THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

The Short Dykes of Mid and North-east Wales

CPAT Report No 700

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PROJECT REPORT

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Report for Cadw: Welsh Historic Monuments

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1 Introduction

This report forms an addition to the three previous reports on the study of the short dykes of Mid and North-East Wales (Silvester and Hankinson 2001, Hankinson 2002, Hankinson 2003). It is concerned with the results of a programme of excavation and environmental sampling at a further three dykes which was carried out in 2004-5, and followed successful results from the excavation and sampling at the Giant's Grave Dyke (PRN 3711) in Llandinam, northern Powys, conducted in 2003. It is likely that the work will have significant implications for our understanding of the contexts, dating, and perhaps even the function of the short dykes, but these cannot be assessed until the results of the environmental sampling are available. No attempt has been made here to repeat or revise the sections of previous reports dealing with the general context of the dykes or the historical background to their study, nor have the morphological implications been considered.

2 Methodology

Nineteen short dykes have been positively identified in the region, and in 2003-4, two were augered in an attempt to locate palaeoenvironmental deposits. One of these, the Giant's Grave Dyke, was examined by cutting a trench through it to examine the structure of the dyke and to allow palaeoenvironmental sampling of a sealed peat deposit which had been discovered by the augering (Hankinson 2003).

The success of the excavation on the Giant's Grave Dyke led to the consideration of further sites where there was a potential for a stratigraphic relationship between a dyke and palaeoenvironmental deposits. At the Giant's Grave, a layer of peat was identified which had been sealed when the bank of the dyke was created. Subsequent radiocarbon dating of the uppermost section of the peat layer provided a date of 340-530 AD for this material (Ms A Caseldine: pers comm), thus providing a *terminus post quem* for the construction of the dyke. Further radiocarbon dates have recently become available for peat formation from a location adjacent to the dyke, and Ms Caseldine's work in this regard is likely to make a significant advance in our thinking about the dyke and its context.

Six further short dykes were identified for study this year, using the same methodology. The initial phase of investigation consisted of taking auger samples at each dyke to assess whether deposits suitable for environmental sampling were present. Where such deposits were identified, an excavation was carried out in order to obtain samples for dating and to enable the environmental conditions in which the dyke was constructed to be determined. The three dykes which were finally selected for excavation are depicted in relation to the dykes of the Welsh borderland on Fig. 1, below.

The sites augered comprised the Ty-Newydd (PRN 1478) and Bwlch-y-cibau (PRN 50449) dykes near Llanfyllin and the Clawdd Mawr Dyke (PRN 54) near Penybontfawr, all in what was northern Montgomeryshire. The Crugyn Bank Dyke (PRN 1882), near Dolfor in southern Montgomeryshire was also examined, as were the Cefn y Crug Dyke (PRN 993) and the Short Ditch (PRN 1114), in the Radnor forest area and near Llangunllo in eastern Radnorshire, respectively. Of this group of six dykes, only the Cefn y Crug Dyke and part of the Ty-Newydd Dyke (that examined by augering) remained unscheduled.

3 *Results of the auger sampling*

The initial programme of augering was undertaken on all six dykes, with the samples on scheduled dykes being targeted to areas where it was believed that suitable deposits were likely to be revealed, in order that the impacts of the interventions could be minimised. More extensive augering was undertaken in the case of the Cefn y Crug Dyke, as the initial results were disappointing and we needed to ensure that the sampling programme provided a realistic picture of the potential of the site.

The targeting of auger samples was accomplished by examining the local topography of each dyke, and assessing how this might have been influential in preserving palaeoenvironmental deposits. All areas of erosion were also carefully inspected to determine whether suitable deposits had been revealed. Augering was thus limited to restricted areas of individual dykes and, with the exception of the Cefn y Crug Dyke, no dyke was augered throughout its full length.

Bwlch-y-cibau Dyke

The form of this dyke is quite variable throughout its length, with some complex sections comprising up to three parallel banks. At the location in which augering was undertaken, the monument consisted of a single bank and ditch, possibly associated with an area of wet ground. Four auger samples were taken from the site: three from the bank at SJ 17831642, SJ 17861643 and SJ 17911646; and one from the ditch at SJ 17831641.

Unfortunately, there was no evidence of a sealed environmental deposit at the base of the bank, although a small amount of charcoal was present at SJ 17861643, at the approximate point where the base of the bank deposits might have been expected. At SJ 17831642, a one centimetre-thick band of brownish-orange clay, at a depth of nearly 1.2m below the crest of the bank, seemed to represent the old ground surface; the ditch opposite this point was at least 1m in depth.

After considering the results from Bwlch-y-cibau in the context of the augering programme as a whole, it was eventually decided that useful results could not be guaranteed from the excavation of a section across the bank and ditch. However, the apparent presence of charcoal, albeit in small amounts, towards the base of the bank deposits may indicate a phase of clearance contemporary with the construction of the dyke. It is possible that this could repay further study in future and we do not feel that our study of this particular dyke is neccessarily at an end.

Cefn y Crug Dyke

The dyke consists of a curving bank running approximately east/west, with a ditch on its south side. A total of six auger samples were taken in the vicinity of the dyke. These consisted of three samples from the bank at SO 16286415, SO 16196416, and SO 16146416; two samples from the ditch at SO 16286415 and SO 16196416; and a further sample from undisturbed ground away from the dyke at SO 16156418, to act as a control.

As with the previous site, no evidence was found of environmental material which could be sampled, although traces of charcoal were recorded at a depth of approximately 0.4-0.5m below the crest of the bank at SO 16146416. Possible charcoal traces were also seen in the ditch deposits at SO 16286415. The current profile of the bank and ditch at SO 16196416 was compared with the auger results and revealed that when the ditch was created, it had an estimated width of 2.8m and its base was 0.9m below the original ground level. The surviving bank was only 0.4m high, but had been spread by erosion to give a width of 3.8m.

After assessing the results of the remainder of the augering programme, it was decided that the lack of suitable palaeoenvironmental deposits meant that useful results could not be guaranteed from the excavation of a section across the bank and ditch. Despite this, it was evident that small amounts of charcoal were present towards the base of the bank deposits and in the ditch, possibly revealing a phase of clearance contemporary with the construction of the dyke or its maintenance. Although this material is unlikely to provide information on the wider context of the dyke, its potential use for dating a phase of activity at the dyke could repay further study in future.

Clawdd Mawr Dyke

The dyke consists of a curving bank running approximately north-east/south-west, with a ditch on its north-west side. A total of seven auger samples were taken in the vicinity of the dyke: five from the bank at SJ 06322147, SJ 06302145, SJ 06282144, SJ 06242143, and SJ 06222142, one from the ditch at SJ 06302146, and a further sample from undisturbed ground away from the dyke at SJ 06262142, to act as a control.

Evidence of a layer of peat which had been sealed beneath bank material was discovered in all of the auger samples taken from the bank, at a depth of between 1.5m and 2.0m below its crest, with the best preservation recorded at SJ 06302145. The bank material, not surprisingly, appeared to consist of redeposited natural subsoil and shale removed from the ditch during its excavation. The sample from the ditch at SJ 06302146 revealed two peat deposits separated by pale grey clay silt. The current profile across the bank and ditch at SJ 06302146 was compared with the auger results and showed that the ditch, when first excavated, was approximately 6.5m wide, with its base lying 2.3m below the original ground level. The surviving bank was approximately 7.0m wide and 2.0m high.

As deposits suitable for environmental sampling were revealed, both beneath the bank and within the ditch deposits, the decision was taken to carry out an excavation, both to determine the structure of the dyke and to recover material for analysis and dating by Cadw's environmental archaeologist, Ms A Caseldine of UCW Lampeter. The results of the excavation and sampling are described below.

Crugyn Bank Dyke

The dyke is thought to be part of a longer feature, collectively known as the 'Double dyche' by its original recorders in the early 20th century. The main bank of this portion of the dyke runs in a west-north-west/east-south-east direction, with a ditch on its south side. An intermittent counterscarp, or smaller, bank is located on the south side of the ditch. A total of ten auger samples were taken in the vicinity of the dyke: five from the bank at SO 10378569, SO 10398568, SO 10408568, SO 10468566, and SO 10518564; two from the ditch at SO 10378569 and SO 10518564; one from the counterscarp bank at SO 10378569; and a further two samples from undisturbed ground away from the dyke at SO 10518568 (on its north side) and SO 10538561 (on its south side), to act as controls.

That peat had been sealed beneath the banks was apparent in all of the auger samples taken from the bank and counterscarp bank, at a depth of between 0.5m and 1.0m below their respective crests. The peat layer revealed in the easternmost bank sample was only 3mm in thickness, suggesting that it was beginning to fade out. The material forming the main bank appeared to consist of redeposited natural subsoil and shale removed from the ditch during its excavation. The sample from the ditch at SO 10378569 revealed peat-rich silts within the fill, although the ditch deposits at SO 10518564 were entirely silts and clay silts, which appeared to confirm that there was a diminution in the amount of peat in an easterly direction. The current profile across the bank, ditch and counterscarp bank at SO 10378569 was compared with the auger results and showed that the ditch was originally excavated to a width of approximately 4.0m, and its base lay 1.3m beneath the original ground level. The bank

survived to approximately 5.0m wide and 1.0m high, while the counterscarp was 3.5m wide and 1.0m high.

As layers suitable for environmental sampling were revealed, both beneath the banks and within the ditch deposits, the augering was followed by an excavation, both to determine the structure of the dyke and to recover material for analysis and dating by Ms A Caseldine. The results of the excavation and sampling are described below.

Short Ditch

The main bank of the dyke runs in a north-east/south-west direction, with a ditch on its north-west side. An intermittent counterscarp, or smaller, bank is located on the north-west side of the ditch towards its north-east end. Two sections of dyke were identified for sampling, with most of the samples being taken from the north-eastern of these, which lies on the open common and has been subject to serious localised erosion. The south-western section was located in a forestry plantation. A total of eight auger samples were taken in the vicinity of the dyke: six from the bank at SO 19097497, SO 19077497, SO 19057492, SO 19037490, SO 18917477 and SO 18887474; one from the ditch at SO 19057492; and one from the counterscarp bank at SO 19057492.

Augering revealed a layer of peat, sealed beneath both the bank and counterscarp bank in the north-eastern area. Peat survived here at a depth of between 0.7m and 1.2m beneath the crest of the main bank. The material forming this section of the main bank consisted of redeposited natural subsoil and shale removed from the ditch during its excavation. In the south-western area, the bank was formed from redeposited silts with only traces of peaty silt present, at or near the base of the bank, at SO 18917477. The sample from the ditch revealed peat-rich silts within the fill. The current profile of the bank, ditch and counterscarp bank at SO 19057492 was compared with the auger results and showed that the ditch was originally excavated to a width of approximately 4.0m, and a depth of 1.4m below the original ground level. The bank survived to approximately 5.5m wide and 1.2m high, while the counterscarp was 1.7m wide and 0.4m high.

The discovery of deposits suitable for environmental sampling in the north-eastern section of augering carried out at the dyke, led to the decision to carry out an excavation. As previously, the purpose of the excavation was to determine the structure of the dyke and to recover material for analysis and dating by Ms A Caseldine. The results of the excavation and sampling are described below.

Ty Newydd Dyke

The form of this dyke varies, although most commonly it consists of a bank with a ditch on its north side. The western section of the dyke runs east/west, while the eastern section runs north-east/south-west. Augering was undertaken in the eastern section, which remained unscheduled at the time of writing, and where the monument consisted of a single bank and ditch, possibly associated geographically with an area of wet ground. Five auger samples were taken from the site: three from the bank at SJ 13642343, SJ 13632341 and SJ 13502329; one from the ditch at SJ 13632344; and one from the north side of the ditch at SJ 13632344.

Unfortunately, there was no evidence of a sealed environmental deposit at the base of the bank, although a very small amount of charcoal flecks was present at SJ 13642343, in what appeared to be the basal bank deposit. A layer of peat was recorded within the ditch deposits at SJ 13632344, between 1.57m and 1.83 below the existing base of the feature. The bank at SJ 13632344 was perhaps 10.0m wide and 1.3m high, but with a more impressive appearance due to its siting on a slope, while the ditch appears to have been excavated to a depth of more than 2.5m, in relation to the original ground level. The breadth of the ditch is unknown, but it seems to have been at least 5m wide.

On completion of the augering programme, the dyke was assessed for its palaeoenvironmental potential in relation to the other sites which had been augered. Although peat was discovered in the ditch and a small amount of charcoal occurred towards the base of the bank deposits, demonstrating that palaeoenvironmental deposits were present, it was felt that more comprehensive information could be gained from the excavation of other dykes. Nevertheless, the site has demonstrated palaeoenvironmental potential and may repay further study in future, should the identified deposits prove suitable for targeted examination.

4 Clawdd Mawr Dyke excavation (Figs 2 & 5)

The excavation consisted of two, hand-dug trenches, respectively 9.5m long by 1.0m wide, and 1.0m square. The trenches were aligned to provide a continuous profile, 14.8m long, with the central portion of the bank left unexcavated owing to potential health and safety concerns regarding its height in relation to the proposed width of the trench.

As previously described, the dyke consisted of a curving bank (2) running approximately north-east to south-west, with a ditch (1) on its north-west side. The trench was centred at SJ 06302145, as this section of the earthwork appeared to contain the best preserved layer of sealed peat beneath the bank deposits (see the results of the auger sampling, above). Where excavated, the trench was dug to the base of both the ditch and those deposits which were thrown up during dyke construction. Localised sections of the deposits underlying the bank were removed to determine the nature of the soils which were present prior to its construction.

The natural subsoil (11) consisted of orange and grey stony silts, whose nature was exposed in the ditch (1). This was roughly V-shaped and partially rock-cut, with its base excavated into the natural shale bedrock. On the north-west side of the ditch, the natural subsoil was overlain by pale grey gleyed silt (29), above which was a black, sticky peat, (layer 28), sealed by a dark grey/olive peat (27), which seemed to be of relatively recent origin.

On the south-east side of the ditch, the deposits which predated the dyke were entirely covered by material thrown up from the ditch to create the bank (2). Above the natural subsoil (11), these deposits consisted of a layer of pale grey gleyed clay silt (30), which was probably equivalent to layer 29. This material was sealed by a band of black sticky peat (31), which appeared to represent the surface soil horizon at the time the dyke was constructed.

On the upper south-east side of the ditch, a thin lens of brown gritty silt (13) was revealed. This had been capped by the bank deposits and seemed to represent material laid down, perhaps by trampling, as the bank was in the process of construction. The initial bank deposit consisted of a mixed layer of redeposited clay silt, peat and stones (10), sealed by a layer of pale yellowish-orange stony silt (9). The remainder of the north-west side of the original bank deposits consisted of a thin layer of pale greyish-brown clay silt (8), sealed beneath a large deposit of orange gritty silt (7), which represented redeposited natural subsoil.

The south-east side of the bank was investigated by the additional 1.0m-square trench mentioned above. The basal deposits revealed in the trench were equivalent to those present on the north-west side of the bank, up to the layer of sticky black peat (31) which probably represented the surface soil horizon at the time of dyke construction. The main component of the bank on this side comprised angular shale rubble in a pale grey clay silt matrix (32). This material, undoubtedly excavated from the base of the ditch, was overlain by soft orange silt (38), potentially related to layer 7 on the opposite side of the bank. Subsequent to the construction of the bank, layers of mid-brown peaty silt (37) and black, sticky peat (36) built up against its south-east edge. Erosion of the south-east side of the bank was represented by successive layers of grey-brown silt (35), dark grey peaty silt (34), and light brown silt (33).

The initial fill of the ditch, which probably commenced soon after its excavation, consisted of mid-grey stony silt (20), with a large shale content. Subsequently, conditions appear to have been suitable to promote peat growth in the ditch and a thickness of over 1.0m seems to have accumulated (layer 19). A thin band of peaty silt (24), with occasional flecks of charcoal, was present on the north-west side of the ditch and may signify that some of the material was washed down this slope from the adjoining natural peat deposits. The overlying layer of dark grey peat-rich silt (23) is likely to be largely similar in origin to layer 24.

Following the deposition of peat layer 19, the ditch seems to have been recut (39) on an axis slightly to the south-east of its original line. Conditions subsequent to the recut may have been unfavourable for peat deposition and the initial fill of the recut was pale grey clay silt (18). An overlying sequence of layers then formed on the south-east side of the ditch, consisting of peat-rich gritty silt (15), mid-grey gritty silt (14), mid grey-brown gritty silt (12), dark grey-brown gritty peat (6), and brown gritty silt (5), all of which probably reflect erosion of the inner slope. Further black, greasy peat (17) then accumulated in the base of the ditch, again possibly linked with a peat-rich layer of silt (22) on the north-west side of the ditch, which could signify wash of material from adjoining natural peat deposits.

A series of lenses of dark grey gritty peat (21), local shale within a powdery brown peat matrix (25), and rich brown gritty silt (26) all seem to relate to disturbance to the layers on the north-west side of the ditch edge. At the time of our excavation the area was functioning as a spring and it is unlikely that these deposits will have remained unaffected. The most recent of the main ditch fills consisted of angular shale fragments (16), probably representing detritus from the erosion of the south-east side of the ditch and the adjoining slope of the bank. Much of the existing surface soil consists of grey-brown peaty silt (4) and turf (3).

5 *Crugyn Bank Dyke excavation (Figs 3 & 6)*

The excavation consisted of a single, hand-dug trench, 15.4m long and 1.0m wide, across the earthwork. As previously described, the main bank (2) of this section of the dyke runs in a west-north-west to east-south-east direction, with a ditch (1) on its south side. A smaller intermittent counterscarp bank (3) is located on the south side of the ditch. The trench location was centred at SO 10378569, as this section of the earthwork appeared to contain the best preserved example of sealed peat beneath the bank deposits. The trench was excavated to the base of both the ditch and those deposits associated with the dyke construction. Localised sections of the underlying deposits were removed to determine the nature of the soils which were present prior to the construction of the dyke.

The natural subsoil (26) consisted of a variable mixture of pale grey clay silt, orange silt and shale, the nature of which became apparent in the sides of the V-shaped ditch (1) which formed part of the dyke. Beneath the main bank (2), on the north side of the ditch, the natural subsoil was overlain successively by pale pinkish-grey gleyed silt (25) and black peat (24). Layer 24 was criss-crossed by a large number of animal burrows (27). The sequence of gleyed silt (9) and peat (8) was repeated beneath the counterscarp bank (3) on the south side of the ditch, again with evidence of a maze of animal burrows (14) surviving in the peat deposit.

Material excavated from the ditch was used to form the main bank, comprising initially loose orange silt with occasional black turves of peat (20). This formed a separate layer beneath the south part of the bank, and had been subsumed beneath a more homogenous dump of pale orangey-grey stony silt (21), which forms the main constituent of the bank. A thin band of powdery peat (22) was located within layer 21, near the crest of the bank, but the reasons for the presence of this isolated deposit were unclear.

On the south side of the ditch, a counterscarp bank had been created. This was situated on the edge of the ditch and comprised an initial dump of angular stones in a matrix of clean pale grey silt (7), covered by a band of black powdery peat (6), presumably representing topsoil stripping during dyke construction. The upper portion of the counterscarp bank consisted of pale orangey-grey stony silt (5), similar to layer 21, which was the predominant constituent of the main bank.

On the north side of the main bank, erosion of the bank was evidenced by a layer of powdery grey-brown silt (23). On the opposite side of the bank, the effect of erosion could be detected in a layer of mid grey-brown stony silt (13), which lay on the south face of the main bank and descended into the upper part of the ditch. The lower end of layer 13 seemed to have been truncated in the ditch, suggesting that the ditch had been recut (29). The sequence of deposits in the recut ditch consisted of an initial fill of rich brown stony silt (19), succeeded by mixed grey-brown stony silt and peat (18). A thin layer of very dark grey silty peat (12) then formed in the ditch, being followed, in turn, by mid grey-brown peaty silt (11) and very dark grey silty peat (10), which represented the uppermost of the ditch fills.

Agricultural activity, almost certainly ploughing, up to the edges of the bank and counterscarp had evidently modified the soil profile. This activity was represented by layers 16 and 17, both of which were highly mixed in contrast to the soils protected beneath the dyke. The modern soil which covers the monument is a dark grey-brown peaty silt (4).

6 *Short Ditch excavation (Figs 4 & 7)*

The excavation consisted of a single, hand-dug trench, 17.1m long and 1.0m wide, encompassing the earthworks. As previously described, the main bank (2) of the dyke runs in a north-east to south-west direction, with a ditch (1) on its north-west side. An intermittent counterscarp bank (3) is located on the north-west side of the ditch towards its north-east end. The trench location was centred at SO 19057492, where the best preserved section of peat had been sealed beneath both the bank and counterscarp bank deposits. Excavation of the trench was terminated at the base of the ditch and at the base of the deposits associated with dyke construction. A few sections of the deposits on which the banks had been constructed were removed, to determine the nature of the soils which were present prior to the commencement of dyke construction.

The natural subsoil (4) consisted of a variable mixture of orange and grey-brown clay silt, pale yellow silty clay and local shale bedrock, whose nature became apparent in the sides of the V-shaped ditch (1). Beneath the main bank (2), on the south-east side of the ditch, the natural subsoil was overlain successively by pale pinkish-grey gleyed silt (5) and black sticky peat (6). There was some suggestion that the peat formed two distinct layers with a thin band of gleyed material between them, but this was poorly defined and intermittent. A thin, poorly-defined, layer of brown sticky peat (7), which may represent an old turf line, was present on the surface of layer 6.

On the north-west side of the ditch, a smaller counterscarp bank (3), had been created, and the sequence of gleyed silt (31) and peats were repeated beneath it. In this case, two distinct layers of peat (26) and (28) were identified, separated by a pinkish-grey gleyed clay silt (27). The main deposit from which the counterscarp was formed consisted of broken shale in a pale yellowish-grey clay silt (29), probably excavated from the ditch.

Material excavated from the ditch was used to form the main bank, with two initial dumps of pale grey silty clay (8) and black sticky peat (33) being identified. These deposits were then covered by a pale orangey-brown clay silt (9), which seems to have been levelled up to form a relatively flat base for the main part of the bank. Upon this level base, the bank was built from

broken shale in a matrix of pale grey-brown clay silt (10), with a similar, but markedly more stony, layer (11) resting on its south-east side. Beneath the crest of the bank, the interface between layers 10 and 11 was disturbed by animal burrowing. The main bank material was sealed beneath a layer of grey-brown clay silt (12) on its south-east side, but this seemed to have been lost to erosion on the opposite side of the bank.

The ditch deposits consisted of an initial layer of pale yellowish-grey stony clay (19), beneath mid to dark grey peaty clay (21) and mid grey stony clay silt (22). A subsequent layer of rich brown powdery silt (25) was identified on the north-west slope of the ditch, which also covered the counterscarp bank material, possibly representing a phase of erosion of the counterscarp bank deposits. On the south-east slope of the ditch, two shallow scoops (20) and (34) were identified which may have represented footholds used in transferring material to the crest of the main bank from the base of the ditch. The fills of these scoops, respectively mid to dark grey stony silt (18) and mid grey-brown clay silt (35), were probably of a later origin than the features and likely to represent erosion of the north-west face of the main bank. Further evidence of successive erosion of the north-west face of the main bank was provided by lenses of pale orange-grey clay silt (17) and dark brown stony silt (16).

Conditions had once again become suitable for growth of peat following the phases of activity and erosion described above. Layers of black peat were recorded which sealed both the bank deposits (namely, layer 13), and the counterscarp deposits (layer 30). Both of these peat layers descended part way into the ditch, but failed to reach its base, where silting predominated. Two, relatively modern, silt layers were present, consisting of yellowish-grey clay silt (23) and a mid to pale grey banded clay silt (24); it appeared that these had formed by ponding behind a 20th-century dump of waste material (32).

A grey-brown clay silt (14) was present on the south-east side of the main bank, which is likely to be relatively recent in date, although its origin is uncertain. The surface turf and vegetation (15) formed the most recent deposit recorded.

7 *Palaeoenvironmental sampling undertaken at the excavated dykes (See Figs. 5-7)*

A programme of sampling was undertaken at the end of each of the three excavations by Ms A Caseldine of UCW Lampeter. The sampling strategy consisted of the removal of a sequence of monoliths, taken from the main bank, the ditch and the counterscarp bank (if present) of the respective dyke. The location of each monolith is depicted on the relevant figure which shows the section from which it was removed.

Due to the apparent absence of suitable deposits, no sample pits comparable to that cut at the Giant's Grave were excavated in the immediate vicinity of any of the dyke excavations described above. However, subsequent discussion with Severn Trent Water Ltd, the owners of the Vyrnwy Estate, and a preliminary investigation of likely deposits, may lead to the excavation of a monolith in close proximity to the Clawdd Mawr Dyke. It is hoped this will be carried out in the next financial year.

At the time of writing none of the samples has been examined or analysed. It is anticipated that subject to a suitable spot being found in the Cadw palaeoenvironmental programme, the study will occur during 2005-6.

8 *Future directions of short dyke study*

The success of the augering and excavation programme over the two-year period from 2003 to 2005 has encouraged its continuation into the next financial year, subject of course to the continued availability of funding. At present it is impossible to estimate the likely success of further augering, but it is clear that any additional returns from other dykes would add to an already successful programme. At present, approximately 50% of the dykes which have been augered have been found to retain deposits with significant palaeoenvironmental potential.

The preliminary palaeoenvironmental results for the Giant's Grave complement the excavated evidence from that site, and it is with some anticipation that we can look forward to results and analyses from the other dykes in due course. Clearly, it is to be expected that there will be a time-lapse because of Ms Caseldine's other commitments.

Full publication of the results, both archaeological and palaeoenvironmental, will be neccessary in a synthesis in the future, when the programme of on-site work is completed. It is hoped that this will have a significant impact on dyke studies in the Welsh borderland. In the meantime, our original synthesis, in conjunction with colleagues in Shropshire and Herefordshire is heading towards submission in an appropriate journal.

9 *Acknowledgements*

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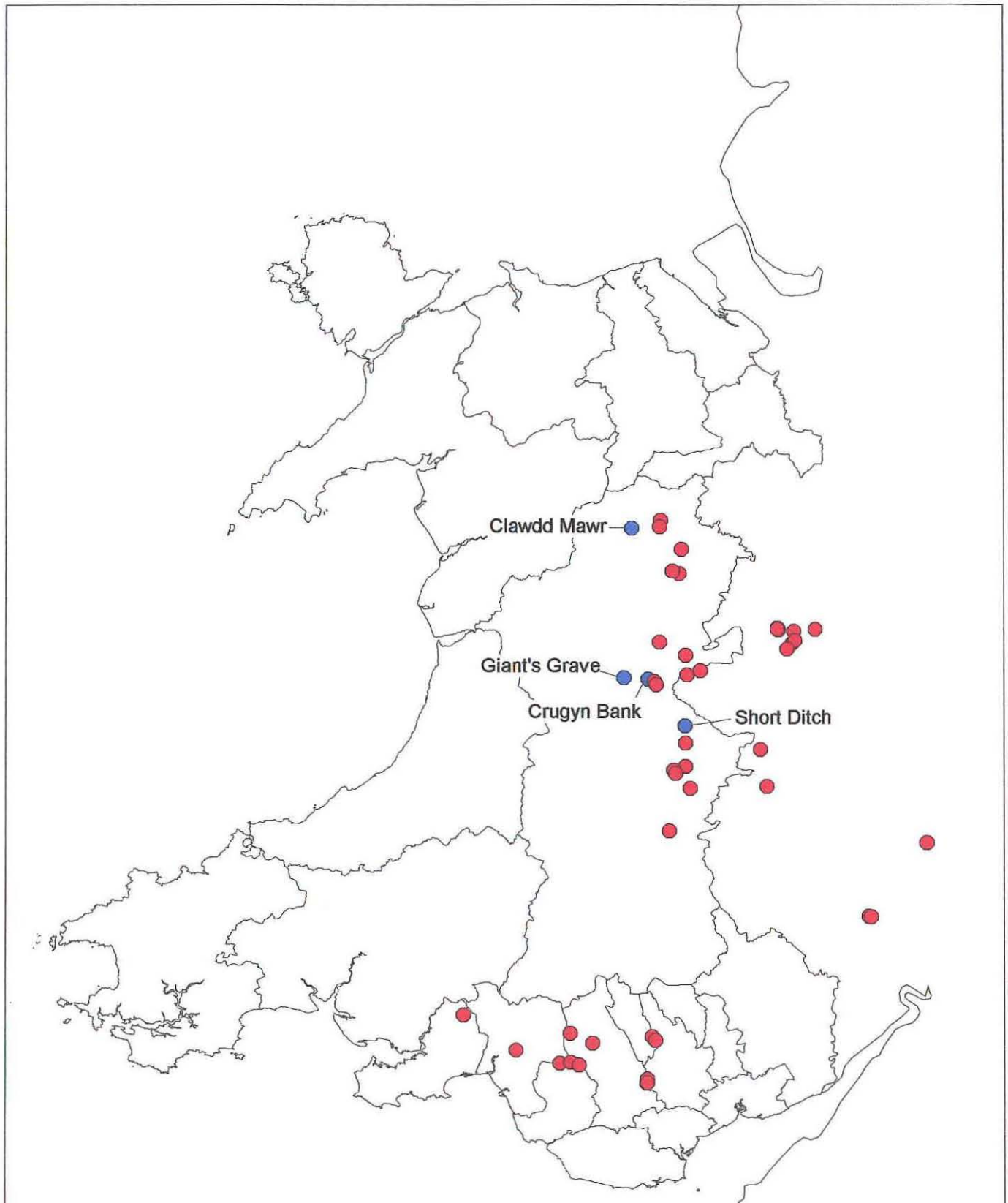


Fig 1 Excavated sites in relation to the dykes of the Welsh borderland

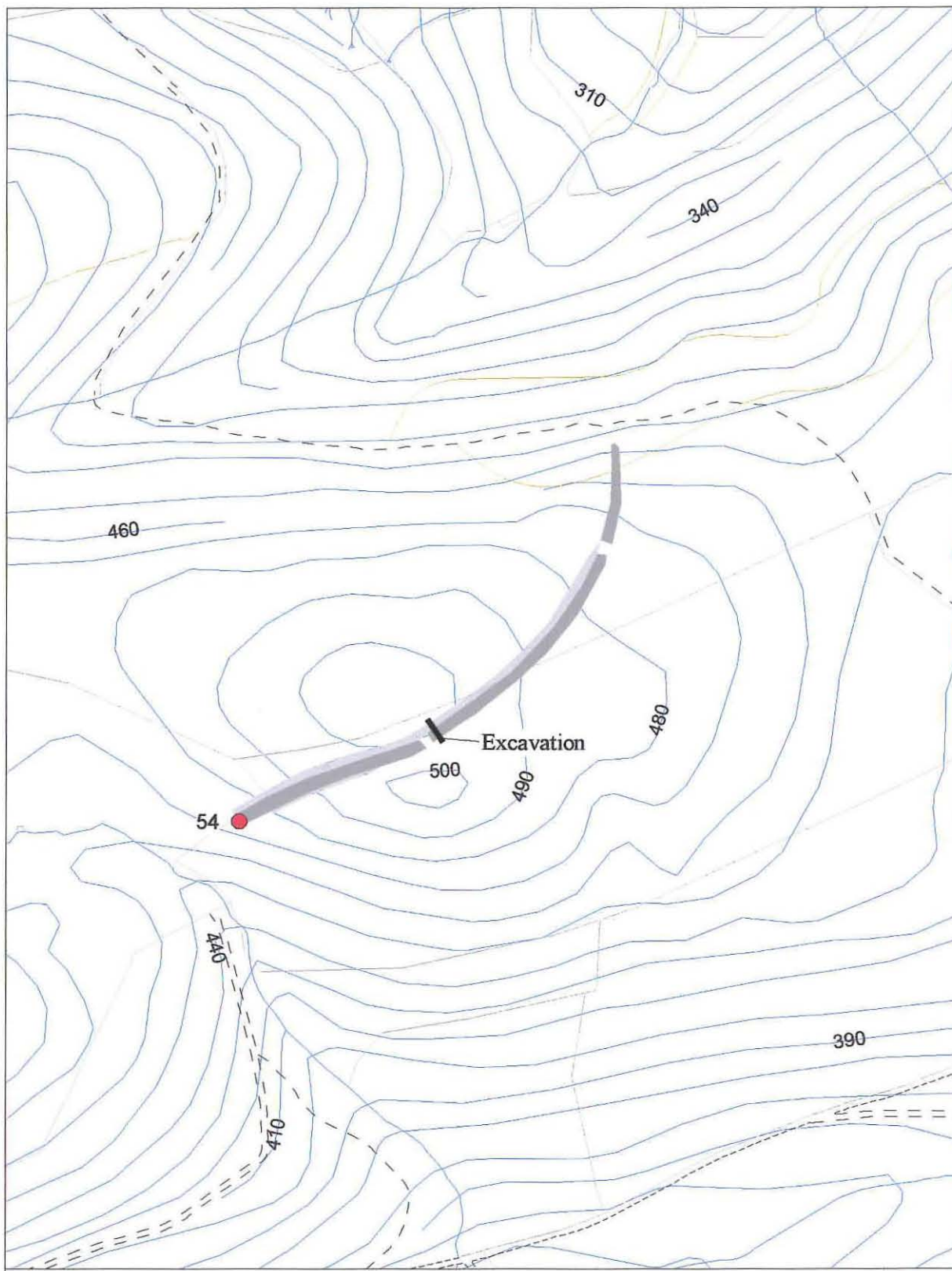


Fig. 2 Clawdd Mawr Dyke excavation (PRN 54), Scale 1:5,000

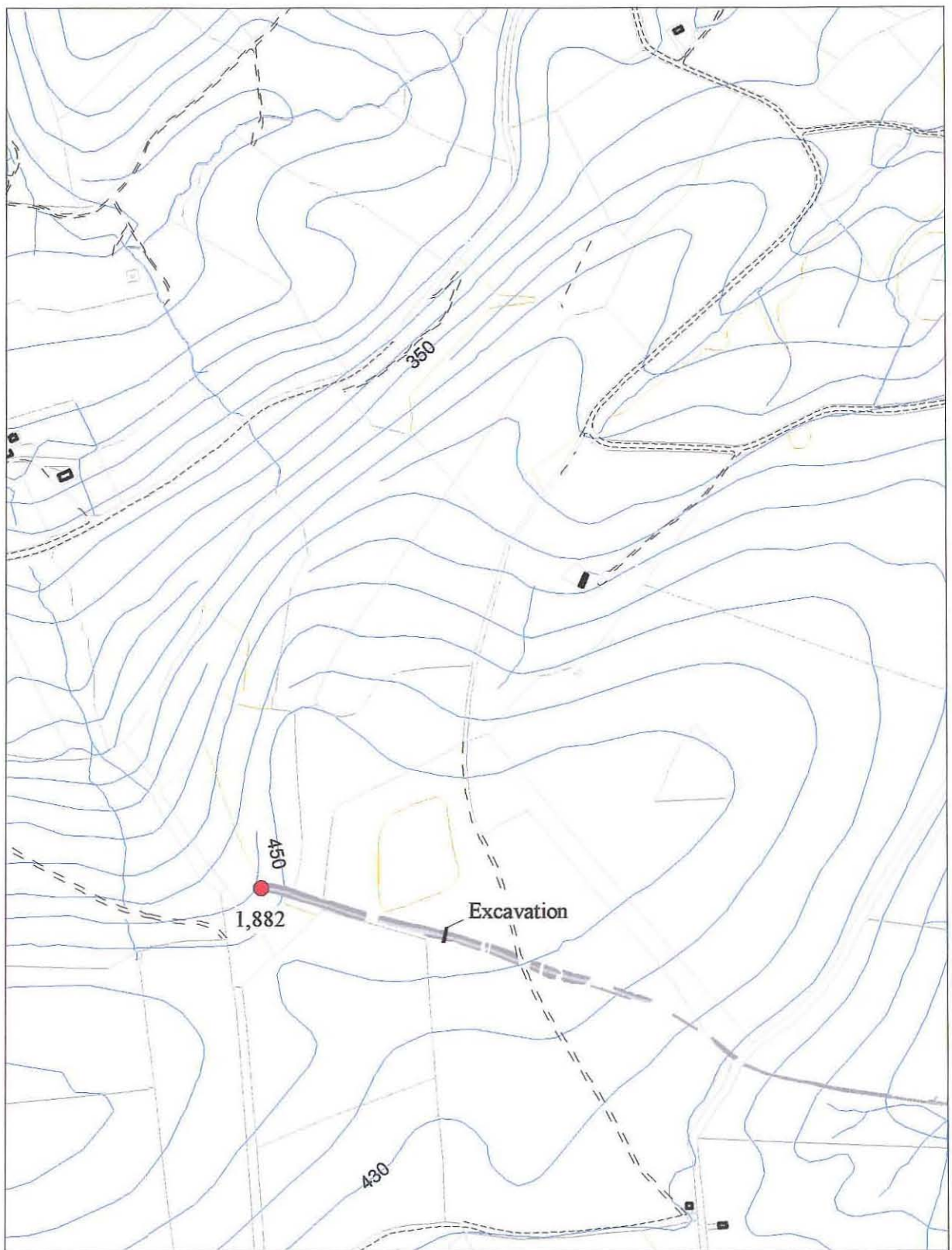


Fig. 3 Crugyn Bank Dyke excavation (PRN 1882), Scale 1:7,500

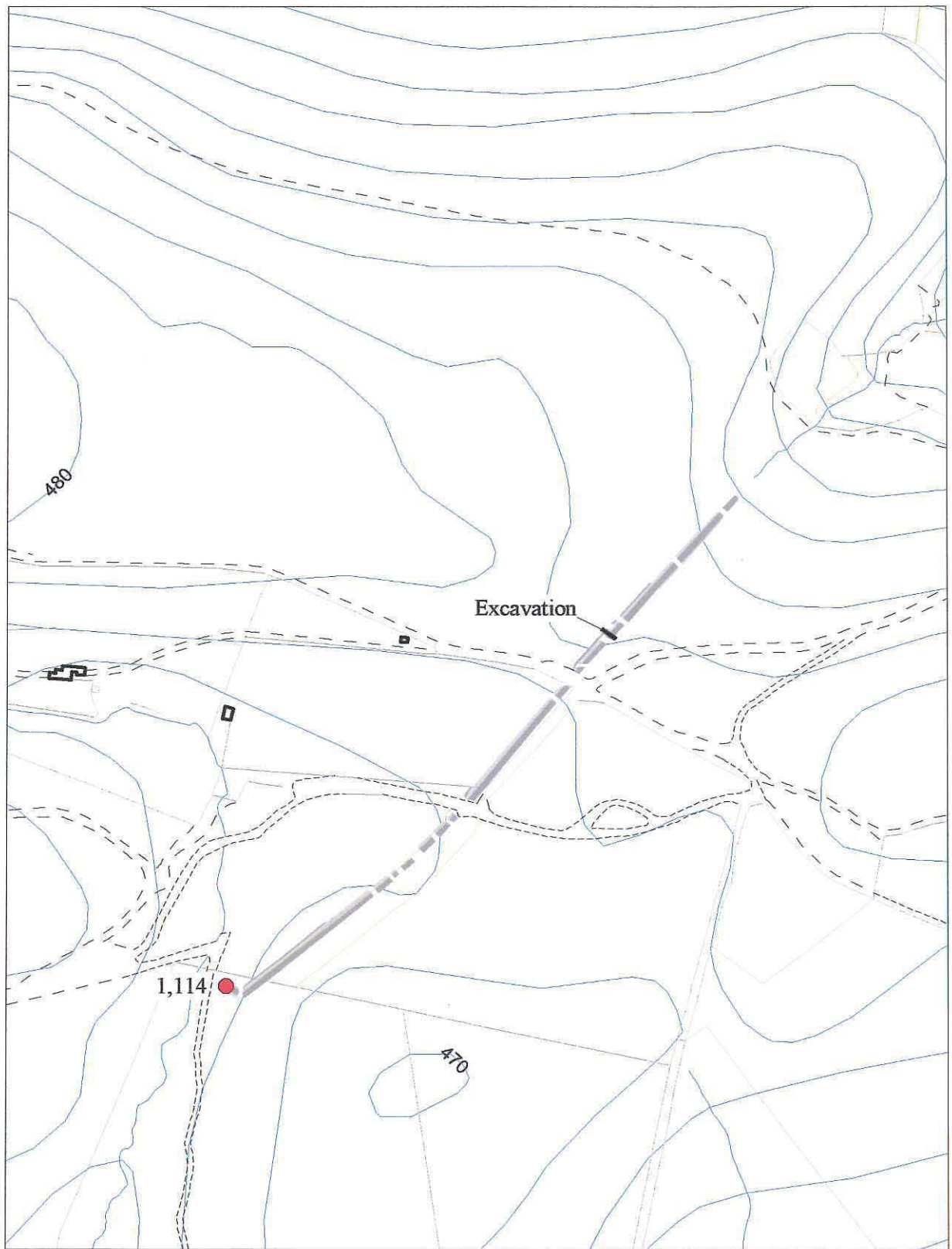


Fig. 4 Short Ditch excavation (PRN 1114), Scale 1:5,000

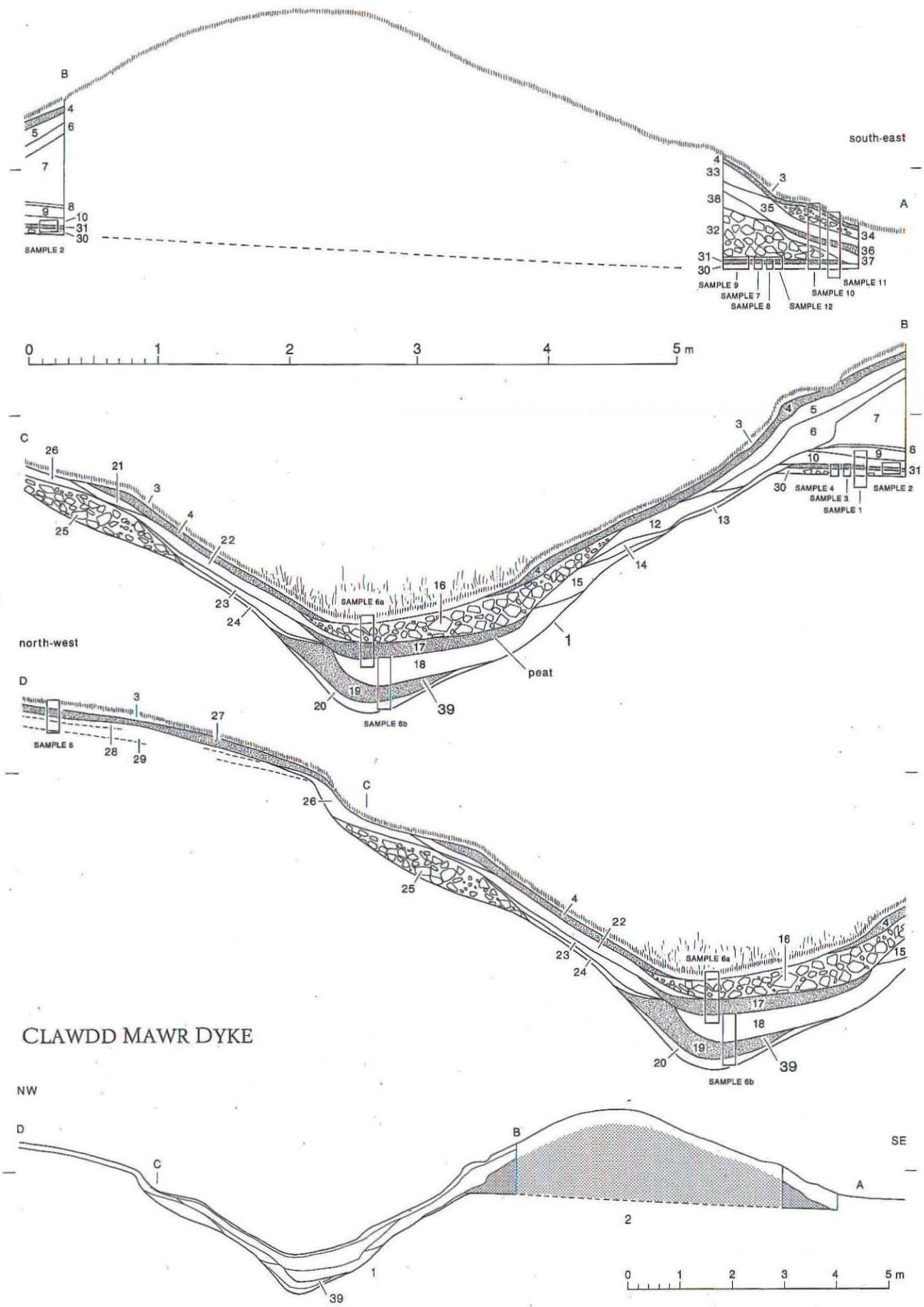


Fig. 5 Clawdd Mawr Dyke excavation section

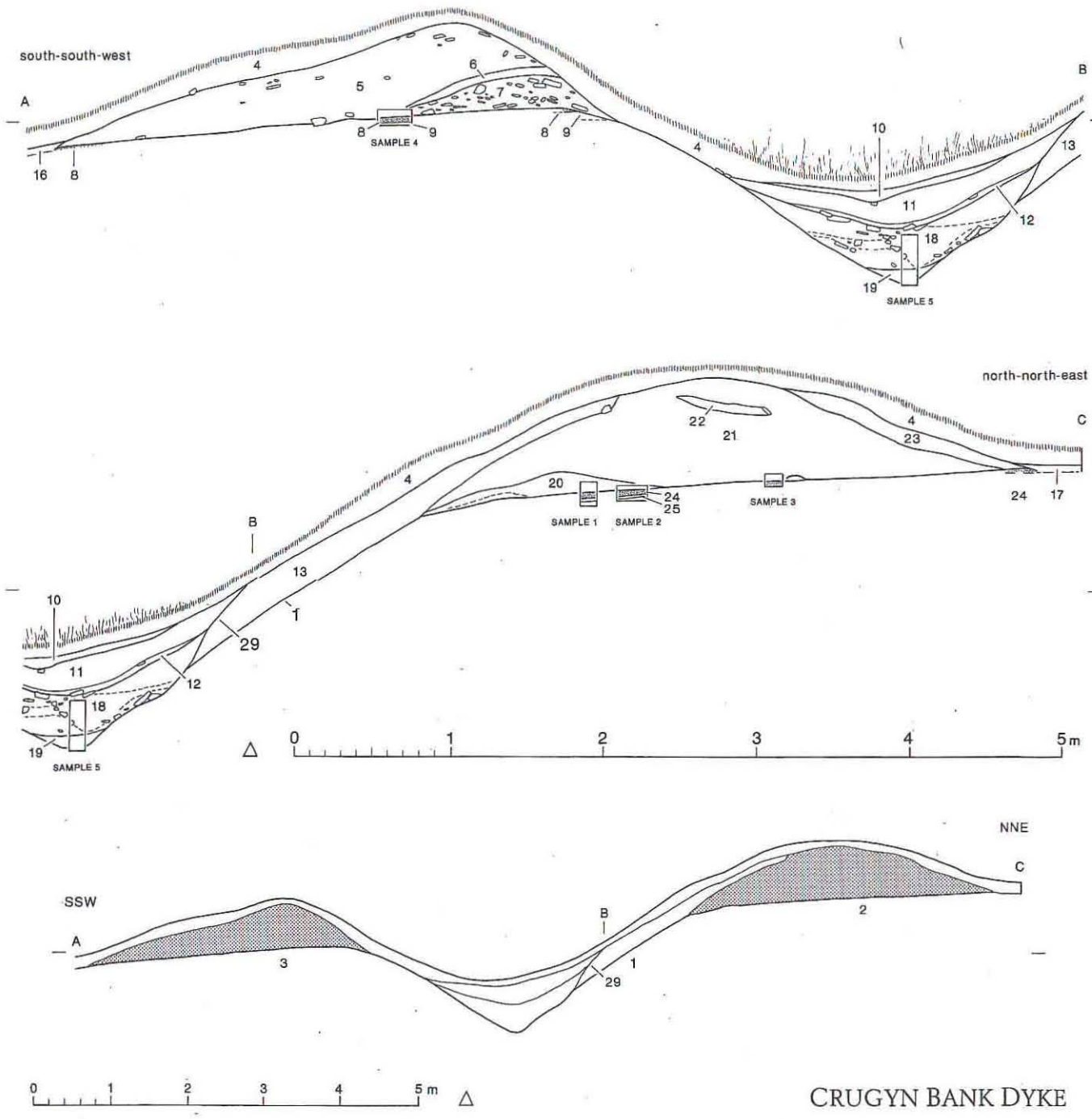
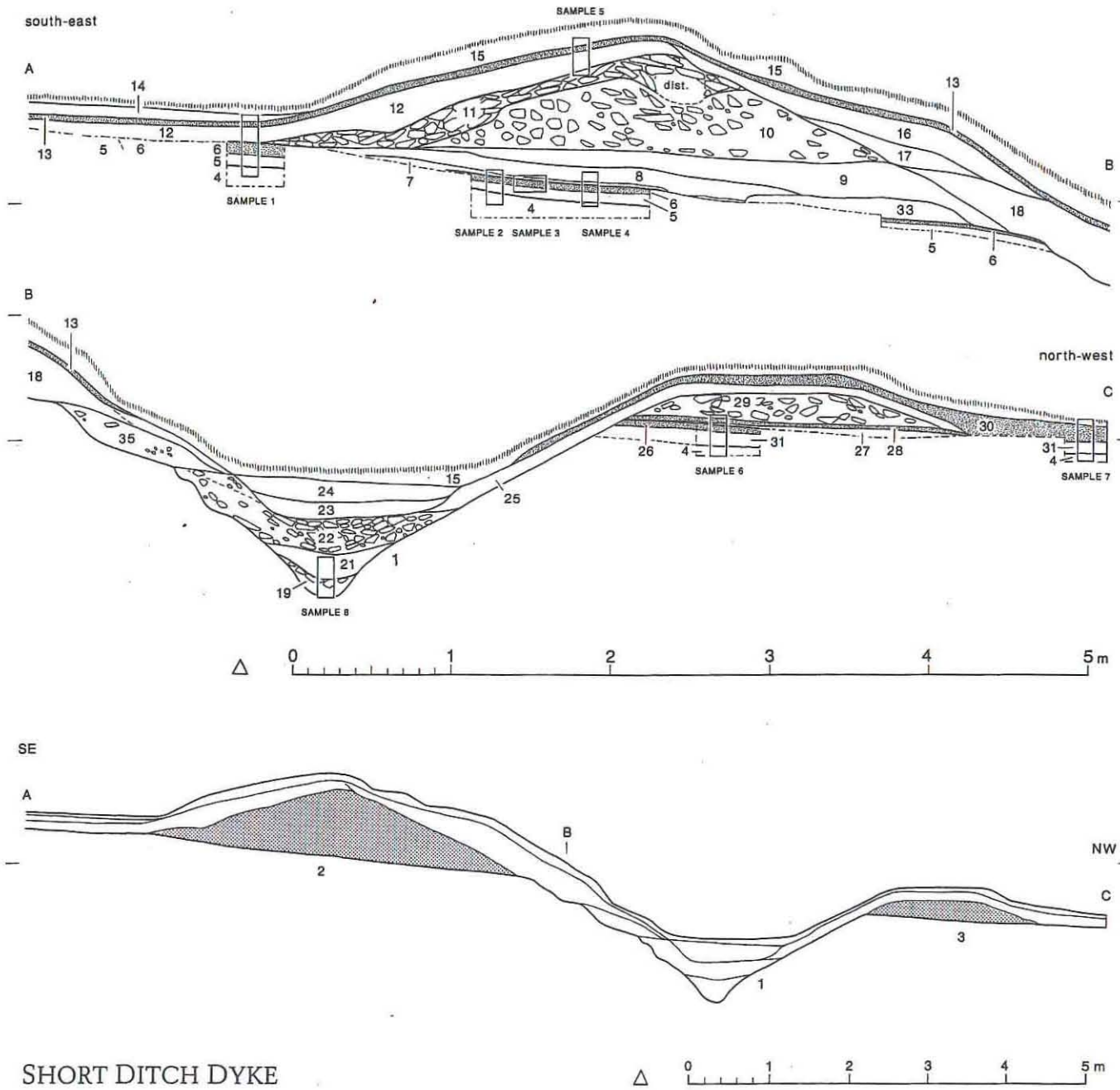


Fig. 6 Crugyn Bank Dyke excavation section



SHORT DITCH DYKE

Fig. 7 Short Ditch Dyke excavation section