

THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Ffrith Pipeline, Wrexham
ARCHAEOLOGICAL ASSESSMENT
REVISED REPORT



CPAT Report No 709.1

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R Hankinson
May 2005

Report for Meica Process Ltd


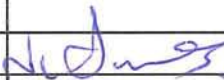
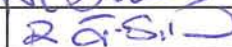
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1 INTRODUCTION

- 1.1 The Field Services Section of the Clwyd-Powys Archaeological Trust (henceforward CPAT) was asked by Meica Process Ltd in March 2005 to provide a quotation for an archaeological assessment of the route of a proposed pipeline in the neighbourhood of Ffrith, near Wrexham. The assessment was required by Mr M Walters of the Curatorial Section of the Clwyd-Powys Archaeological Trust, who provides archaeological advice to Welsh Water.
- 1.2 The CPAT quotation was accepted by Meica Process Ltd in early April 2005. Following discussions with Mr Walters, it was agreed that a written specification of works would be produced by CPAT, to be approved by Mr Walters and act instead of the normal curatorial brief. The CPAT specification was approved by Mr Walters on 18 April. The desk-top and field survey elements of the assessment were carried out in late April 2005 and this report was written immediately thereafter.
- 1.3 Following the submission of the original assessment report in May 2005 a minor amendment was made to the route of the proposed pipeline, as a result of which the report has been revised. The area concerned lies towards the eastern end of the route and was covered during the field survey so that no new fieldwork was required.

2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 The proposed pipeline is approximately 1km in length and runs approximately eastwards from the water treatment works at Ffrith, near Wrexham (NGR: SJ 286552) to its eastern end near the small settlement of Cymau (NGR: SJ 295555). The area examined consisted of a corridor, 60m in total width, centred on the defined route (Fig. 1).
- 2.2 The western end of the route commences on the valley floor of the Afon Cegidog at 120m OD, rising rapidly up the steep slope on the east side of the valley to a shelf at approximately 150m OD. The remainder of the route describes a winding course, probably to maintain altitude, as it varies little from a mean value of 155m OD.
- 2.3 Land-use in the majority of the archaeological study area is permanent pasture. Only at its western end does the nature of the route change in character, to follow an old holloway down the steep valley side. After crossing the river on the valley floor, the remainder of the route lies within the Ffrith water treatment works.
- 2.4 The underlying geology of the pipeline route has been seriously affected by faulting. An isolated portion of the typical North Wales succession of Carboniferous period limestones and sandstones underlies the western end of the route at Ffrith. The remainder of the route passes over mudstones and siltstones belonging to the Langsettian and Duckmantian Series' rocks, also of the Carboniferous period (1994 British Geological Survey map). The soils on the floor of the valley at Ffrith are fine loamy soils belonging to the East Keswick 3 Association, while the higher ground to the east is occupied by coarse loamy and sandy soils belonging to the Wick 1 Soil Association (1983 Soil Survey of England and Wales map and legend).

3 METHODOLOGY

- 3.1 The initial phase of the assessment consisted of a desk-based study of the readily available primary and secondary sources relating to the pipeline route. The repositories consulted include: the regional Sites and Monuments Record (SMR), held by the Clwyd-Powys Archaeological Trust in Welshpool; the National Monuments Record (NMR), at the Royal Commission on the Ancient and Historical Monuments in Wales (RCAHMW), in Aberystwyth; the National Library of Wales (NLW), also in Aberystwyth; and the Flintshire County Record Office (CROH), in Hawarden. The NMR also provided aerial photography for study.

- 3.2 Following the desk-based study, the route was examined by a walk-over survey. This entailed the systematic examination of the defined corridor at transect intervals of 30m, although this was often modified to fit in with the local field pattern. Any sites that were encountered during the field survey were recorded on standard CPAT site visit forms, the data including: an accurate location using a hand-held global positioning system (GPS) receiver; a written description of character, function, condition, vulnerability, dating etc; and a sketch survey, where appropriate. Digital photography, to an appropriate resolution, has been taken of selected archaeological sites and locations.
- 3.3 In the following sections the term *PRN* precedes the primary record number of a site in the regional Sites and Monuments Record, and the term *SAM* precedes the scheduled ancient monument number given to a site designated by Cadw: Welsh Historic Monuments.

4 ARCHAEOLOGICAL BACKGROUND

- 4.1 The earliest evidence for archaeological features in the vicinity comes from the prehistoric period. Funerary activity of the Bronze Age in the district is suggested by a number of Bronze Age round barrows, such as that at Cymau (PRN 100028), approximately 300m north-east of the pipeline route. At present, there seems to be no evidence of corresponding settlement in the immediate locality.
- 4.2 Ffrith seems to have been a major centre in the Roman period, perhaps owing to the presence of a variety of natural resources in the district, and the presence of a settlement of Roman date (PRN 100020) has been known since at least the 16th century (Silvester 1994, 18). As a result of the known archaeological importance of the site, an area at the confluence of the Afon Cegidog and Nant y Ffrith, 1.1ha in extent, has been designated as a scheduled ancient monument (SAM FI 164, see Fig 1) by Cadw: Welsh Historic Monuments. Given that this seems to have been the site of a settlement, it is to be expected that it would be integrated into the Roman road network, and evidence of a probable Roman road (PRN 86912) was found following the line of the B5101 road at the south-western edge of an area of archaeological evaluation in 2000 (see Fig 1), prior to the construction of a housing development.
- 4.3 This part of the Afon Cegidog valley is notable for being the route adopted by Offa's Dyke, the linear earthwork generally taken to have been constructed by Offa, ruler of Mercia in the late 8th century. In this locality, the dyke probably represents an agreed boundary between Mercia and the Welsh *gwlad* of Powys. Although there is little direct evidence of the dyke in the immediate vicinity of Ffrith, its line can be inferred from nearby sections of earthwork, suggesting that its course has now been occupied by the modern B5101 road.
- 4.4 In the medieval period, the route of the pipeline was largely within the commote of Hopedale (Richards 1969, 93 & 324), with only the extreme western end lying within the adjoining commote of Maelor Gymraeg (Richards 1969, 148 & 288). Although it is likely that medieval settlement was present in the locality, no evidence of this has yet been found.
- 4.5 The following, post-medieval, period initially saw little recorded activity in Ffrith, the only feature being the packhorse bridge (PRN 100035; scheduled as SAM FI 132) at Ffrith, which is thought to date to either the late 17th or mid 18th centuries. An associated road or track runs eastwards from the bridge up the steeply sloping side of the valley. The settlement of Ffrith seems to have only emerged in the 19th century (Silvester 1994, 18), perhaps in response to industrial activity in the locality as evidence of mining and quarrying is well represented.

5 RESULTS OF THE DESK-BASED STUDY

- 5.1 The information from the regional Historic Environment Record yielded only a single known site within the archaeological survey corridor, namely the scheduled ancient monument (PRN 100020; SAM FI 164) representing the Roman settlement at Ffrith (see paragraph 4.2).
- 5.2 The earliest cartographic source for the survey area is the Ordnance Surveyors' drawing (No 340g; Fig 2), surveyed in 1835-6. Within the area of the pipeline, this only shows the winding course of a road running east from a small collection of houses at Ffrith, with a second branch leading southwards from it and past Cymau Hall.
- 5.3 A detailed picture of the local landholdings is provided by the mid-19th century Tithe Surveys of the district. A single field at the extreme western end of the pipeline corridor fell within the compass of Brymbo township in Wrexham, but the majority of the route lay in the township of Cymmau (now Cymau) in Hope parish (Fig 3). None of the field names given in the accompanying apportionment are archaeologically significant, but the map does show the course of the road noted in the previous paragraph.
- 5.4 No additional information was forthcoming from an examination of large-scale Ordnance Survey maps of the area published between 1880 and 1912. Only the third edition 1:2,500 map (Flintshire 17.14 of 1912) is reproduced here, as Fig 4.
- 5.5 Modern Ordnance Survey mapping shows the settlement of Cymau having grown up around the road leading from Ffrith to Caergwrlle, approximately 1.5km to 2km from Ffrith. Following the production of the 1912 Ordnance Survey map, the section of the road between Ffrith and the track to Cymau Hall farm was evidently changed to avoid the packhorse bridge, and this appears to have led to the abandonment of the winding route up the valley side for through traffic.
- 5.6 The only other relevant information that was revealed from desk-top sources concerns an archaeological evaluation that was carried out in 2000 on land immediately to the south-west of the water works at Ffrith (see paragraph 4.2). No significant areas of Roman settlement or finds were recovered during this work, with the exception of a possible road following the approximate line of the B5101. The implication of this is that, despite the proximity of the scheduled area of the Roman settlement, it is doubtful whether much in the way of Roman activity can be expected to the south of the confluence between the Afon Cegidog and Nant y Ffrith.
- 5.7 The aerial photography for the corridor was examined at the NMR and had been taken in 1958 and 1978, by the RAF and Ordnance Survey, respectively. No significant additional information was revealed.

6 RESULTS OF THE FIELD SURVEY

- 6.1 The basic methodology of the field survey is briefly described in paragraph 3.2, above. No sites were revealed by the field survey that had not already been recognised from desk-based sources. Accordingly, the field survey focussed on the present condition of the identified sites and the assessment of their nature, function and potential importance.
- 6.2 A brief assessment of the field boundaries in the study area reveals that the predominant form is of hedges on low banks of earth or stone. An iron railed boundary, probably of the 19th-century, or Victorian, period was noted, running in an east-west direction at SJ 29465549, near the Cymau end of the route. With this exception, no atypical boundaries were observed.
- 6.3 The eastern section of the route passes entirely through pasture fields, and only to the west of the lane leading to Cymau Hall, where the corridor descends the steep side of the Cegidog valley, does its character change. At the top of this slope, the route leaves a pasture field and crosses into the winding holloway described in paragraphs 4.5 and 5.2,

which it follows through woodland down to the bank of the Afon Cegidog on the valley floor. The holloway is generally 5m in width and has been recently resurfaced with gravel.



Plate 1 Pipeline route crossing fields south-west of Cymau



Plate 2 Holloway descending the steep slope towards the Afon Cegidog

- 6.4 After crossing the river, the route enters the water works, which constitutes the western end of the corridor. The proximity of the scheduled area of Roman settlement at this point should be noted. It can be seen on the top right of the following picture, beyond the confluence of the Afon Cegidog with the Nant y Ffrith stream.



Plate 3 Route crossing the Afon Cegidog at its confluence with the Nant y Ffrith stream

7 ARCHAEOLOGICAL SUMMARY

- 7.1 Each site of archaeological interest, identified during the assessment, has been classified according to its perceived significance. The categories, with the exception of Category E, are based on those given in the Department of Environment, Transport and Regions' *Design Manual for Roads and Bridges* (DMRB) Volume 11 Section 3 Part 2 (1993). Category E is taken from the draft *Archaeology and the Trunk Road Programme in Wales: a Manual of Best Practice* prepared by Cadw: Welsh Historic Monuments (n.d.) which in other respects follows the DMRB volume.

Category A sites are those believed by CPAT to be of primary significance, either potentially of national importance or already designated by CADW: Welsh Historic Monuments as scheduled ancient monuments or listed buildings. It is presumed that sites in this category will be preserved and protected *in situ*.

Category B sites are sites of regional importance. These sites are not of sufficient importance to justify scheduling, but are nevertheless important in aiding the understanding and interpretation of the archaeology of 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 are sites of local importance. These sites are of lesser importance, but are nevertheless useful in aiding the understanding and interpretation of the archaeology of the local area. They are not normally of sufficient importance to justify preservation if threatened, but merit adequate recording in advance of loss or damage, or if portable they should be moved.

Category D sites are either sites of minor importance or those which are so badly damaged that too little now remains to justify their inclusion in a higher grade. Rapid recording should be sufficient, but as with *Category C* sites they should be moved if this is an appropriate strategy.

Category E sites are sites which have been identified, but whose importance cannot be assessed from fieldwork and desk-based study alone. An archaeological evaluation would be required to categorise such a site more accurately if the proposal was likely to affect it in any way.

7.2 The locations of the individual archaeological sites are shown on Figure 1. Tables summarising the archaeology of the study area according to its perceived importance are provided below.

7.2.1 Category A sites

Site No	Name	Type	Period	Condition	NGR
PRN 100020/ SAM FI 164	Ffrith Roman settlement	Settlement	Roman	Damaged	SJ 28605530

7.2.2 Category B sites

No sites belonging this category in the pipeline corridor.

7.2.3 Category C sites

Site No	Name	Type	Period	Condition	NGR
Site 1	Ffrith holloway	Holloway	Post-medieval ?	Near intact	SJ 28935532 to SJ 28675529

7.2.4 Category D sites

No sites belonging this category in the pipeline corridor.

7.2.5 Category E sites

No sites belonging this category in the pipeline corridor.

8 IMPACT AND MITIGATION

8.1 Impacts

The potential impacts of the proposal on the archaeological resource of the corridor are considered in the table below.

Site No	Name	Type	Condition	Impact	Category
PRN 100020/ SAM FI 164	Ffrith Roman settlement	Settlement	Damaged	Site must be avoided, in which case none	A
Site 1	Ffrith holloway	Holloway	Near intact	Partial damage to any underlying structure during pipe installation	C

8.2 In addition to the sites recorded above, there is the potential for further unrecorded sites that may be impacted upon by the proposed pipeline. These sites consist of those which have not been previously recorded and only remain as sub-surface features, having no extant visible traces.

8.3 Mitigation

Consideration of the potential impact on the known archaeology suggests that the mitigation measures which follow provide an appropriate response to the proposals.

8.3.1 Terminology

The following standard archaeological terms are used below as recommended mitigation measures:

- i) **Preservation in situ:** where it is considered to be the most suitable response it may be considered appropriate to preserve the site in its present form, condition and location.
- ii) **Preservation by record:** where proposals will inevitably lead to the loss of a site sufficient recording should be undertaken to provide a full, accurate and permanent record of its nature, form, significance and dating. Preservation by record can take a number of forms, depending on the nature of the site in question, and may be achieved with or without excavation and could include any or all of the following: written record; drawn record; photographic record; artefactual record; survey; and environmental sampling.
- iii) **Evaluation:** where insufficient information exists regarding a site for a decision to be made regarding its future management a programme of investigative work may be proposed. Such investigation may include geophysical survey, topographical survey and trial excavation.
- iv) **Watching brief:** a watching brief may be recommended to include archaeological monitoring of all relevant ground works, including topsoiling, in order to identify and record any previously unknown archaeological remains which may be revealed. Sufficient time must be allowed for adequate recording of any remains that are encountered.

8.3.2 General Mitigation

It has been noted in paragraph 8.2, above, that there is a potential for unrecorded sites in the proposal area and if any exist, then these may be subject to an impact from the proposal. Sites which fall into this category specifically include those without obvious surface traces or finds scatters associated with prehistoric activity. In order to provide some mitigation for the potential effect of the scheme in this regard, it is suggested that a watching brief be carried out during any significant ground disturbance. This mainly relates to topsoil stripping prior to the commencement of pipeline installation work.

8.3.3 Site-specific Mitigation

The assessment has identified potential impacts on the following recorded sites and mitigation measures are suggested below.

Site No	Name	Type	Condition	Impact	Mitigation
PRN 100020/ SAM FI 164	Ffrith Roman settlement	Settlement	Damaged	Should be no impact	Site must be avoided
Site 1	Ffrith holloway	Holloway	Near intact	Partial damage to any underlying structure during pipe installation	Watching brief during trenching to record any surviving remains which may be present

9 CONCLUSIONS

- 9.1 Only one site which is considered to be of national importance is situated within the archaeological assessment corridor, namely the scheduled settlement at Ffrith. The proposed pipeline route crosses the Afon Cegidog before this area is reached and there should therefore be no effect on the site. However, particular attention should be given to the planning of machinery access routes to ensure that there is no encroachment into the scheduled area during pipeline construction. Machine operators should be made aware of this constraint prior to being allowed on site.
- 9.2 No sites are recommended for evaluation. However, a watching brief should be carried out during machining of the pipeline trench as it passes along the holloway (Site 1), presumed to have originally been a post-medieval packhorse trail, which rises out of the Cegidog valley towards Cymau Hall. The particular focus of the watching brief should be to determine whether any of the structure of this trackway survives, and to see if any

conclusions can be drawn regarding its origin. A watching brief is also recommended during topsoil stripping, prior to pipeline installation.

- 9.3 The remaining archaeological sites in the area lie outside the pipeline corridor and should not be affected by the installation works. However, if any major changes are planned for the route, then further archaeological investigation into the potential effects will be needed.

10 ACKNOWLEDGEMENTS

- 10.1 The writer would like to thank the following for their assistance and co-operation: Dr D O'Malley, Meica Process Ltd for facilitating the work; Mr D Chaffe and Mr H Martin, the landowners, for their permission to visit the route of the pipeline; Jeff Spencer, Sites and Monuments Record Officer, CPAT; the staff of the National Monument Record, RCAHMW, Aberystwyth; the staff of the Flintshire County Record Office, Hawarden; and the staff of the National Library of Wales, Aberystwyth.

11 REFERENCES

11.1 Published and Printed Sources

Richards, M, 1969, *Welsh Administrative and Territorial Units*, Cardiff, UWP

Silvester, R J, 1994, *Alyn and Deeside Historic Settlements*, Welshpool: CPAT Report No 112

11.2 Cartographic Sources

1835-6 Ordnance Surveyors' Drawing No 340(g)

1839 Tithe survey: Wrexham, Denbighshire (Brymbo township)

1850 Tithe survey: Hope, Flintshire (Cymmau and Uwchmynydd Ucha townships)

c.1880 First edition Ordnance Survey 1:2,500 map (Flintshire 17.14)

1900 Second edition Ordnance Survey 1:10,560 map (Flintshire 17SW)

1912 Third edition Ordnance Survey 1:2,500 map (Flintshire 17.14)

1983 Soil Survey of England and Wales map and legend (Sheet 2 - Wales, at 1:250,000 scale)

1992 Ordnance Survey Pathfinder (1:25,000) map No 789, Wrexham North

1994 British Geological Survey map of Wales (Solid edition, at 1:250,000 scale)

12.3 Aerial Photographic Sources

RAF Vertical APs:
F21 58/2344/No 14, dated 30-1-1958

Ordnance Survey Vertical APs:
78 160 No 13, dated 22-9-1978

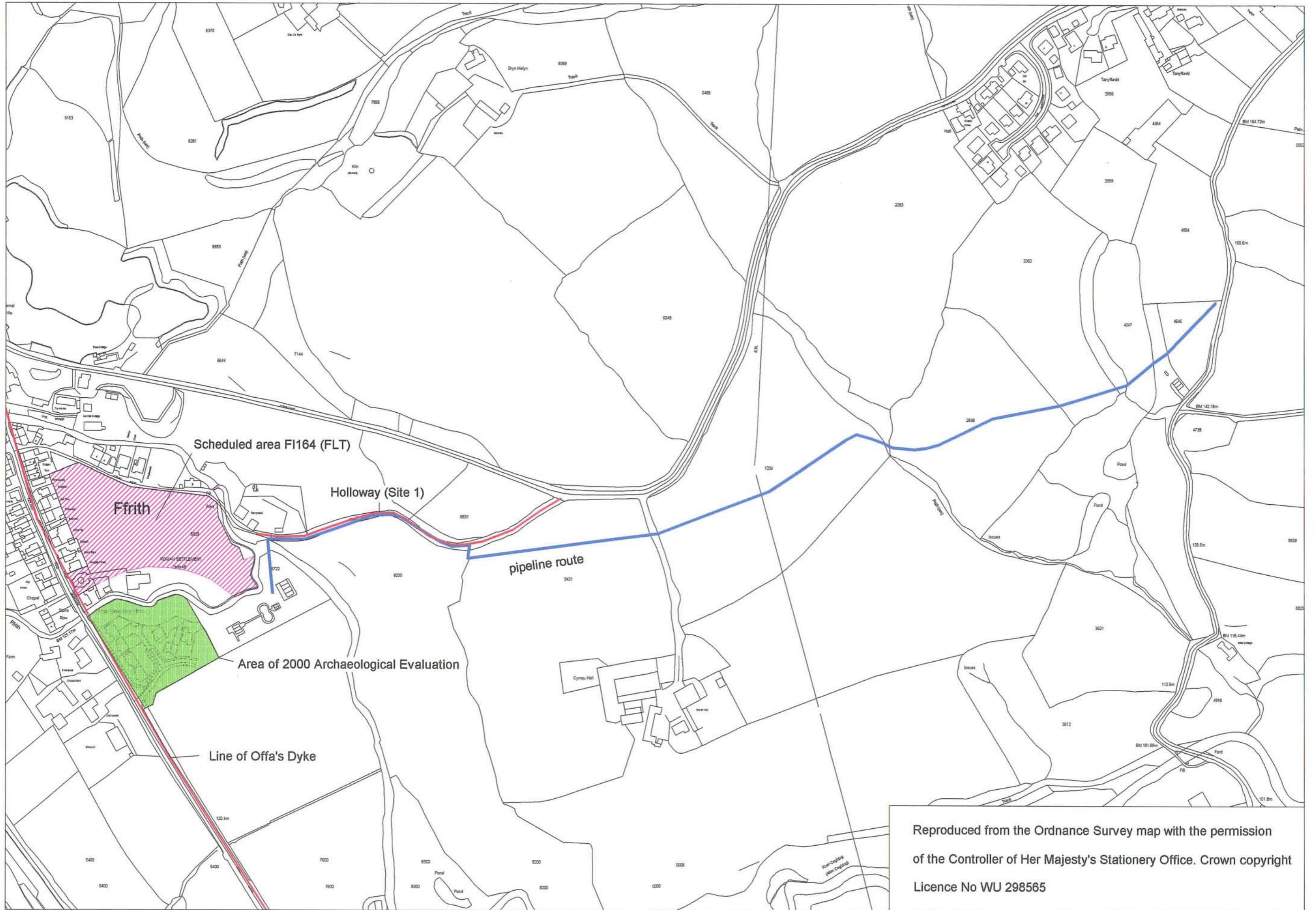


Fig. 1 Pipeline route and archaeological sites, scale 1:3,000

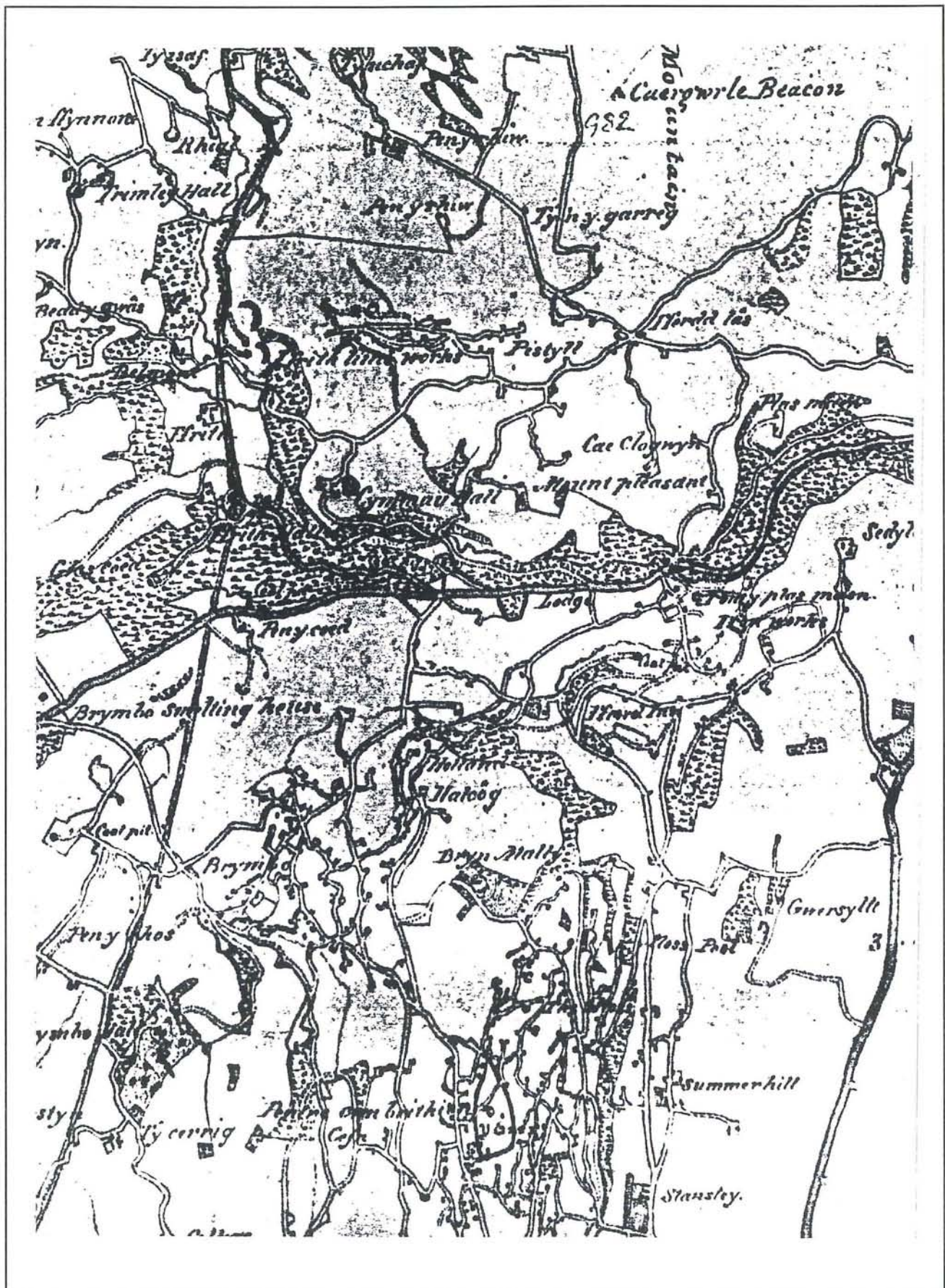


Fig. 2 Ordnance Surveyors drawing No 340(g) of 1835-6

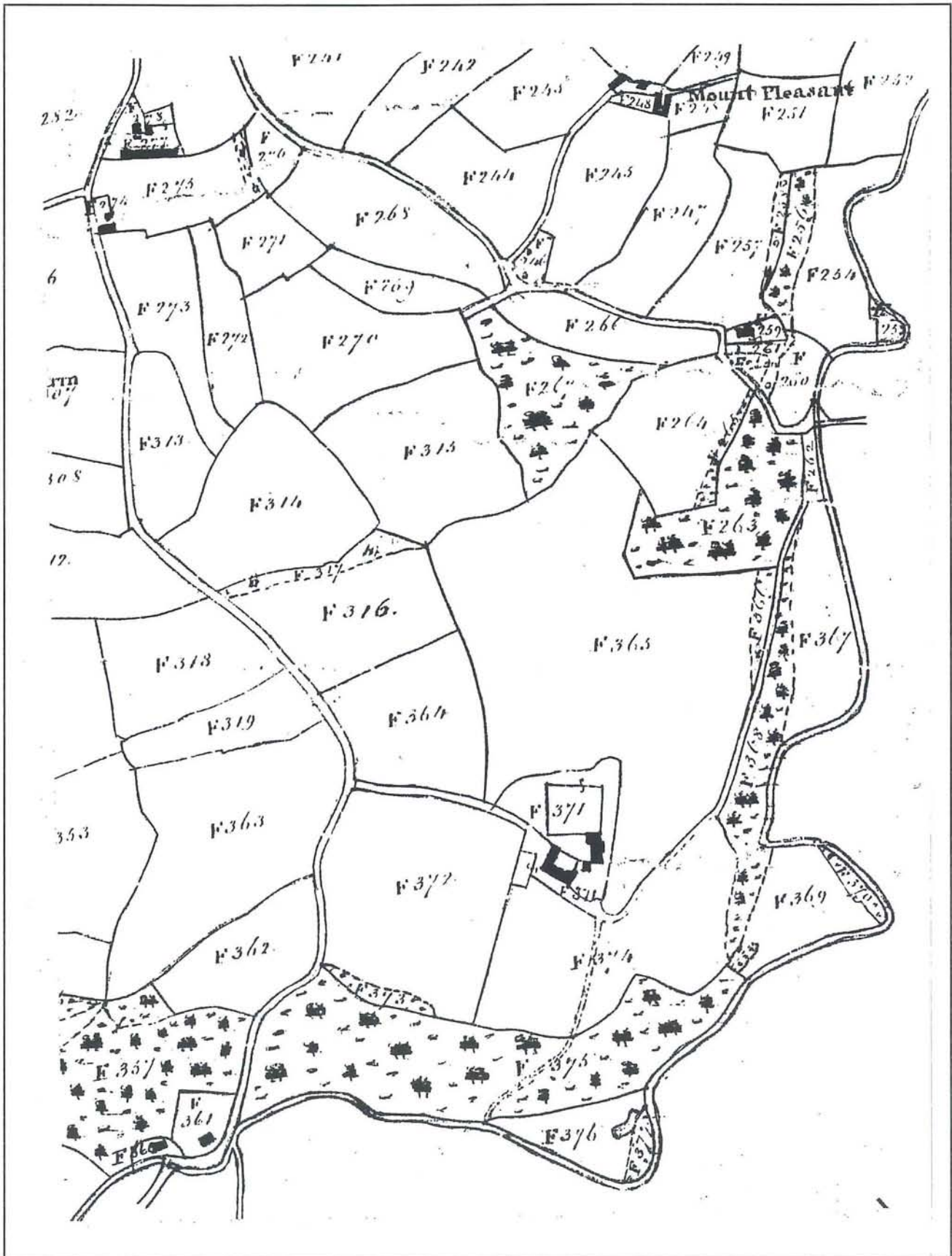


Fig. 3 Hope Tithe map of 1850

