# CEFN GRAIANOG QUARRY EXTENSION ARCHAEOLOGICAL WATCHING BRIEF

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Report No. 424

Prepared for Tarmac Quarry Products Ltd

G1598

By Jane Kenney

September 2001



Ymddiriedolaeth Archaeolegol Gwynedd Gwynedd Archaeological Trust

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Contracts Section 'Craig Beuno' Garth Road Bangor Gwynedd LL57 2RT Tel: 01248 352535 Fax: 01248 370925 Email: gat@heneb.co.uk

### Cefn Graianog Quarry

#### Archaeological Watching Brief (G1598)

#### Introduction

The watching brief described in the present report is part of a long-standing project monitoring the extension of the sand and gravel quarry at Cefn Graianog, Clynnog, Gwynedd. The assessment of the proposed expansion area was undertaken in 1994 by Gwynedd Archaeological Trust (GAT) for Tarmac Quarry Products Limited (Flook 1994, GAT report no. 124). A project design was submitted in March 2000 by GAT, proposing a programme of field evaluation and mitigation.

An area of roughly 2 hectares, area 2C, (centred in NGR SH4580 4960) was to be stripped of topsoil as part of the next phase of quarry expansion. Tarmac Quarry Products Limited asked GAT to carry out a watching brief while the stripping was taking place. The recommended evaluation work on the sites identified in the assessment was not undertaken, but none of these sites fall within the present area. A watching brief had previously been carried out on the area south of 2C, but no archaeological features were identified (Jones 1999, GAT report no. 344).

#### Archaeological aims

The aims of the watching brief were to investigate and record all archaeological features revealed during the soil stripping operation, and to recommend whether any further work was necessary.

#### Methodology

The watching brief took place over 9 days between 28<sup>th</sup> August and 12<sup>th</sup> September 2001. The topsoil was stripped by a 360-degree excavator using a toothed bucket. The site was stripped in sections, with c. 0.3m of subsoil also being removed before the next section was stripped. This was due to the use of the topsoil and subsoil in reinstating fields on exhausted areas of the quarry. The practice required the presence of an archaeologist throughout most of the stripping process in order to check each stripped section for features before the subsoil was removed.

The excavator and truck drivers were requested not to drive over stripped areas to avoid obscuring the archaeology. The use of a 360-degree excavator, rather than a bulldozer, greatly improved the chance of identifying archaeological features. However, the teeth of the excavator bucket caused considerable disturbance of the soil, reducing visibility. Large features, especially those composed of stones, could be identified relatively easily, but small features, such as postholes, were unlikely to be recognised.

#### Recording

Identified features were recorded photographically and by notes and sketches, and located approximately by measuring from the field boundaries. The more significant features were also planned to scale and located using a total station electronic theodolite. The archive is held by GAT under project number G1598.

#### **Topography and Geology**

The name Cefn Graeanog literally translates as a gravely ridge (Mason 1998, xvi), and this accurately describes its character. The low, hummocky ridge lies at the eastern end of the Lleyn Peninsula, within a basin, about 3km across, surrounded by hills. The ridge rises to a height of 160m and forms an island in area of wetter, heavier soils and bog. The soils in the basin are derived from glacial and fluvio-glacial deposits, mostly of Snowdonian origin, which have been heavily weathered under periglacial conditions. In poorly drained areas silty clays and peat have formed, but the soils on the ridge are well drained, if stony, brown earths of the Arfon series, with brown podsols on the steeper slopes. Although acid, these are the some of the best soils in the northern Lleyn, and are excellent soils for small-scale arable agriculture (Mason 1998, xvi-xix).

#### Archaeological Background

#### Prehistoric and Roman activity

The early prehistory of the ridge is far from clear. No Mesolithic artefacts have been discovered, suggesting that the area was avoided during that period, when occupation was mainly concentrated near the coast. However, there are some slight hints from the pollen record that forest clearance may have occurred before 4000 BC (Chambers 1998, 57), and a patch of burnt stone under a later burnt mound was dated to 5955-5500 cal BC (CAR-721) (Kelly 1992, 85). Kelly (ibid, 86) dismisses the date as a result of dating inadequate quantities of charcoal, but a recent excavation about 1km south-west of the ridge also produced Mesolithic dates. The dates, ranging from 5310-6625 cal BC at 2 sigma, were from a deposit of charcoal within what may be a natural, periglacial formation (Kenney 2000). The evidence raises the possibility of deliberate burning of the vegetation in the Mesolithic period.

The Neolithic period is almost as invisible on the ridge, although the pollen evidence is clear that there was anthropogenic forest clearance during this period (Chambers 1998, 57). The long history of farming on the ridge began during this period, although no trace of the settlements of these early farmers have yet been found. The nearest Neolithic monument is the chambered tomb at Penarth (PRN 199), situated 3.25km north-west of the ridge (Kelly 1998, 161).

The earliest monument on the ridge itself is a standing stone (PRN 124) of presumed Bronze Age date. While the numerous cairns on the ridge are generally undated, the two located close to the standing stone are presumably also Bronze Age, and appear to be funerary monuments rather than clearance cairns (PRN 224, 225). These three monuments are collectively scheduled as Cn 98 (Mason 1998, xix). The pollen evidence shows phases of clearance and regeneration throughout the Bronze Age, and the presence of burnt mounds may indicate Bronze Age settlement in the area (Kelly 1998, 161). One of these mounds (PRN 129) was excavated (Kelly 1992), producing dates demonstrating its use between the mid third and early second millennium BC, and later in the late second to early first millennium (Kelly 1998, 161). There is another burnt mounds site, 175m south of the excavated one, which appears to be a complex site with three conjoined mounds (PRN 3997). The chance discovery of a ring (PRN 3446), of the type known as Bronze Age ring money, by a farm worker in 1970, suggests Bronze Age activity near the summit of the ridge.

Major and sustained forest clearance started on the ridge in the mid first millennium BC, and the earliest settlement sites discovered so far date from the mid 2<sup>nd</sup> century BC. Three hut groups have been excavated on the ridge (Mason 1998). The Graeanog site and Cefn Graeanog II were founded in the 2<sup>nd</sup> century BC and continued through the end of the Roman period. The third hut group, Cefn Graeanog I, was established in the 2<sup>nd</sup> century AD, and again continued to the end of the Roman period. There may have been a 4<sup>th</sup> hut group (PRN 118) 300m to the west of Graeanog (Kelly 1998, 162) and there are similar sites about 1km away to the south-west around Caerau (PRN 108, 109). The Iron Age is further represented in the area by a small hillfort (PRN 203) on Y Foel, the rounded hill to the north of the area (Mason 1998, xix).

#### Medieval and later periods

Although the hut groups went out of use at the end of the Roman period the pollen record shows that the ridge continued to be farmed, and the settlements had probably not moved very far away (Kelly 1998, 162). Resettlement of the ridge occurred from the 8<sup>th</sup> century AD. The Graeanog hut group site was reoccupied between the 8<sup>th</sup> and 11<sup>th</sup> centuries, and a medieval homestead (PRN 120), excavated by Kelly (Kelly 1982), was in use between the 11<sup>th</sup> and 13<sup>th</sup> centuries. A further group of medieval platform houses (PRN 123) were located on the bog margin to the south, but they were destroyed without excavation (Kelly 1998, 162). A possible medieval farmstead (PRN 3999) and an isolated platform house (PRN 4360) are located on the north-eastern slope of the ridge.

In the medieval period Graeanog first appears in written history. The confirmation of the grant of 'Grayanawt' to the *clas* of Clynnog Fawr, in the 1209 charter of Llywelyn ap Iorweth, probably refers to the excavated medieval homestead (PRN 120) (Kelly 1998, 162).

Modern Graeanog was probably founded in the 15<sup>th</sup> century, when the pollen record shows intensified clearance activity. The present settlement was certainly established by the early 17<sup>th</sup> century, when a farmhouse was built. This is now a grade II listed building (RCAHMW 1960, site 800, p44). The modern farm of Cefn Graeanog was founded in the mid 19<sup>th</sup> century, and was demolished in 1990 in

advance of quarrying (Kelly 1998, 160, 162). The existing field system probably dates to the early 19<sup>th</sup> century, when fields were enlarged to open up areas for progressive farming techniques (Flook 1994, 4). Gravel extraction has taken place on the ridge for at least 100 years, with large scale extraction started after the Second World War (Mason 1998, xvi). The quarrying activity has been the impetus for much of the archaeological work on the ridge, as sites have been excavated in advance of the gravel extraction.

#### Results of watching brief

A total of eight features were identified. Four of these were stone banks, probably representing field boundaries, one was a ditch, probably also a field boundary, one was a field clearance cairn, and the other two features were probably modern. The soil over much of the area was thin, no more than 0.3m deep. Under the active topsoil was a lower topsoil of brown sandy silt containing about 30% small pebbles. The topography of the field was undulating, and in the hollows a relatively stone free colluvium had built up below the pebbly layer. This varied significantly in depth, but in places reached 0.4m deep. The natural subsoil was composed of fluvio-glacial sands and gravels, containing large stones and boulders, some over 1m in length.

#### Feature 1

A roughly oval patch of charcoal measuring 1.8 by 1.3m and 0.06m deep. The charcoal was distributed within the brown clayey silt of the colluvium, and some stones, measuring up to 0.25m in length, lay on the western edge of the patch. There was no evidence of *in situ* burning, although the regular shape of the patch suggested that it was the site of a fire. It seems probable that the charcoal had been introduced by animal disturbance into the soil from a bonfire on the surface, explaining the lack of soil changes due to heat at this level. This feature is probably the remains of a recent bonfire.

#### Feature 2

An area of dumped stones 1,5m wide and c. 20m long. The stones were rounded and measure up to 0.4m in length, but most are no more than 0.1m in length. The feature was orientated south-west to north-east along the top of a steep, west facing scarp. Some stones had slipped down the scarp, but most had been dumped along its top, possibly as the base for a field track, or just to reinforce the slope. There were not enough large stones for this to be the remains of a wall. The stones were just below the turf and embedded in the active topsoil, indicating that they were recently deposited. Feature 2 ran from the northern corner of a triangular area enclosing a pile of large boulders, and may have been deposited to stabilise the ground, enabling heavy plant to be used to dump the boulders.

#### Feature 3

An area of stones heaped into low piles, up to 0.2m high. The feature, which ran roughly north to south, was 4m long and 1.2m wide maximum, with a sub-circular pile of stones immediately to the east measuring 1.2 by 0.8m. The stones were up to 0.3m in length and were rounded or sub-angular. The stones lay within a matrix of brown gritty, clayey silt, and rested on the subsoil. The brown silt was part of the colluvial deposit, which was deeper in this area than elsewhere in the immediate vicinity, providing protection for the stony feature. By comparison with features found elsewhere on the site this is probably the disturbed remains of a stone bank, which probably extended further to the north. There was a suggestion at the southern end that the bank was curving round to the west, but insufficient survived to be sure that this was the case. The rather irregular shape of the feature compared to the other stone banks is probably due to its use as a general dumping area for field clearance stones over a long period of time.

#### Feature 4

A narrow ditch 1.8m wide, 0.4m deep and visible for 24m. It was very straight and aligned north-west to south-east. The ditch was located on relatively level ground close to the highest point of the site, and ran slightly down hill towards the south-east. The location did not seem appropriate for a drainage ditch and the ditch profile, with its gently sloping sides and rounded base, did not resemble a drainage ditch, which generally have sharp V-shaped profiles. The fill was a brown gritty, clayey silt containing stones up to 0.3m in length. Most of the larger stones were concentrated near the east side of the ditch, and elsewhere the fill contained only small stones.

#### Feature 5

A low, linear mound of stones traceable for 17m, but cut by the mechanical excavator at the southern end and lost, probably to field clearance at the northern end. It was a maximum of 1.8m wide and 0.25m high. The bank was composed of rounded and sub-angular stones up to 0.3m in length, and it was orientated north-west to south-east, angling down the hillslope. The bank was straight and the west side well defined. The east side was more irregular, but still clear. The line of the feature could be followed at its northern end, where most of the stones had been removed, by the occasional stones left embedded in the subsoil. Where well preserved the feature seemed to slope down towards the east as if resting on a slight scarp. Feature 5 lay under the colluvial deposit, and rested on a slightly more compact grey brown clayey silt. There was no trace of any facing or other structure to the mound of stones showing that it was a stone bank, rather than a constructed wall.

#### Feature 6

A linear stone feature visible for over 20m, but originally longer. A concentration of stones in the soil along the extrapolated line of the feature suggested it had extended at least another 20m further northeast. The feature was aligned north-east to south-west, running along the natural slope, with the northeastern end heading up a slight rise. The stone feature was 3m wide and buried under 0.4m of colluvium. The feature was composed of rounded stones mostly no more than 0.3m in length, but with occasional larger stones up to 0.75m in length. These were in a matrix of soft brown silt, and rested on a layer of grey brown gritty silt with occasional small stones and flecks of charcoal. This latter layer appeared to be the ground surface on which the feature had been built.

The exact nature of the feature was unclear. At the northern end the stone formed a well-defined bank, only 1m wide, along the top of a scarp cut in the natural. Further south the feature was much broader, with only small stones representing the line of the bank, and most of the larger stones tipping down the slope to the south-west. At the southern end of the surviving section the bank appeared well preserved, though composed only of small stones, but there were still larger stones on the down-slope side. The stones on the slope did not appear to be merely slippage, as many were horizontal and few were aligned with the hill slope. In several places stones were stacked to form a rough western face, and below this was a level area forming a lower stony terrace. Enough of these stones were horizontal and placed one on top of another to give a crude, built appearance to the feature. It is possible that the whole feature was a broad bank revetting a terrace in the hillslope. This would be envisaged as having two parallel stone banks providing a rough facing to a stone and earth core. The bank on the top of the terrace may never have been very high, but the lower face could have been over 0.6m high.

This structure is much more substantial that the other stone banks in the area, and it may have had some function in addition to a simple field boundary.

#### Feature 7

A low stone bank terraced into the hillslope, and running east to west across the contours of the hill. The feature survived to 8m in length, but was probably considerably longer. The stone bank itself was c. 1.1m wide, and the terrace it rested on was 1.7m wide. The stone deposit was a maximum of 0.15m deep, and composed of a matrix of brown gritty clayey silt with 70% stones measuring up to 0.3m in length. The feature was much slighter than features 5 and 6, which may be due to more erosion, but could be due to feature 7 being a haphazard dump of stones along the edge of a lynchet, rather than a constructed bank.

#### Feature 8

Oval heap of stones measuring 3m by 1.5m, and up to 0.4m high. The stones measured up to 0.7m in length, and while most were rounded, one of the largest was unusually angular. The stones rested on the subsoil, which here was particularly sandy, and seemed to form a discrete clearance cairn, rather than a bank like the other features. Very little soil covered the higher parts of the cairn, but the edges of the feature were buried under the deposit of colluvium, suggesting a similar date to the stone banks.

#### Artefacts

The only artefacts found were two sherds of post-medieval pottery recovered from the topsoil over feature 8, and a piece of modern ironwork; the latter was not retained. This scarcity of even post-medieval artefacts is unexpected, and may suggest little manuring has taken place on the field. Artefacts in fields most commonly originate from farmyard refuse, and are deposited on the fields in manure spread on the land.

#### Conclusions

Features 1 and 2 can be disregarded as modern, but the remaining features are of considerable interest. It is not clear whether the stone features are the remains of carefully constructed banks or whether they are little more than linear field clearance cairns. In either case it is clear that they represent boundaries, presumably around fields. The ditch, feature 4, is also probably a boundary ditch rather than for drainage, and the clearance cairn (feature 8) is presumably part of the same field system. With a depth of 0.4m of colluvium built up over feature 6 there is the suggestion that these boundaries are of some antiquity. Prehistoric boundaries are generally less regular, but small straight-sided fields were in use in the Romano-British period, and fairly straight, regular field boundaries would be expected in the medieval period. The Graianog hut group, about 100m south of the present investigated area, was occupied from the late Iron Age to the early medieval period, and these fields could have been associated with this settlement at any or all periods of its history. To the north-east of area 2C is a medieval homestead with some evidence for contemporary field walls (PRN 3999), and a possible platform house (PRN 4360). The latter is only 80m to the north-east of area 2C. The medieval settlement excavated by Kelly (1982) PRN 120 lies about 800m to the south-east, but the present area could have been within the area of its farm.

No artefacts were recovered to aid in dating the boundaries, but it is clear that the hill was farmed in the past at least as intensively as today. Further work to the north and east may add to the field system and possibly indicate to which period it belonged. Other stone banks discovered in the Graianog area have also been interpreted as field boundaries. In 1978 a modern stone clearance dump, just south of Graianog Farm and previously scheduled as a burial cairn (PRN 226), was excavated revealing two parallel stony strips beneath. These were interpreted as prehistoric field boundaries, but there were no finds to demonstrate the date (Mason and Fasham 1998, 96-97). The hut group east of Graianog Farm (PRN 118) has a field wall extending from it (Mason and Fasham 1998, 96-97), but it is not known whether this is a built wall or a stone bank. Only a much more extensive plan of these field systems and their relationship to neighbouring sites, combined with artefactual evidence, can solve the problems of dating these field boundaries.

#### Summary

Eight features were identified during the watching brief on topsoil stripping of area 2C. Two of these were probably modern, but the rest represented the remains of a field system, which had covered this part of the hill. The field system was not dated, but may be of medieval or even Romano-British date. Future work may be able to establish the date of the fields.

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Fig 1: Known archaeological sites in the Graianog area.





Plate 1: feature 1



Plate 2: feature 2



Plate 3: feature 3



Plate 4: feature 4





Plate 5: feature 5

Plate 6: feature 6 showing depth of colluvium









Plate 7: feature 6