

DYFED ARCHAEOLOGICAL TRUST LTD



**WATER MAINS RENEWAL
AT
PUMPSAINT,
CARMARTHENSHIRE**

**ARCHAEOLOGICAL WATCHING BRIEF
Project Record No. 30673
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Commissioned by: Welsh Water Plc

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REPORT ON AN ARCHAEOLOGICAL WATCHING-BRIEF CARRIED OUT DURING THE
REPLACEMENT OF A WATERMAIN AT PUMPSAINT, DYFED

DYFED ARCHÁEOLOGICAL TRUST PROJECT NO. 30673

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1.0 INTRODUCTION

In May 1995, Emyr Morgan a staff member of Dyfed Archaeological Trust noted that a watermain was being laid in the road-side verge to the north of the village of Pumpsaint, Dyfed. At that time, the excavation work for the watermain was approximately 100m to the north of Pumpsaint and heading towards the village. As Pumpsaint lies on the site of a Roman fort, the Trust contacted the Welsh Water engineer in charge of the project in order to obtain details of the works. It was agreed between Welsh Water and Dyfed Archaeological Trust that a watching-brief should be undertaken during excavation in and near to Pumpsaint village in order to record areas of archaeological interest.

1.1 Content and scope of the watching-brief

An archaeological watching-brief is defined by the Institute of Field Archaeologists as a formal programme of observation and investigation conducted during an operation carried out for non-archaeological reasons - normally a development or other construction project - within a specified area where archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report.

The watching-brief will be intended to allow, subject to resources, the preservation by record of archaeological deposits in advance of their disturbance or destruction and to provide an opportunity, if necessary, for the watching archaeologist to alert all interested parties to the presence of an archaeological find for which the resources allocated to the watching-brief are insufficient to support satisfactory treatment.

The watching-brief is not intended as a substitute for contingent excavation.

The client will be supplied with 3 copies of an archaeological report of the results of the watching-brief. The report will be fully representative of all the information recovered. A copy of the report will also be deposited with the Dyfed Sites and Monuments Record housed with the Dyfed Archaeological Trust.

1.2 Purpose and methodologies of the watching-brief

The purpose of the watching-brief is to undertake as complete a record as possible of any archaeological features affected by the client's scheme of works. In the case of larger archaeological sites it will seldom be possible or necessary to undertake a record of the entire site; the record will be undertaken only on those areas of the site that may be affected. The work will be closely observed by an archaeologist from the Field Operations section who will also undertake a full drawn, written and photographic record of any archaeological features which may be disturbed by the scheme, and any artefact or find exposed during the works. Recording will be carried out where necessary and when convenient: it is the Field Operations section's aim to minimise any disruption to the client's schedule. However, if archaeological features may be lost during the scheme, it may be necessary for the Field Operations section to request a postponement of the works in order that the archaeology may be recorded. Larger areas affected may require fuller excavation and/or survey.

2 RESULTS OF THE ARCHAEOLOGICAL WATCHING-BRIEF

2.1 Archaeological interest

The watermain passed through the village of Pumpsaint, the site of a Roman fort. The importance of the fort and the fact that deeply stratified Roman stratigraphy survives has been demonstrated by excavations in the 1970s (Jones and Little 1974), and in 1989 by St. David's University College Lampeter and Dyfed Archaeological Trust. The watermain passed through the north gate of the fort, ran south following the modern road and a line of a Roman road through the fort and exited through the south gate of the fort.

2.2 Results of the watching-brief

In the village of Pumpsaint the trench for the watermain was excavated in the modern road, approximately 2m to the east of centre (Fig.1). At the northern and southern ends of the village the trench ran into the roadside verges to the east. The trench was 1.1m deep and approximately 35cm wide in the road, shallower in the verges, and was machine dug, with the spoil deposited straight into a lorry for disposal off-site. Feeder trenches to houses were approximately 0.5m deep. Only a short length of trench was excavated prior to the laying of a hard-core cushion, insertion of the pipe and back-filling with hard-core. Because of the narrowness of the trench and the working-methods employed, it was not possible for the watching archaeologists to closely examine the sides of the trench and make detailed drawings. The width of the trench also precluded photography. The lack of artefacts recorded during the trench digging was almost certainly due to the working-methods; it was not possible to examine spoil as it was dug out.

For much of its course through the village the excavation of the watermain trench lay with modern road make-up - the road had been widened in the mid-1970s and it would seem that the trench lay within this widened portion. The modern road through the village follows the line of a road through the Roman fort, and it may be that remains of the Roman road were visible in the trench, though this was not certain, as the lower levels of the modern road make-up, the Roman road and the subsoil all consist of a compact brown or orange-brown gravel. The following sequence of stratigraphy was recorded in the trench for much of its course through the village:

1. 0 - 0.3m. Modern tarmac
2. 0.3 - 0.5m Coarse modern hard-core
3. 0.5 - 0.7m Fine- to medium-sized brown and orange-brown compact gravel
4. 0.7 - 1.0m Brown and orange-brown gravel with patches of orange-brown silty-loam - a buried soil

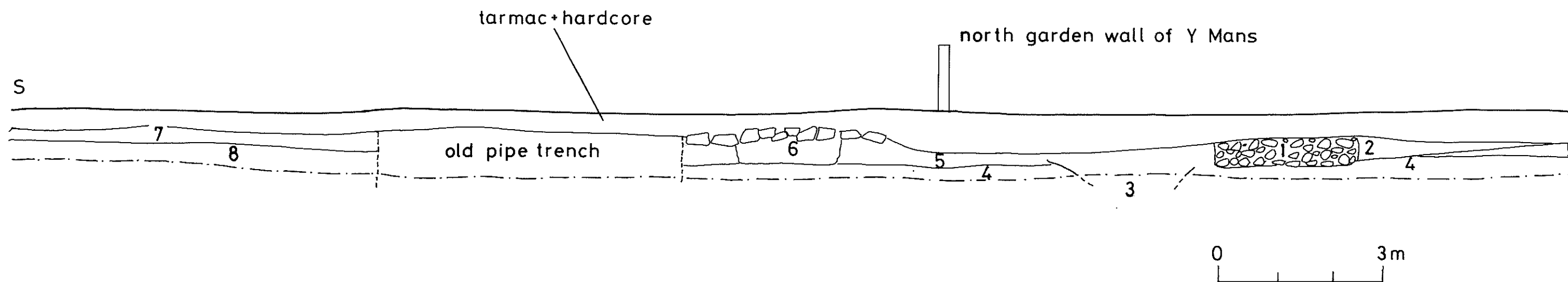
At the southern end of the village opposite Y Mans more complex and interesting archaeological deposits were revealed in the trench cutting (Fig. 2). A substantial cut, 1, containing cobbles and boulders packed into white clay was butted on its north side

by orange-brown clay, 2, and to the south by a possible ditch, 3. To the south what appears to be a clay-filled trench, 6, was overlain by a single course of massive masonry. A Roman road surface lay to the south of this.

The archaeological deposits described above seem to be the remains of clay ramparts and foundation trenches for revetment walls and/or stone gates; they are consistent with deposits interpreted as ramparts and gates on the northern side of the fort excavated in the early 1970s and 1989. Indeed, the watermain trench passed through an 1970s excavation trench on the site of the north gate. If the interpretation of the deposits described above as gate and rampart is correct, and it must be stressed that conditions were not ideal for archaeological recording, then the southern line of the fort's defences as suggested following the 1970s excavations is incorrect - the actual line lies 20-30m north of that shown on Figure 1.

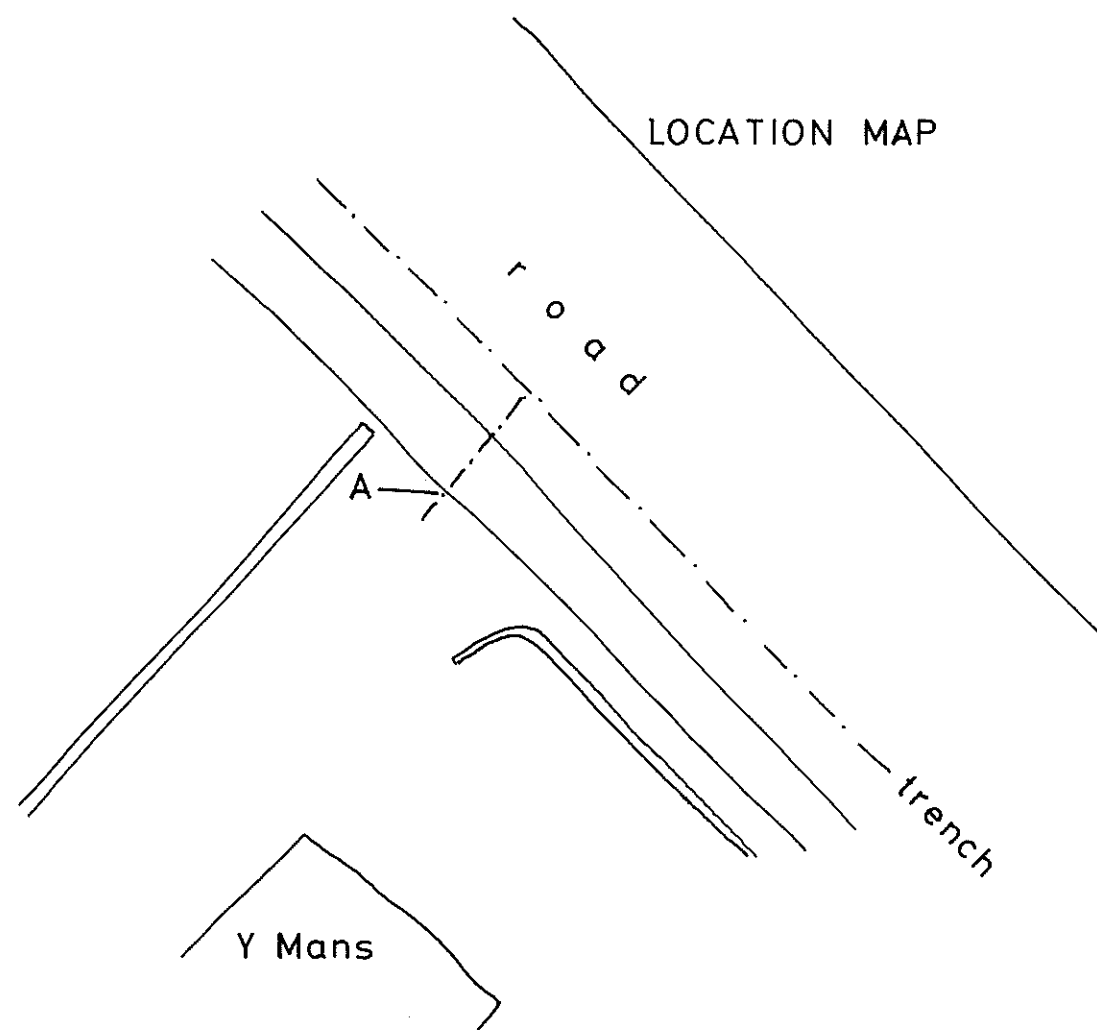
2.3 References

Jones, G B D & Little, J H, 1974 'Excavations at Pumpsaint 1973: interim report', *Carmarthen Antiquary*, 10, 3-12.



PUMPSAINT EAST FACING SECTION OF WATERMAIN TRENCH JUNE 1995

Sketch section



1. White-grey clay with cobbles and rounded boulders - foundation trench
 2. Stone free orange-brown clay
 3. Possible pit or ditch. Loose gravel fill in a dark brown silty loam
 4. Subsoil. Orange-brown compact gravel in a silty matrix
 5. Possible archaeological deposits/redeposited subsoil
 6. Stone free pale yellow/white-grey clay. Foundation trench. Overlain by a single course of masonry consisting of very large angular stones bonded with a mid-brown silty clay
 7. Very compact gravel layer - possible Roman road surface
 8. Buried soil - orange-brown silty clay loam, stone free
- A. In side trench. Immediately below the pavement. A deposit of white clay, stone free. Possible rampart material?

THE CARMARTHENSHIRE SURVEY PART I

EXCAVATIONS ON THE ROMAN FORT AT PUMPSAINT,
CARMARTHENSHIRE : INTERIM REPORT 1972

By G. D. B. JONES AND J. H. LITTLE.

OVER the past six years the Roman goldmines at Dolaucothi have been the subject of an intensive fieldwork programme designed to elucidate the nature and development of Roman mining technology and techniques.¹ By late 1971 a stage had been reached when the major problem of determining the chronological context of the mining operations needed to be tackled by excavation of the associated settlement presumed to lie beneath the modern village of Pumpsaint. Accordingly, in co-operation with the Dolaucothi Research Committee, the Carmarthenshire Antiquarian Society set up a local Dolaucothi Action Committee to undertake the excavations.² The formation of this committee coincided with the planning of a road improvement scheme through the village which involved the removal of the car park of the Dolaucothi Arms Hotel to the hotel's vegetable garden, an area of some $\frac{3}{4}$ acre.³ Trial trenches in the garden yielded positive traces of Roman stratigraphy to a considerable depth as a result of which the Department of the Environment made a grant available, and excavation was carried out over a period of two months during the summer of 1972.⁴ Excavation is continuing in 1973 in other parts of the village affected by the road improvement scheme, and a final report on the work must await the completion of these latter excavations. Meanwhile this interim report is being published as a brief summary of the results to date. Certain key results from this ongoing programme, such as the location of the northern defences at Easter 1973, are incorporated in this survey as appropriate and are shown on the general plan (fig. 1).⁵

I. *Strategy* (fig. I)

The rescue excavation in the grounds of the Dolaucothi Hotel was conceived as the catalyst from which might spring a fuller understanding of the overall layout of the Roman settlement in the village area. The well known site of the bath-house near Ynysau Uchaf on the south side of the Cothi has naturally led to the theory that an auxiliary fort lay in the vicinity. Recent events pointed increasingly to the site lying

buried beneath the present village nearly three hundred metres north-east of the bath-house. The building of the manse south of the hotel in the late sixties produced some Roman pottery including fragments of Flavian-Trajanic date. At the same time erosion by the Cothi on the south side of the village produced samian ware of Flavian date in association with clay-floored timber buildings.⁶ While the latter evidence was particularly important in establishing the starting date of mineral exploitation, it should be emphasised that at the beginning of these excavations there was no clue to suggest the overall layout or the kind of Roman settlement involved. In local parlance the name 'Town Field' was applied on occasion to the pasture on the eastern side of the village but surface indications of buried features were, with one exception, entirely lacking. There the matter rested until 1972.

The strategy adopted by the excavators was to proceed with the rescue excavation proper until such time as the recognition of building plans would allow corroborative trenching elsewhere. All this rested on the assumption that an auxiliary fort was involved. In the event the principal structure to emerge from the rescue excavation area was a massive stone-built granary that could be identified as forming the end of the central range of buildings in a standard fort layout. The road found running along the western side of the granary (and containing no less than eleven re-surfacings) therefore formed the *via principalis* or *via quintana* of the auxiliary fort. With this element established it was possible to estimate where some of the other elements fell into place. First the southern rampart was located in T.6 in the field adjoining the manse. Then by estimating the average length of a barrack block the western defences were located in the rear garden of the Dolaucothi Hotel, the one area on that side not to have suffered from erosion by the Afon Twrch. The excavators are particularly grateful to Mr. and Mrs. Cooley for permission to examine both that area and part of 'Town Field' on the eastern side of the village. Excavation of the latter was necessary because allowance for a range of barracks etc. east of the central range called for examination of a line some 90m. east of the present main road. Despite the absence of any surface indication two trenches (T.11, 12) uncovered the line of the defensive system on the eastern side. There was a difference, however, from the two previous sections. Whereas they showed evidence of a second period involving the construction of a stone revetment and a re-cutting

of the ditch system, the eastern sections revealed only the double ditches of the primary defensive arrangements. It was, therefore, clear that the eastern side of the fort had been remodelled. With the evidence of other Welsh forts in mind it seemed possible that a reduction in size to two-thirds had been undertaken, as at nearby Beulah or Castell Collen and Tomen-y-mur. Indeed the one surface indication of buried features in 'Town Field', a slight raised line c. 25m. east of the modern road appeared to form a possible trace of the reducing rampart. In the event, however, this elevation marked the line of the other major north-south road through the original fort. Nonetheless later reducing defences were located further to the west close to the modern road. It is probably more apposite to term the resultant enclosure a fortlet than a fort as its area cannot have been greater than 0.9 hectare (2.25 acres). The discovery of the eastern defences of the fortlet did, however, represent a major step forward in the interpretation of the latest period on the site. Where surface disturbance was not too great, excavation produced scattered elements of buildings that diverged from the relatively rigid layout of the original fort. It was the stone granary, however, that provided the evidence for events in the second century. On the creation of the fortlet, it had not been extensively robbed for its good ashlar masonry, as one might expect, but largely demolished and left as a pile of building debris. As luck would have it, a small eastward extension of the main excavation area alongside the main road (T.1B) located an undisturbed area *above* the granary debris. This, the latest stratified deposit on the site, comprised a pair of superimposed road surfaces curving alongside a substantial drain. These features could be identified as forming the curving corner of the rough intervallum behind the fortlet defences. The edge of the gravel spread from this road could be seen running along the southern edge of the main excavation area and forming a seal above the stratified remains of the original fort. The change from fort to fortlet is, of course, important in historical terms and is discussed on p. 12 on the basis of present knowledge of the finds. Meanwhile with the identification of the northern defences at Easter 1973 the dimensions of the original fort may be estimated at 125m. by 150m., giving an area of 1.9 hectares (4.75 acres). In terms of size this places Pumpsaint in the second rank of Roman forts in Wales behind Caersws, Forden Gaer and the Brecon Gaer (all over seven acres) and comparable with sites such as Coelbren.⁷

II. *The Defences*

Given the overall topography of the confluence of the Cothi and the Twrch (pl. I) and the implications of the location of the granary (described in the following section) a site immediately south of the manse was selected for testing the line of the southern defences. The partly machine-cut section proved to be positive and revealed evidence for a two-stage defence system following the pattern generally known in Wales. The rampart core was not encountered save at its forward lip where it entered one of the primary ditches (fig. 2), its main mass lying along the southern edge of the Manse garden. The primary period consisted of a double ditch system (Ditches I and II) very closely differentiated by fills of grey clay (22,24) overlying silt (23, 25) ; in both cases the clay appeared to be a deliberate fill. In profile the ditches were considerably better preserved than those found in the western rampart. Their dimensions can be reconstructed as 2.75m. from lip to lip for the inner and 1.60m. for the outer example, a differentiation in size that was also apparent in the western rampart section and elsewhere.

In the second period the inner ditch had been filled in with a stabilising mass of heavy river pebbles (4), bound in stiff grey clay whose function was to form the foundation for the stone rampart revetment of the second period defences, the evidence for which survived in the form of ashlar blocks at the base of a robber trench (3). The inner edge of the robber trench was clearly defined and showed that a clay pack (2) had been used to fill the intervening space between the stone revetment and the core of the primary rampart. There was also evidence of the insertion of a timber corduroy between layers of clay designed to stabilize the break between primary and secondary periods. The corduroy, which was also observed in the section cut through the western defences was represented by clay dumps (5, 7, and 8), interspersed with timber strips (6 and 9). Also, on the eastern side of the section at this point there appeared a sump (20) which provisionally might be identified as the posthole for one of the uprights of an interval tower inserted into the Period I rampart. On the outer side of the stone revetment a clay spread, similar to the intermediate dumps filling the primary ditches, formed a 'berm' between the revetment and the second period ditch (Ditch III). The line of the berm could then be traced

down into the various levels of Ditch III which appeared to have silted gradually with mixed stone and earth (15), sealed by confused orange and brown clay (13, and 14). The levels overlying this, (10, 11 and 12), were associated with the robbing of the stone revetment that took place during the Roman period as was also apparent in the western defence section. The outer face of the robber trench (3) contrasted sharply with the vertical inner edge in being an almost horizontal line running southwards demarcated by charcoal streaks (26), and a layer of heavy rubble derived from the stone revetment itself.

Beyond Ditch III the section could not be extended sufficiently to discover whether there was a further outlying ditch, and none occurred in the remaining 2m. of the section that it was possible to cut before reaching the present line of the eroded river bank. Indeed, in view of the overall topographical position with the river running below this relatively steep bank there would be little need for an outer ditch system along this southern side of the fort.

The western defences were located in the rear garden of the Dolau-cothi Arms Hotel (T.10). The details of the section are not given here because they closely correspond with those of T.6. In addition, there was evidence of a secondary clay dump on the rampart tail, presumably at the time of the creation of the fortlet.

To the east two trenches (T.11, 12) were cut in the 'Town Field' (see fig. 1). Both revealed identical defence sections (fig. 3) differing substantially from those located on the south and west sides of the fort. In T.11 and T. 12 only the two primary ditches were located in the form of an unequal W, the inner ditch (2.1m.) being far wider than the outer (0.4m.), a pattern found at all points where the original defences were examined both in 1972 and 1973. There was no trace of any stone revetment or secondary ditch or ditches. Instead both the primary ditches were found filled with clay rampart material and layers of charcoal and daub representing the debris of demolished timber buildings. Traces of the intervallum road surface were located 7m. to the rear but the rampart had been removed almost in its entirety. The reason for this thorough-going measure lay in the need to deny any possible cover to attackers from the east, tactically the weakest side, particularly when the reduction to fortlet-size occurred.

This same factor explains the strength of the fortlet ditches on the eastern side, as revealed in T.5 and T.7 (fig. 6). Traces of timber buildings had been located on the inside edge of the intervallum road to the east. The eastern side of T.5 revealed similar features (features 3-8) abutting the major north-south road forming either the *via principalis* or the *via quintana* of the original fort. Three surfaces (9a-c) were differentiated with a drain (11) to the east. The western edge of the road, however, was cut away by a double ditch system, itself partly disturbed by a modern field drain (19). The two ditches were both slightly over 3m. in width with an infilling of clayey grey soil (1, 15) over the silted sumps (16, 18). From the western end of the double ditch an interval of 6m. occurred before T.7. This was placed in the only possible space between the barn and the village hall. No other position was available on the eastern edge of the present main road and unfortunately the amount of surviving stratigraphy was limited. Nonetheless the two principal features emerged in the form of the inner ditch and the line of a robbed wall footing. The former was 4.25m. across with a rather flattened profile probably indicative of re-cutting (sump 6). The construction trench for the wall footing was represented by a cut in the natural subsoil c. 1.45m. across. In it lay three heavy sandstone blocks, the sole survivors of the stone revetment to the rampart of the fortlet. This is now known to correspond with the evidence of the fortlet defences at the north gate as a result of work in Easter 1973. Unfortunately it was not possible to expand T.7 in any way without encroaching on to the modern road or threatening the collapse of the barn. As fig. 1 shows, the position of the intervallum and lateral drain belonging to the fortlet period allow its eastern rampart to have been as much as ten metres wide.

III. *The Rescue Excavation* (fig. 4, 5)

(a) The Fort.

Excavation of the area of the hotel's vegetable garden destined for conversion into a car-park revealed two ranges of buildings divided by a road (=T.4 (25), T.2 (3 a-k), running on a roughly north-south axis. This road, which was found to contain eleven re-surfacings (3 a-k), was a consistent factor in the development of the original fort. To the east in the area identified as granaries there were changes of plan, but only such as concerned the transition from timber to stone structures.

To the western side of the road a series of buildings were uncovered, the uppermost of which can probably be identified as *fabricae* showing three reconstructions along roughly similar lines before a complete change of plan through ninety degrees at the lower levels. Altogether five separate phases were involved spanning the same length of time as the lifespan of the two granaries to the east of the road. This uneven development sequence was made certain by the relative position of the superincumbent levels of the fortlet. It formed an object lesson in the dangers of historical generalisation from a limited area within a fort and the value of relatively large-scale stripping. Certainly the rapid development of the *fabricae*, for instance, would not have been easily understood from the section (T.2A) without area excavation alongside.

The initial occupation (Per. IA) was represented by a cobbled road, (T.2.31 and T.4.54) forming a T-junction with the north-south road mentioned above. To either side of it lay drains whose presence was noted from the strip of collapsed daub which implied the existence of walls nearby. The removal of the daub revealed the silted contents of the drains themselves, (T.4.55 and T.2.37). A small gap intervened before the major construction trenches of each barrack block (T.2.22 and T.4.54), the fill of which in both cases comprised clay and small stones. Both trenches were c. 35cm. wide and extended as such along the whole of the excavation area. The turns abutting the main *decumanus*, however, had been destroyed by the arrangement of construction trenches (T.2.30 and T.4.50) of the later superimposed building, and thus it is possible that the building may have continued beneath the *decumanus* and even the granary in association with drain T.1B (14). In T.2 and T.2A it was possible to note, both in section and plan, the arrangements for the internal partitions, and there were in fact six partitions at roughly regular intervals of 3.60m. along the length of the section T.24 (fig. 5). Some quantities of Flavian pottery inside the construction trenches enable the barracks to be dated with confidence.

The second phase of building (Per. IB) represented a dramatic change in the fort's plan, being laid out *per scamna* at right angles to the original barracks aligned *per strigas*. As shown in fig. 5 the most obvious evidence of this was the construction of a minor road with six surfaces (T.2A, 25, 30) over the earliest building roughly halfway

between the major road and the southern intervallum (T.2A, 108). It became the dividing line between a single barrack building 7m. across (represented by trenches 103, 101 and 104) the superimposed floors of which (50, 41, 42, 102) attested extended life, and a sequence of four buildings on the eastern side. This sequence of buildings was represented by a series of construction trenches running approximately north-south parallel to the major road and to all later layouts on the site in the T.2-T.4 area. The block's construction trenches consist of T.2.32, 30 and 33 and T.4.50, 52, 58, 59 and 60. The trenches were c. 45cm. wide and were distinguished across the site by a yellow clay fill which characterised the building across the excavated area. The construction trenches fit into the pattern of a barrack block with T.2.30 and T.4.50 being the rear wall fronted by a drain immediately abutting the road. The western side of the main internal barrack room, demarcated by T.2.32 and T.4.51, was 3.80m. long while the smaller front room, of less depth, measured 2.10m. The front wall of this feature was marked by T.2.33 and T.4.52 while the line of a projecting portico was indicated by a posthole (PH 61) and the probable eavesdrip associated with the projecting roof of such a portico, by T.4.29. Provisional assessment of the pottery dates this structure to the late Flavian/Trajanic period: again, however, a more precise date must await further work on the pottery.

The later barrack block appeared to have been demolished in the early years of the second century A.D. to make way for a series of three structures whose function was very different from that of their predecessors. These can probably be identified as *fabricae*, workshops, from the nature of their plans and associated features. The earliest of the *fabricae* (Per. IC) was delineated by construction trenches (T.4.35, and 24 with T.2.24). The structure was divided by two partition walls (T.2.24 and T.4.44), with which were associated a number of postholes, (T.4.45 and T.2.21), dividing the area into working rooms. This plan was retained on almost the same lines by the second *fabrica* (Per. ID). T.2.26 and T.4.26 formed a broad construction trench on the eastern side matched by T.2.28 and T.4.8 marking an area in which no less than five furnaces were identifiable. The best preserved of these were formed by T.2.3 being a clay base forming the seating for two bowl furnaces (pl. IIB). To the north T.2.7 formed the foundation of a

similar furnace largely destroyed by the activity surrounding its southern neighbours ; and T.2.8 was another bowl furnace in this case capped by a large stone when it fell out of use. The best examples lay to the north where T.4.42 and 43 consisted of the clay bedding for two smaller furnaces. In the latter case the furnace floor had been removed, but the former contained three cracked tiles set in position as the base of a small bowl furnace in which nails had either been worked or reworked from a bent state, as again was the situation in T.2.3. (Pl. IIIB).

The latest of the three *fabricae* (Per. IE) cannot be so positively identified as its immediate predecessor although the similarity of its plan leaves little room for doubt. Construction trenches (T.4 12 and 15) formed the outer walls of the structure whose centre line was indicated by T.4.6, a construction trench containing a series of postholes running across both T.2 and T.4. However, the construction trenches of the eastern wall were not fully identified because of their confusion with the drain of the *decumanus* (T.4.25). The floor of the structure had been largely destroyed by modern gardening activity, but several burned patches imply that the building followed the pattern of the two previous structures.

The area east of the main north-south road was filled by a stone building on a massive scale identifiable from its structural characteristics as a granary or similar store room (Pl. IV A). The principal remains comprise a massive external wall (23), bordered by a drain (33), and strengthened by a series of three buttresses which impinged on the road surface (25) (Pl. VA). The smaller internal walls are represented by 35 and 22 and a cross-wall (34) that was contemporary with the construction of the wall 35 (Pls. IVB and VB). On the eastern side a number of intrusions, (T.1 11, 26 and 27) had carried away the eastern wall (22), but little of the plan had suffered as a result, although the northern wall of the building (15) had been effectively robbed. The course of the north wall was shown by the clay bonding that underpinned the wall and ran east-west at the northern side of the trench. Alongside the wall to the east (23) and alongside the western edge of (T.1 22/25), a series of massive postholes were uncovered at intervals of 1.25m. to suggest some hint of the timber-frame structure which must have been used either to tie the roof beams, or, to support

a timber floor. The granary plan as it stands does, in fact, present certain minor structural problems. Despite the surviving height of the internal walls and part of the external walls, no trace of vents could be seen, and the gap between the external and internal walls are too great to have been bridged by stone slabs. The principal question at the time of excavation was to obtain some indication of the granary's overall dimensions. The southern wall may be restored with confidence as it had unwittingly been encountered with a mechanical digger laying the drain to the manse in 1968. The top of the wall is still met with during gardening. By creating an extension to the trench (T.1.B) outside the main excavation area and alongside the modern road two further cross-walls (T.1B 4, 5) were located but the end wall was not encountered. The overall dimensions as currently known may therefore be given as c. 17m. north-south by at least 12m. east-west.

Beneath the stone granary lay the remains of its timber predecessor. (Pl. VC). This was indicated on the northern edge of the excavated area by the construction trenches T.1 53, 57, 58 and 59, four parallel trenches which suggest the existence of a timber built granary on the same site before the surviving stone one. It should again be emphasised that the life-span of the two granaries occupied the same period as the rapidly changing sequence of building to the western side of the road. There is little evidence currently available for the date of the stone built granary within the relative sequence. Unfortunately the west wall was robbed at the point in T.2A where it met the north-south road so a precise stratigraphic link could not be made.

IV. *The Fortlet*

The defences of the fortlet have already been discussed on p. 7. Internally, the extensive horticultural disturbance of the upper levels rendered any full identification of the latest buildings on the site impossible, as only faint traces of them survived across the excavated area. Their presence, however, was indicated by the construction trenches (T.4.2 and T.2.2) of a substantial stone building that were found packed with rubble and mid-second century A.D. pottery as survival rubbish in the actual trench. The plan appears to follow a layout marginally at variance with the overall layout of the site. In T.1, however, there was evidence of a late building that survived in a very frag-

mentary form, but sufficient to indicate that its overall layout closely followed that of the earlier granary (see above). This was shown by two postholes (30, 60) running onto slot T.1 44/43 at the north-western corner of the excavated area. Such is the sum evidence for the existence of a building which comprised a make up of heavy boulders and yellow clay, notable in the eastern section of T.1 and recurring as floor (28) and possibly wall footings (29 and 50). From the plan it can be seen that the two postholes coincide with the line of 29 to suggest one axis of a building running parallel to the general overall layout of the area. Both these late buildings in T.1 and T.4 present insuperable problems of interpretation as they have suffered extensive disturbance. The relationship between the run of three postholes (T.4.4, 5 and 9) and the construction trench (T.2.2) is not clear in that both structures should be separate as they follow different alignments, arguably with T.2.2/T.4.2 forming a later version of the buildings in this area.

The south-east corner of the excavated granary area (T.1B) provided the final resolution of the problem of the discrepancy between the defence sections on the south and west, and those on the east and north-east. Above the stone building debris, sandwiched into the interstices between the granary's internal walls a gravel road surface, (T.1B 8a and b) was located, into which, on the eastern side, a stone lined drain had been cut leading into a stone lined latrine (T.1B 10). This, together with the road, was running at an oblique angle to the main axis of the granary in such a way to demonstrate conclusively that the granary had been deliberately demolished to make way for the defences and intervallum road⁸ of a second period fort planned on a greatly reduced scale at its south-eastern corner (Pl. IVA).

Chronology

Preliminary study of the samian and coarse pottery, kindly undertaken by Mr. P. V. Webster, of the Extra Mural Department, University College, Cardiff, has important historical implications for the period of exploitation of the gold mines. The foundation of the original fort may be placed firmly in the Flavian period, as one might expect. The structural changes located west of the granary area and the transition from timber to stone granary are all contained within the late Flavian-Trajanic period. The transition to the period of the fortlet on current

evidence may be placed in the first quarter of the second century. The life of the fortlet itself was also surprisingly short. Although relatively little stratified pottery has been recovered it is, however, all consistent in showing that occupation did not apparently extend beyond the mid-second century. The historical importance of these conclusions will be fully discussed in the final publication.

The Processing Area

Through the courtesy of Mr. Davies of Ynysau Uchaf, Dr. P. R. Lewis was able to conduct two exploratory excavations in the field 175m. west of Ogofau Lodge close to the line of the minor road leading up to the opencast. Exploration in the immediate vicinity of Ogofau Lodge has already produced evidence of grinding implements associated with the crushing of auriferous quartz.⁹ Actual evidence of processing, particularly the washing of crushed quartz, was to be expected in the same area. The likeliest position for this operation seemed to be the tongue of land projecting northwest from the Lodge area. Within this framework, therefore, Dr. Lewis supervised the cutting of two trenches, the lower of which proved uninformative. The upper trench, however, approximately 50m. north of the crossroads below the opencast produced evidence of a deliberate clay spread over the natural subsoil. Over the clay surface there still lay, despite damage from modern ploughing, a spread of crushed quartz fragments that were reduced to a width of approximately 0.6cm. (pl. VIB). Undoubtedly, these fragments represent the remains of ground quartz from the basic extraction process and the artificial clay floor may be provisionally interpreted as a working or washing surface. Dr. Lewis' discoveries open up a whole new field of possible exploration but one that can only yield significant results from stripping on a large scale.

FOOTNOTES

1. P. R. Lewis and G. D. B. Jones, 'The Dolaucothi Gold Mines : I : The Surface Evidence', *Antiquaries Journal* XLIX (1970), 224ff. ; also 'The Roman Gold-Mines at Dolaucothi', *Carm. Antiquary* VI (1970), 88ff. ; and *Bonner Jahrbuch* 171 (1971), 288ff. For the course of the main Cothi aqueduct see G. D. B. Jones *et al.*, *Bulletin of Board of Celtic Studies* XIX (1960), 71ff. Out of the techniques developed in these works arose further corroborative and expansive research, see P. R. Lewis and G. D. B. Jones, 'Roman Gold Mining in North-West Spain', *Journal of Roman Studies* LX (1970), 169ff. followed up by R. F. J. Jones & D. G. Bird, 'Roman Gold Mining in North-West Spain II : Workings on the Río Duerna', *Journal of Roman Studies* LXII (1972), 59ff. and D. G. Bird, 'Roman Mining in North-West Spain', *Bonner Jahrbuch* 172 (1972).

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2. It is a pleasure to acknowledge the important contribution made to the excavation Society both financially and through the personal efforts of those members serving Dolaucothi Action Committee, particularly its chairman, Mr. G. H. W. Griffith National Trust, and its treasurer, Mr. M. C. S. Evans.
3. The excavators gratefully acknowledge the patience and co-operation of Mr. & Cooley of the Dolaucothi Arms during the lengthy period of excavation involving particular debt of gratitude is due to them for allowing access to the pasture east of the village thus facilitating the location of the original eastern rampart. The section of the south rampart was kindly allowed by Mr. Davies of Ynysau Uchaf who also investigation of the Roman quartz processing area below the mines in area B/ p. 14). Messrs. W. & G. Rees also permitted access for excavation on the south of the village.
4. The directors' thanks are due to Dr. P. R. Lewis who supervised work in the processing area and to all the other excavators particularly Mrs. V. A. Jones, N. Adamson, L. Alker, S. Brigden, P. Campion, F. Everett, C. Francis, A. Goddard, Griffiths, F. Hill, D. B. Jones, S. Jones, D. Kenyon, S. Leppard, J. Singer, S. W. S. Winterbottom and Messrs. M. Blades, D. Davies, R. Davies, G. Fairclough, S. N. Ingrey, P. James, H. Jones, R. F. J. Jones, D. Kirby, D. Lowle, A. Morgan, I. C. Munro-May, D. Rees, M. Snelgrove, L. Sterling, R. Tann, A. Ward. All excavators were grateful for the use of the hostel facilities at Dolaucothi Hall thanks courtesy of the National Trust. Rev. & Mrs. H. Evans of the Manse also accommodation with characteristic generosity and the Village Hall was made possible through the good offices of Mr. T. Cleminson. Special thanks are also due to M. Antoniazzi for the use of his J.C.B. during the excavation.
5. The plans represent a corporate effort by many hands but particular thanks are due to Miss D. Kenyon, Antony Ward, Robin Ritchings, Mark Blades and Michael S. of whom the last two undertook the overall survey of the present village on which the general plan is based.
6. P. R. Lewis & G. D. B. Jones, *Antiquaries Journal*, XLIX (1970), p. 260.
7. *The Roman Frontier in Wales*, 2nd ed., M. G. Jarrett, p. 150.
8. The western defence section (T.10) showed that the intervallum road of the fort was similarly set back from the line of the actual rampart by four to five metres.
9. P. R. Lewis & G. D. B. Jones, *op. cit.*, pl. 1c, and p. 263.

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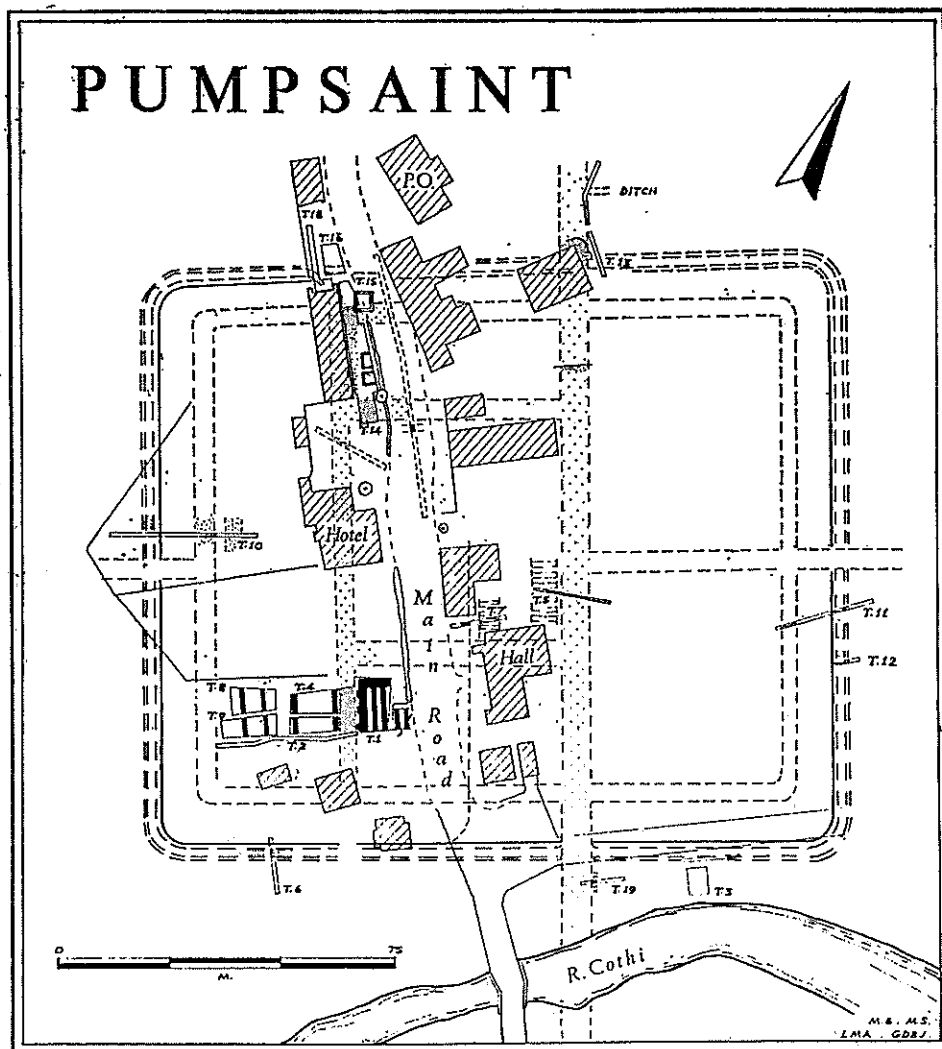


Figure 1. General Plan of Roman Fort, Pumpsaint.
Trenches 14-19 were excavated during Easter 1973
and are not described in this report.

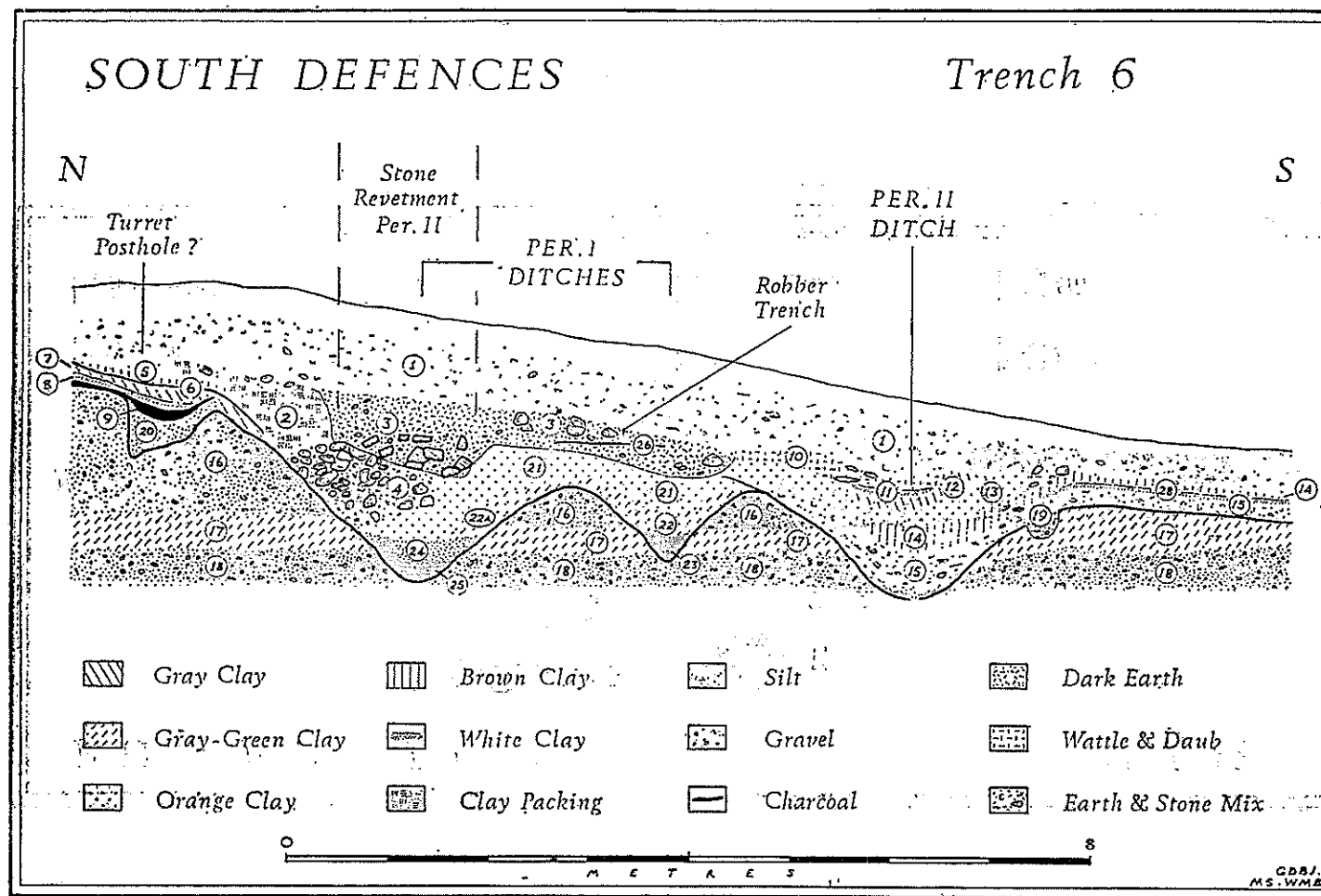


Figure 2. Section through the southern defences (T.6).

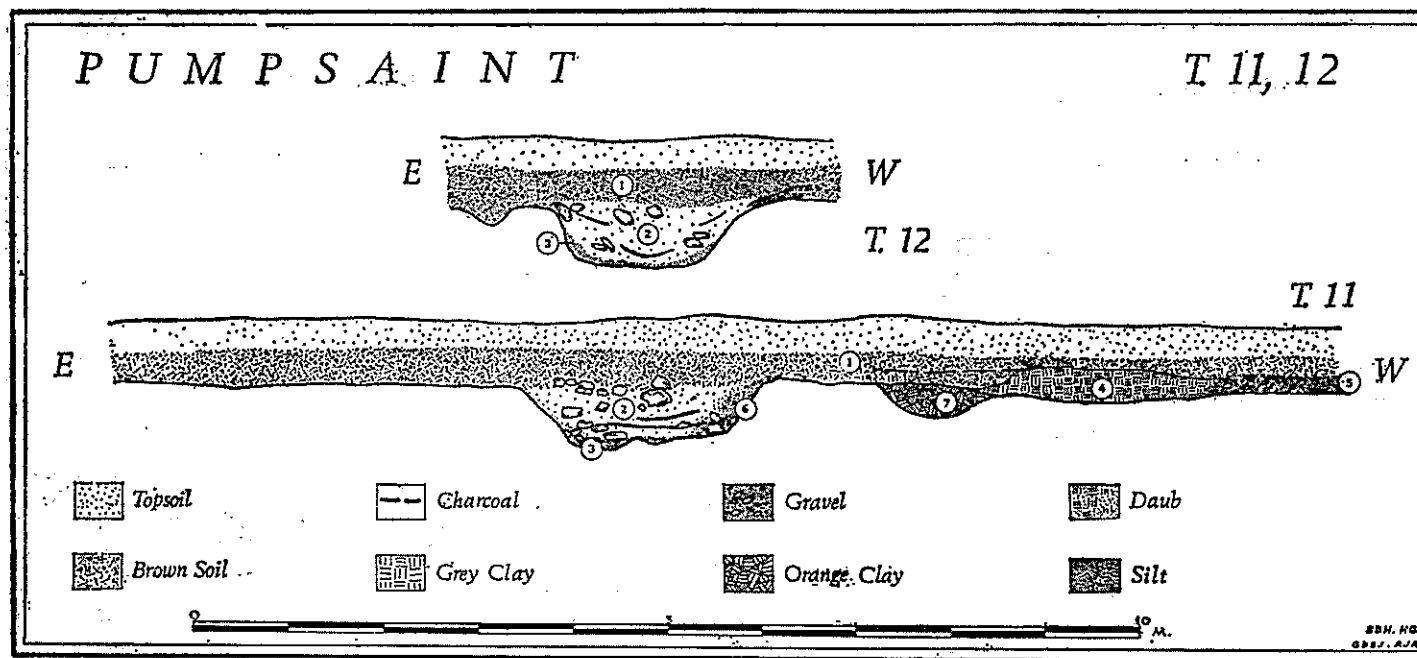


Figure 3. Section through the eastern defences (T.11, 12).

PUMPSAINT 1972

TRENCH 2A

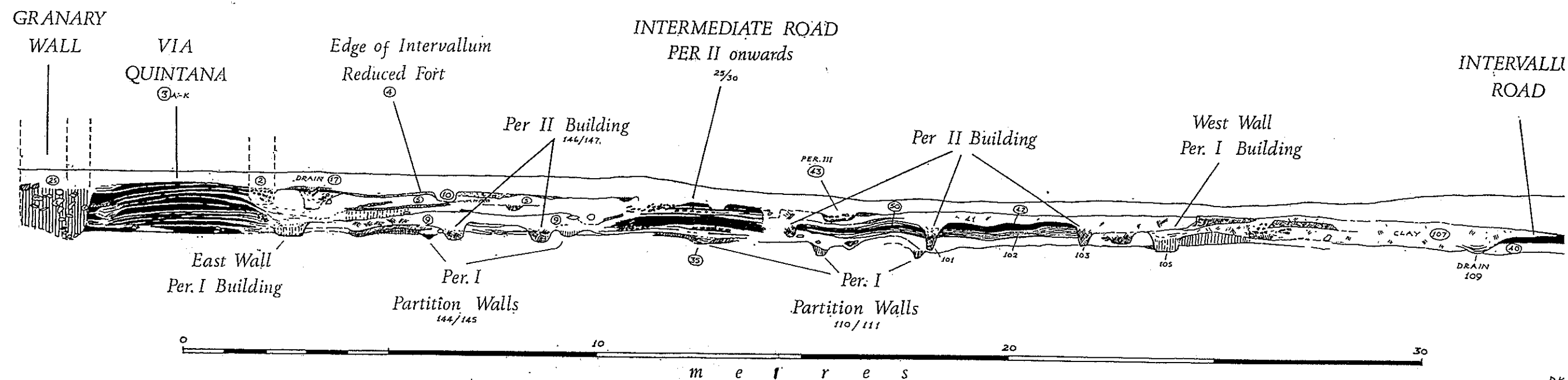


Figure 5. Simplified section along southern edge of main excavation area (T.2A).
Per. I in section=Per. IA in this text ; likewise Per. II=Per. IB ; Per. III relates to the fortlet phase.

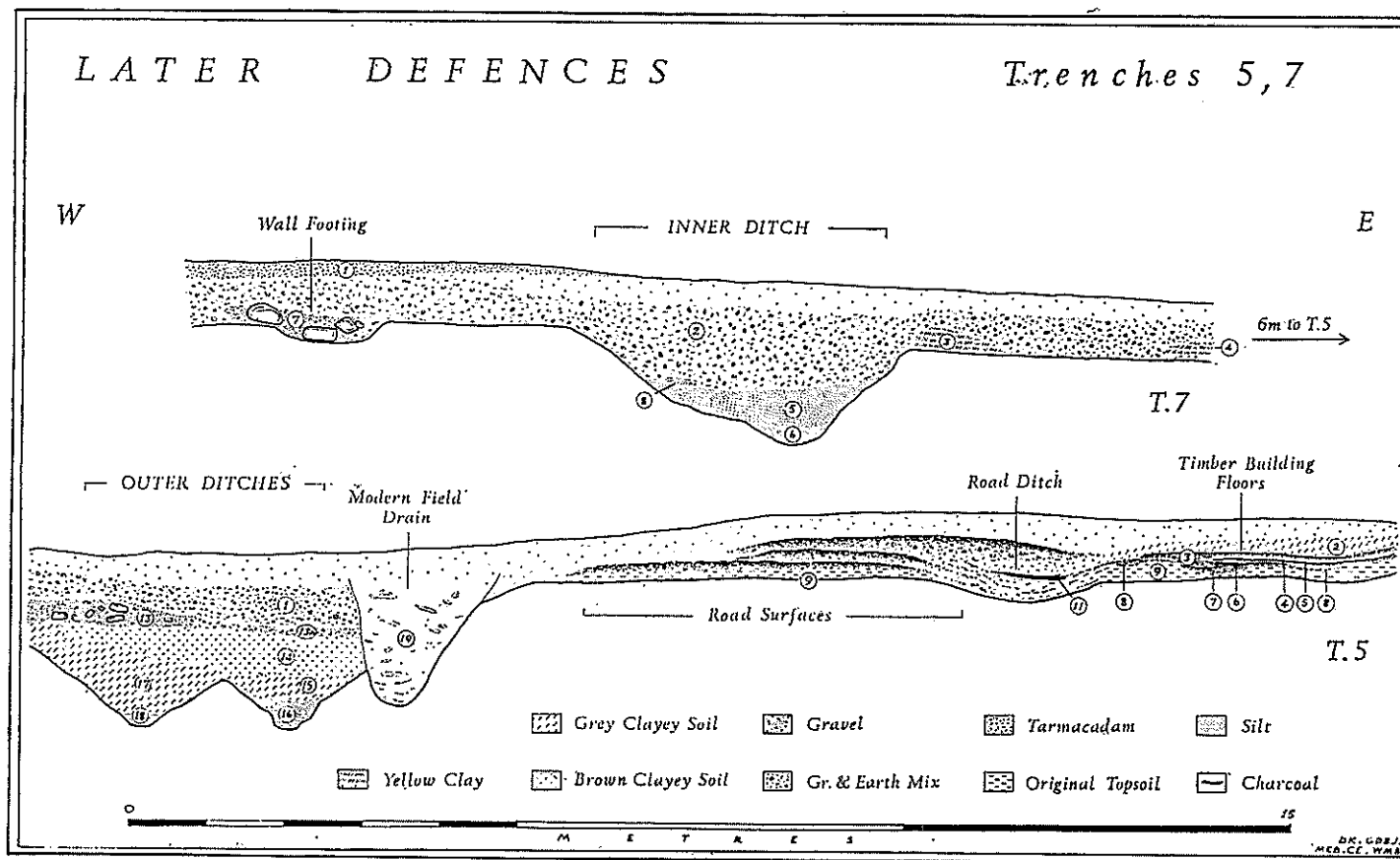


Figure 6. Composite section across reducing defences of fortlet (T.5, 7).



Plate I. Aerial view of Pumpsaint village from the north-west. The area of the fort is indicated by the broken white line (v. fig. 1) and the main opencast appears at top centre.

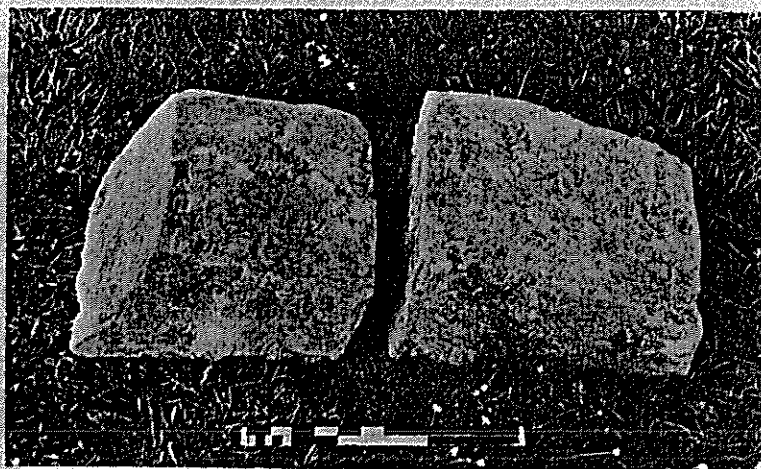


Plate IIa. Ashlar limestone blocks recovered from the robber trench of the stone revetment of Per. II (T.6), v. p. 6, fig. 2.

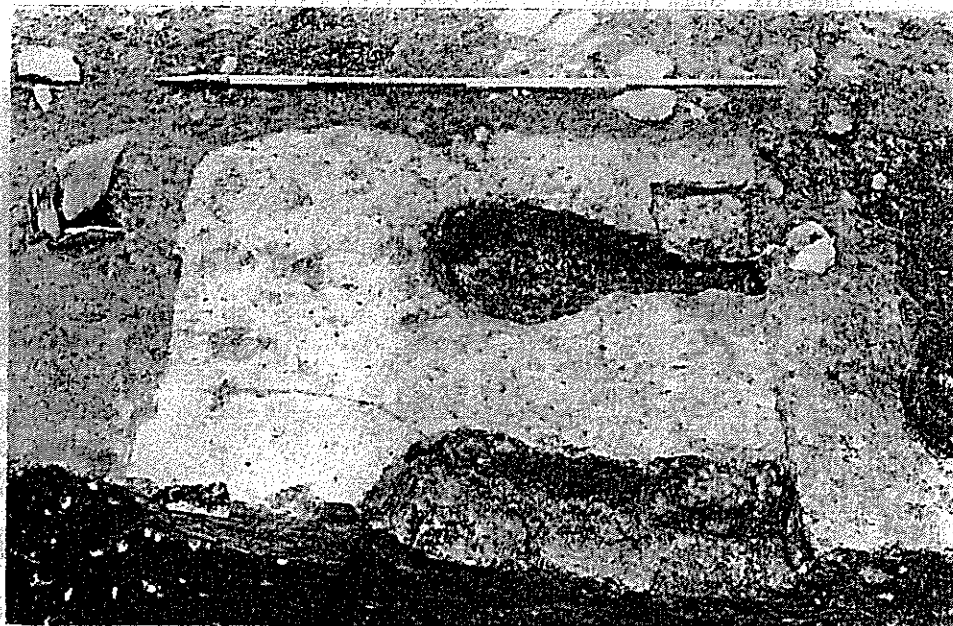


Plate IIb. Twin furnaces on a clay base (T.2, 3a, b), v. p. 10, fig. 4.

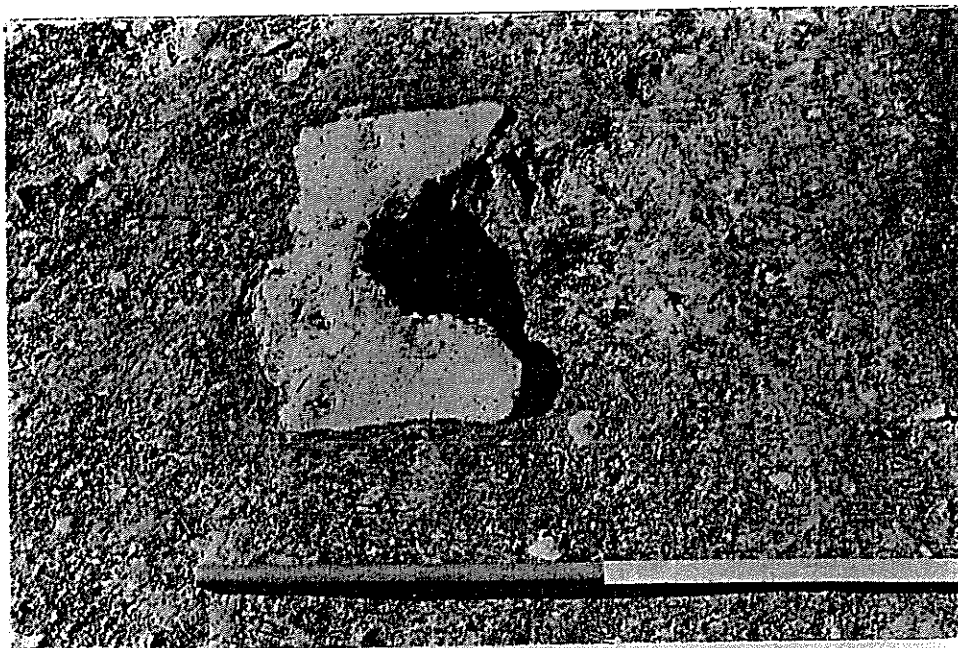


Plate IIIa. Single furnace on a clay base (T.4.43), v. p. 11, fig. 4.

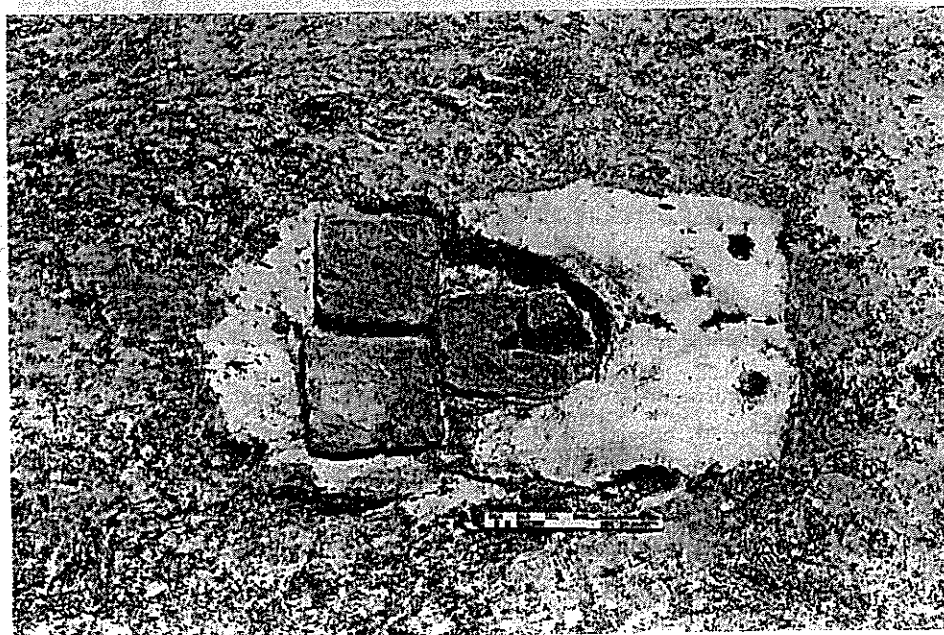


Plate IIIb. Single furnace on a clay base with tiles (T.4.42), v. p. 11, fig. 4.

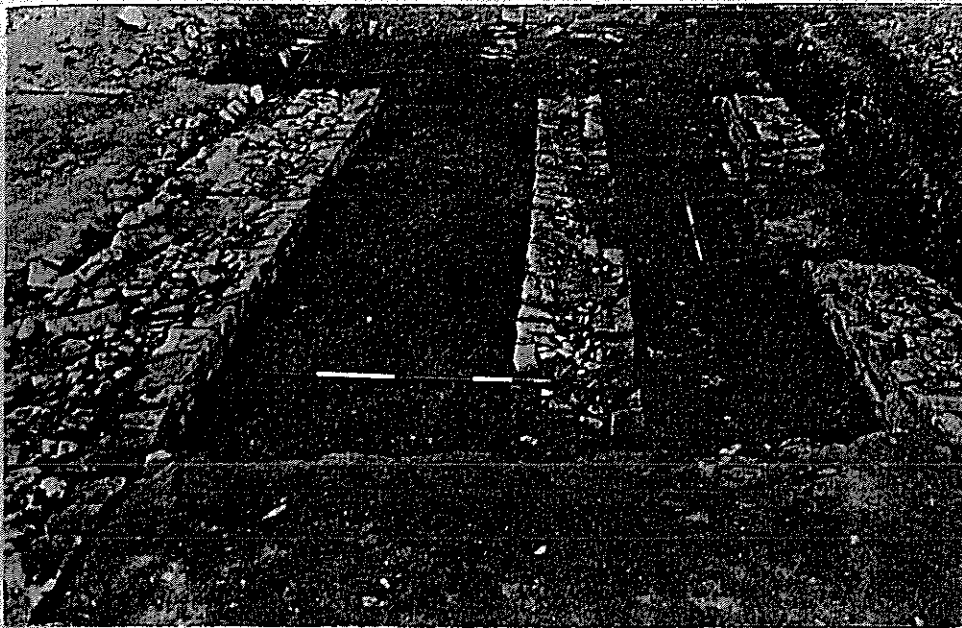


Plate IVa. General view of granary in final stages of excavation showing post-pits alongside external and one internal wall. View from south, v. p. 11 and fig. 4.



Plate IVb. Granary interior with crosswall (34) still in position.

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Plate Va. Western external wall of granary with drain (33).



Plate Vb. Internal wall (22) of granary showing double effect to carry raised floor.

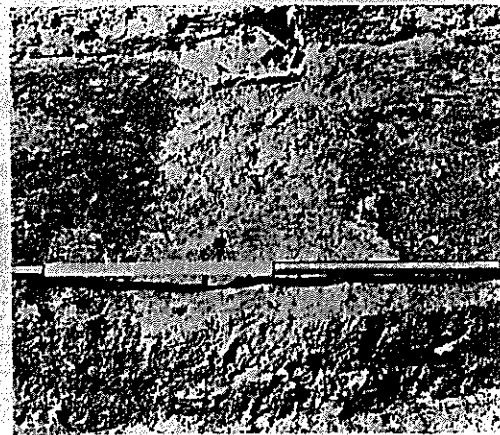


Plate Vc. Construction trench (59) of Flavi timber granary as seen beyond north wall (15) of stone granary, v. 12, fig. 4.



Plate VIa. General view of T.1B looking south. The demolished granary walls (to lower right and left) are overlaid by the grit-paved intervallum of the fortlet (above scale pole). The later road is flanked by a deep, stone-lined drain running into a latrine, v. p. 13, fig. 4.

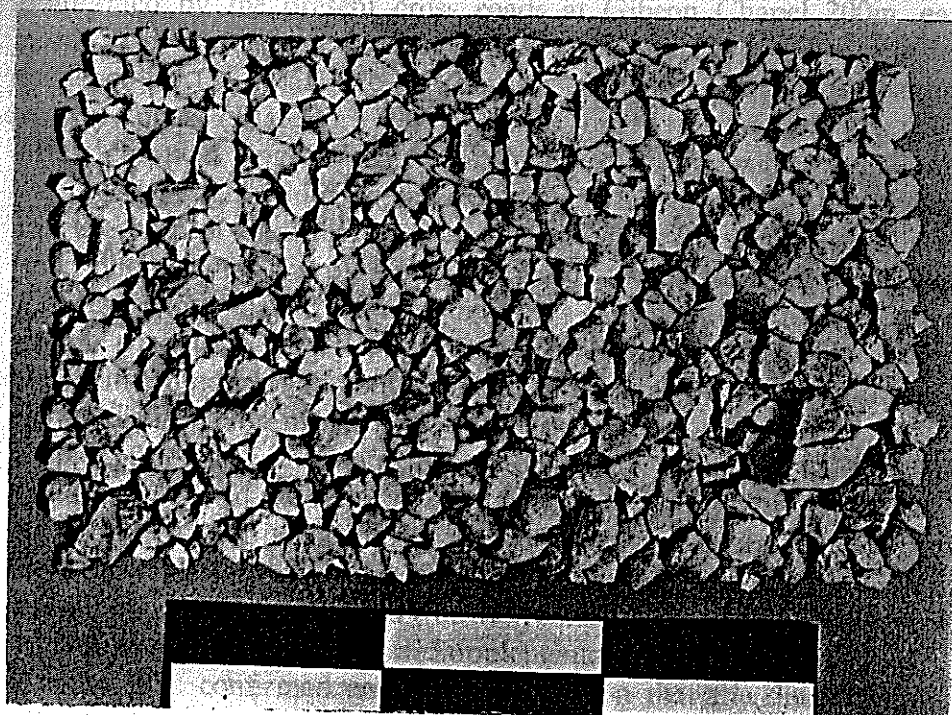


Plate VIb. Crushed quartz with an average size of 0.6cm. across from the processing floor located west of Ogofau Lodge, v. p. 14. The scale is in 5cm. units.