

ART. VII. – *Archaeological Report on the Watercrock E.T.W. Pipeline.*

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IN June 1980 the North West Water Authority commenced a project to extend and improve Kendal Effluent Treatment Works. The works are sited on the river Kent, to the south of the town and adjacent to the wide meander of the river at Watercrock which encloses the site of the Roman fort and *vicus*. The initial phase of the project was to include the construction of an effluent pipeline to replace the open channel conducting treated water from the works into the river. The pipeline was planned to cross the river and traverse the peninsula in close proximity to Watercrock Farm to an outfall point below the tail-race of Helsington Mills. The route was revised, further to discussion between the Water Authority and the Inspectorate of Ancient Monuments, to pass to the east of the Scheduled area of the fort and *vicus*. Following from this the Cumbria and Lancashire Archaeological Unit was commissioned to undertake a watching brief to record anything of archaeological importance revealed during the pipeline construction.

The planned length of the pipeline was *c.* 856 m of which 300 m was to lie on the works side of the river and 525 m on the farm side (Fig. 1). The pipe was to be laid within the river's floodplain, that part to the south of the river-crossing through farmland under permanent pasture. Between inspection chamber (IC) 3 and the outfall chamber, the land falls naturally by 5.4 m overall, interrupted in the area opposite Helsington Mills by a low ridge of *c.* 7 m height which extends from the valley side up to the riverbank (R. Collingwood, 1930, 97). Approximately half of the route traversed ground that had previously undergone some form of disturbance. The largest section lay within the Treatment Works where extensive landscaping had been undertaken during its construction. Less obviously, the ridge of higher land had been landscaped during the 1976 phase of the Kendal Flood Relief Scheme, after being terraced adjacent to the river to provide access for earth-moving machines. The south bank of the river, north of IC3, was at that time reconsolidated and river widening earlier in the scheme had included the cutting back of the north bank below IC4.

Apart from a Roman "candlestick" discovered in 1903 in the area between IC3 and the riverbank, the Cumbria Sites and Monuments Record held no information of structures or finds having been discovered on the proposed route. Watercrock Farm, generally accepted as the site of the bath house (W. Collingwood, 1908, 105), is situated some distance to the west. The extent of the *vicus* at Watercrock is, however, not known. Antiquarian reports had tended to draw attention to the more substantial remains which were present on the peninsula. Horsley (1732, 484) placed the settlement to the west of the fort on the basis of the amount of stone ploughed-up in that area. Aerial photography has provided very little information on the *vicus*, apart from indicating the alignment of some of the roads. The presence of the substantial stone-floored structures of the east *vicus* excavated in 1974 (Potter 1979, 193) was not detectable on aerial photographs, neither has it been possible to confirm Horsley's claim for the area west of the fort. It was, therefore, possible, particularly in the area nearest to the fort, that the pipeline

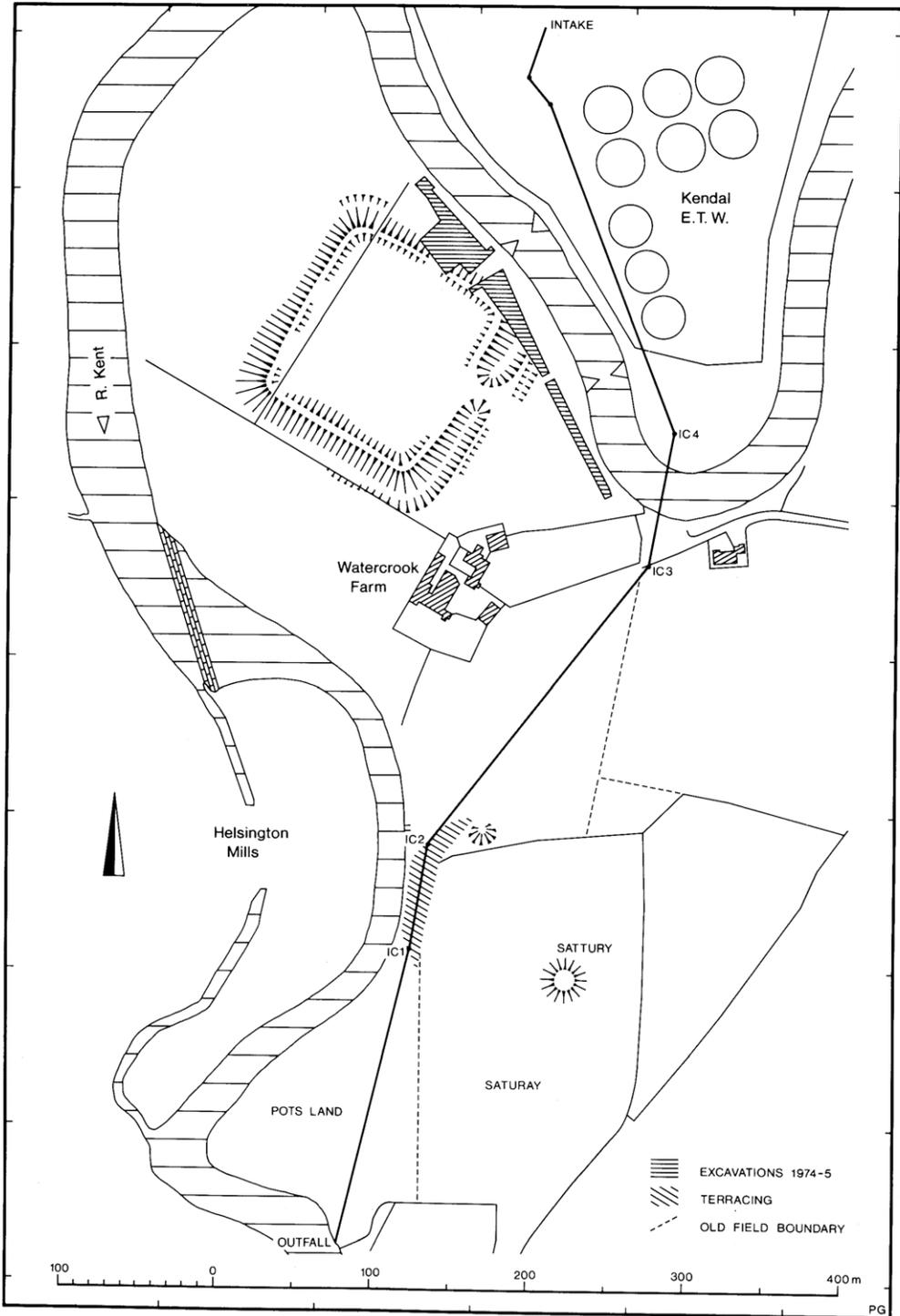


FIG. 1. The route of the pipeline.

trench would impinge upon stratigraphy comparable to that excavated in 1974. At the river-crossing the pipe was to be laid within 33 m of the area of excavated *vicus* structures. South of IC1 the route lay within the former boundary of the field named Pots Land¹ which is considered, on the evidence of its name and chance finds, to enclose a Roman cemetery.

Observations

The construction of the pipeline was undertaken in two phases. The section between IC3 and the outfall was constructed simultaneously with the section within the works up to IC4, the trenches being immediately backfilled as work progressed. Some months later, IC3 and IC4 were linked via a flexible pipe beneath the river-bed.

Between IC3 and the outfall, construction was preceded by the stripping of a 25 m wide swathe of turf and topsoil, and the cutting of a 4 m deep terrace through the ridge of higher ground. This terracing amounted to the removal of made-up ground from the area disturbed and landscaped in 1976. The pipe-trench was then cut northwards from the outfall chamber. Between IC3 and the outfall the natural fall of the land was greater than the designed fall of the pipe, therefore, as the excavation progressed northwards it became increasingly deeper. The instability of the subsoil necessitated the trench being cut with sloping sides. The cumulative effect of these factors was that an increasing area of the potential archaeological zone, i.e. the boundary between ploughsoil and subsoil, was destroyed: 2.5 m in width at the outfall, 9 m in width at IC3 or almost double the width of the excavation trench cut across the east *vicus* in 1974 (Potter, 1979, 185).

South of the river-crossing the average combined depth of topsoil and brown-earth ploughsoil² was *c.* 0.5 m. It was deeper in the terraced area. The subsoil of the valley floor consisted of fluvio-glacial gravels and sand which varied in colour from brown to grey and contained occasional erratic boulders, some of considerable size. In places, and at varying depths, the gravel contained bands of yellow-brown clay up to 0.6 m in thickness. In one location, *c.* 40 m north of IC2, the clay band was bisected by a thin intermediate layer of fine black gravel.

The excavation of the trench revealed several distinct areas of finds and stratigraphy (Fig. 2).

1. Surface finds were collected during the initial phase of topsoil clearance and terracing between IC3 and the outfall. The great majority of the pottery sherds were of post-medieval date although both Roman and a small amount of medieval/post-medieval material (6 sherds) was also present. The main concentration of post-medieval finds was in the vicinity of the farm. The Roman finds increased towards IC3 and very few finds at all occurred south of IC2.
2. Findspot of a complete and unbroken samian vessel. No associated finds or stratigraphy were observed. Five sherds of Roman pottery were recovered from the trench between the findspot and IC1.
3. A compacted layer of irregular river cobbles in a contaminated, grey clay matrix was visible in section beneath a remaining skim of ploughsoil. The layer was *c.* 12 m in length with a maximum depth of 0.75 m and contained both modern and Roman pottery. It was evidently an area of land-fill derived from the river widening of 1976. It overlay a substantial lens of compacted, yellow-brown clay of 0.5 m maximum depth.

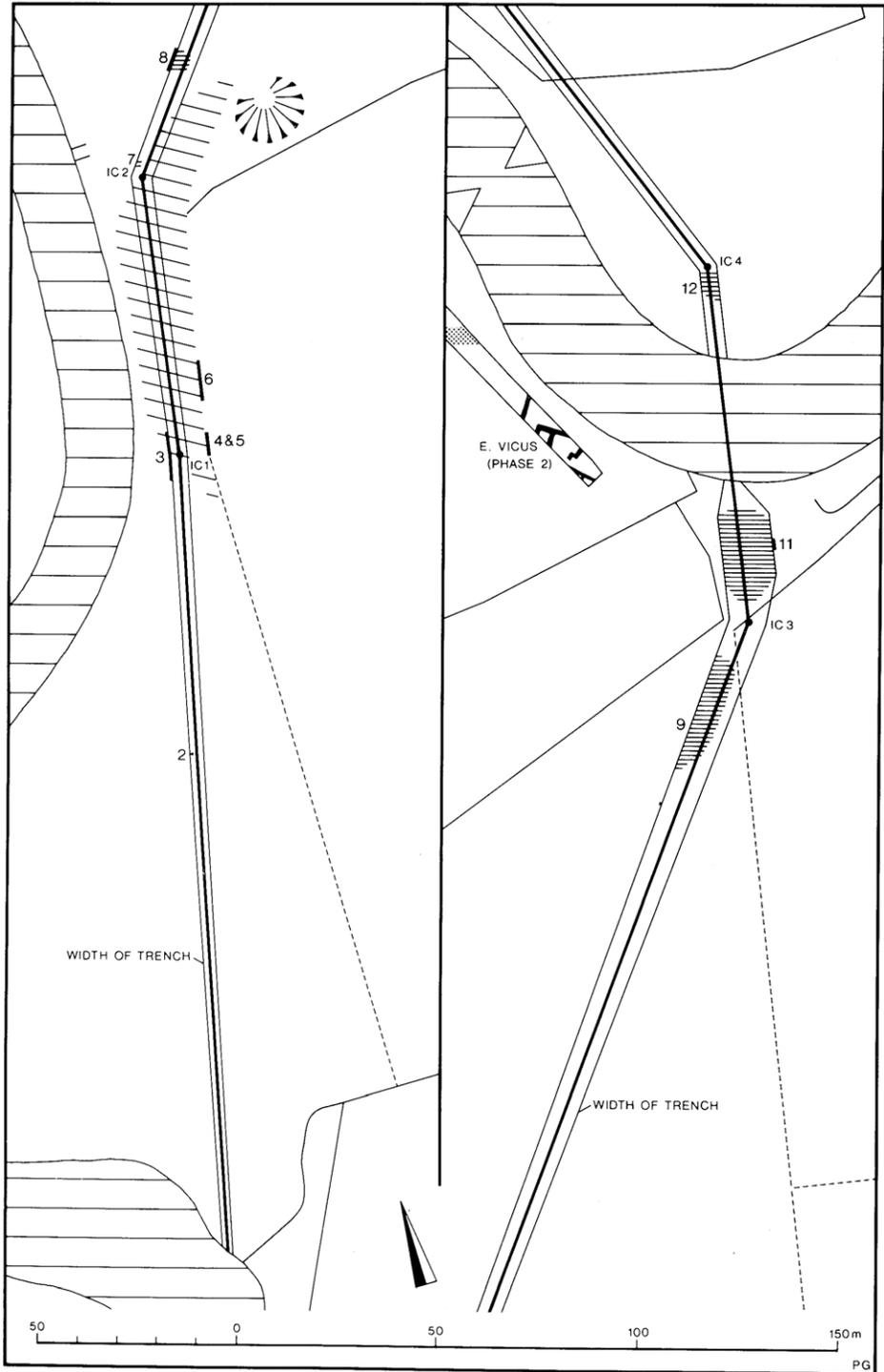


FIG. 2. The locations of the recorded areas.

4 and 5. The terracing exposed in section an area of random limestone blocks of *c.* 0.5 m maximum depth and extending intermittently for up to 6 m in length. The stones lay within a loose matrix of ploughsoil and were overlain by 0.5 m of ploughsoil and topsoil. They ranged in size from 0.05 to 0.4 m, and some had decayed to powder. These stones formed the tumbled remains of the wall which had once separated the fields Saturay and Pots Land.³ The line of this old boundary was visible in the field to the south as a low linear earthwork.

6. An uneven lens of dark soil, *c.* 10 m in length, was visible in the vertical face of the terrace, within ploughsoil, at a depth of 0.5 m below the turf. It had a maximum depth of 0.3 m and consisted of roughly equal proportions of ploughsoil, charcoal, grey powdered lime and rotted bone. A few fragments of Roman pottery and glass were found together with a small iron knife. This layer appeared to represent the disposed remains of farm animals, that were possibly diseased, and was considered to be of no great antiquity. It partially infilled the hollow formed by the natural fall of the land towards the old field wall.

7. Five sherds of Roman pottery including a large fragment of samian bowl were recovered from a small area of the trench.

8. A lens of compacted, yellow-brown clay, *c.* 6 m in length and 0.2 m maximum thickness was visible in section between the remaining ploughsoil and subsoil. The clay included some charcoal and small cobbles and it may have extended for some 4 m across the trench. Roman pottery was recovered from the area of the destroyed part of the layer.

9. A finds scatter of Roman pottery and tile extending for *c.* 30 m along the trench but not extending to its eastern side. It was not possible to determine whether the pottery had come from the remaining layer of ploughsoil or from shallow features below the ploughsoil. None of the pottery was grouped in concentrations within the area of finds. Some 10 m beyond the southern limit of the finds scatter, a loose accumulation of cobbles of 0.10-0.15 m size was revealed in the side of the trench. They formed a feature with a width and depth of *c.* 0.5 m with its lower part apparently set into the subsoil although no cut was traceable. Most probably the remains of a post hole. In neither location was horizontal stratigraphy visible in section.

10. Near the southern boundary fence of the Treatment Works: two sherds of samian together with fragments of modern pottery and drainage pipe were retrieved from the ground surface beneath the sludge-beds being landscaped in that area.

11. A 20-30 mm lens of mixed soil and charcoal, *c.* 1.0 m in length, was visible in section within gravel at a depth of 0.7 m to 0.8 m below the ground surface, 0.5 m further south a slightly thicker horizontal lens of charcoal and gravel, 0.7 m in length was observed at a depth of 0.9 m, lying beneath a 20 mm lens of yellow-brown clay.⁴ The gravel overlying this stratigraphy may have been part of the modern consolidation of the riverbank. The finds collected from the adjacent area of the trench formed the largest sub-collection of Roman pottery and tile, some of it badly abraded. No finds were attributed to the observed stratigraphy and it was not possible to relate finds to more specific concentrations within the disturbed area.

12. A small quantity of Roman pottery, mainly samian, with some sherds badly abraded, formed a scatter in the landscaped material below IC4.

13. An iron adze was recovered from the riverbed.

The trench provided little additional information of the fluvial history of the river. Throughout most of its route the pipeline traversed ground significantly higher than those areas adjacent to the river that were sampled in 1975 where silted channels were identified (Potter, 1979, 195-8). At the outfall and the south side of the river crossing the apparently undisturbed subsoil indicated that both areas were at the limit of the river's lateral erosion. The north side of the crossing was more difficult to interpret. It was clear that a substantial part of the land in that area had been aggraded through river activity but material from the earlier river widening had been dumped onto the bank and the whole area had been utilized for sludge deposition. It had been intended to record the position of the boundary between the aggraded material and the intact subsoil but the progress of construction left insufficient time to clean and examine the full depth of the trench.

Assessment

The nature and extent of Roman activity

Some of the recorded areas of stratigraphy were clearly post-Roman in origin and some of the areas of finds consisted of redeposited material. The report of the excavations of 1974-5 provides a large body of data against which it is possible to make some comparative statements in respect of those areas of finds and stratigraphy: 1, 7, 8, 9 and 11, which are not included in the above classification. 2 is considered separately, below.

Area 8 was the largest observed area of destroyed stratigraphy. The clay layer differed from the bands of natural clay within the subsoil, or on its surface as at 3, in that it included charcoal and small cobbles. It closely resembled the clay floors of the buildings of Phase 2 of the east *vicus* (Potter, 1979, 190-2), although no wall foundations or post holes were observed in the section in association with it. The layer had probably been damaged by ploughing, reducing its original extent. It was taken to represent *vicus* activity either in the form of a timber-framed structure or an area of flooring in the vicinity of some form of structure. The areas of natural clay would evidently have formed the source of raw material for the floors of the *vicus* structures, accounting for the similarity between these layers. Area 8 does not stand in isolation. During the disturbance involved in the work of the 1976 phase of the Flood Relief Scheme, stratigraphy was observed and Roman pottery recovered from near the riverbank south of Watercrook farm. The feature consisted of clay layers bordered by tumbled stonework (Marsh, 1977).⁵ In 1979 other clay layers were observed and finds recovered from the riverbank in the field to the north of Potlands, "some 30 yards south" of the earlier site (Marsh 1979). Precise locations for these features were not recorded but they can be broadly placed near the river to the north of the terraced area. The pottery from area 7, in view of its proximity, should also be included in these considerations. The accumulated evidence indicates some form of *vicus* activity in this area, possibly including two or three structures which, if contemporary, were not closely grouped. How far the activity extended is not known and the dating is uncertain. The only dateable sherd of coarseware was a fragment of Wilderspool mortarium from 8. The samian from both 7 and 8 ranged from Flavian-Trajanic to Hadrianic-Antonine, with the majority of sherds from the latter period. This date range places the activity within Phases 1 and 2 of the east *vicus*, which is consistent with the Phase 2 parallels for the clay floor.

The status of area 9 remains uncertain. Whilst the finds may have formed a simple scatter within the ploughsoil, the destruction of accompanying features cannot be discounted. The main dating evidence was provided by the samian which ranged from Flavian to Antonine, with the majority of sherds of Hadrianic-Antonine date. A fragment of Wilderspool mortarium provided the only dateable sherd of coarseware. The date range covers all three phases of activity of the east *vicus*. None of the finds related to the post hole which appears to have been either an isolated feature or an element of some activity, possibly a structure, to the west of the trench. No comparable features were observed in the vicinity during the excavation of the trench.

The pottery comprising sub-collection 1 was collected mainly from the area between IC2 and IC3. The dateable sherds ranged from the late 1st century to the late 2nd century with a predominance of early mid-2nd century material. The date range of this pottery corresponds with that of the material from areas 7, 8 and 9.

The stratigraphy sectioned in area 11 was insubstantial and was probably representative of the few elements remaining on the eroded and consolidated riverbank. The greater proportion of the presumed ribbon development along the south-east road has evidently been lost to the river. The presence of yellow-brown clay again invites comparison with the floor levels of the structures of Phase 2 of the east *vicus* (Potter, 1979, 190-2). The pottery recovered from area 11 was significantly later in date than that recovered from the areas between IC2 and IC3. All of the samian was of Hadrianic-Antonine or Antonine date. The coarseware ranged from the early 2nd century to early to mid-3rd century with a predominance of material dating from the mid-2nd century onwards. This shift towards a later date could signify that the road became more important as a focus of activity during Phase 3 of the east *vicus*. It was this phase that saw the most substantial stone-built *vicus* structures bordering the road (Potter, 1979, 193).

Although the recorded areas give some indication of Roman activity, the information is incomplete. In general, only substantial features or those with contrasting fills would have been readily observed during the excavation of the trench. In comparative terms, some of the elements which comprised Phases 1 and 2 of the east *vicus*: small pits, post holes, and shallow wall foundations (Potter, 1979, 187-92), would have been difficult to detect except where sectioned by the edge of the trench. Timber structures similar to those of the north *vicus*, which were devoid of floor levels (Potter, 1979, 180-3), would have been detectable only if they had consisted of substantial post holes. There was no evidence of more substantial linear features such as tracks, ditches or field boundaries traversing the area.

The Roman cemetery

It is unusual to find a complete and unbroken samian vessel other than in a funerary context. The significance of the location of this find within the field named Pots Land can only be assessed in the context of the information relating to the location of the cemetery at Watercrook.

The origin and meaning of the name Pots Land is uncertain. It occurs in the Corn Rent Schedule of 1836 and the Cumbria Sites and Monuments Record cites a manuscript of 1638 as the earliest reference.⁶ The name does not, in itself, imply that pottery has been found in the field, moreover, if this relationship were intended, the fields containing the fort would appear, at first sight, to be better candidates for the name. The evidence

suggests however, that there is a relationship between Pots Land and Roman pottery and that it is probably derived from the state of preservation of the vessels unearthened in the field.

Both Machell (1692, in Ewbank, 1963, 11-13) and Horsley (1732, 484) state that urns had been found at Watercreek but antiquarian usage of the term "urn" is imprecise and cannot, without qualification, be taken to imply a burial. Horsley's account includes the observation that urns had been washed out of the riverbank which, given the topography of the site, is not a particularly remarkable statement until compared with later reports made by Nicholson. Nicholson gives the first detailed account of the discovery of burials but it is marred by being published in two slightly differing versions with an interval of some thirty years between them. In the 1832 edition of the *Annals of Kendal*, Nicholson describes the discovery at Watercreek of two cremations contained in coarseware vessels: in 1813 a broken urn with cremation was found close to the river and, at about the time a supposed kiln was discovered in 1814, a complete urn with cremation was found exposed in the riverbank. No precise locations are given for these finds (Nicholson, 1832, 11-12). In the 1861 version a location is provided but other details are different: in 1813 "some" urns were found in the riverbank at the tip of the tongue of land south of and opposite Helsington Mills. The field Pots Land is clearly implied but not named. A detailed description is then given of two urns which is in essence identical to that of the first edition (Nicholson, 1861, 11-12). The inconsistencies are slight and might be ignored were it not for the fact that in the later edition Nicholson requires the location of the finds to support his contention that the area between the river and the mound named Sattury was the site of the Roman cemetery. It may be incorrect to ascribe a disingenuous motive to Nicholson for providing a location in the second edition but, when the inconsistencies are taken into consideration, the end result is, ironically, the same, in that the value of the second account is reduced. Nicholson's attempt at linking the Sattury into the cemetery is pure hypothesis: without excavation the nature of this feature will remain indeterminate (RCHM, Westmorland, 182).

A report of a further isolated find of a presumably more or less complete Roman vessel was made by W. Collingwood. On this memorable occasion a cow had stuck her horn into an urn in the field Potlands *sic*. which, according to his informant, Mr Mason, was the field in which the urn of 1813 was found. No details are given of the vessel type or its contents (W. Collingwood, 1908, 107). Indirectly this report serves to partially vindicate Nicholson's accounts. Not surprisingly, it is unclear in which part of the field the cow made her discovery, but it is reasonable to infer that it would have been from an area of exposed soil. The riverbank is the obvious location although it may have been unearthened from an animal burrow anywhere in the field.

In summary, Pots Land has produced:

1. A samian cup from the pipeline trench in 1980.
2. A ?Roman vessel, ?in the late 19th century or early 20th century.
- ?3. A coarseware vessel with cremation, ?from the riverbank, ?in 1814.
4. A coarseware vessel with cremation, ?from near the river, in 1813.
- ?5. An unknown number of vessels, unearthened over an unknown period during cultivation and/or river erosion, from which the field derives its name.

The evidence is neither substantial nor conclusive but, nonetheless, may be indicative

of a cemetery in the vicinity. The movement of the river channel is an important factor, if the river has eroded into Pots Land to the extent that it has eroded into the east *vicus*, a considerable part of any cemetery may have previously been destroyed. The pipeline produced only one significant find in the field, which could mean that the trench impinged on the extreme eastern limit of the cemetery, although conditions were not particularly conducive to the discovery of burials.

The samian vessel was of Antonine date. The degree of wear suggests that it was deposited in or after the late 2nd century which would place it within, or later than, Phase 3 of the fort and *vicus*.

Conclusion

It was clearly evident that the pipeline did not disturb stratigraphy of comparable depth to that recorded in the excavated area of the east *vicus*. The area north of IC2 produced limited evidence of less substantial *vicus* structures as did the consolidated area of riverbank. The conditions prevailing during the pipeline construction were such that throughout the trench it was difficult to ascertain the presence or absence of other areas of less intensive or less substantial activity, whether isolated features, areas of shallow stratigraphy or the remains of entire structures. The recorded areas of Roman pottery are of limited value in this context in that the presence or absence of artifacts is not a criterion for the presence or absence of features in the same location. The area destroyed by the pipeline excavation appears to be on the edge of the *vicus* at Watercreek. Very little is understood of the use of land in the vicinity of *vici* in the north-west and although the fort at Old Carlisle appears to have had a *vicus* integrated into a system of agrarian land use, it cannot be regarded as representative (Higham and Jones, 1975, 25-7). The evidence gained from Watercreek lacks adequate comparisons and is insufficient to further understanding.

THE FINDS

The Roman pottery

One basic problem of collecting pottery during the rapid movement of large volumes of earth is that of a bias of recognition in which only large sherds or those with a fabric colour that contrasts with the soil colour are readily noticed. The interpretive value of the pottery, particularly when it is considered as a whole, is therefore limited and the following notes must be viewed in full recognition of that fact.

Quantification:	Coarseware	123 sherds	5.135 kg
	Samian	87 sherds and 1 cup	1.687 kg

The samian amounted to 42% by sherds, 24% by weight of the total pottery assemblage. Of the dateable sherds, 83% were of Hadrianic-Antonine and Antonine date and 10% of Flavian-Trajanic date. This was in marked contrast to the sample from the excavations of 1974-5 where the quantity of sherds from the two later periods was approximately equalled by the quantity of Flavian-Trajanic material (Potter, 1979, 162). This difference was not reflected in the sample of dateable coarseware from the pipeline.

The coarseware amounted to 55% by sherds, 75% by weight of the total pottery

assemblage with the finewares taking up the remaining 3% and 1% of the respective totals. Within the coarseware sample, amphorae fabrics accounted for 33% by sherds, 63% by weight and mortaria fabrics for 20% by sherds, 25% by weight. The mortaria were interesting in that slightly more than one third of the sherds appeared to originate from Wilderspool. Unfortunately no comparative figures were available for the mortaria from the 1974-5 excavations. The range of the dateable coarseware sherds differed slightly from that of the coarseware excavated from the east *vicus* in 1974 (Potter, 1979, 194) in that the pipeline produced no fabric specific to the second half of the 4th century. In terms of the relative quantities of the dateable material the published histogram (Potter, 1979, 194) charts a gradual decline in the quantity of material from the peak at the beginning of the 2nd century. In contrast, the pipeline material maintained a fairly constant level throughout the 2nd century, most of the material dating to the later 2nd century having originated in area 11.

The Coarseware (Fig. 3)

By PAUL GIBBONS and LOUISE HIRD.

Mortaria stamps by KAY HARTLEY.

1. (1) BB1 jar or cooking pot with upright rim.
Mid-2nd century.
2. (1) Narrow-necked jar with turned out rim in oxidized, bright orange, quite soft, sandy fabric.
?Quernmore A.D. 80-120.
3. (1) Beaker with cornice rim in oxidized, bright orange, quite soft, sandy fabric.
Wilderspool (Hartley and Webster 1973, Fig. 4, 27) A.D. 100-165.
4. (1) Jar or cooking pot with turned out rim in oxidised, bright orange, quite soft, sandy fabric.
?Wilderspool or local product.
5. (1) (Not illustrated). An incomplete rim-section from a mortarium in a softish, cream fabric with some blackish, red-brown and transparent inclusions. Some quartz and red-brown trituration survives.

The battered, fragmentary stamp can be attributed to a potter called Biso or Ibis. The stamp probably reads BIS (retrograde). There appears to be another very faint stamp immediately next to it, which may read FECI retrograde. (I?)bis is not recorded elsewhere with any other stamp, and only clearer examples will permit certain identification.

Stamps from the same die as (I?)bis are now recorded from Carlisle (2), Lincoln (3), Littleborough (Notts), Newstead, Templeborough and Watercrook (2). One of his Lincoln stamps is from the Technical College Kiln and his fabric and rim-profiles are completely in keeping with production there. The stamp at Newstead probably belongs to the Flavian-Trajanic period (c. A.D. 95-103) and his rim-profiles would best fit within the period A.D. 95-130.

A mortarium from Chester, in a completely differing fabric, has a stamp from another die and it is this stamp which shows an initial I. It seems likely to have been made by the same potter but, if so, it does raise the possibility that he may have had a second workshop at some time, perhaps in the Chester area, where a similar fabric could be produced. (Neither stamp nor rim-profile are really drawable).

6. (8) A worn mortarium in buff-cream fabric with very thick, brownish-pink core and a brownish-buff slip. Abundant, ill-sorted, quartz, orange-brown, dark brown and blackish

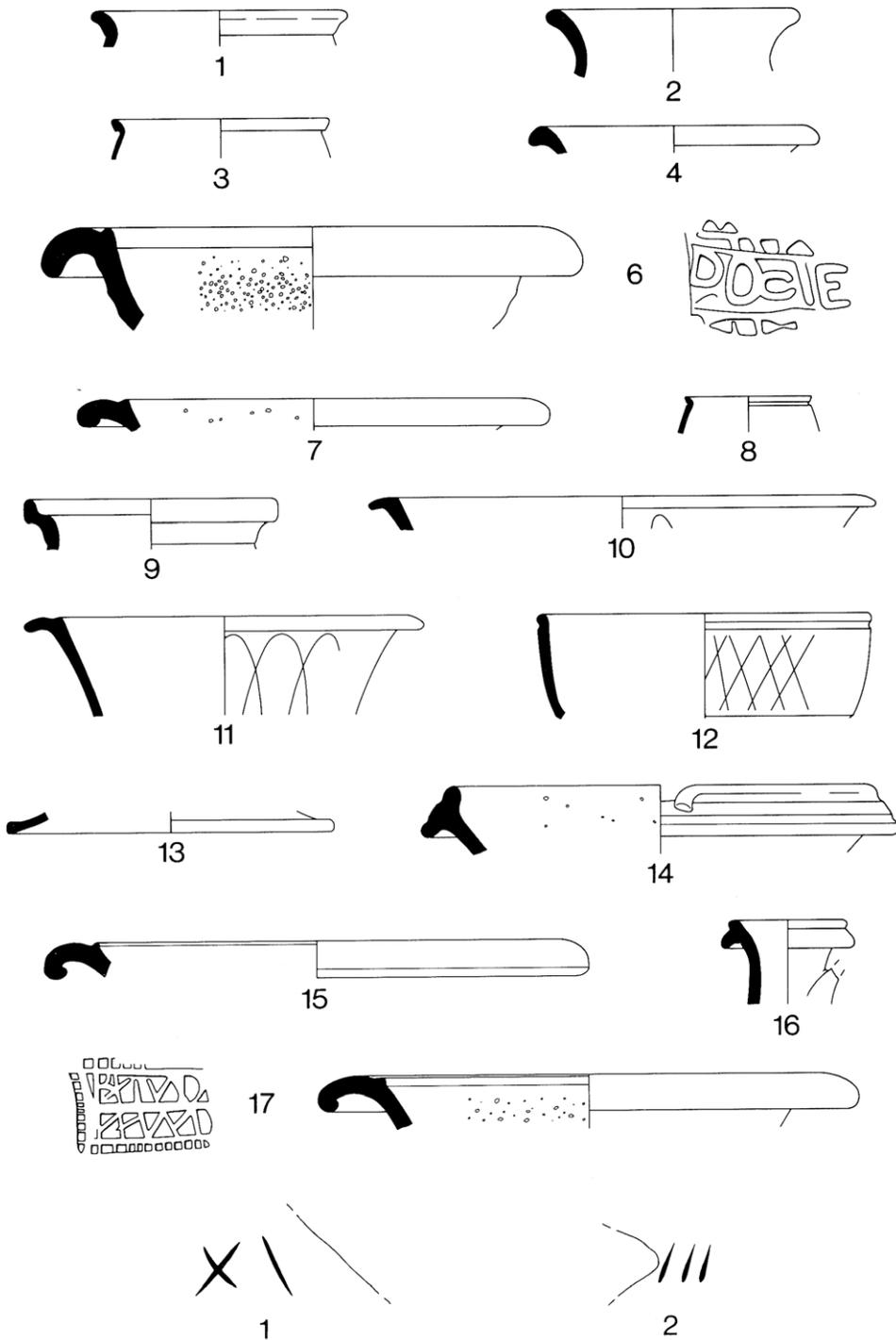


FIG. 3. Roman coarseware (quarter full size), mortaria stamps and graffiti (half full size).

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tempering. Trituration mostly red-brown with occasional white quartz. Diameter 30 cm. The potter's stamp probably reads DOCIFE (FE is ligatured), and is from one of at least 8 dies, obviously belonging to one potter, whose readings vary slightly, his name being Docius, Doccius or even Docilis. Stamps of his have now been found at: Ambleside (3 or 4), Birdoswald (2), Birdoswald Turret, Bowness-on-Solway, Cardrunknock (7), Carlisle (10), Castlesteads, Chester, Chesters Museum, Corbridge (2), Hardknott, Lancaster (2), Maryport (2), Old Penrith, Ravenglass (2), Stanwix, Watercrock, Wilderspool and York; and in Scotland from Balmuildy, Barburgh Mill, Carzield (2), Newstead (2) and Inveresk?

The fabrics used and the distribution, with its heavy concentration on Hadrian's Wall, in the Cumberland coast forts and at Carlisle, point to production in the north-west, perhaps in the valley of the River Petteril in the Scalesceugh area where a number of unexcavated kilns are known to exist. There is, however, a possibility that he began his career at Wilderspool, where there is one of his mortaria in what appears to be local fabric (Hartley and Webster 1973, 95 and Fig. 8, Q). A date within the period A.D. 120-160 would fit his products.

7. (9) Mortarium in soft, sandy, orange fabric with traces of cream slip. Wilderspool (Hartley and Webster 1973, Fig. 10, 83) A.D. 100-165.
8. (11) Beaker with cornice rim in white fabric with brown slip. Nene Valley colour-coated (Gillam 1970, 85-88) A.D. 180-250.
9. (11) Jug with lid-seated rim in oxidized, bright orange, sandy, fabric. Wilderspool (Hartley and Webster 1973, Fig. 5, 38) A.D. 100-165.
10. (11) BB1 dish with flat rim. Intersecting arc decoration. (Gillam 1976, 65) Late 2nd century.
11. (11) BB1 bowl with grooved rim. Intersecting arc decoration. (Gillam 1976, 42) Late 2nd to early 3rd century.
12. (11) BB1 bowl with bead rim. Lattice decoration. (Gillam 1976, 52) Mid to late 2nd century.
13. (11) Lid with plain rim in reduced fabric. (Gillam 1970, 340) A.D. 100-140.
14. (11) Mortarium in bright orange, sandy fabric. Mixed trituration grit includes quartz, ironstone and red fragments. Only half of the spout present. Wilderspool (Hartley and Webster 1973, Fig. 12, 121-4) ?A.D. 150-200.
15. (11) Mortarium in sandy, orange fabric with cream slip. Wilderspool (Hartley and Webster 1973, Fig. 11, 96) A.D. 100-165.
16. (12) Flagon with flanged rim in sandy (red quartz), fairly hard pink fabric with slightly darker surface. (Gilliam 1970, similar to 16) A.D. 170-240.
17. (12) A mortarium in finish-textured, orange-brown fabric with pinkish streaks in it. Some inclusions, mostly quartz and red-brown. Surviving trituration is all quartz. Slight traces of cream slip. Diameter 30 cm. The two-line stamp is from the same die as three stamps from Wilderspool on mortaria which can be attributed to a potter's workshop there (Hartley and Webster 1973, Fig. 8, N). The similarities in borders and lettering, to stamps of Austinus (Birley and Gillam 1948, Fig. 1, no 4A-D), make it certain that there is a link with his work. Unfortunately, no example has yet been found which permits this stamp-type to be completed but it is almost certainly from an early die which gives some form of AVSTIN in the upper line and of MANV in the lower line.

The rim-profiles associated with this stamp-type are pre-Antonine and a date within the period A.D. 110-140 is certain. If they are early products of Austinus, he must have had a long period of activity, of which half or two-thirds was further north in the Carlisle area (perhaps near Scalesceugh in the valley of the River Petteril, where many unexcavated kilns

are known to exist), and possibly even in Scotland, where his stamps are relatively common on sites of Antonine foundation.

Roman graffiti (Fig. 3)

1. XI[. . .

Inscribed after firing on upper surface of triangular rim of Dressel 20 amphora in a hard, sandy, pinkish-orange fabric with grey core and cream slip on outer surface. (8).

2. . . .]III

Inscribed after firing on outer edge of triangular rim of Dressel 20 amphora in a hard, self-coloured, buff, very sandy fabric. (11).

The Samian ware (Fig. 4)

By FELICITY WILD.

1. (2) Form 33. A complete cup, with the glaze worn, particularly in the interior, but showing no sign of having been stamped. The orange-red colour and lack of mica in the fabric suggest an origin in East Gaul, an impression reinforced by the rather unusual form of the footring. Antonine.
2. (7) Form 37, Central Gaulish. Base of a bowl in Stanfield's Medetus-Ranto style of Les Martres-de-Veyre. Panel decoration shows the Pan (O. 717), dancer (O. 354) and Bacchus (O. 566), separated by a St. Andrew's cross motif or a panel with acanthus and cornucopiae motifs. The types and motifs were all used on bowls in this style (Stanfield and Simpson 1958, pls. 29-32) *c.* A.D. 100-125.
3. (8) Small fragment of rim from a ribbed, barrel-shaped tumbler of the type illustrated by Stanfield (Stanfield 1929, Fig. 6, 31). The fabric is South Gaulish and the date likely to be Flavian or Trajanic.
4. (9) Form 37, Central Gaulish. Rim fragment showing ovolo over vine scroll (Rogers 1974, M1) and bird (probably O. 2239B). The ovolo appears to be that used by Attianus and Austrus (Rogers 1974, B18). The vine scroll and bird occur together on bowls in the style of Secundinus I from Carzield and Birdoswald Alley (Stanfield and Simpson 1958, pl. 90, 3, attributed to Condollus). Secundinus used a similar ovolo, though slightly smaller. Secundinus worked *c.* A.D. 125-145, though Attianus was slightly later and worked until *c.* A.D. 160.
5. (9) Form 37, Central Gaulish, showing the stamp DIVIX.F. of Divixtus of Lezoux beneath the decoration. Panel decoration shows the base of his caryatid (O. 1199) and a hare (O. 2128 or a reduced version of 2127) *c.* A.D. 150-180.
6. (11) Form 37, Central Gaulish, showing panel decoration with the horseman (O. 246) in medallion. The ovolo and border appear to be those used by Mercator II and Mascellio (Stanfield and Simpson 1958, Fig. 43, 3). The horseman was used by a number of potters such as Paternus and Banvus, and the general style suggests a date in the second half of the second century A.D..
7. (11) Form 37, Central Gaulish. Two fragments, probably from the same bowl. One shows part of the CINNAMI (ret.) stamp of Cinnamus of Lezoux, and his stag (O. 1720); the other, his ovolo (Stanfield and Simpson 1958, Fig. 47, 2), the bear (O. 1588) and edge of the horseman (O. 245). The types and the space filler all appear frequently on Cinnamus' work, *c.* A.D. 150-170.

Abbreviation: O. = Oswald 1936-7.

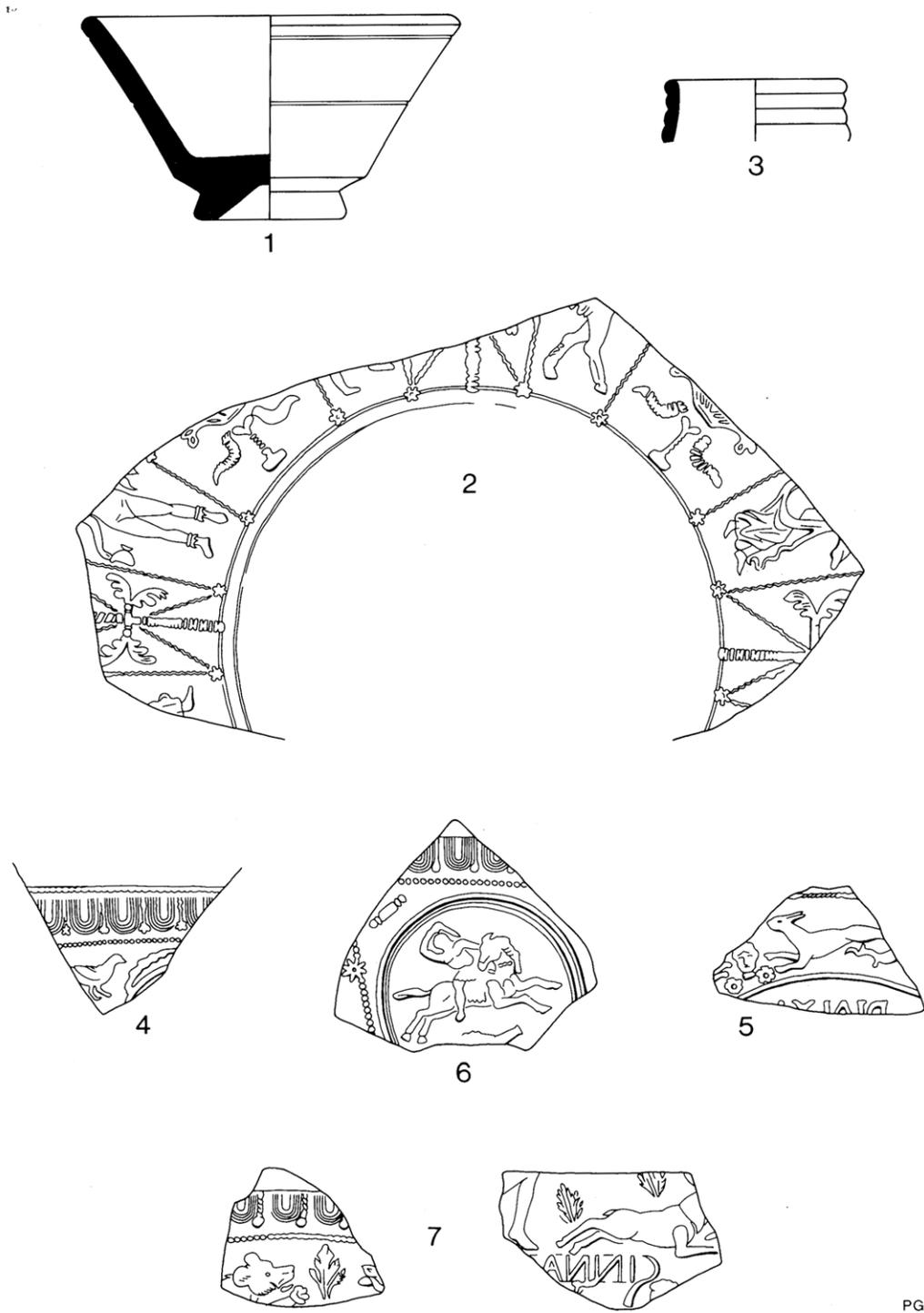


FIG. 4. Samian ware (half full size).

PG

Contents of the microfiche

Post Roman pottery and clay pipes by Andrew White	p 2-3
Coarseware fabrics by Louise Hird	p 4-5
Coarseware analysis: percentage fabric and weight	p 6
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Animal bone and shell	p 8
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The locations of the recorded areas	p 11

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Notes and References

- ¹ Corn Rent Map and Schedule No 12: Natland, 1836.
 - ² Soil Association Classification: Denbigh 1.
 - ³ Corn Rent Map and Schedule No 12 Natland, 1836.
 - ⁴ Information and sketch provided by Mr T. Clare, Cumbria County Council.
 - ⁵ Sketch of the 1976 section provided by Mr T. Clare, Cumbria County Council. Information regarding this feature was given to the Department of Classics and Archaeology of the University of Lancaster at the time of discovery but no mention of it was subsequently made in Potter 1979.
 - ⁶ The title and location of this MS are unknown. Pers. comm. Mr T. Clare, Cumbria County Council.
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- ¹⁴ Nicholson, C. *Annals of Kendal* (2nd edn.) (Kendal, 1861).
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