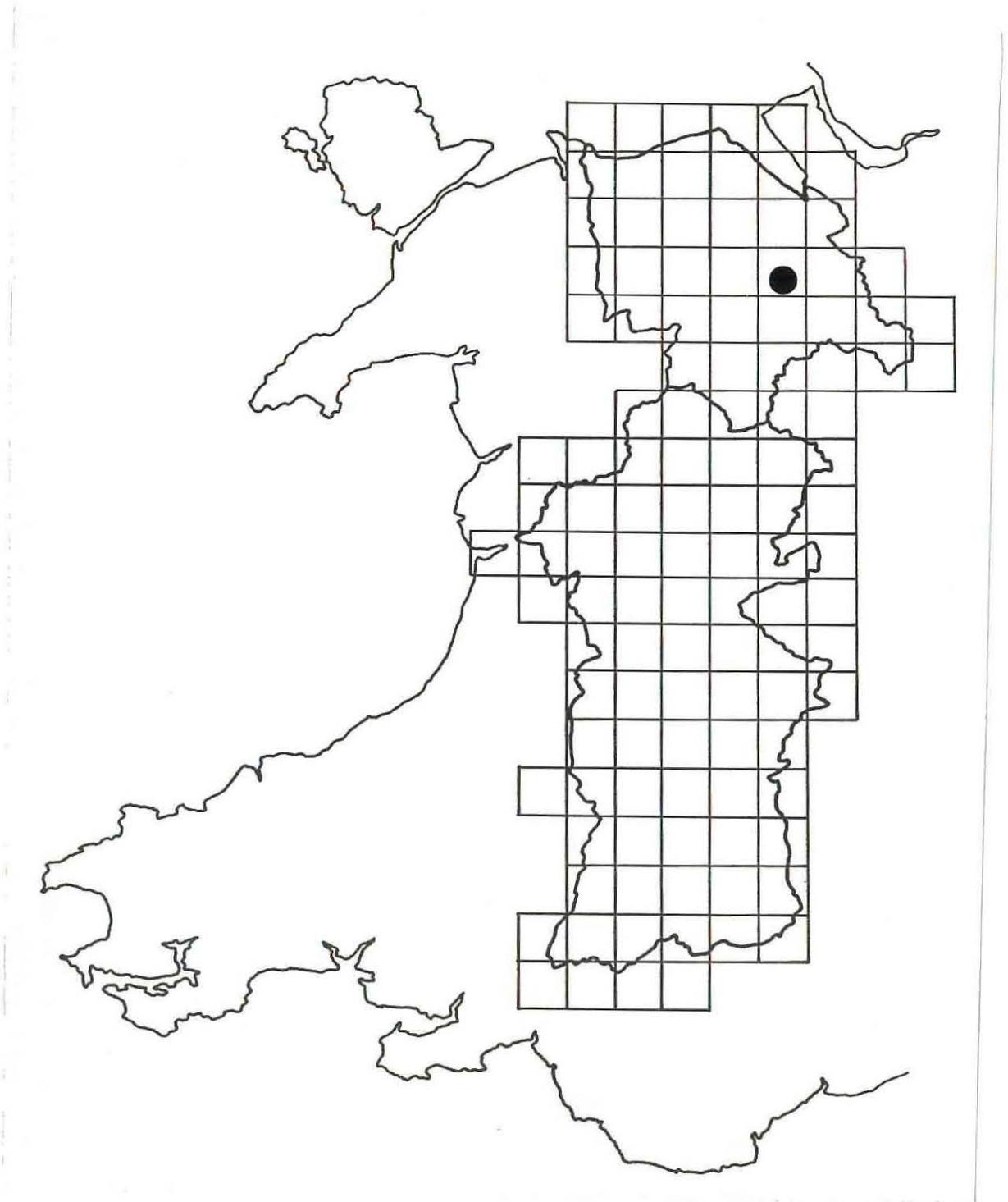


*An archaeological assessment of
Minera Quarry and adjacent areas*



CPAT Report No 28

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Minera Quarry and adjacent areas*

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A Report prepared for Tarmac Roadstone Ltd

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AN ARCHAEOLOGICAL ASSESSMENT OF MINERA QUARRY ADJACENT AREAS

Summary

The consent area for the limestone quarry at Minera, operated by Tarmac Roadstone Ltd, currently extends over an area of approximately 67 hectares. Tarmac are prepared to surrender their rights over the eastern and north-western areas of the existing consent area (as detailed in the planning statement), in exchange for permission to quarry limestone around Park Farm to the south.

The Clwyd-Powys Archaeological Trust was commissioned in 1989 to undertake an archaeological assessment of the Park Farm holding and a further assessment has now been produced for the existing quarry consent area as a contribution to an Environmental Statement prepared by Tarmac.

The Park Farm holding covers an area of some 32 hectares and contains two groups of buildings, Park Farm itself and a pair of industrial cottages. Other industrial remains include a small reservoir and a number of mine shafts. Relict field boundaries attest earlier agriculture.

The existing consent area contains archaeology both within the quarry and on the unexploited ground that surrounds it. The quarry contains two large 19th-century limekilns and a much smaller kiln survives on ground to the south. Large numbers of mine shafts exist in the unquarried consent area and ruined buildings associated with the mining industry survive in two places. Farming is attested by isolated lengths of field wall and a possible medieval or early post-medieval farm site lies close to the southern quarry edge.

Cave systems exist in both areas but their archaeological significance is unknown.

The archaeology of the two areas is similar in nature but differs in scale. Mining remains are found in both areas, but there is a greater number of shafts in the existing consent area. The remains of earlier quarrying and lime burning survive in the quarry, but there is little evidence of such activity around Park Farm. Both areas reflect patterns of farming during and prior to the industrial exploitation of the region. Fragmentary field systems are common to both, while the current consent area contains the site of a possible early farm.

Should the existing consent be exploited fully in the future, it is recommended that certain archaeological sites be subject to fuller investigation and/or record before their destruction. There is nothing on the Park Farm holding which merits a greater degree of recording.

1 Introduction

- 1.1 Minera Quarry, located in the communities of Minera and Esclusham Above, some 8km west of Wrexham, Clwyd, is operated by the North West division of Tarmac Roadstone Ltd. Limestone has been taken from this northern flank of Esclusham Mountain for centuries and commercial quarrying was certainly under way at least as early as the middle of the 19th century. The quarry today extends over an area of 42 hectares, the existing consent covering a larger zone of 67 hectares, with a 'girdle' of unexploited limestone rock surrounding the operational area.
- 1.2 The greater part of the unworked area is now incorporated within the recently designated (1991) Ruabon/Llantysilio Mountains and Minera Site of Special Scientific Interest (SSSI) which covers nearly 5000 hectares and has been notified on both biological and geological grounds. Because of this and other concerns including the impact on the local community, Tarmac Roadstone Ltd are prepared to surrender part of their remaining consent area around the active works, in exchange for permission to quarry limestone from a block of land also in their ownership around Park Farm to the south.
- 1.3 The Clwyd-Powys Archaeological Trust was commissioned in November 1989 by the company to undertake an assessment of the Park Farm block and prepare a report on the archaeological potential. This was submitted to Tarmac in December 1989.
- 1.4 The company commissioned a further assessment in March 1992. The brief for the fieldwork was to concentrate on the area of the unexploited consent, while the report presented here was to incorporate both this work and a revised version of the original Park Farm survey, as a contribution to an Environmental Statement that Tarmac have prepared for submission with their planning application.

2 The Proposed Extension at Park Farm, Minera

2.1 Introduction

- 2.1.1 This section of the report examines an area of some 32 hectares to the south of the present quarry. Central to this block of land is Park Farm, no longer permanently occupied but still used by a grazier.
- 2.1.2 The western edge of the area is defined by the steep-sided valley of Afon Clywedog, here known as Aber Sychnant, the slopes levelling out to a flattish plateau, just below which the farm is situated. North-east of the farm is a broad, dry valley edged to east and west by higher ridges. The eastern ridge runs the full length of the holding and then swings round to the west close to the southern boundary of the farm.
- 2.1.3 Past land improvement is most obvious on the plateau by Park Farm and in the dry valley to the north-east. In these areas the flatness of the land and the nature of the pasture suggests that any remains of earlier settlement and land use have been swept away. Elsewhere, the presence of bracken, gorse and, in a few places, rushes, may reflect a lower or less intensive level of improvement with commensurately better chances for the preservation of archaeological features.
- 2.1.4 As noted above the archaeological assessment was undertaken in December 1989 and involved systematic fieldwork over the whole Park Farm holding. The survey identified several groups of archaeological features, the majority previously unrecognised.
- 2.1.5 The significance of these groups is outlined briefly below and more details are provided in the Inventory which appears as Appendix 1 where sites are ordered by Primary Record Number. This should be used in conjunction with the map housed in the sleeve at the end of the report.

2.2 The Archaeology

- 2.2.1 Buildings. Two groups of buildings lie within the holding, Park Farm itself (PRN 105005) and a pair of cottages, now dilapidated, to the south-east (PRN 105006). These may have been mine-workers' dwellings. Neither building exhibits features of any great age, although the lintels over the doors and windows may have been brought in from elsewhere and reused.
- 2.2.2 Smaller structures are associated spatially with both buildings. To the west of the cottages a small group of outbuildings lie adjacent to a rectangular depression, almost certainly a small reservoir (PRN 105007).
- 2.2.3 Field systems. At least two systems of stone and earth banks predate the present network of stone walls that define and divide up the Park Farm holding. The more

obvious set of field banks (PRN 105009) appears to be the immediate predecessor of the stone wall system for there are places where the two adopt very similar alignments, notably on the southern edge of the holding.

- 2.2.4 The more fragmentary system (PRN 105010) consists largely of earthfast stones and is visible only to the south-east of the cottages. It probably represents an earlier phase of land division, but no date can be suggested from surface evidence alone. To the south-west of Park Farm, indistinct traces of ridge and furrow (PRN 105012) - a result of a specific type of agricultural practice in use from early in the medieval period through to at least the 19th century - underlie the later field bank system. Again there is no possibility of determining the antiquity of these ridges.
- 2.2.5 Mining. The holding is pock marked by mine shafts, ranging from what were obviously no more than trial pits to large shafts that must have witnessed considerable use (PRN 105008). Over forty shafts have been located and others may have gone unrecognised because of their similarity to quarry hollows or natural sink holes. The major shafts appear on existing large-scale Ordnance Survey maps, the smaller ones were added to the Trust's field plan. It was outside the remit of the survey to examine the extent and nature of the subterranean features on the holding, whether man-made or natural.
- 2.2.6 Since the field assessment some of the mine workings close to the Park Farm holding have been investigated by a local caving club with the co-operation of Tarmac Roadstone, though the workings on the holding itself proved to be blocked by debris and thus inaccessible. In the passageways that were investigated, the mineral veins, 1.0-1.5m wide, appeared to be largely exhausted, but timbers used to support working platforms were noted in situ. Piles of waste rock were also recognised. It is assumed that the workings within the Park Farm holding would display similar traces of mining activity.
- 2.2.7 We presume that the majority of these shafts were opened during the 19th century or perhaps a little earlier, but archival research would be required to confirm this. There are indications in at least three places that shafts have been sunk through existing field banks.
- 2.2.8 Caves. We are informed by Tarmac that only a single small cave, Ogof Mwynglawdd, exists beneath the Park Farm holding, and that recent exploration has demonstrated that it is accessible only from a lead mining shaft. Strictly speaking the archaeological interest of caves lies not in their existence but in their former use for shelter or refuge in earlier times. As access to this cave is restricted, its archaeological potential is unlikely to be significant.

3 The Archaeology of the existing Minera Quarry Consent Area

3.1 Introduction

- 3.1.1 A large proportion of the existing Minera consent area has now been quarried in part, but in places a band of 'unexploited' ground, up to 120m in width, edges the workings. Some of this land is covered by spoil from the workings, but much is open for archaeological assessment. This is particularly true of the area to the south and west of the modern settlement of Gwynfryn where the gently undulating limestone landscape is interrupted only by the steep-sided valley of a stream tributary to Aber Sychnant. A further area not quarried lies to the south of the quarry and east of the current extraction area. Here again a single steep-sided valley runs down towards Aber Sychnant while the rest of the ground slopes gently, broken in places by linear limestone outcrops.
- 3.1.2 Following the layout of the Park Farm report, the archaeology is outlined briefly below and more details are provided in the Inventory which appears as Appendix 2 where sites are ordered by Primary Record Number. This should be used in conjunction with the map housed in the sleeve at the end of the report.

3.2 The Archaeology

- 3.2.1 Quarrying. The quarry itself contains several structures related to the earlier extraction of limestone when the Minera and Lester Lime Works operated on either side of the Aber Sychnant, and in addition there are the open workings including the late 19th-early 20th-century Horseshoe Quarry (PRN 105168). A large and well-preserved block of six lime kilns each with a single draw-hole sports a date stone of 1852 (PRN 105066). Dwarfing this and of slightly later date are the ruins of a Hoffmann kiln (PRN 105167). Ancillary features such as the quarry manager's house (now also a ruin: PRN 105070) and the courses of railways that served the kilns also survive.
- 3.2.2 A small kiln with a D-shaped pot (PRN 105164) is evidence of a different scale of lime production, production, perhaps for agricultural use.
- 3.2.3 Mining. Large numbers of mine shafts are still to be found on and above the northern valley slopes of Aber Sychnant, a reflection of an industry which exploited lead and to a lesser extent zinc veins from the time of Charles II in the second half of the 17th century. The shafts continue, though less densely, on the plateau west of Gwynfryn. A further group lie in woodland on the south side of Aber Sychnant at the eastern end of the consent area and others are scattered on the slopes to the west. No attempt has been made to depict these shafts on the accompanying plan, but Tarmac Roadstone have control maps showing the position of many of the larger shafts.
- 3.2.4 Ruined buildings associated with the mining industry survive in two places. A single building (PRN 105159) lies on the northern slopes above the present processing plant, and a more complex range (PRN 105161) to the north-west of the Horseshoe

Quarry.

- 3.2.5 Farming. Isolated and fragmented stretches of wall and bank that once surrounded field or enclosure are found within the consent area, relating mainly to farms that lie beyond such as Hafod and Ty Hir.
- 3.2.6 On a gently sloping and largely stone-free plateau south-west of the Horseshoe Quarry, relict field boundaries lie just outside the consent area (PRN 105162). One of these, a low and meandering bank, is so slight as to suggest an early, perhaps even prehistoric, origin.
- 3.2.7 South-east of the Horseshoe Quarry, a group of three structures (PRN 105163) lie next to the fence surrounding the works. All three are drystone built, one of large irregular blocks, and are partially terraced into the hillside. These do not give the impression of being associated with industrial activity, although there are no direct indicators of date. Instead, a medieval or early post-medieval farming origin is favoured, and the case may be strengthened by the patch of ridge and furrow (PRN 105169), set 30m to the south-west and just outside the quarry consent area.
- 3.2.8 Caves. Cave systems, once more extensive, extend into the consent area. As noted above, caves are important archaeologically for what they contain. Modern research has concentrated on spelaeological activity rather than on their use in past centuries, though there is a record of a human skeleton being discovered in a cave revealed by blasting close to Afon Clywedog in 1904 (PRN 102953). No further information can be gleaned about this discovery.

4 Conclusions

- 4.1 It is evident from these assessments that both the existing quarry consent area and the proposed extension in the area around Park Farm contain features of archaeological interest. Given the size of the respective areas, this is not surprising. Nevertheless, on present evidence no specific site appears to be sufficiently important in national terms to recommend to the Secretary of State for Wales that it be given scheduled ancient monument status.
- 4.2 The current consent area reveals a range of industrial archaeological features relating to quarrying and mining, notably the large 19th-century limekilns which operated on a commercial basis (PRN 105166 and PRN 105167) and the smaller, agricultural kiln (PRN 105164), together with remnants of the infrastructure that served them. Extensive mining activity is reflected in the large number of shafts still discernible, and perhaps in the ruins of two small buildings (PRN 105159 and PRN 105161).
- 4.3 In contrast, the Park Farm area contains no significant traces of quarrying and has a smaller number of visible mine shafts. It is not possible, however, to determine on the evidence available which area witnessed the earliest mining activity or which shafts would give access to the most archaeologically informative workings.
- 4.4 Farming is represented in both areas by fragmentary field banks. These and the systems of land division that they represent are typical of many such boundary networks in mid and north Wales. Although undatable from surface evidence alone, the better preserved examples are likely to be of post-medieval origin, set up within the last three hundred years. Some others might be tentatively attributed to the Middle Ages, although again a later date cannot be ruled out. The origin of Park Farm itself is unknown, but is perhaps more likely to be post-medieval than earlier. The current consent area, in contrast, contains a group of three buildings (PRN 105163) which, with the adjacent ridge and furrow (PRN 105169), offers a possible agricultural focus which might go back to the medieval period.
- 4.5 Both areas contain caves, though that in the Park Farm area is exceptionally small. We might suggest that the original openings into accessible cave systems would have been on valley slopes, particularly beside Aber Sychnant, and that prehistoric and later activity would not have penetrated far into the systems other than in exceptional circumstances. These cave entrances have already been destroyed by quarrying so the archaeological potential is unlikely to be high.
- 4.6 We consider that there is nothing on the Park Farm holding that merits a greater degree of recording than has already been completed and that there are no specific sites that warrant archaeological excavation should the Minera quarry be extended in this direction.
- 4.7 A number of sites in and around the quarry would require further recording and/or investigation should their existence come under threat. Both of the large limekilns (PRN 105166 and PRN 105167) would need a full photographic record as a minimum level of recording, particularly as the limestone underlying them could be

quarried under the current consent. The group of three buildings above the old quarry (PRN 105163) would certainly require some investigation to determine their date and function.

Appendix 1

Sites in the Park Farm holding

105005 Farm	SJ 2495 5152	Farm and ancillary buildings. Of uncertain date but existing buildings probably 19th century.
105006 Cottages	SJ 25095139	Pair of cottages now used as barn. Re-used door lintels. System of low stone walls surrounds cottages, and 40m to west is small group of buildings and earthwork (PRN 105007). 80m to east is another small building.
105007 Earthwork	SJ 2509 5139	Rectangular sunken feature, c. 7m x 5m and 1m deep. Probably a reservoir associated with mining activity.
105008 Mine workings	SJ 2503 5136(c)	Mine shafts, almost all blocked and surrounded by rubble, some no more than trial holes. Shafts spread over much of holding but concentrations around Park Farm and Park Farm Cottages.
105009 Enclosure system I	SJ 25105121	System of earth and stone banks up to 0.8m high. Predecessors of present stone walls around Park Farm?
105010 Enclosure system II	SJ 2523 5133	Relict system of much degraded banks, <0.3m high. Appears to be earlier than Enclosure System I.
105011 Enclosure system III	SJ 2497 5137	Low banks south of Park Farm, some earlier than mine shafts. Relationship to other systems not determined and date unknown.
105013 Ridge and Furrow	SJ 2489 5143	About 8 low parallel ridges to southwest of Park Farm, no more than 0.3m high. Overlain by bank of Enclosure system I?

Appendix 2

Sites in the Minera Quarry consent area

102953 Human Skeleton	SJ 255 520 (C)	Human skeleton found in 1904 in cave revealed by blasting. Site now destroyed.
105159 Building	SJ 2554 5224	Rectangular stone building, in ruins. c.7m x 5m. with extension on south-east. Depicted on modern OS maps. Probably 18th or 19th century. Mineworker's dwelling?
105161 Building	SJ 2552 5196	Range of five rooms representing a building terraced into slope. In ruins and one room no more than foundations. Length c.28m. Probably a small post-medieval industrial building perhaps with accommodation.
105162 Enclosure system	SJ 254 518	Wall of limestone blocks along scarp top with low bank running roughly parallel about 18m away. Date uncertain but second one could be prehistoric. Appears to be on edge of consent zone.
105163 Buildings	SJ 2566 5182	Group of three buildings close to old quarry edge. Two terraced into slope, 2.6m x 2.8m and 4.3m x 3.3m. Third is rectangular platform of different type, 5m x 3.2m Function and date uncertain but could be earlier than industrial era.
105164 Limekiln	SJ 2595 5186	Single limekiln, D-shaped pot; reasonably well-preserved.
105166 Limekiln	SJ 2586 5194	Draw kiln consisting of three pots and six draw holes in a substantial and well-preserved block. Datestone of 1852. c. 35m x 9m.
1051067 Limekiln	SJ 2563 5197	Hoffmann kiln. Top truncated and chimney gone, but other wise intact. 83m x 27m.

105168 Quarry	SJ 2558 5191	Horseshoe Quarry; an example of an old method of quarrying with a narrow entrance into large working area.
105169 Ridge and furrow	SJ 2563 5181	7 ridges each up to 3.7m wide. Probably associated with PRN 105163. Just beyond consent area.
105170 Buildings	SJ 2594 5190	Group of buildings, mostly ruined, including former quarry manager's house. All 19th century?