

HENEB

Trust for Welsh Archaeology

Incline Haulage Tramway (4056m)

Rhondda Cynon Taf

Archaeological Survey



Archaeoleg Morgannwg-Gwent

Heneb

Glamorgan-Gwent Archaeology

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Heneb

Trust for Welsh Archaeology

**Incline Haulage Tramway (4056m), Rhondda Cynon Taf
Archaeological Survey**

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NGR: SS 94960 98100
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Front Cover: Incline haulage tramway 4056m to the southwest

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Summary

The Trust for Welsh Archaeology: Heneb (formerly the Glamorgan-Gwent Archaeological Trust Ltd) were commissioned to carry out a photographic and GPS survey of the tramway crossing land at Pen-yr-Englyn, located between Treherbert and Treorchy. This relates to a potential development to remediate the former colliery and improve access. The works are likely to include earthworks to re-profile the existing slope and the construction of a drainage system.

An initial desk-based assessment was undertaken, whereby a tramway (Incline haulage tramway 4056m) was identified, the conclusion of which suggested that an archaeological survey be undertaken of the tramway after tree felling and before development works are started. The results of the archaeological survey form the basis of this report.

The main findings of the current archaeological survey were that the tramway mound has experienced extensive truncation, in some cases associated with the existing routes through site. The site has been heavily disturbed by the colliery and its associated spoil tipping, which has distorted the true extent of the haulage features; the clarity of the feature is further exacerbated by the bioturbation associated with the former woodland cover.

The survey and report were carried out by The Welsh Archaeological Trust (Heneb) to the requirements of Historic England's Understanding Historic Buildings: A guide to good recording practice (2016) and to the Chartered Institute for Archaeologists' Standard and guidance for the archaeological investigation and recording of standing buildings or structures (2014, updated 2020).

Crynodeb

Comisiynwyd Ymddiriedolaeth Archaeoleg Cymru: Heneb (Ymddiriedolaeth Archaeolegol Morgannwg-Gwent Cyf gynt) gan i gynnal arolwg ffotograffig a GPS o'r dramffordd sy'n croesi tir ym Mhenyreglyn, rhwng Treherbert a Threorci. Mae hyn yn gysylltiedig â datblygiad arfaethedig i adfer yr hen bwl glo a gwella'r mynediad. Mae'r gwaith yn debygol o gynnwys cloddwaith i newid proffil y llethr presennol, ac adeiladu system ddraenio.

Cynhaliwyd asesiad desg i ddechrau, lle nodwyd tramffordd (tramffordd cludiant inclein 4056 m), a'r awgrym o'r casgliad oedd y dylid cynnal arolwg archaeolegol o'r dramffordd ar ôl cwympo'r coed a chyn dechrau ar y gwaith datblygu. Mae canlyniadau'r arolwg archaeolegol yn sail i'r adroddiad hwn.

Prif ganfyddiadau'r arolwg archaeolegol presennol oedd bod twmpath y dramffordd wedi bod yn destun blaendorri helaeth, a hynny'n gysylltiedig mewn rhai achosion â'r llwybrau presennol trwy'r safle. Mae'r pwll glo a'r gwaith tipio gwastraff cysylltiedig wedi tarfu llawer iawn ar y safle, gan ystumio gwir faint y nodweddion cludo; mae eglurder y nodwedd wedi ei waethygu fwyfwy o ganlyniad i ffawna a gwreiddiau planhigion yn symud y pridd, elfen sy'n gysylltiedig â'r gorchudd coetir blaenorol.

Cynhaliwyd yr arolwg a'r adroddiad gan Ymddiriedolaeth Archaeolegol Cymru (Heneb), a hynny i ofynion Historic England yn Understanding Historic Buildings: A Guide to Good Recording Practice (2016) a Standard and guidance for the archaeological investigation and recording of standing buildings or structures (2014, diweddarwyd 2020), sef cyhoeddiad Sefydliad Siartredig yr Archaeolegwyr.

Acknowledgements and acknowledgements

The project was managed by Martin Tuck MCIfA (Heneb: Head of Archaeological services). The fieldwork was undertaken by Joel Sullivan (Project Archaeologist) and Isaac Derbyshire (Project Archaeologist). The report was written by Joel Sullivan. Welsh translation by Trywydd.

Copyright notice

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Abbreviations

APM:	Archaeological Planning Management (Heneb GGA)
GGA:	Glamorgan-Gwent Archaeology
HER:	Historic Environment Record (curated by Heneb GGA)
LB:	Listed Building reference number (e.g. LB 14084)
NGR:	National Grid Reference
NMR:	National Monuments Record (curated by RCAHMW)
NPRN:	National Primary Record Number (in NMR, e.g. 301355)
OD:	Ordnance Datum
OS:	Ordnance Survey
PRN:	Primary Record Number (in HER - indicated by a letter suffix 's', 'g' or 'm' depending on the asset's location)
RCAHMW:	Royal Commission on the Ancient and Historical Monuments of Wales
SM:	Scheduled monument reference number (e.g. GM205)
WSHEM:	Written Scheme of Historic Environment Mitigation
WSI:	Written Scheme of Investigation
TWA (HENEb):	Trust for Welsh Archaeology (Heneb) (company formed by merger of the four Trusts in Wales - April 2024)

1. Introduction

1.1 Planning background and Commission

The Archaeological Services department of The Welsh Archaeological Trust (TWA) were commissioned to carry out an archaeological survey for land at Pen-yr-Englyn following an initial desk-based assessment (Jones 2022), preceding the re-profiling works.

The TWA (Heneb) undertook the archaeological survey on the 16th of May 2024.

The archaeological work was carried out to the professional standards laid down in the Chartered Institute for Archaeologists' *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (2014, updated October 2020) and to those laid out in *Understanding Historic Buildings A Guide to Good Recording Practice* (2016).

1.2 Site location and description

The site lies within the grounds of the former coal tip at Pen yr Englyn, between Treherbert and Treorchy. The centre of the site is located at NGR: SS 94960 98100 (Figure 1).

The site is bounded to the north-west by Ynysfeio Avenue, and to the south-east by Jones Street. The tramway lies on a steep incline, varying from approximately 220m to the southwest to up to 260m to the northeast. Up until the recent land clearance works, the Site was almost completely wooded, the woodland of which then continues to the west and the A4061 to the south-west.

1.3 Geology and soils

The solid geology of the Site comprises South Wales Middle Coal Measures Formation of mudstone, siltstone and sandstone. The superficial geology comprises glaciofluvial deposits of sand and gravel. (BGS Geology viewer; accessed 14/06/2024).

2. Archaeological Background

For a comprehensive background of the site and its environs the previous Desk-Based Assessment (Jones, 2022) should be consulted.

The Site falls within the Rhondda registered historic landscape, defined principally for its industrial characteristics in the Register of Landscapes of Historic Interest in Wales; Part 2:2: Landscapes of Special Historic Interest (Cadw 2001). The Site falls within two 'historic landscape character areas' (HLCAs) within the Rhondda Registered Historic Landscape; this being HLCA 013 (Treherbert) and HLCA 029 (Rhondda Fawr), though the remaining visible trajectory of the tram road is isolated to HLCA 029.

There is a single scheduled monument contained within the site (GM508) which is the Incline Haulage Systems. The monument consists of the remains of an incline drumhouse, dating to the late 19th century. The incline was used to carry Pennant sandstone from a quarry on Cefn Ynysfeio into the Rhondda Valley. The monument is of national importance for its potential to enhance our knowledge of 18th and 19th century industrial and transportation practices. This is directly associated with the incline haulage tramway (PRN 4056m), which is the focus of this report.

There are four non-designated historic assets recorded within the Site by the HER. The majority of these assets relate to the coal mining operation which took place on site, along with the incline haulage system used to transport material up hill and across the valley.

A review of historical maps shows that the site was mostly rural and undeveloped, as seen in the tithe map for the parish of Ystradyfodwg from 1847. This map indicates that there were no prefigure of the industrialisation that took place at the end of the 19th century.

The 1st edition Ordnance Survey (OS) map of 1877 illustrates the substantial changes that had occurred in the valley floor, with ribbon settlement now present, including Pen-yr-Englyn. The Site itself remained unaffected by these changes, continuing as a rural fieldscape, except for an old coal level which extended into its southern part. However the environs of the Site, especially to the north and west had started show industrial activity in the form of the Ynysfeio Quarry and a tramway. This broadly persists on the 2nd edition OS map (1900).

The extensive industrialisation of the Site is apparent in the 1920 (3rd) OS edition. By this time, the Ynysfeio Colliery had been relocated north-east, such that it lay within the Site, comprising a series of buildings and shafts. The original tramway, also outside the Site boundary to the west, had been abandoned: this was replaced by a slightly curvilinear tramway inside the Site, bisecting extensive spoil heaps and connected to the winding house at the summit.

The Provisional OS edition of 1945 usefully coincides with the earliest aerial photographs of the Site, discussed in the paragraph below. It captures the last period of the Ynysfeio Colliery's operation, with the colliery complex and its upland infrastructure broadly comparable to the situation shown in 1920.

3. Methodology

The methodology for the building recording followed that set out by the English Heritage's *Understanding Historic Buildings, A guide to good recording practice* (2016) and ClfA's *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (2014, updated October 2020).

Recording was by a combination of written notes, GPS survey and digital photography (not less than 12 megapixels) along the length of the mounds trajectory, starting from the Incline Haulage System (GM508). The survey concentrated on the areas directly associated with the incline haulage tramway, which will be affected by the subsequent groundworks.

3.1 Site Recording and Archive

Joel Sullivan BSc and Isaac Derbyshire BA of the Glamorgan Gwent Archaeological Trust Archaeological Services Department carried out the building survey on 16th May 2024.

Recording was by a combination of GPS Survey, written notes, annotated plans and digital photography (not less than 12 megapixels). The photographic survey included digital images of the projected tramroad, its surrounding environs, profiles and any identifiable exposed features. Measurements were undertaken with traditional tapes. Scales in the photographs are in 0.5m divisions.

An archive of records relating to the preparation of the report will be prepared to the specifications in *Management of Archaeological Projects* (English Heritage, 1991) *Appendix 6 and ICON's and ClfA Guidelines Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (2007).

After an appropriate period has elapsed, a copy of the report and archive index will be deposited with the regional Historic Environment Record (HER) curated by GGAT. A copy of the report and archive index will also be deposited with the National Monuments Record, RCAHMW, Aberystwyth.

4. Results

This phase of archaeological assessment comprised of a GPS and photographic survey. This was primarily focussed between the scheduled monument GM508 centred at NGR SS 95052 98325 and the point at which the tramway mound becomes imperceptible at approximately SS 94786 98014.

The segment of tramroad between the haulage system (GM508) and the southern side of the access road is concave with a broadly 'V' shaped profile (Plate 2). This levels out closer to the haulage system to the north and becomes less defined as the tramway crests the slope. This length was photographed, though was not surveyed due to poor access (felled trees etc.). The access road truncates the tramway and the surrounding spoil heaps, though the gradient either side of the road remains consistent.

The profile of the tramway and the series of spoil heaps were only clearly perceptible south of the National Resources Wales access road toward the top of the slope. From this vantage (Plate 3) the linear aspect of the spoil heaps and tramway trajectory are clear. However, the definition of the mound quickly becomes diffuse when walking along its length. The area immediately south of the access road was still intact, though had undergone extensive erosion, bioturbation associated with the woodland cover and had been truncated by works associated with the roads at the top of the slope. This segment (Plates 3-7) was a maximum of 60m in length (profiles A to E) and a maximum of 9m in width. At approximately SS 94942 98178 the definition of the mound becomes increasingly imperceptible, which is to the immediate southwest of Profile E (Figure 1 and 2; Plate 7). This segment was convex in profile, though the ground levels in the immediate area were very irregular, therefore true dimensions may be distorted.

Past this point, there is no visible 'exact' tramway location, though the trajectory of the spoil tips are still clear. There is flatter area along the spoil heaps centreline though no identifiable earthwork survives along its axis, as is evident along profiles F and G, and as seen in plates 8 - 10. Very little is discernible past NGR: SS 94865 98086, at which point the spoil heap is truncated by a track curving to be orientated northwest-southeast. At this point, large gaps are present in the spoil heaps and by extension the alignment of the tramway (Plate 11). The trajectory of the pathways and former landscaping works along the southern side of the slope have further distorted any feature that may exist. The perspective looking up-slope (Plate 12) demonstrates how diffuse the incline feature is, as the abrupt changes in elevation and the gaps between spoil heaps are able to be seen more clearly.

Very little material evidence was observed along the tramway aside from the eroded remains of the earthworks, particularly upslope. However segments of tram track (Plate 13) were identified at NGR: SS 94979 98216 to the east of the tramway. This was bent out of shape and was not found in-situ. Approximately 6.0m of length was visible, and it was 0.08m in width and depth.

The former appearance of the tramway is illustrated in the 1920 (3rd) OS map and the provisional edition of 1945. The tramway is illustrated as bisecting the spoil heaps along its route. In its current state, these spoil heaps are what remain of the visible portions of the tram route as the features atop these heaps have largely been eroded. An aerial photograph (Plate 9) from 1947 (1947: ref: 1947 4714 RAFCPE UK_2081 4245) shows the definition of a linear mound orientated along the spoil heaps centre clearly, with what appears to be levelled ground atop the mounds at either side; this changes to a concave ditch like profile closer to the summit, which is broadly in agreement with what was observed over the course of this survey.

5. Plates



Plate 1. Oblique view of the upslope side of the tramway. Camera facing west.



**Plate 2. View to former incline haulage location (north of access road), camera facing northwest.
2.0m scale, 0.50m divisions**



Plate 3. View to tramway downslope (from access road). Camera facing southwest



Plate 4. View to profiles A and B. Camera facing southwest. 2.0m scales with 0.50m divisions



Plate 5. View to profile C. Camera facing southwest. 2.0m scale, 0.50m divisions

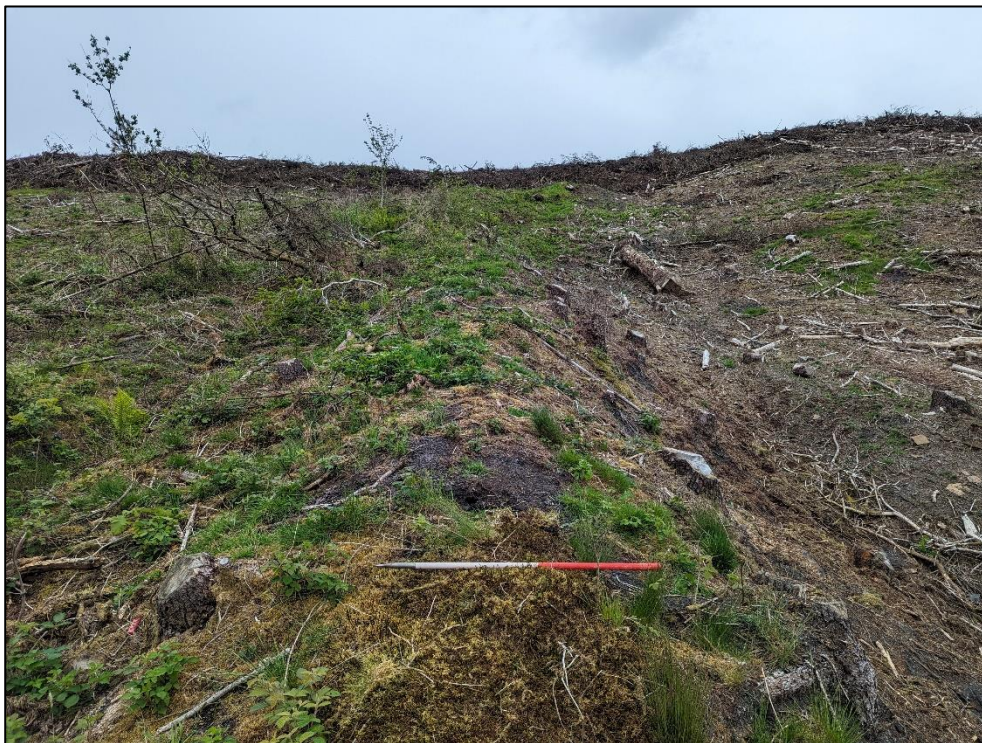


Plate 6. View to remains of the upslope segment of the tramway mound (Profile D). Camera facing northeast. 1.0m scale with 0.50m divisions



Plate 7. View to end of visible tramway earthwork, with Profile E visible. 1.0m scale with 0.50m divisions.



Plate 8. General shot of western spoil tip slopes (Profile G visible along centreline). Camera facing southwest.



Plate 9. View to flat area in-between mounds representative of the probable tramway route (Profiles F and G). Camera facing northeast. 2.0m scale with 0.50m divisions



Plate 10. View to flat area in-between mounds representative of the probable tramway route. Camera facing southwest. 2.0m scale with 0.50m divisions



Plate 11. General view downslope showing the gaps in the spoil tips. Camera facing southwest. 1.0m scale with 0.50m divisions



Plate 12. General view up-slope from track. Camera facing southwest



Plate 13. View to tramway track to the east of the tramway orientation. 1.0m scale with 0.50m divisions



Plate 14. 1947 Aerial photograph (Sortie: 1947 4714 RAFCPE UK_2081 4245) showing the former appearance of the spoil tips bisected by the tramway



Plate 15. Aerial photograph (Sortie: 1967 6742 OS 67_186 221) showing the abandonment of the Ynysfeio Colliery



Plate 16. Aerial photograph (Sortie: 1983 8311 ADAS170_020) showing the rapid afforestation across the development area.



Plate 17. Aerial photograph (Sortie: 1991 Geonex7991 137) showing continued afforestation and pathways linking and truncating the southern slope of 04056m.

6. Conclusion

Though access was restricted or impassable at certain points across the site, the survey was able to add further observational and measured detail to some parts of the feature.

The main findings of the archaeological survey are that the tramway earthwork features atop the colliery spoil tips are only visibly towards the top of the slope (south of the NRW access road). There is a slight flattened area between high points of the spoil tips that likely represent where the tramway was located, though there are no material remains of its exact location.

Review of the historic mapping and aerial photography show that by the 1960's the landscape encompassing the site was undergoing change (Plate 15) with industrial features being abandoned (buildings of Ynysfeio Colliery were gone by this date, with only the spoil heaps remaining) and the incline feature appears increasingly diffuse.

As noted in the initial desk-based assessment, there was rapid afforestation by 1983 which persisted up until the recent land clearance (Plate 16-17). This, along with any landscaping that may have occurred after the decommissioning of the tramway, is likely what caused the tramway features to become increasingly imperceptible.

7. Sources

7.1 Legislation, planning and guidance

Chartered Institute for Archaeologists *Standard and guidance for the archaeological investigation of standing buildings or structures (2014, updated 2020)*.

English Heritage. (2016) *Understanding Historic Buildings, A guide to good recording practice*

National Panel for Archaeological Archives in Wales, 2017, *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales*

7.2 Bibliography

Jones, M 2022. *Pen-yr-Englyn Tip Remediation – Archaeological Desk-Based Assessment*. GGAT report: 2022/026

NRW 2022a. *Pen Yr Englyn, Response to Drainage Proposals*

NRW 2022b. *Pen Yr Englyn Stabilisation Scheme, Landscape and Visual Appraisal Review*.

7.3 Cartographic Sources

Date	Description	Scale
1847	Tithe map for the parish of Ystradyfodwg in the County of Rhondda Cynon Taf	-
1877	1st Edition Ordnance Survey. Glamorgan XVIII	1: 2,500
1900	2 nd Edition Ordnance Survey. Glamorgan XVIII.SW	1: 2,500
1920	3 rd Edition Ordnance Survey. Glamorgan XVIII	1: 2,500
1945	Provisional Edition Ordnance Survey. Glamorgan XVIII.SW	1: 2,500

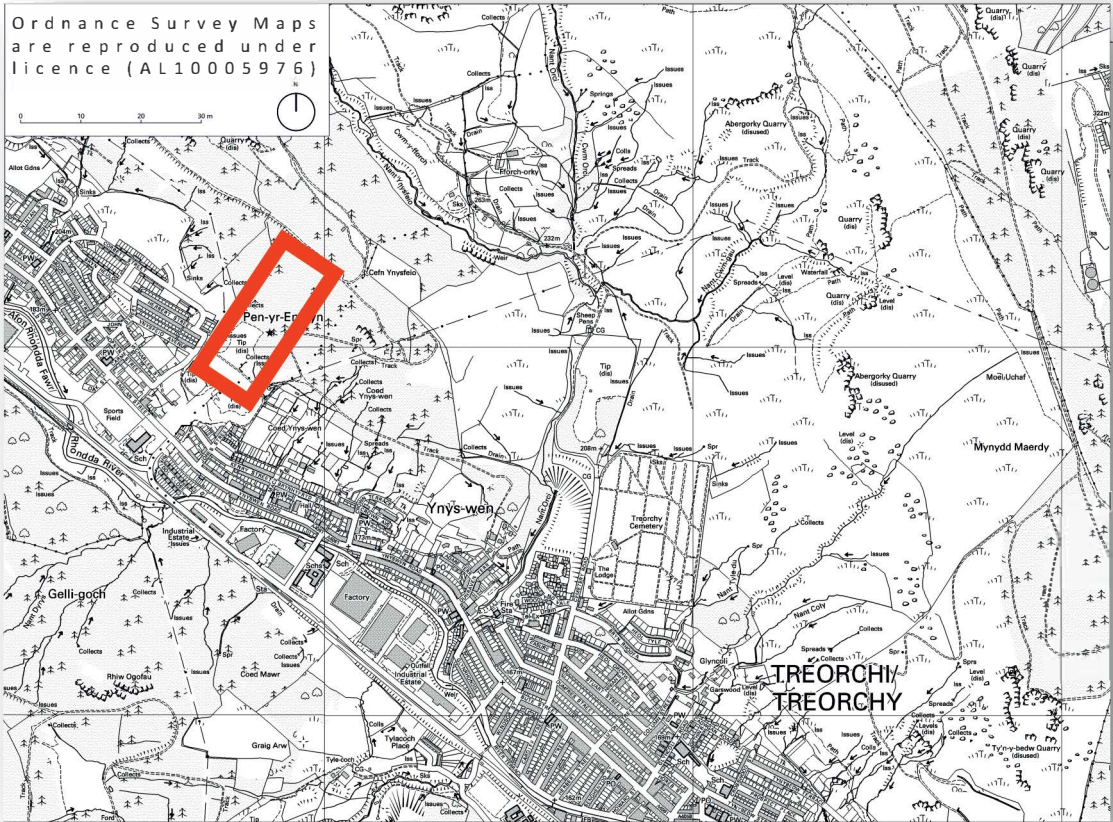
7.4 Aerial photographs

Date	Sortie/ Frames
1945	4561 RAF3GTUD_T19 129
1947	4714 RAFCPE UK_2081 3243, 3245, 4243, 4245
1951	5117 RAF540_525 3258, 3259, 3260
1960	6001 RAF58_3506 F21 126
1967	6742 OS 67_186 220, 221
1968	6870 FSL6764 12_815, 816
1978	7850 OS78-085 093
1983	8311 ADAS170_020
1985	8501 JAS0985 086
1991	Geonex7991 137
1991	Geonex8691 056
1997	9712 CUCAP Z_NC 113, 121

7.5 Websites

BGS Geology viewer: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/> (Accessed 05/2024).

National Museum of Scotland collection: <https://maps.nls.uk> (Accessed 05/2024).

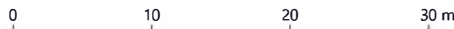


- X Profile Annotation (A-G)
- Profile Lines
- Survey Points
- 1 Photograph Direction

Figure 1. Survey Points across Incline Haulage Tramway (4056m) and location map

Dwg Ref.	LD24_080dwg001	Revision	0
Date	12/06/2024	Drawn by	SLJ
		QA	MT

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Ordnance Survey 0100031673



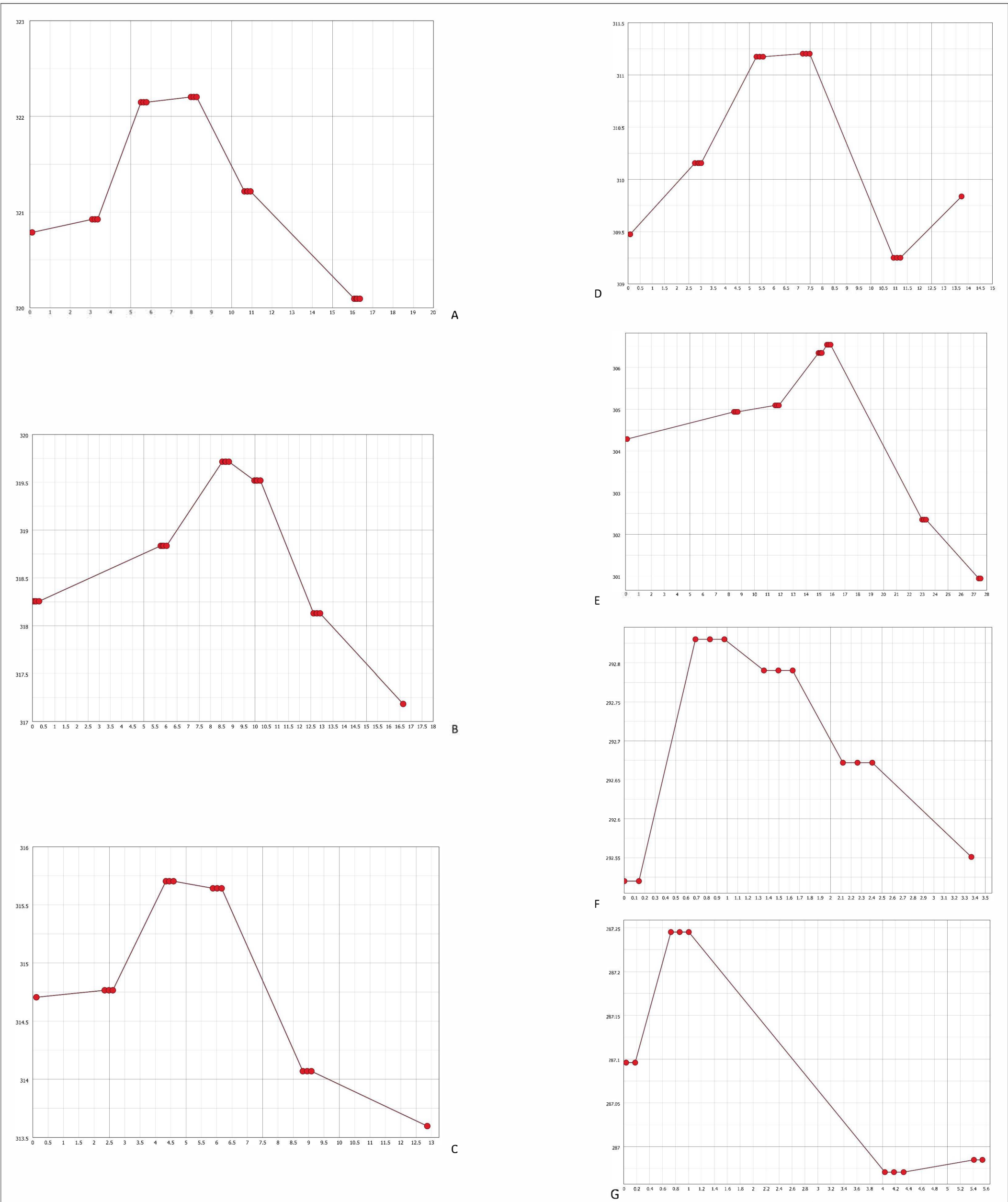


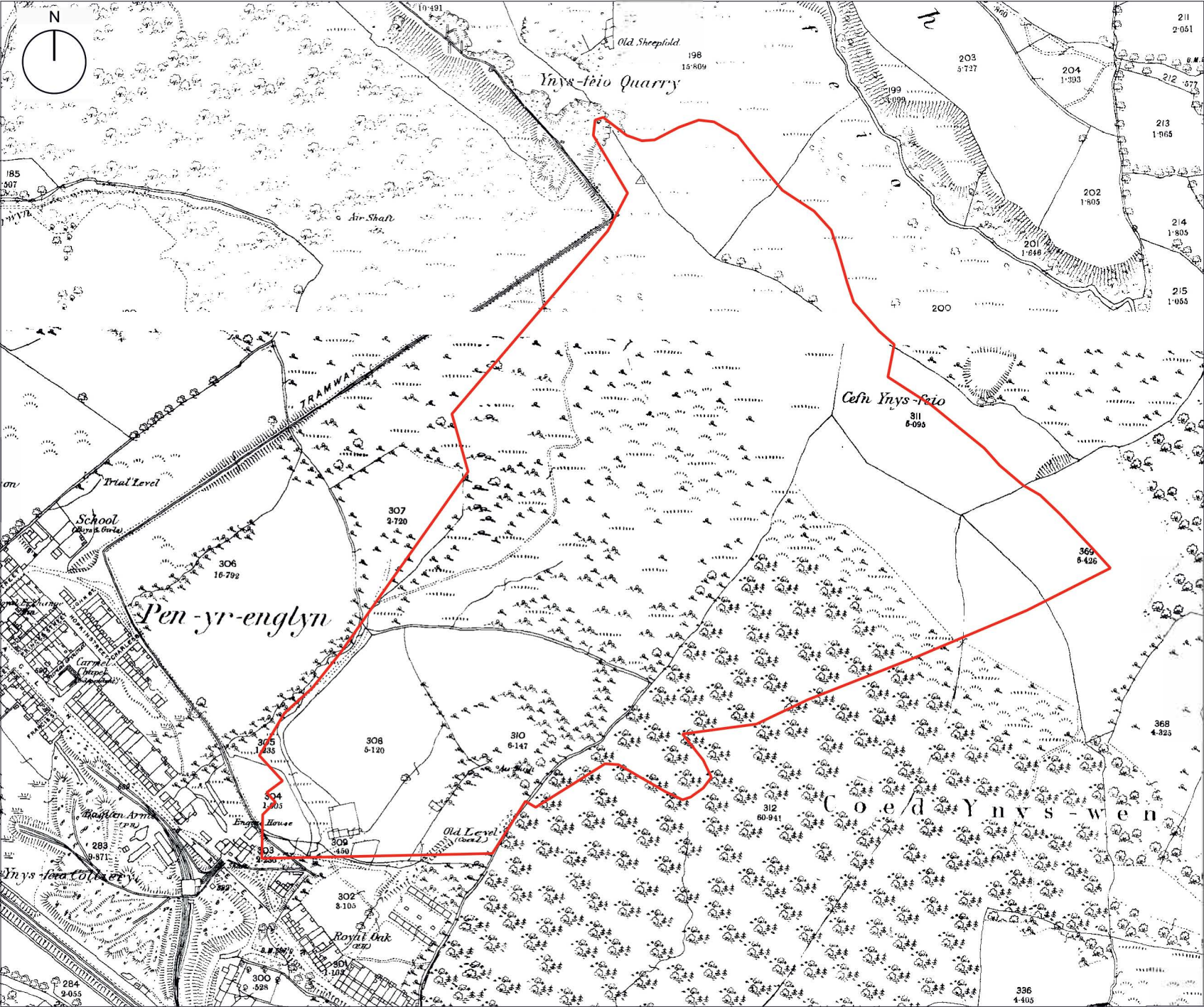
Figure 2. Profile across Incline Haulage Tramway (4056m)

● Points
— Profile Survey Line

Dwg Ref. LD24_0804wg001
Date 12/06/2024
Revision 0
Drawn by SU
QA MT

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Profiles measured in meters

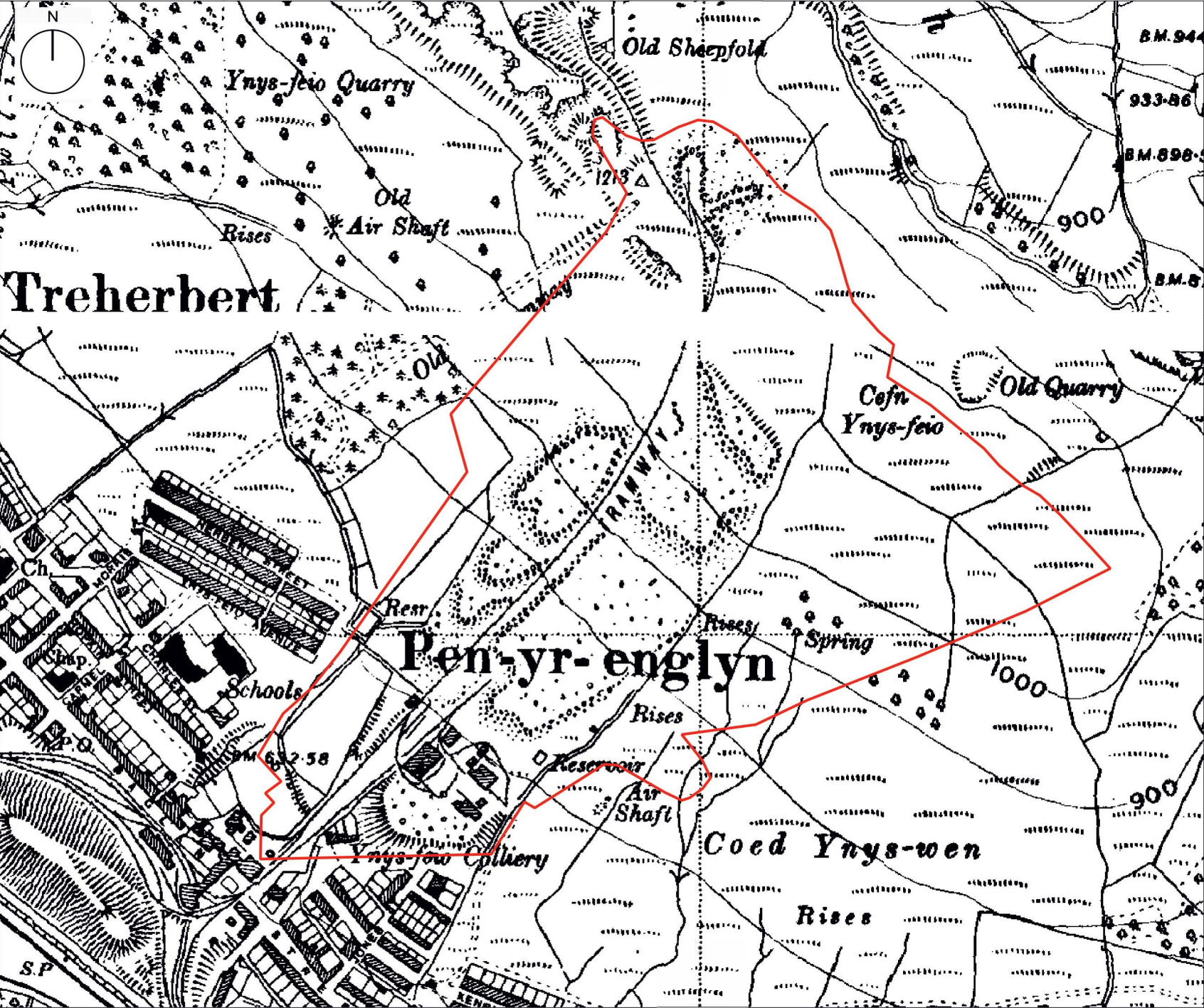


Site Boundary

Figure 3.
Ordnance Survey 1st Edition (1877)

Dwg Ref. LD24_080_dwg006 Revision 0
Date 07/2024 Drawn by AFP
QA MT

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Site Boundary

Figure 4.
Ordnance Survey 4th Edition (1945)

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QA MT

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