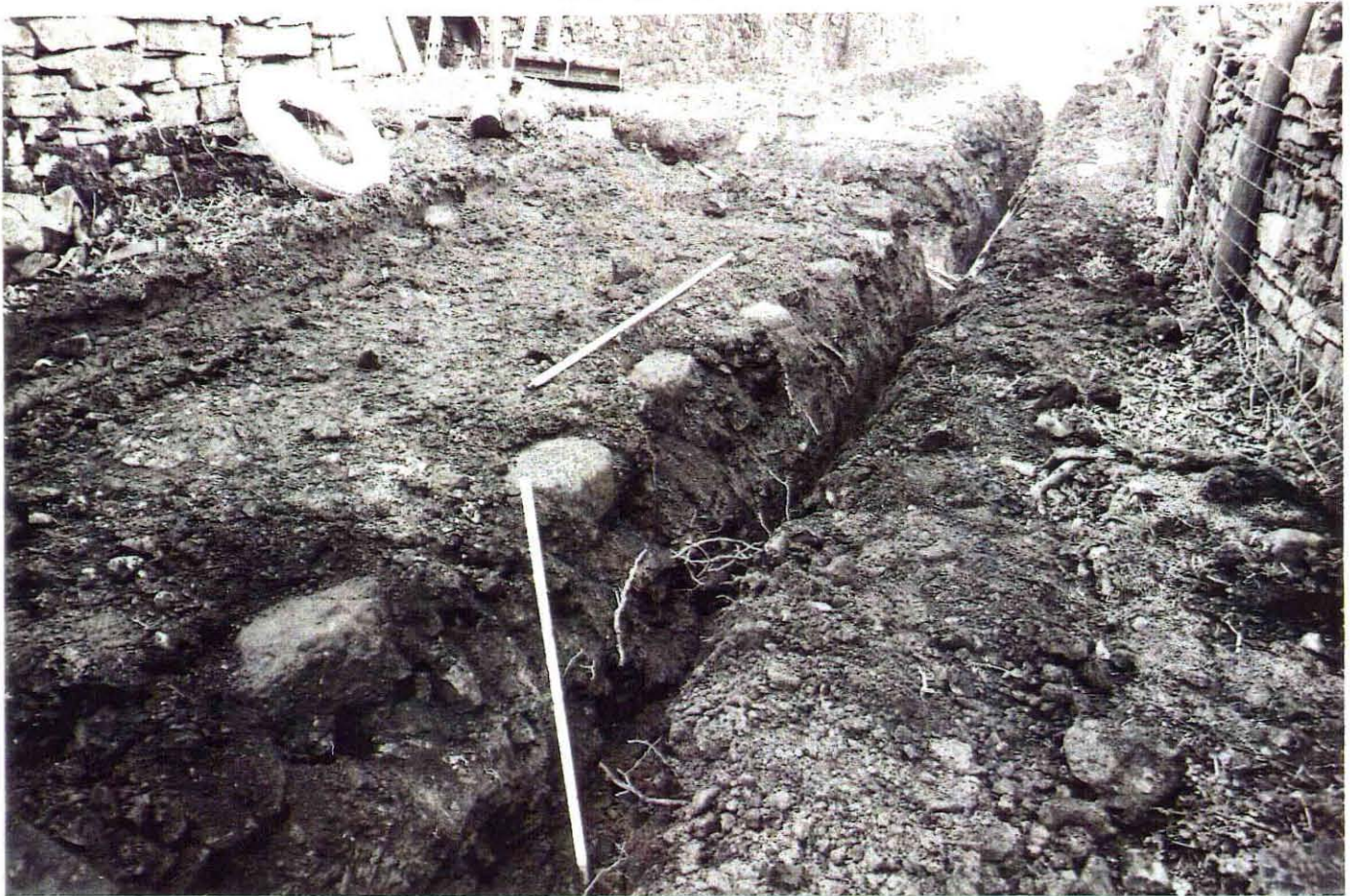


Plate 1: Stone Sleeper Blocks visible alongside pipe trench

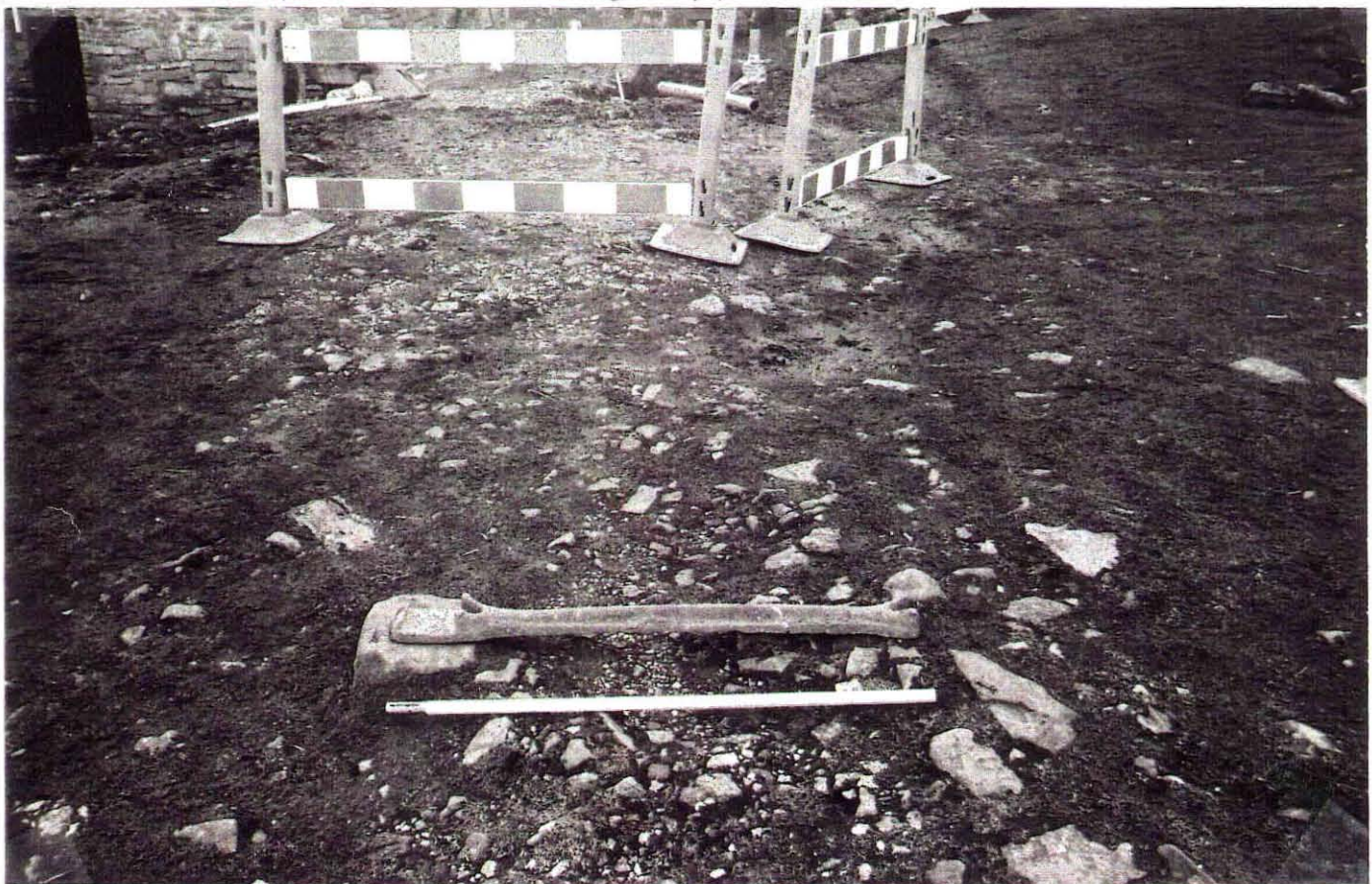


Plate 2: Reconstruction showing cast-iron tie-bar sleeper and stone blocks



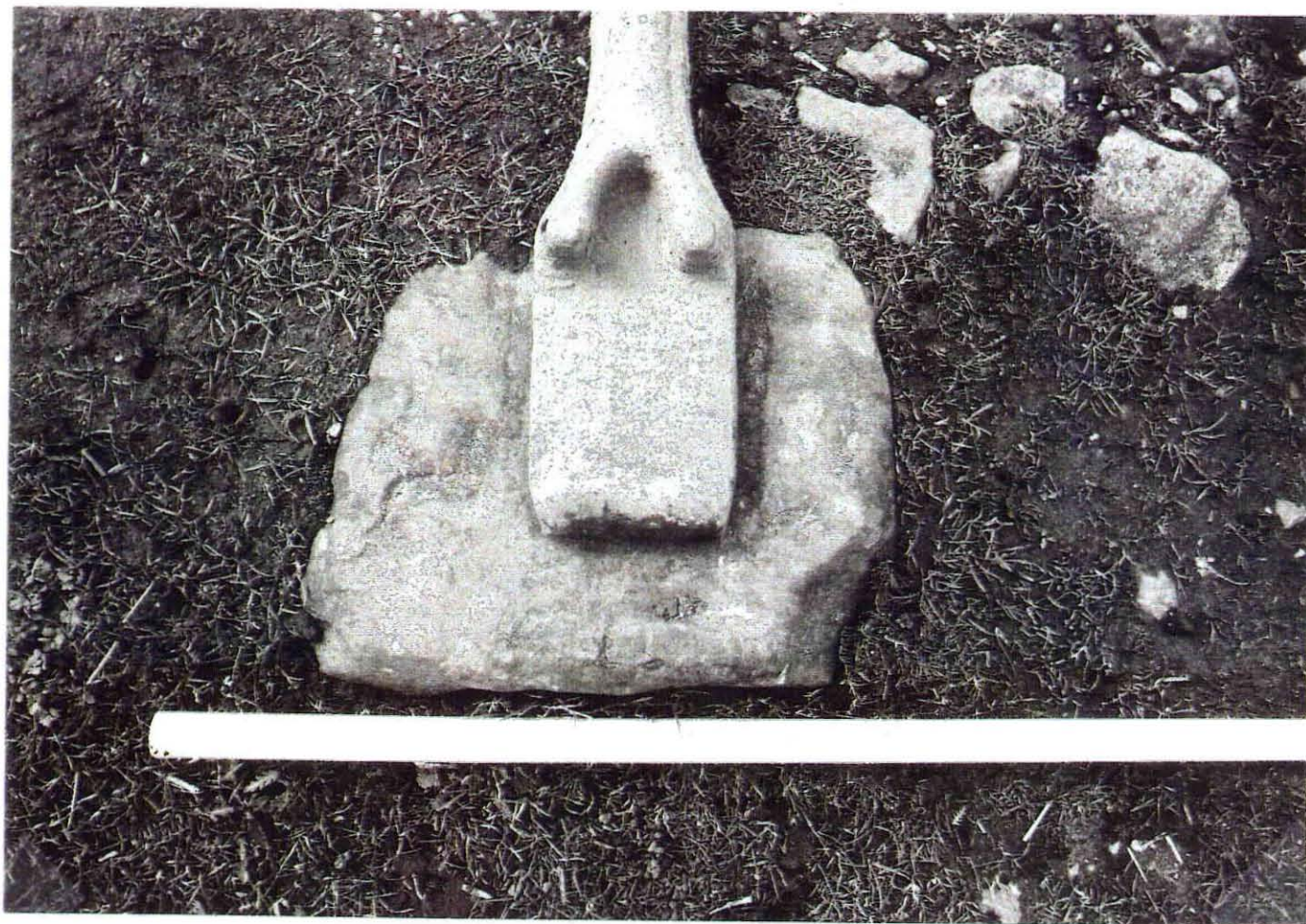


Plate 3: Detail of cast-iron tie-bar sleeper resting on stone block.