

ARCHAEOLOGICAL ASSESSMENT FOR DWR CYMRU /
WELSH WATER

Bontgoch storage reservoir scheme

carried out by

Dyfed Archaeological Trust
(Curatorial Section)

SMR Amendments and Additions to Bontgoch Storage Reservoir Scheme Assessment

Project Record 29586

Amendments

9139 - PRN has been divided into two, 9139 and 30696. 9139 is to the east of reservoir 30694 and 30696 is to the west. The two leats may have been one before the building of reservoir.

New PRN's

30685 - Two buildings
30686 - Pound
30687 - Fold
30688 - Settlement?
30689 - Settlement?
30690 - Farmstead
30691 - Settlement?
30692 - Farmstead
30693 - Settlement
30694 - Reservoir
30695 - Leat
30696 - Leat
30697 - Leat
30698 - Quarry

Jenny Hall, SMR Officer

20 July 1995

INTRODUCTION

'Desk-Top' Assessment - content and scope

The primary stage of assessment of the archaeological implications of any development scheme involves consultation of Dyfed Archaeological Trust's sites and monuments record for the relevant area. Dyfed Archaeological Trust's sites and monuments record is designated as a County sites and monuments record in Welsh Office Planning Policy Guidance Note 16: Archaeology and Planning.

Consultation of the sites and monuments record will establish whether any known sites or monuments are affected by the scheme. However it is important to appreciate that the record is not a complete record of all traces of human activity in the landscape; it is a record of past archaeological work.

Consultation of the record is therefore followed by a search of relevant map and documentary sources, both published and in manuscript form. All assessments carried out by the Dyfed Archaeological Trust contain a full list of all sources consulted.

Available aerial photographic collections held by the Trust are consulted and, if judged necessary, collections held by other bodies are also consulted.

If particular sites or landscapes with special interest are affected the Trust would wish to consult the appropriate period or site type specialists and societies (e.g historic gardens, railways, industrial archaeology, etc.).

THE ARCHAEOLOGICAL IMPLICATIONS OF THE BONTGOCH STORAGE RESERVOIR AND WATERMAIN SCHEME

The Mynydd Gorddu area is one of considerable importance in terms of its overall landscape archaeology and contains a number of important individual sites and features dating from prehistory up to the late 19th century.

The results of the assessment are presented in the following order:

Part I

General information on past land-use and detailed information on known sites and monuments in the following order:

- (1) Prehistoric settlement and activities
- (2) Medieval and Post-Medieval settlement, land-use and activities
- (3) Industrial archaeology
- (4) Areas of environmental archaeological importance

Part II

Recommendations

Part III

Appendix (of sources consulted)

Part I

(1) Prehistoric settlement and activities - See map no.1

Evidence of prehistoric activity in the area is evidenced by a number of known monuments and find sites mainly of early Bronze Age date (c.2500-1200 B.C.). During this period, it is known that the climate was significantly warmer and drier than at present and consequently, many upland areas considered to be marginal in terms of modern agricultural practices, appear to have been settled and cultivated in some density. Evidence of such activity is frequently indicated by the remains of extensive field systems, settlements and burial monuments or barrows. Around 1150 B.C., a long term climatic deterioration commenced resulting in conditions as largely experienced at present. This period i.e. the late Bronze Age, was characterised by the abandonment of upland settlements and typified by the establishment of defensive earthwork settlement/enclosures throughout the lowlands, perhaps as a response to increasing competition for diminishing resources. The colder and wetter climatic regime also resulted in the formation of peat bogs in the uplands, often obscuring earlier field boundaries and other traces of earlier prehistoric activity. The surviving archaeological features in the Mynydd Gorddu area are of sufficient density to suggest that there is likely to be further evidence of prehistoric occupation within or below the extensive areas of peat deposits which exist in the lower reaches of the study area.

The known sites of prehistoric interest are:

(a) DAT PRN 5403 (SN 6611 8568): Site of Bronze Age standing stone. The stone has since been removed although the area is still of archaeological significance. (Archaeological excavation within the environs of standing stone sites has shown that the stones are often the only surviving upstanding elements of a complex burial/ritual complex consisting of stone platforms, alignments, ritual deposits and human burials).

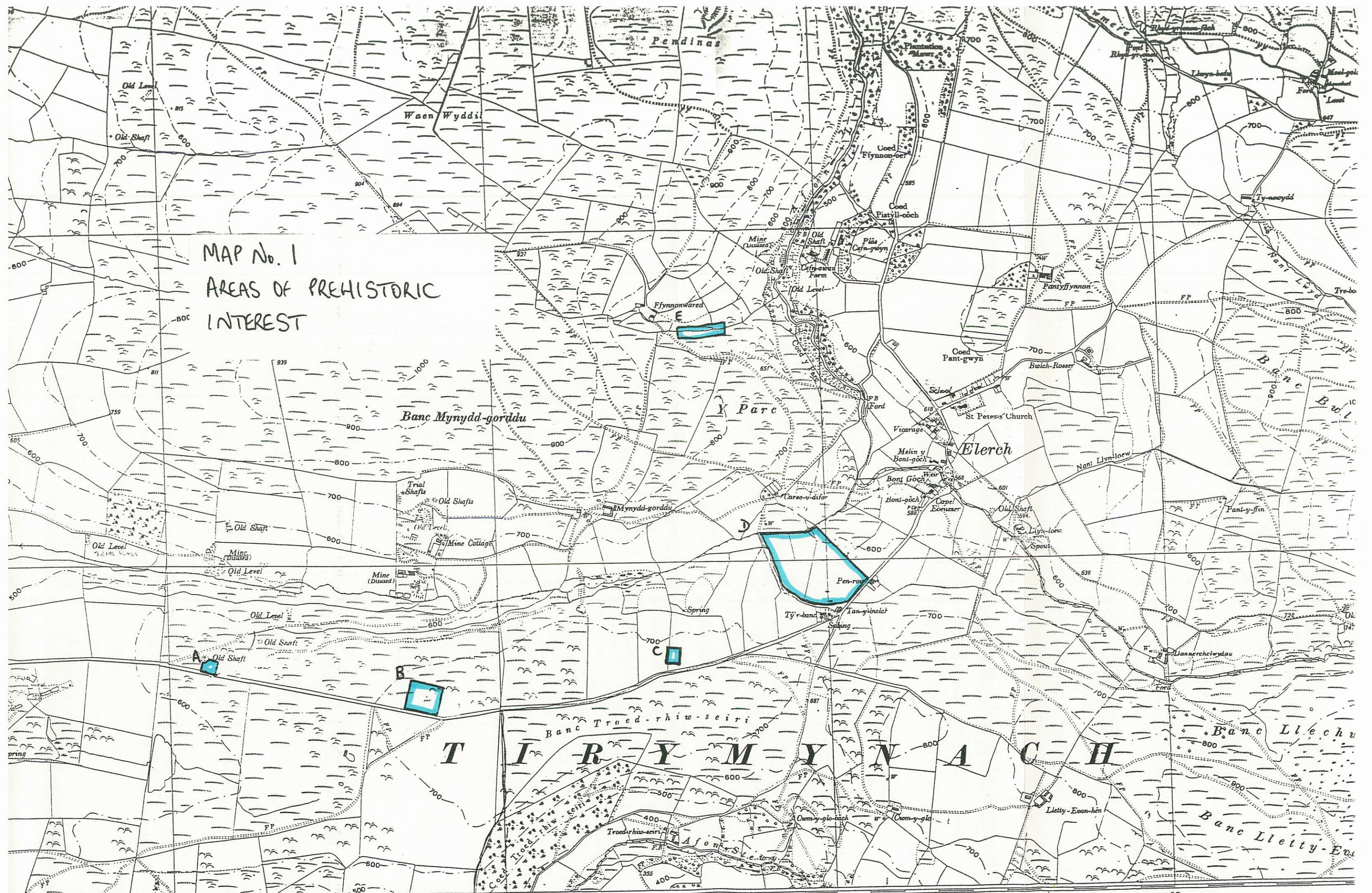
(b) DAT PRN 5400 (SN 6677 8560): Bronze Age ring barrow, partly excavated by C.H.Houlder in 1956, producing burials, cremations, flint artifacts and pottery indicating a long period of use and reuse. The environs of the barrow are also of archaeological significance as it is probable that the former sites of hitherto undiscovered barrows and burials may exist within the immediate area.

(c) DAT PRN 9720 (SN 6752 8570): Site of Bronze Age standing stone. The environs of the stone are also of archaeological significance for the same reasons as given in (a) above.

(d) DAT PRN 8316 (SN 679 859 - centre): Approximate site of discovery of two Bronze Age looped palstaves. The first palstave found in 1880 is thought to be in the possession of Aberystwyth University. The present whereabouts of the second palstave, discovered in 1930, is not known. It is possible that the distribution of such finds may indicate the existence of a contemporary settlement nearby.

(e) DAT PRN 4022-4 (SN 676 867): Located just outside the study area are three prehistoric burnt mounds, of enigmatic nature and function, characteristically situated close to a stream.

MAP No. 1
AREAS OF PREHISTORIC
INTEREST



(2) Medieval and Post Medieval settlement, land-use and activities - See map no.2

There is no physical evidence of human activity in the study area from the Bronze Age until the 18th century. In particular, there are no known or documented sites of Iron Age, Roman or Dark Age origin within the study area. However, William Rees' map of South Wales and the Border in the 14th century indicates that documentary evidence exists for settlements just beyond the study area at Elgar and Cefn (Penycefn?). Rees also indicates the presence of Medieval lead mining in the general vicinity of Banc Mynydd Gorddu although the location of any physical evidence is not known. Bont Goch/Elerch is also believed to be a settlement of Medieval origin and its economy was undoubtedly typical of the 'welshries' of the period i.e. mainly pastoral in character involving the use of the adjacent uplands. Also, many features indicated on a detailed estate plan of part of the study area dating from 1778 may also be of Medieval origin.

The estate plan and its accompanying schedule of 1778 mentioned above, provides valuable information on the location and nature of settlement, land-use and other activities in part of the study area during the 18th Century. Information is given on the location of buildings, enclosures, roads, turbaries (peat cutting areas), arable fields, sheep (& earlier cattle?) walks and pounds; thus revealing a complex inter-relationship of land-use features, many of which survive into the present landscape.

The tithe map and accompanying apportionment of 1847 provides comprehensive information on the mid-19th century landscape over the entire study area including field names, land-use and ownership details. Of a higher cartographic standard than many of its kind, the tithe map indicates the precise locations of contemporary settlements, enclosures and industrial features.

The first and second editions of the Ordnance Survey 1:2500 series provide the latest and most detailed cartographic record of the survey area. Comparisons of the latter with the earlier tithe and estate plans indicates that many settlement sites have been completely abandoned or have shifted focus. However, the Ordnance Survey plans provide the most useful information on industrial features within the study area which are described in section no.3.

The known sites of Medieval (and possibly earlier) interest are:

(a) DAT PRN 8491 (SN 6830 8624): Located just outside the study area is the site of a holy well or spring known as "Pistyll, or Ffynnon Padarn". According to tradition, this spring whose water was reputed to possess healing powers, owed its efficacy to St. Padarn who drank from its waters and blessed it. The environs of the holy well site is also of archaeological interest since evidence of religious/ritual activity associated with the veneration of the spring may be revealed. Such activity is generally attributed from the late Bronze Age and Iron Age although it is likely to have persisted into the Medieval period; hence the abundance of Medieval 'well-chapels' at such sites.

The known sites of Post-Medieval (and possibly earlier) interest are:

(b) SN 6614 8568: Former site of 2 unnamed buildings as indicated on 1778 estate plan but, disappeared by time of tithe survey in 1847. 30685

(c) SN 6648 8562: Former site of pound as indicated on 1778 estate plan. 30686

(d) SN 6676 8626: Site of fold as indicated on 1847 tithe map. 30687

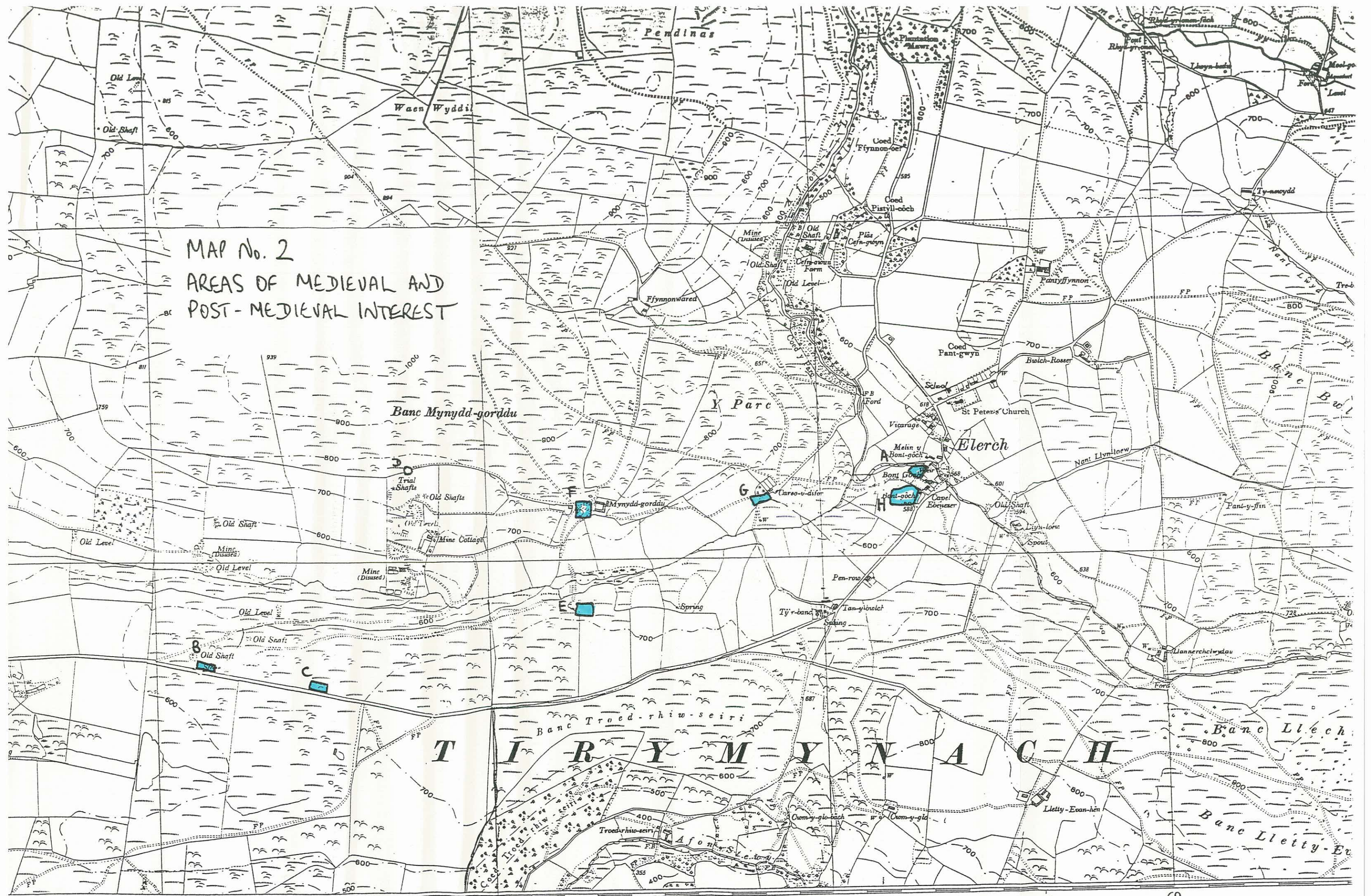
(e) SN 6727 8585: Former site of settlement indicated on 1778 estate plan known as "Lletty March Melin". Also indicated on the tithe map of 1847 but, known simply as "Lletty'r March". It is considered that the 18th century name element, "Melin" is a corruption of "Melyn" rather than indicating the existence of a mill in the vicinity. 30688.

(f) SN 6729 8614: Former site of settlement indicated on tithe map known as "Mynydd Gorddu". Present site of farmstead of same name having shifted to present site, c.50m to East, by 1887 at least. 30689 30690.

(g) SN 6782 8617: Former site of settlement indicated on tithe map known as "Careg-y-dyfor". Present site of building of same name having shifted to present site, c.30m to North-East, by 1887 at least. 30691 30692

(h) SN 682 861: Former site of unnamed settlement as indicated on 1778 estate plan but, disappeared by time of tithe survey (1847). 30693

MAP No. 2
AREAS OF MEDIEVAL AND
POST-MEDIEVAL INTEREST



(3) Industrial archaeology - See map no.3

As referred to in the preceding section, metal mining in the area has ancient origins; Bronze Age mining of copper ores has been verified by archaeological excavation in the Mid-Wales ore field, in addition to which, there are a number of lead/silver mining sites where copper ores are not present but, for which surface evidence and finds indicates contemporary (Bronze Age) workings. As for Iron Age, Roman and Dark Age mining, archaeology has barely spoken as yet, but it can hardly be believed that it stagnated for 3,000 years after so virile a beginning.

Documentary evidence for lead mining in the vicinity of the study area is indicated by William Rees during the Medieval period although surface evidence for such working is lacking. Surface remains of early mining generally occur in the form of shallow opencast workings or opencuts along the course of the mineral-bearing lode. This method of working which persisted in some places well into the 19th century, was partly due to the primitive methodology of mining of the day and, due to the widely held belief that the richness of the ore was greater nearer the surface since it was thought that sunlight concentrated the mineral in the vein! Often the remains of such early mining activities, where not obscured by later working and reworking, have been dismissed as being of no particular interest since the scale and extent of early metal mining in Wales has not been recognised until comparatively recently.

Larger scale exploitation of the metal ores in Mid-Wales began in the late 16th century under the aegis of the Mines Royal and reached a peak of production during the period 1850 to 1870 but, declined rapidly with only a few larger mines surviving into the present century. Although the locations and some documentary material pertaining to later mining activities is available in most cases, even the smallest of sites represent an important archaeological resource. With reference to mining techniques, particularly with regard to ore-dressing, it is known that practices varied considerably from site to site and throughout different periods of working on the same site. Although contemporary textbooks would purport "best practice" under given conditions, it is thought that actual working practices probably diverged considerably from recommended methods. As details of working practices do not appear to have been well documented, archaeology becomes an important tool in attempting to understand the range of techniques employed at a particular site.

In archaeological terms, those metal mining sites which have escaped the ravages of comprehensive land restoration/reclamation programmes, represent an important, complex and little studied resource containing evidence of the working and dressing of ores from (potentially) the Bronze Age to the end of the last century.

In addition, the importance of the conservation of the 'support landscape' is a material factor as these features constitute an integral part of the industrial archaeological 'site'. Such features would include water management structures (e.g. leats and reservoirs), transportation features (e.g. roads and tramways), and prospecting features (e.g. trial shafts and hushing sites).

The known sites of industrial archaeological interest are:

(a) DAT PRN 9133 (SN 661 860): Located partly within the study area are the remains of Elgar mine. It was reported to have been quite productive during the first half of the 19th century although no records of returns have been seen. Surprisingly, there is no indication or reference to any workings on tithe map and schedule (1847); however, it is possible that the workings had been abandoned by then and the surrounding area returned to pasture. The mine was working again between 1877 and 1880, between 1887 to 1890 and finally, in 1897. However, returns are only available from 1888 to 1890 inclusive and, a mere 4.5 tons of lead/silver ore and 4.2 tons of zinc ore were returned.

(b) DAT PRN 9134 (SN 668 860 - centre): Site of Mynydd Gorddu mine; a comparatively late development in the Cardiganshire ore-field, following the chance discovery of a rich vein at the surface by some local miners in 1870. Works began with considerable optimism in 1874 but, the early promise soon proved unfounded and the company, overwhelmed with debts, finally ceased operations in 1884. The recorded output from the mine is 901.5 tons of lead ore and 183 tons of zinc ore.

(c) SN 662 857 - centre: Site of metal mining workings, begun in 1873 and worked intermittently until 1882, on a mineral-bearing lode on Broginnin lands. The works were associated with a late reopening of nearby Penycefn/Court Grange mine to the South-East at SN 656 856. However, the lode at Broginnin soon became disordered and coupled with poor results at the main mine, the venture soon fell into trouble. After two closures and subsequent revivals, workings finally ceased in 1882 although a little ore was returned as late as 1891, probably from the dumps. 25846

(d) SN 673 859 - centre: Former reservoir associated with metal mining activities, situated above leats to Penycefn/Court Grange and Mynydd Gorddu mines. Its water supply was provided by a leat which had been constructed earlier [see feature (i) below] and, which in turn, was supplied with water abstracted from the Afon Leri at a distance of approximately 2 miles to the East. There is no indication or reference to the reservoir on the tithe map and schedule of 1847; however, it is likely to have been constructed shortly afterwards between 1849 and 1851, as part of a major capital investment programme at Penycefn/Court Grange. If so, it may have become redundant by c.1858 as works at Penycefn/Court Grange mine soon foundered. It is also possible that the reservoir may have been constructed between 1873 and 1882 following the reopening of Penycefn/Court Grange and the subsequent opening of Mynydd Gorddu in 1874, since it is known that some measure of cooperation was occurring between the two mines, by 1880 at least, although too late for much benefit. 30694

(e) SN 6725 8594 to SN 6674 8608: Course of leat (water supply) to Mynydd Gorddu mine from reservoir (d), described above. Certainly constructed between 1874 and 1884. 30695

(f) SN 6725 8594 to SN 6629 8572: Course of leat to Penycefn/Court Grange/Broginnin workings from reservoir (d). Certainly constructed after 1847 and, probably associated with workings on the Broginnin lode, namely, (c) above. 30696

(g) SN 6716 8592 to SN 6597 8571 (Intersection with outer edge of study area): Course of leat to Penycefn/Court Grange workings from small unnamed stream running East-West through centre of study area. Certainly constructed by 1847 but, probably not before 1778, as it does not appear on the estate plan of the latter date. Penycefn/Court Grange mine was certainly being worked by 1778 at least and, appears to have continued working throughout the first half of the 19th century; it is therefore probable that the leat was constructed during the intervening period. 9138

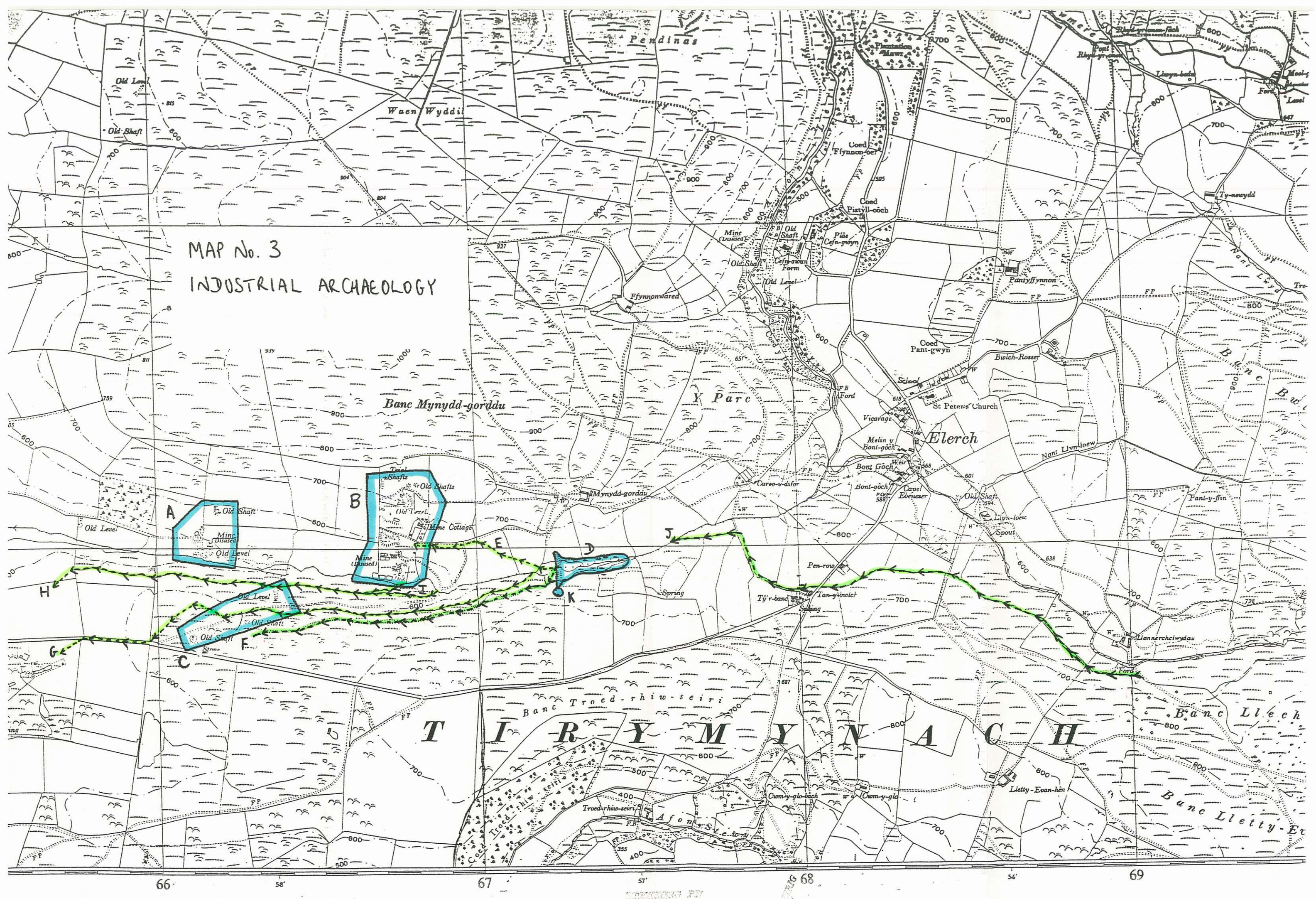
(h) SN 6676 8589 to SN 6599 8591 (Intersection with outer edge of study area): Course of leat to Penycefn/Court Grange workings from small unnamed stream, described above. As before, it appears to have been constructed between 1778 and 1847. 30697

(i) SN 6687 8587 to SN 6664 8586: Course of short leat constructed between 1847 and 1887. It diverted water from the small unnamed stream below reservoir (d) into leat (h) above. 30697

(j) SN 6805 8587 (Intersection with outer edge of study area) to SN 6761 8601: Course of leat constructed between 1778 and 1847. It was supplied with water abstracted from the Afon Leri at a distance of approximately 2 miles to the East and augmented the water supply to Penycefn/Court Grange mine via the small unnamed stream mentioned above and subsequently, leats (g) and (h). Following the construction of a dam at SN 6725 8594, after 1847, the leat would have supplied water to the reservoir (d). 9139

(k) SN 6724 8586: Small quarry excavated between 1847 and 1887, presumably as a source of rock for the construction of the nearby dam at SN 6725 8594. 30698

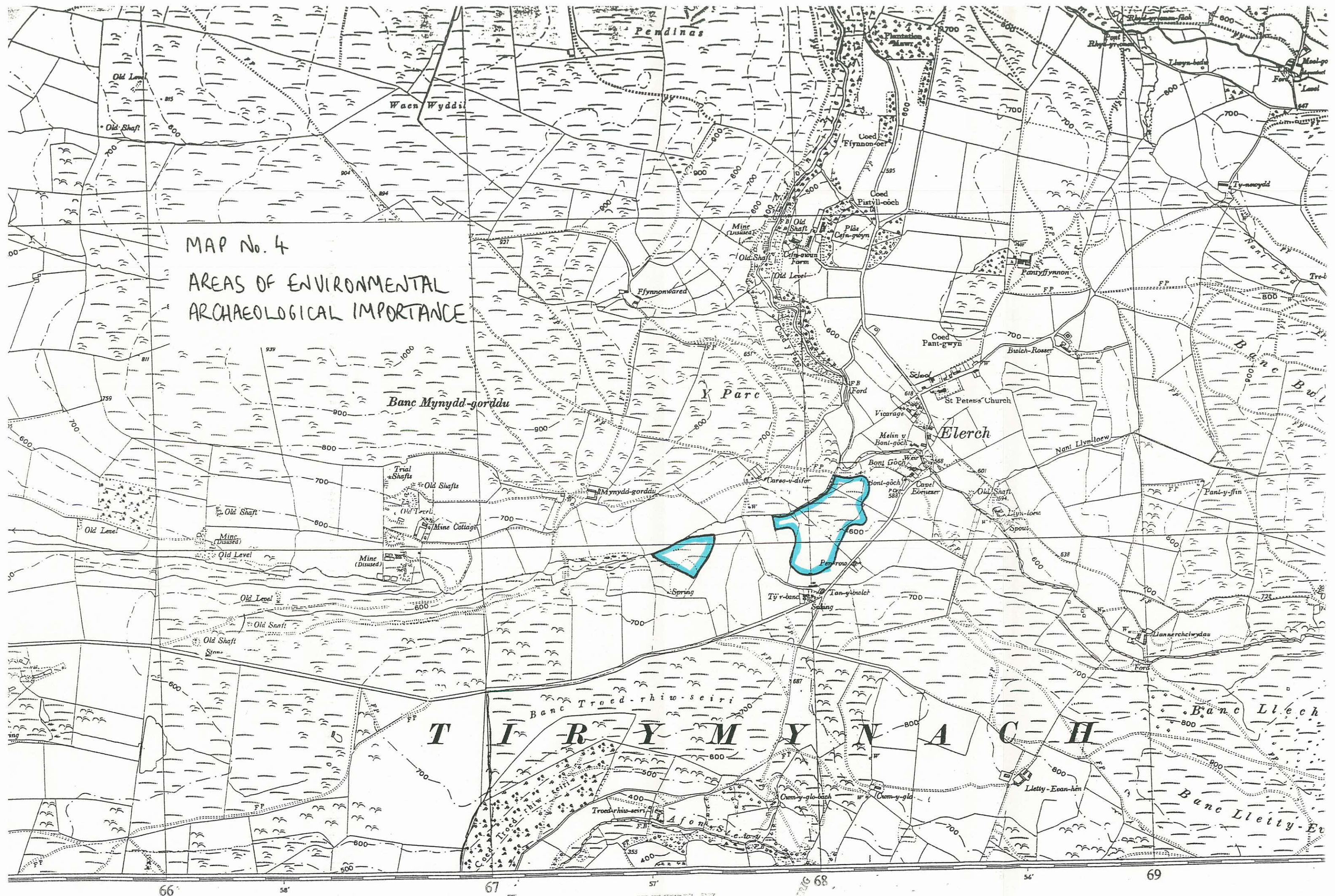
INDUSTRIAL ARCHAEOLOGY



(4) Areas of environmental archaeological importance - See map no.4

There are potentially well preserved stratified deposits within any surviving depths of peat in the lower reaches of the study area, corresponding with the former peat cutting areas or turbaries as indicated on the late 18th century estate plan referred to above. These areas, centred at SN 676 859 and SN 680 860, are also of historical interest in their own right, as they provide evidence of the scale of peat extraction within the locality.

AREAS OF ENVIRONMENTAL ARCHAEOLOGICAL IMPORTANCE



Part II

RECOMMENDATIONS

Given the limited available consultation period allowed for comment, the large extent of the study area and the complexity of the archaeological landscape, no field assessment has been undertaken over any part of the study area. Therefore, the recommendations contained within this report are based upon a desk-top assessment alone.

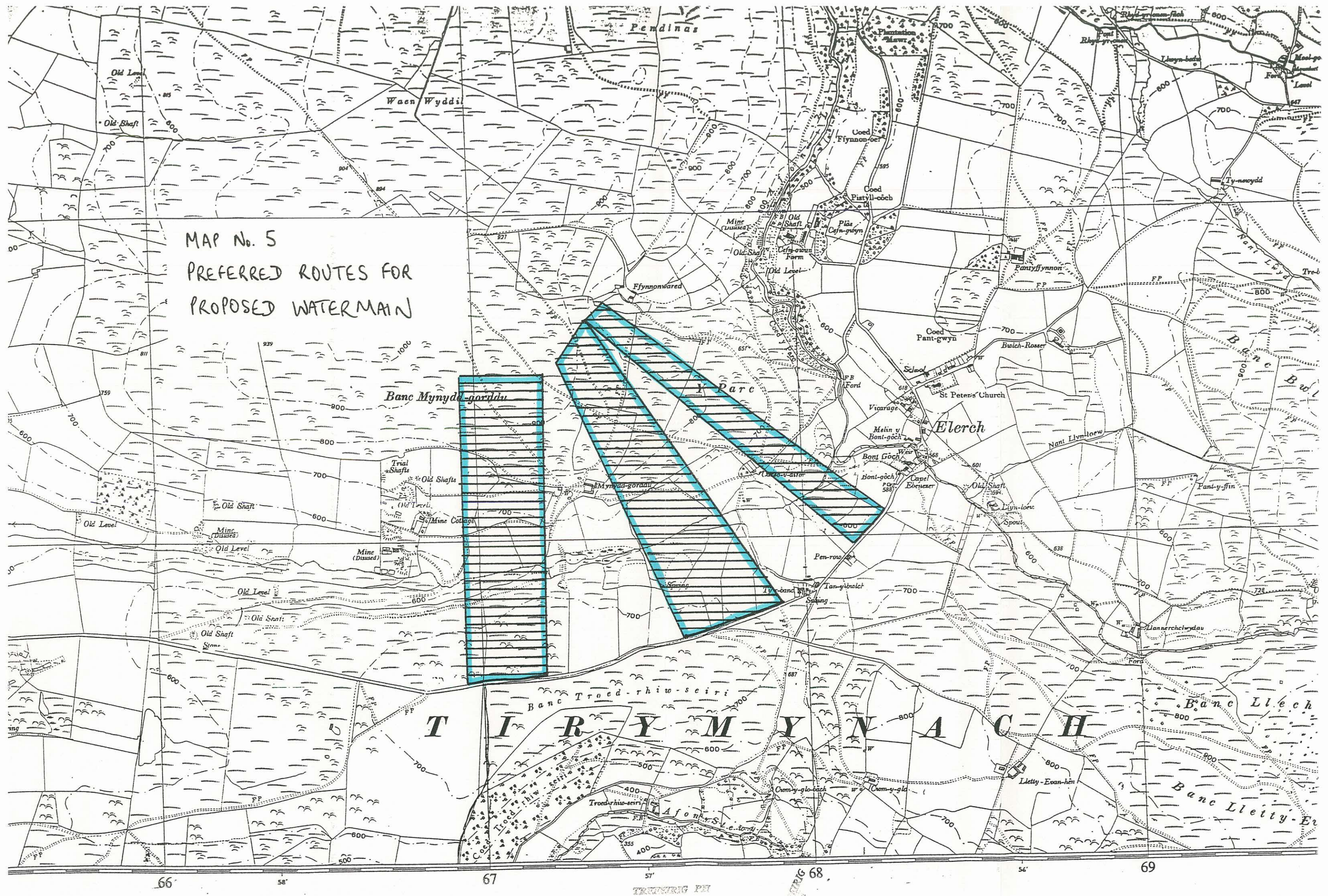
However, preferred corridors or routes for the proposed watermain have been selected as indicated on map no.5, whereby any disturbance to the archaeological resource is likely to have been minimised. It is recommended however that when Dwr Cymru/Welsh Water indicates its preferred route(s) for the proposed watermain and siting for the proposed storage reservoir, detailed field-walking should then be undertaken along the given route(s) in order to identify any additional archaeological constraints which have not been identified by the desk-top assessment.

It is anticipated that the results of the field assessment will be integrated with the desk-top assessment to produce a final report containing specific recommendations which would seek to minimise the disturbance to the known archaeological resource within the study area and ensuring that an adequate level of recording be maintained in those areas of archaeological sensitivity affected by the proposed works.

In addition, it is recommended that an archaeological assessment be undertaken of the proposed location of any construction works site and/or any temporary works access routes.

**Dyfed Archaeological Trust
(Curatorial Section)**

MAP No. 5
PREFERRED ROUTES FOR
PROPOSED WATERMAIN



Part III

APPENDIX (of sources consulted)

Collection: National Library of Wales, Aberystwyth.

- (a) Manuscript map index
- (b) Tithe map & apportionment for Llanfihangel Geneu'r Glyn parish; Townships of Cynnull Mawr and Tir-y-Mynach
- (c) Gogerddan Collection, N.L.W. vol.38 - Court Grange Estate in the County of Cardigan belonging to the Right Honourable, the Earl of Lisburne; mapped by T.Lewis, 1778
- (d) Ordnance Survey first edition 1:2500 maps - Cardiganshire III.16, IV.13 and VII.1
- (e) Ordnance Survey second edition 1:2500 maps - Cardiganshire III.16, IV.13, VI.4 and VII.1

Collection: Dyfed Archaeological Trust - Sites & Monuments Record

- (f) South Wales & the Border in the 14th Century, 1932; Rees, W.
- (g) Ordnance Survey archaeology division record cards
- (h) Ordnance Survey 2nd Series 1:25000 plans (Pathfinder Series)
- (i) Dyfed Archaeological Trust record map; 1:10560 Ordnance Survey Provisional edition - SN68NE, 1964
- (j) Dyfed Archaeological Trust site record forms
- (k) Dyfed Archaeological Trust detailed record files
- (l) Old metal mines of Mid-Wales: Cardiganshire - North of Goginan, Part 3 (2nd edition), 1988; Bick, David
- (m) Old metal mines of Mid-Wales: A miscellany, Part 6, 1991; Bick, David
- (n) Ceredigion, 1951, vol.I, no.2; Some aspects of lead mining in Cardiganshire in the sixteenth and seventeenth centuries, pp.177-192; Lewis, W.J.
- (o) Ceredigion, 1977, vol.VIII, no.2; The system of watercourses to lead mines from the river Leri, pp.217-223; Tucker, Mary.
- (p) Transactions of the Cardiganshire Antiquarian Society, 1910, vol.I, Pt.II, p.24
- (q) Transactions of the Cardiganshire Antiquarian Society, 1930, vol.VII, p.82
- (r) Industrial archaeology of Wales, 1975, p.239, Morgan-Rees, D.
- (s) Mines of Cardiganshire, 1986, pp.39,68-69; Burt, R., Waite, P. & Burnley, R.
- (t) Early mining in the British Isles, 1990, ed. Crew, P.& S.
- (u) Mines of Cardiganshire, British Mining vol.12, 1979, pp.31-32; Foster-Smith, J.R.
- (v) Memoirs of the Geological Survey, vol. XX, 1922, Lead and zinc: The mining district of North Cardiganshire and West Montgomeryshire, pp.59-60,138; Jones, O.T.
- (w) History of Cardiganshire mines, 1874, pp.16-18; Francis, A.
- (x) Mines of Cardiganshire, Montgomeryshire and Shropshire, 1870, p.15, Liscombe & Co.
- (y) Mines of Wales, 1870, p.21, Spargo, T.