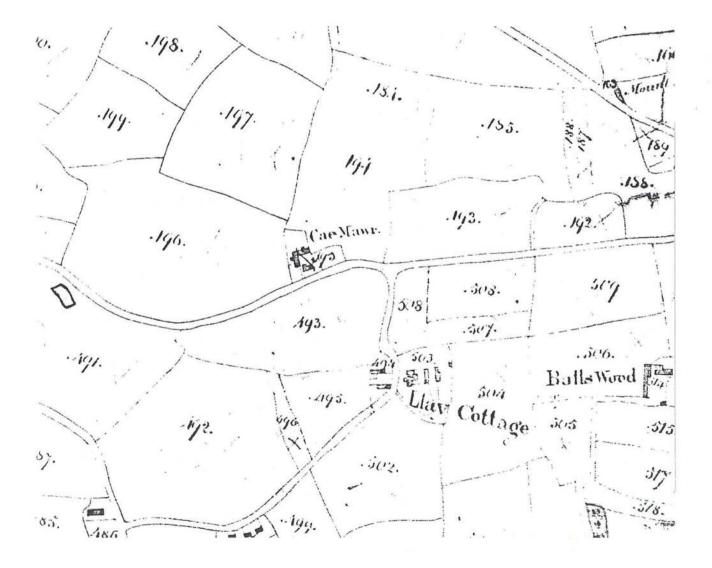
# THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

# Ballswood Quarry Extension on land at Cae Mawr, Llay, Wrexham

# ARCHAEOLOGICAL ASSESSMENT



**CPAT Report No 500** 

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# Ballswood Quarry Extension on land at Cae Mawr, Llay, Wrexham

ARCHAEOLOGICAL ASSESSMENT

R Hankinson November 2002

Report for RMC Aggregates

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# **CPAT Report Record**

# Report and status

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Fig. 1 Plan of the proposed quarry extension area and archaeological sites

# 1 INTRODUCTION

- 1.1 In October 2002, the Contracting Section of the Clwyd-Powys Archaeological Trust (CPAT Contracts) was asked by RMC Aggregates Ltd, Bromsgrove, Worcestershire, to provide a specification and quotation for undertaking a desk-based assessment of the archaeological potential of land at Cae Mawr, Llay, Wrexham (henceforward termed the extension area). The extension area is adjacent to the existing Ballswood Quarry, and the assessment was requested in order to determine the archaeological impact of proposals to extend the quarry workings.
- 1.2 The CPAT quotation was accepted by RMC Aggregates on 24 October 2002, and the study was carried out during November 2002. While assessing the potential impact of the proposed development, it became apparent that a field visit was needed to determine the nature of the archaeological sites which had been identified, and also to record any previously unknown sites. That visit was carried out with the agreement of RMC Aggregates on 26 November, with this report being produced immediately following its completion.

# 2 DEVELOPMENT PROPOSALS

- 2.1 The Ballswood Quarry is worked by RMC Aggregates (UK) Ltd and produces sand and gravel. The proposed extension area is located to the west of the quarry, on the opposite side of Gegin Lane, and covers an area of approximately 19 hectares.
- 2.2 It is proposed to work the extension area simultaneously with the existing site, due to variations in the quality of the raw material between the two areas. However, it is anticipated that a new access will be provided for the extension area from the B5102, also known locally as the 'Straight Mile'.

# 3 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1 The existing Ballswood Quarry is located approximately 750m to the north-east of the village of Llay and is approximately 6km to the north of Wrexham. The proposed extension area is centred at SJ 34305635, between Gegin Lane and the B5102 ('Straight Mile'), and it also extends into a single field on the north side of the B5102 (Fig. 1).
- 3.2 The extension area is situated on the eastern end of a plateau which is approximately triangular in shape. The plateau is defined by the course of the River Alyn on its west and south-east sides, while the north-east side is marked by a gradual slope which faces in that direction. The crest of the slope runs north-west from a point immediately to the north-east of the extension area.
- 3.3 The drift (near-surface) geology consists of sand and gravel deposits, presumably of glacial origin, which the proposal is designed to exploit. The underlying solid geology is composed of 'red beds' belonging to the Westphalian D division of the Coal Measures rocks of Carboniferous Age (1994 Geological Survey map). The soils present in the extension area are derived from the drift geology and consist of sandy and coarse loamy soils belonging to the Newport 1 soil association (1983 Soil Survey of England and Wales map and legend).

#### 4 DESK-BASED STUDY

4.1 The assessment involved the examination of all readily available primary and secondary records relating to the extension area, including documentary, cartographic and aerial photographic sources. Archives and repositories consulted included the County Sites and Monuments Record (SMR) at CPAT in Welshpool; the National Library of Wales (NLW) in Aberystwyth; the National Monuments Record (NMR) in Aberystwyth; and the County Record Office in Hawarden (CROH). No sources earlier than the Ordnance Surveyor's drawing of 1819 were found which provided any detailed information pertaining to the area of the proposal.

4.2 A search of the SMR revealed that there were no recorded archaeological sites within the extension area, although a small number of sites were recorded close to its perimeter. Five new sites were revealed by other elements of the desk-based study. The following summary by period is drawn from information collected during the study. Sites which are recorded in the Regional SMR are denoted by their Primary Record Number (PRN).

# Prehistory

- 4.3 The earliest evidence suggesting activity in the area is represented by the find of a Neolithic stone axe (PRN 106384), on the bank of the River Alyn to the north of Gresford, 900m to the south-east of the extension area. Further prehistoric finds have been reported from the locality, including two flint scrapers (PRN 102880), at a location 600m to the west of the extension area. These finds suggest that there was some domestic occupation in this area during the Neolithic period, but it is impossible to ascertain where this may have been located.
- 4.4 One of the most significant sites which demonstrates prehistoric activity in the vicinity of the extension area is a cropmark (PRN 101843), identified on an aerial photograph. The cropmark is thought to represent the ploughed-out remains of a Bronze Age burial mound and is located approximately 900m to the east of the extension.
- 4.5 Evidence for occupation of Iron Age date is provided by the oval enclosure of Y Gaer (PRN 100351), which is protected as a scheduled ancient monument (SAM De 058). This site is located on the outskirts of Llay, approximately 500m to the west of the extension area, and demonstrates the importance of this locality in the latter part of the prehistoric period.

# Roman

4.6 There are no known Roman sites within the immediate area, although the close proximity of the industrial complex at Holt and recent discoveries at Plas Coch, Wrexham (Grenter *et al.* 1994 and 1995; Wait 1996) indicate the presence of Roman occupation in the surrounding area.

# Medieval

- 4.7 The only direct evidence of medieval activity in the immediate vicinity consists of the site of the Croes Howell cross (PRN 100353). The cross was mentioned in 1479-80, but the only surviving remains consist of a socket stone and the lower part of a square shaft, which have subsequently been moved from their original location to a site 400m to the north-east of the extension area.
- 4.8 Although there is little evidence of confirmed medieval activity in the immediate area, it is strongly suggested by the field pattern which has survived, both within, and surrounding, the extension area. The appearance of the modern field boundaries to the north of Cae Mawr suggests that they represent the fossilised remains of an area of open-field arable cultivation (Site 2) belonging to the medieval period, which was most likely enclosed during the post-medieval period. The location of any settlement sites which relate to the cultivation is unknown, but they are most likely to have been alongside the minor road to the north of the proposal.

#### Post-medieval

- 4.9 The only site which has been recorded by the SMR in the immediate vicinity of the extension area is a milestone of post-medieval date, first depicted on the Ordnance Surveyor's drawing of 1819, which lies on the verge of the B5102 at the north-west corner of the area. This is recorded as having the inscription 'To Chester 8 miles', but is noted to be badly weathered. The first edition OS 1:2,500 map (Denbighshire 21.12, dated 1873) suggests that it may also have been inscribed 'To Minera 5 miles'. The presence of the milestone denotes the fact the 'Straight Mile' forms a section of a former turnpike road (Site 1) linking the two named settlements.
- 4.10 The site of the former Cae Mawr farm (Site 8) falls within the proposed extension. The farmhouse is no longer extant, but it was depicted on Ordnance Surveyors' drawing and all subsequent cartographic sources, prior to the modern Ordnance Survey mapping and is likely to be of post-medieval date. The farm buildings consisted of the house, a large L-shaped range, and a number of small outbuildings of unknown function; a well was located to the north of the house (see 1873 and 1899 Ordnance Survey 1:2,500 maps). Palmer (1904, 45) describes Cae Mawr as 'an old holding', and it is probable that the farm post-dates the enclosure of the medieval open-field arable cultivation described above.
- 4.11 In addition to Cae Mawr, a number of the other houses and buildings in the surrounding area appear on 19th-century cartographic sources, including Llyntro Farm, Rackery Farm, and Croes Howell, all of

which are depicted on the Ordnance Surveyors' drawing of 1819. None of these sites is recorded in the SMR, which does, however, record a small number of listed buildings of 19th-century date, including 'The Stone House' (PRN 41684) and Mount Alyn Lodge (PRN 41685). During the latter part of the post-medieval period, the overall pattern of landscape utilisation on the plateau appears to have comprised a mixture of discrete industrial areas, set within farmland occupied by a dispersed population. The extension area falls within the agricultural part of this landscape.

4.12 Industrial activity of post-medieval date is evident, although it is generally of fairly minor importance in relation to the industry of the surrounding district. In the immediate locality, good examples of relevant sites include the mid-19th century brickworks (PRN 17079), which was found within the ramparts of the Iron Age enclosure of Y Gaer (PRN 100351) during excavations there in 1961, and the largely intact Llay Smithy (PRN 102931). Sand and gravel quarrying appears to have commenced in a minor role during the 19th century, with a small quarry (presumably the precursor of the Ballswood Quarry) of this type evident to the south-east of the former Ball's Wood house on the Ordnance Survey 1:2,500 maps of 1873 and 1899. Three ponds (Site Nos 3, 4, and 6), which are depicted within the extension area on late 19th-century Ordnance Survey maps, might be water-filled clay pits associated with the brick-making industry, but are more likely to be marl pits producing material used as agricultural fertiliser in the adjoining fields; Site 3 is also depicted on the 1842 Tithe map.

# Modern

- 4.13 The village of Llay is a relatively modern settlement, with 19th-century cartographic sources showing little more than a dispersed hamlet. The subsequent growth of the village to its present size is likely to have been a result of the need to house workers engaged in local industry, such as the nearby collieries of Gresford and Llay.
- 4.14 The pattern of landscape use evident in the 19th century appears to have continued to the present. The only major differences are a result of the significant expansion of sand and gravel quarrying from their minor beginnings during the previous period.

#### 5 FIELD SURVEY

- 5.1 The field survey consisted of a rapid walkover of the area of the proposed extension. All of the sites recorded during the desk-based assessment were visited to confirm their nature and determine their present condition. A search was also made for any extant sites in the area of the proposal which had not been identified by the desk-based work. Sites identified were located, described, photographed and sketched as appropriate.
- 5.2 With regard to those sites which had been recorded by the desk-based study, an assessment of their true nature and possible dating was made. Minor revisions to the interpretation of the ponds within the extension area were made as a result of their appearance; it is now believed to be more likely that these features represent marl pits used in the extraction of material for agricultural fertiliser.
- 5.3 The milestone recorded alongside the B5102 was visited in order that a record of its existing condition could be made. Its recorded position was also corrected, to ensure that it could be accurately located and thereby avoided by the proposed works.
- 5.4 Evidence of a limited number of further sites was revealed by the visit, including the recognition of slight traces of ridge and furrow cultivation, further corroborating the identification of medieval open-field cultivation in the area. Two extant, though disused, wells were also recorded.
- 5.5 A brief record was made of the surviving features of the former Cae Mawr farmstead, which deskbased sources suggested had been completely destroyed. Although the farmhouse had been demolished, a significant number of associated features were recognised. These additional features were described and photographed, as appropriate to their nature and visibility.

# 6 ARCHAEOLOGICAL SUMMARY (Fig. 1)

- 6.1 It has been noted above that no sites are currently recorded within the extension area in the SMR. Seven new sites have been identified within the extension area by the desk-based study and field visit. These new sites, together with any further sites in the immediate locality of the proposed extension which may be affected by the implementation of the proposal, are listed below.
- 6.2 Each site has been classified according to its perceived significance. The categories are those given in the Cadw: Welsh Historic Monuments draft *Archaeology and the Trunk Road Programme in Wales:* a Manual of Best Practice, and are based on those in the Department of Transport's Design Manual for Roads and Bridges (Vol. 11, Section 3, Part 2).

Category A sites of national importance. It is presumed that sites in this category will be preserved and protected *in situ*.

- Category B sites of regional or county importance which are of particular importance within the region. Preservation *in situ* is the preferred option for these sites, but if loss or damage is unavoidable, appropriate detailed recording should be undertaken.
- Category C sites of district or local importance which are not of sufficient importance to justify preservation if threatened, but which merit adequate recording in advance of loss or damage.
- Category D minor and damaged sites which do not merit inclusion in a higher category, and for which rapid recording should be sufficient.
- Category E sites whose importance could not be fully determined as a result of the assessment and may warrant further evaluation.

# Category A sites

There are no Category A sites within the proposal area. One site in the locality is listed here in order that its landscape setting can be considered.

PRN	SAM	Name	Туре	Period	Condition	NGR
100351	De 058	Y Gaer enclosure	Enclosure	Iron Age	Damaged	SJ33555608

#### PRN 100351

The Iron Age site of Y Gaer consists of a univallate enclosure, approximately 1ha in area. The earthworks have been damaged by its use as a caravan park, but it is statutorily protected as a scheduled ancient monument of national importance (SAM De 058).

#### Category B sites

There are no known sites in this category within the extension area.

#### Category C sites

PRN	Site No	Name	Туре	Period	Condition	NGR
104291		Mount Pleasant milestone	Milestone	Post Medieval	Near intact	SJ 34085655
	1	Straight Mile turnpike road	Road	Post Medieval	Intact	SJ 34255660

#### PRN 104291

The milestone is first depicted on the Ordnance Surveyors' drawing of 1819, and lies on the verge of the B5102 at the north-west corner of the extension area. The stone bears the inscriptions 'To Chester 8 miles' and 'To Minera 5 miles'. It also appears to have been used as an Ordnance Survey benchmark.

Site 1

It is evident from the milestone, recorded above, that the 'Straight Mile' is part of a former turnpike road, now used as the B5102. The inscription on the milestone confirms that this road ran between Chester and Minera. It is unknown if the road extended further in either direction.

#### Category D sites

PRN	Site No	Name	Туре	Period	Condition	NGR
	2	Cae Mawr open arable fields	Ridge and furrow	Medieval ?	Near destroyed	SJ 34305635
	3	Cae Mawr pond I	Marl pit	Post Medieval	Damaged	SJ 34135645
	4	Cae Mawr pond II	Marl pit	Post Medieval	Damaged	SJ 34095634
	5	Cae Mawr well I	Well	Post Medieval	Near intact	SJ 34385629
	6	Vaddock Cottage pond	Marl pit	Post Medieval	Intact	SJ 34155600
	7	Cae Mawr well II	Well	Post Medieval	Near intact	SJ 34335625
	8	Cae Mawr farmstead	Farmstead	Post Medieval	Near destroyed	SJ 34355623

#### Site 2

The presence of former open arable cultivation in the fields which form the extension area is strongly suggested by the existing field pattern and slight traces of ridge and furrow cultivation are evident in one field (centred at SJ 34305635) to the north of the former Cae Mawr farmstead. Redundant boundaries which have been recognised from aerial photographic sources (Ordnance Survey 89/145 Nos 111-3) in fields centred at SJ 34435641 and SJ 34185608 may also support this hypothesis.

#### Site 3

A pond within and adjoining the boundary of the extension area, is depicted on the 1842 Tithe map and subsequent, late 19th-century Ordnance Survey maps. It is most likely to represent a water-filled marl pit, dug to provide agricultural fertiliser. It could also have been a clay pit which provided material for local brick-making.

#### Site 4

A small pond within and adjoining the boundary of the extension area, depicted on late 19th-century Ordnance Survey maps. It is most likely to represent a water-filled marl pit, dug to provide agricultural fertiliser. It could also have been a clay pit which provided material for local brick-making.

#### Site 5

A disused brick-lined well situated in the field to the north of Cae Mawr. Its sandstone capping is supported by a T-section cast iron beam, but is in poor condition and the well is blocked at a depth of 1m. An old cart axle has been placed over the broken capping to prevent stock falling in.

#### Site 6

A small pond within and adjoining the boundary of the extension area, depicted on late 19th-century Ordnance Survey maps. It is most likely to represent a water-filled marl pit, dug to provide agricultural fertiliser. It could also have been a clay pit which provided material for local brick-making.

#### Site 7

A disused brick-lined well situated within the enclosed area of the former Cae Mawr farmstead (Site 8). There is no evidence of any capping, but it is blocked at a depth of 2m.

#### Site 8

The site of the former Cae Mawr farmstead. The house has been demolished and no surface trace remains, but there is still evidence of a large L-shaped, brick-built, range and a possible pigsty. Other surviving features include a stone boundary wall on the west side, stone gateposts (one dated to 1853) and iron railings on the north side of the disused farm entrance. The bricks which form the only surviving evidence of the farm buildings appear to be late 18th century in date. It seems probable that the dated gatepost provides evidence of a phase of farm refurbishment as the farm was already in evidence when the 1842 Tithe survey was carried out.

#### Category E sites

There are no known sites in this category within the extension area.

# 7 POTENTIAL IMPACTS

#### **Baseline conditions**

7.1 Under the baseline conditions most of the recorded sites do not appear to be under any existing threat other than from processes of natural erosion. The potential medieval cultivation (Site 2) is subject to some erosion by farm animals and is likely to have been denuded by pasture improvement in the past.

### **Visual impact**

7.2 A site of national importance, the Y Gaer enclosure (PRN 100351; SAM De 058), lies approximately 500m to the west of the extension area and consideration was given to the possibility that it may be subject to a visual impact.

# **Direct impact**

7.3 The proposed development may directly impact upon seven sites identified during the assessment.

Site No	Name	Туре	Period	Condition	Impact	Category
2	Cae Mawr open arable fields	Ridge and furrow	Medieval ?	Near destroyed	Partial loss	D
3	Cae Mawr pond I	Marl pit	19th Century ?	Intact	Potential loss	D
4	Cae Mawr pond II	Marl pit	19th Century ?	Intact	Potential loss	D
5	Cae Mawr well I	Well	Post Medieval	Near intact	Loss	D
6	Vaddock Cottage pond	Marl pit	Post Medieval	Intact	Potential loss	D
7	Cae Mawr well II	Well	Post Medieval	Near intact	Loss	D
8	Cae Mawr farmstead	Farmstead	Post Medieval	Near destroyed	Loss of surviving evidence	D

# **Unknown impact**

7.4 There are two recorded sites where a potential impact can be negated by the consideration of suitable mitigation.

PRN	Site No	Name	Туре	Period	Condition	Impact	Category
104291		Mount Pleasant milestone	Milestone	Post Medieval	Near intact	Potential loss	С
	1	Straight Mile turnpike road	Road	Post Medieval	Intact	Minor disturbance	C

7.5 This study has included a field visit to search for new, previously unrecorded sites, but there remains the possibility that sub-surface remains of further sites which currently have no visible trace exist within the extension area.

# 8 MITIGATION

8.1 The potential impact on the known archaeology has been considered and appropriate mitigation measures are outlined below. Although a small number of sites which lie immediately outside the extension area have been considered, the list concerns only those sites which may be affected by the proposal in its present form. If there are any subsequent adjustments to the boundary of the proposal, this will require the impact of the proposal to be re-assessed.

# Site-specific Mitigation

8.2 The assessment has identified the possibility of impacts on the following recorded sites and mitigation measures are proposed for each.

	Name	Туре	Period	Category	Impact	Mitigation
PRN 100351	Y Gaer enclosure	Enclosure	Iron Age	A	Visual ?	Maintain existing hedgerows; Consult Cadw: Welsh Historic Monuments
PRN 104291	Mount Pleasant milestone	Milestone	Post Medieval	С	Potential loss	Avoidance
Site 1	Straight Mile turnpike road	Road	Post Medieval	С	Minor disturbance	Watching brief
Site 2	Cae Mawr open arable fields	Open field	Medieval	D	Partial loss	None
Site 3	Cae Mawr pond I	Marl pit	Post Medieval	D	Potential loss	None
Site 4	Cae Mawr pond II	Marl pit	Post Medieval	D	Potential loss	None
Site 5	Cae Mawr well I	Well	Post Medieval	D	Loss	None
Site 6	Vaddock Cottage pond	Marl pit	Post Medieval	D	Potential loss	None
Site 7	Cae Mawr well II	Well	Post Medieval	D	Loss	None
Site 8	Cae Mawr farmstead	Farmstead	Post Medieval	D	Loss	Watching brief

# PRN 100351 Y Gaer enclosure

Y Gaer enclosure, a site of national importance (SAM De 058), lies approximately 500m to the west of the extension area and the possibility of a visual impact was considered. The existing hedgerows provide a good screen from the west and any gaps have recently been infilled by new planting. As long as the hedgerows are maintained in good condition, there is probably no need for any further screening or bunding.

### PRN 104291 Mount Pleasant milestone

The milestone lies alongside the B5102 road and should not be affected as long as its position is considered during the planning and construction of the proposed site access to ensure preservation in situ.

#### Site 1 Straight Mile turnpike road

The turnpike road follows the line of the existing B5102 and should not be affected, although a watching brief should be undertaken if any excavation into the road surface is proposed.

#### Site 2 Cae Mawr open arable fields

The presence of former open-field arable cultivation here is confirmed by traces of ridge and furrow cultivation and is also strongly suggested by the existing field pattern. The surviving features of this cultivation have been adequately recorded during the field visit and there is therefore no need for any further mitigation.

#### Site 3 Cae Mawr pond I

The site is likely to be a result of agricultural marl extraction or possibly the removal of clay for brickmaking. The surviving features of this site have been adequately recorded during the field visit and there is therefore no need for any further mitigation.

#### Site 4 Cae Mawr pond II

The site is likely to be a result of agricultural marl extraction or possibly the removal of clay for brickmaking. The surviving features of this site have been adequately recorded during the field visit and there is therefore no need for any further mitigation.

# Site 5 Cae Mawr well I

The well has been photographed, sketched and described during the field visit. This provides an adequate record of the site and there is therefore no need for any further mitigation.

# Site 6 Cae Mawr pond II

The site is likely to be a result of agricultural marl extraction or possibly the removal of clay for brickmaking. The surviving features of this site have been adequately recorded during the field visit and there is therefore no need for any further mitigation.

# Site 7 Cae Mawr well II

The well has been photographed and described during the field visit. This provides an adequate record of the site and there is therefore no need for any further mitigation.

# Site 8 Cae Mawr farmstead

The surviving remains of the farmstead have been described during the field visit and the nature of these extant features suggests that the farmstead is of post-medieval, possibly 18th-century, origin. A brief photographic record and written description of the surviving features has already been made during the field visit, but it is likely that all trace of the farmstead will be removed during sand and gravel extraction. Accordingly, a watching brief is proposed during machining so that any further information which may be revealed, regarding the nature and possible dating of the farmhouse or other structures, can be recorded. If significant evidence is revealed which needs to be preserved by detailed record or selective excavation, then sufficient time and resources should be allowed for this work to be carried out.

# **General Mitigation**

8.3 There remains the possibility that sub-surface traces of further sites are present within the extension area. In order to ensure that the potential for these sub-surface archaeological remains is taken into account, a watching brief should be undertaken during the stripping of topsoil and modern overburden. Sufficient time and resources should be allowed to ensure the preservation by record of any archaeologically significant features which may be revealed.

# 9 ACKNOWLEDGEMENTS

9.1 The author would like to thank the following for their assistance and co-operation: Bob Silvester, CPAT; Medwyn Parry, RCAHMW; Jeff Spencer, SMR Officer, CPAT; the staff of both the County Record Office Hawarden and National Library of Wales, Aberystwyth.

# 10 REFERENCES

#### 10.1 Published Sources

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Grenter, S, Jones, N, & Slater, W, 1995. Plas Coch, Wrexham, Archaeology in Wales 35, 53.

Palmer, A N, 1904, 'A History of the Old Parish of Gresford', Archaeologia Cambrensis.

Wait, G A, 1996. Plas Coch, Wrexham, Archaeology in Wales 36, 73-4.

# 10.2 Cartographic Sources

a) Held by the County Record Office, Hawarden

c.1790 Plan and Particulars of the Plas Teg and Trevalyn Estate (CROH D/BC/addnl)

b) Held by the National Library of Wales, Aberystwyth

1819 Ordnance Surveyors' drawing No 316

1842 Tithe map of Gresford parish (Llay township) and Apportionment (1843)

1873 First edition Ordnance Survey 1:2,500 map (Denbighshire 21.12)

1899 Second edition Ordnance Survey 1:2,500 map (Denbighshire 21.12)

# 10.3 Aerial Photographic Sources

Provided by RCAHMW, in co-operation with the Central Register of Aerial Photography, Cardiff: Ordnance Survey 89/145 Nos 111-3, taken on 06/05/1989.

BKS Surveys Ltd 9512/160-2.

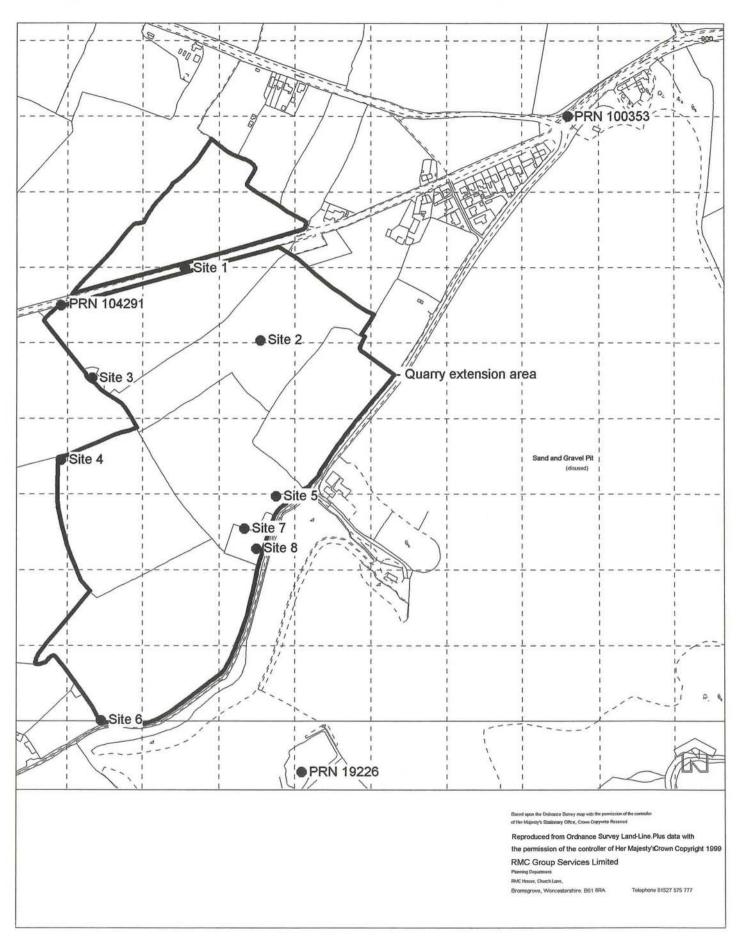


Fig. 1 Plan of the proposed quarry extension area and archaeological sites. Scale 1:5,000