

IW Number 032 Banwen Ironworks (01566w; SAM Gm420) SN 8680 1045

General Description

The Banwen Ironworks (NPRN: 34,071; PRN 01566w; SAM Gm420) is a very significant example of the ironworks being the most complete example of an ironworks to survive on the anthracite coalfield. Founded in the 1838, the works was short-lived and generally unsuccessful; as a result the works at Banwen remained small-scale and representative of relatively rare single-phase development. The furnaces at the site, now scheduled (SAM Gm420) were probably built to exploit local anthracite as fuel following the successful experiments of George Crane at nearby Ynyscedwyn in the 1830s. The site is of considerable interest because of the relatively high level of preservation of standing and buried remains. The RCAHMW have undertaken considerable recording work at the site, including the excavation of the weighbridge, which revealed the intact mechanism *in situ*.

The scheduled area contains the well-preserved remains of two substantially intact blast furnaces with their associated massive masonry charging platform, the engine house and the site of the chimney (originally square in plan). The two furnaces are constructed of roughly coursed large grey stone and archways on all four sides with pecked detailing to the quoins. These are now ruinous on the north; their upper portions collapsed so that loose rubble is visible in the arches. The lime-mortar pointing remains in a poor state and is in urgent need of consolidation.

The engine house, of a reddish (?iron)stone, is relatively well preserved with upper stories with window openings. The interior of the structure is obscured by fallen masonry and vegetation obscures much of the detail. Standing masonry appears to be severely threatened by unchecked tree growth. Both the furnaces and the charging platform are in need of conservation and consolidation to ensure their long-term survival; this is now appears to be a matter of some urgency.

Beyond the limits of the scheduled area are the former weighbridge (also known as the stable) at SN 86733 10342, now a roofless ruin (roof structure partly collapsed) and former smithy and carpenter's shop (SN 86660 10390), now a barn (re-roofed), the farmhouse of Ton Pyrddin itself and the ruins and foundations of Tai-garreg, a row of workers' cottages (SN 86738 10182). Beyond the area to the south connected to the furnaces were a series of linear iron-ore quarries (SN 86742 10018). By the survey of the 1st edition OS 1:2500 the site is disused.

Historical Background

The Banwen Ironworks was founded in the early 1840s by a London joint stock company, but had a disappointing commercial career, with minimal production. The Banwen Iron Company was wound up in 1849 and an unsuccessful attempt was made to sell the concern through the Chancery Court the following year. It was stated that the two furnaces could produce 90 tons of iron per week.

A James Henty purchased the works following a four-year interval; however iron production remained almost non-existent and the Ironworks was again offered for sale in 1854. At this date the furnaces were described as being blown by a 19 1/2in. x 5ft. 6in. high-pressure beam blowing engine with a 60in. blowing cylinder. The works remained unoccupied until 1861 when taken

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over by Llewellyn & Son who put both furnaces into blast. However, iron production ceased in the following year and the furnaces remained out of blast until Banwen disappeared from the Mineral Statistics in 1871. (Hughes and Reynolds 1988, p 19; Ince 1993, p 94)

Ironworks Boundary

The ironworks boundary, as defined for the purpose of this report, is essentially based on the core area of activity shown on a plan given in Hughes 1990 and on the 1st edition 1:2500 OS map, though tied into current boundaries as depicted on landline mapping data.

Identified Threats

No threats to the area have been identified from the UDP, however the standing remains of the site, in particular the furnaces and the engine house are subject to continued dereliction and damage from invasive vegetation.

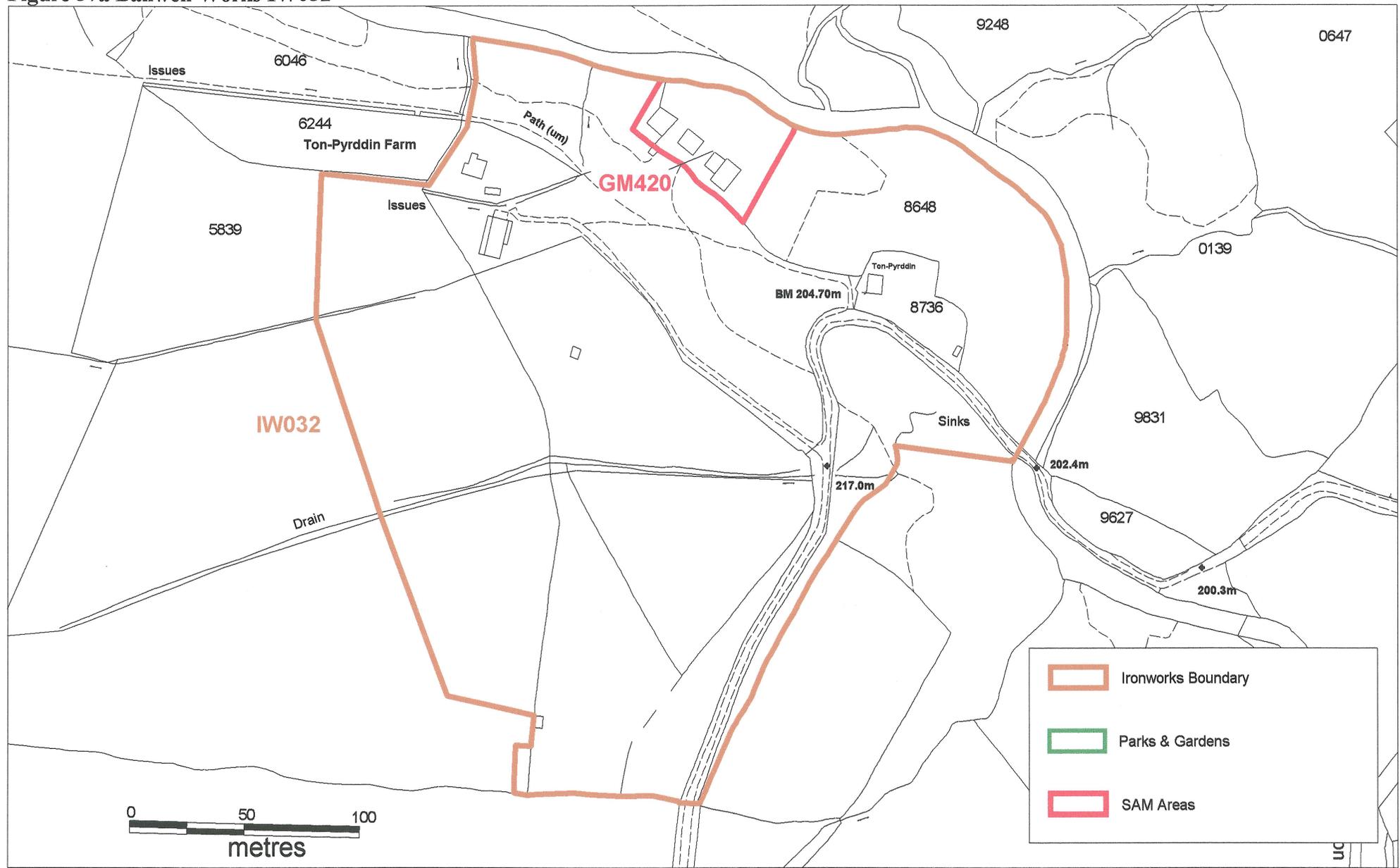
The field visits allowed a further examination of the condition of the standing remains; the engine house was found to be in a dangerous state of dereliction, threatened by tree growth, mortar deterioration and masonry collapse. The other features in the group are similarly threatened. The site in general is in urgent need of conservation and consolidation work. If this is not undertaken in the near future the completeness and value of the site may be severely compromised.

Plate 020 Banwen Ironworks IW032



Plate 020: Remains of the Weighbridge House, Banwen Ironworks, view to northwest.

Figure 37a Banwen Works IW032



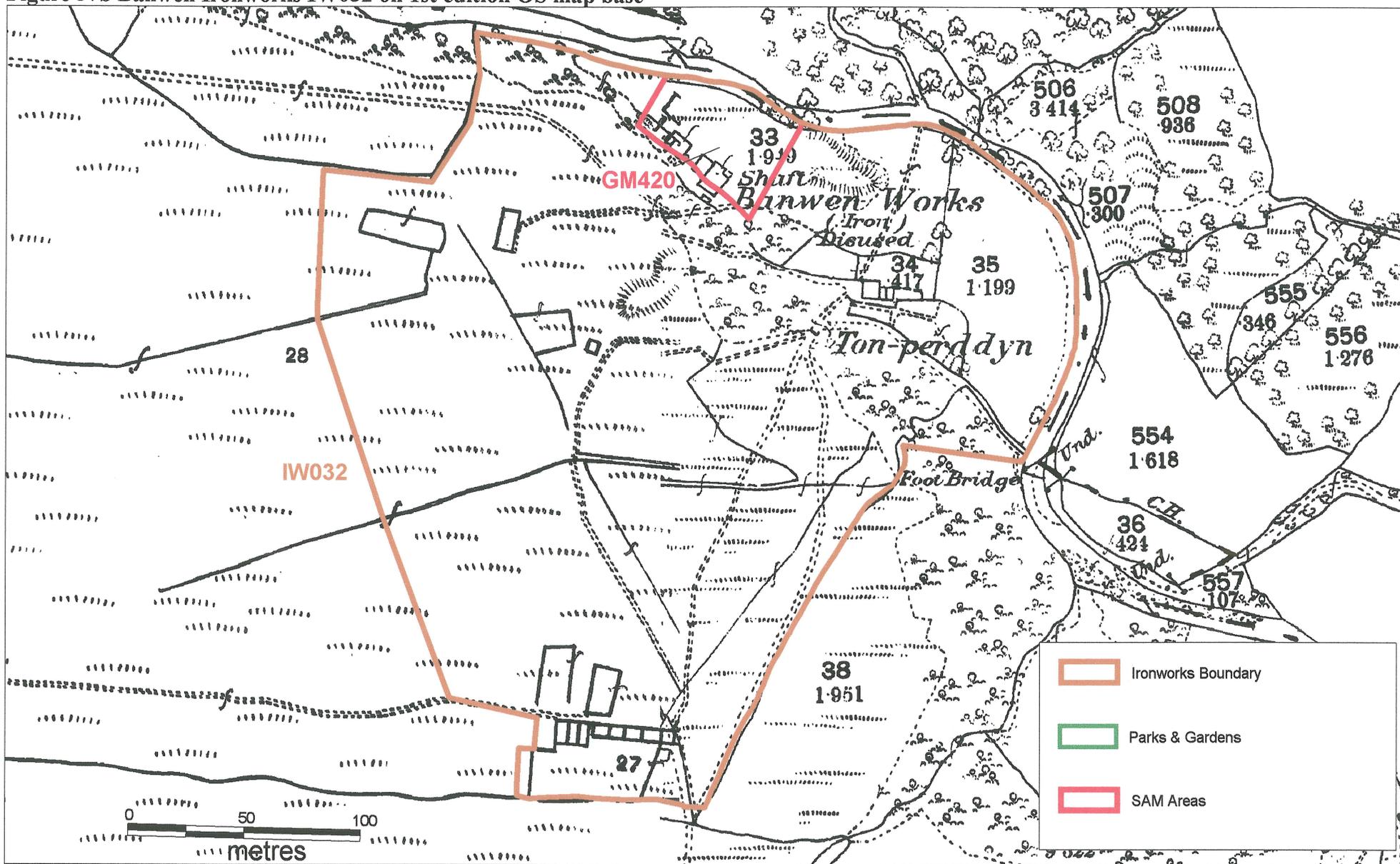
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Figure 37b Banwen Ironworks IW032 on 1st edition OS map base



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IW Number 033 Melincwrt Ironworks (01086w; SAM Gm416) SN 825 018

General Description

The Melincwrt Ironworks (NPRN: 34,100; 34,099; PRN: 01086w; SAM: Gm416) is a nationally important ironworks of early 18th century with good survival of both standing structures and buried remains; these remains appear to extend north beyond the area currently protected through legislation (ie beyond the SAM area). The identified features of the Melincwrt Ironworks, which operated between 1708 and 1808, include the considerable and impressive remains of furnace and foundry/finery buildings associated with the Melin Court Furnace. The charcoal furnace of 1708 appears to have been converted to coke during the 1790s. A plan of 1793 details the layout of the site, which at the time was laid out on three levels and included in addition to the main furnace and small air furnace, a waterwheel for working the bellows, storehouses, calcining kilns, a counting house, a smith's shop and dwelling house and an associated watercourses system, including reservoirs and underground leats. Power for the blast was provided by a single waterwheel: the original wheel was small and of undershot type, this was replaced by a larger overshot model served by a launder. Contemporary prints by Wood and Horner depict the launder, which conveyed water to the waterwheel and detail changes to the water resource disposition at the site, which might be indicative of conversion to coke as a fuel.

The site, located on a precipitous site above Melin Court Brook, appears to have been abandoned after closure in 1808; the site is now characterised largely by mature deciduous native woodland.

Historical Background

The site formed the subject of intensive study by Harry Green and Dr Martin Cahn, during the 1980s. A full account of the findings of this work can be seen in Green 1980, of which the main points can be summarised as follows:

A plan of 1793 indicates that the site initially comprised a charcoal fuelled ironworks, fed by one main leat approaching from the southeast. The 1793 site was laid out on three levels to allow heavy materials to be easily transported downhill. At the highest level the ore nodules were calcined and roughly broken up in preparation for the main smelter. Here the ore was mixed with charcoal and any necessary fluxing agent, and was smelted in a furnace with a forced draught produced with the aid of a waterwheel, which at this date seems to have been of undershot design and powered by water from the main leat. De-carburised through re-melting took place in a smaller furnace (the 'air' furnace) on the lowest level. The product of this furnace could be cast into pig iron. The lack of additional waterwheels in 1793 indicates that the works possessed neither forge nor foundry and that the pig iron was processed elsewhere (probably at Aberdulais).

Between 1793 and 1799, a number of alterations had apparently been made, which might relate to the conversion from charcoal to coke fuel: the main furnace had been reduced in size, consistent with the use of coke, while the 'air' furnace had been enlarged. Reference to Aberdulais confirms the latter; Clutterbuck mentions that refined iron from Melin Court was there mixed with charcoal iron, which 'charcoal being scarce, they procure...from Lancashire and Carmarthenshire'.

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By this date the main waterwheel had been enlarged and converted to overshot design, and the existence of a third, 'refining' furnace was noted; implying that the works now had a foundry. There is, however, a specific reference to the absence of a forge; Aberdulais appears to have continued to undertake this work.

Conversion to coke fuel is also reflected in alterations to the water supply arrangements; a new leat was constructed to provide a head of water for the main wheel, while the water from the original main leat was diverted to power a wheel at the upper level, presumably that providing the draught for the finery furnace. There also seems to have been a wheel constructed to provide draught for the 'air' furnace, although it is not clear which leat was the source of this water.

Between 1799 and the closure of the works in 1808 further attempts appear to have been made to increase output. The reason for the final closure of the works in 1808 is not clear, although the most likely reason is the superior efficiency of steam over waterpower in providing the blast for the furnaces (Burnham 1985; Hughes and Reynolds 1988, p 18; Green 1980).

Ironworks Boundary

The ironworks boundary, as defined for the purpose of this report, is essentially based on the core area shown on an estate plan of 1793 and on the 1st edition 1:2500 OS map, though tied into current boundaries as depicted on landline mapping data.

Identified Threats

No threats to the area have been identified from the UDP. The area has been protected from development through legislation (ie the site is now a Scheduled Ancient Monument), however the site visit identified dereliction as being a significant and active threat to the remains in the area.

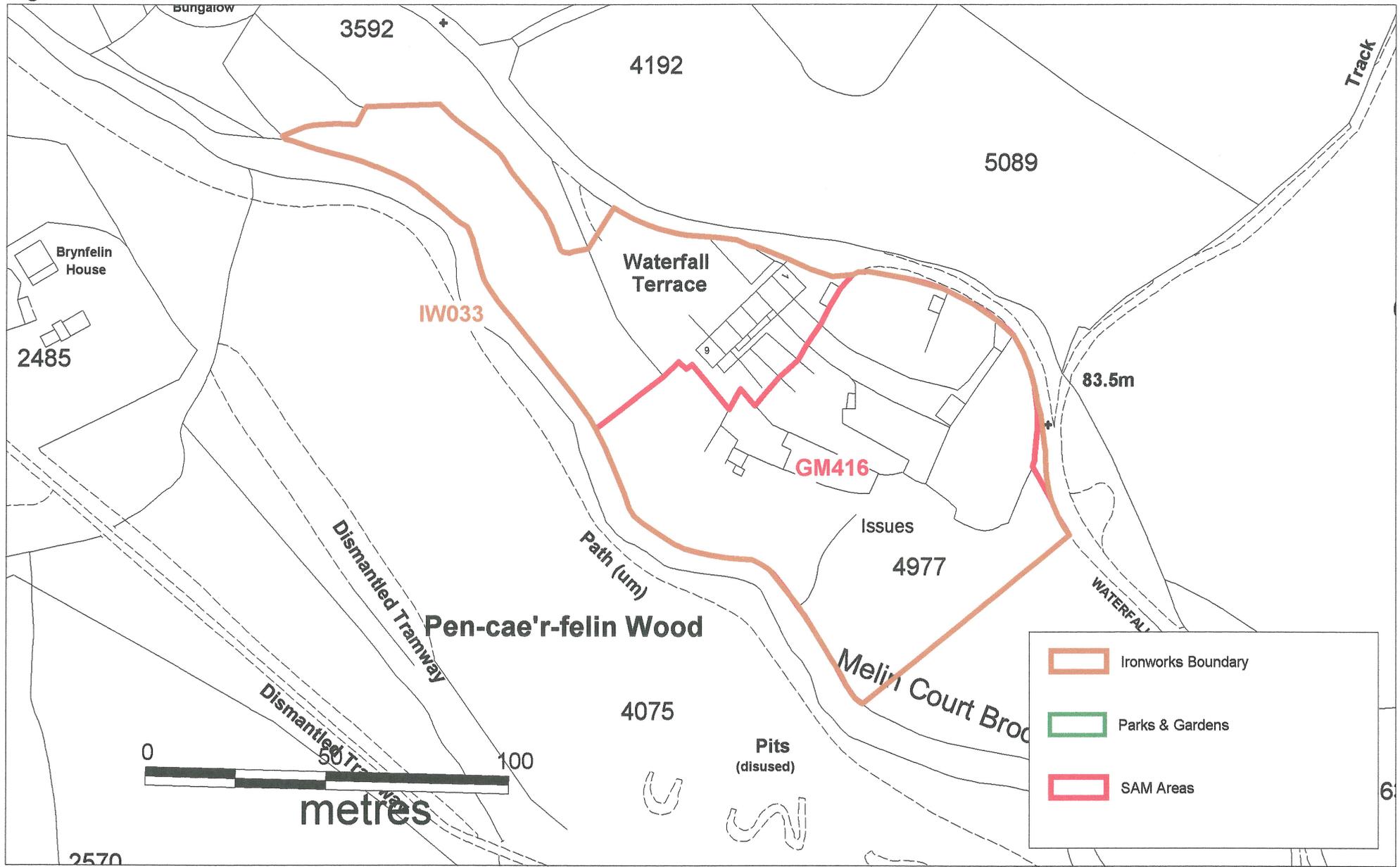
The surviving visible remains noted during the field visit remain much as surveyed by Dr Martin Cahn in 1980. The standing remains are currently in an overgrown and generally poor state.

Plate 021 Melincwrt Ironworks IW033



Plate 021: Standing remains Melincwrt Ironworks (SAM Gm416), illustrating overgrown nature of the site, view to north.

Figure 38a Melincwrt Ironworks IW033

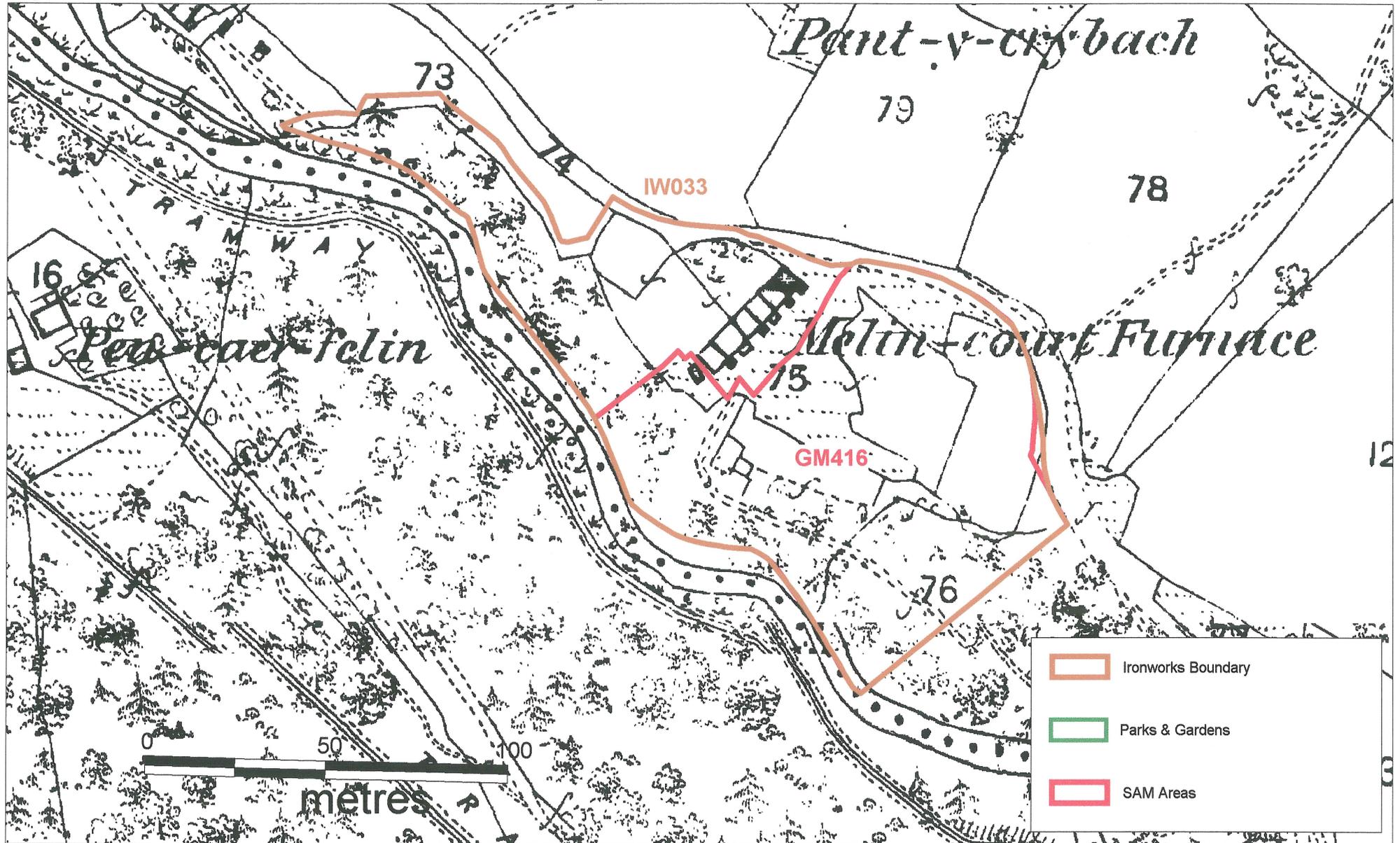


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Figure 38b Melincwrt Ironworks IW033 on 1st edition OS map base



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IW Number 034 Venallt Ironworks (01124w; SAM: Gm423) SN 864 050

General Description

The Venallt Ironworks, located at Cwmgwrach, (NPRN: 34,120; PRN 01124w; SAM: Gm423) was one of several anthracite ironworks founded in the Neath Valley using the hot-blast process then recently introduced at Ynyscedwyn. Venallt was in operation between 1839-42, and out of use by 1854. The site, despite later-use as a patent fuel works, which lead to the demolition of some features, nonetheless retains important and impressive remains and extensive works buildings; the core ironworks area contains an engine house, charging platform, hearth and twin tuyere nozzles. The engine house is particularly fine, surviving to roof height, and retaining the base of its chimneystack and a block of slag with two tuyeres on the site of the furnace. The adjoining Venallt Farmhouse was originally the company shop and offices, and may also have housed the ironworks manager.

Very little remains of the site's two furnaces, with only evidence of the buried foundations surviving: Venallt Furnace I (PRN: 04298w; SN8642804965) and Venallt Furnace II (PRN: 04299w; SN8642104962). The near intact remains of the engine house or Venallt Blowing Engine House (PRN 04295w; SN8644404986) comprise a large unroofed stone and cement structure, 10m x 15m by 15m high, an entrance to the S with metal steps, the structure has 8 arched openings 3m high and 1.5m wide run along the top half of the structure. Associated with the engine house is the base of a damaged stack (PRN: 04301w; SN8646204987) visible as a square stone and cement structure measuring 5m x 5m and 8m high, of circular internal construction with 4 archways, 1.5m high. Nearby lies the near intact remains of a chimney platform (PRN: 04296w; SN8645804970), surviving as a large stone and cement structure 20m x 20m by 10m high, built into the hillside. Fencing has been erected on top of the structure for safety. The remains of the cast house (PRN: 04297w; SN8642704979) are fragmentary and comprise a single wall, 8m in length, constructed of cement stone facing N-S. The two main arched doorways have been bricked up.

Also included is the site of an enclosure (PRN: 04300w) noted on the 1st and 2nd edition OS maps at SN8642504941.

The remains at Venallt are considered to be of national significance due to their good state of preservation with good survival of both standing structures and buried remains currently protected through legislation (SAM Gm423); the site is relatively well presented and interpreted having been comprehensively restored by the West Glamorgan County Council in 1981. Interpretation panels were erected, since replaced by a single panel by Forest Enterprise (2000). The scheduled area was extended in 2003 to include major visible features, including the charging bank, retained by a substantial stonewall and a short section of Protheroe's Tramroad, which served the works. Other features included within the scheduled area at the time were a stone-revetted watercourse, and waste tips.

Historical Background

Arthur & Company constructed the Venallt Ironworks in 1839 with two purpose-built anthracite fuelled furnaces. It is known that by 1846 Venallt was in the ownership of Jevons and Wood. In 1849, when the works was offered for sale, the ironworks consisted of 3,000 acres of mineral property, two blast furnaces, hot blast stoves, casting houses, a foundry, a finery and a blowing engine house built for a pair of engines but containing a single 50 h.p. high pressure beam

blowing engine.

During the 1850s the Aberdare Iron Company owned the Venallt Ironworks but little production of iron seems to have taken place. In 1860 the site was in the hands of N.V.E. Vaughan concentrated on exploiting the associated rich mineral grounds of the property, allowing the works themselves to stand idle. During 1869-70, the Neath Abbey Iron Company was in possession of the works; Ince informs us that this was probably solely for the dismantling of the machinery. The coal and iron ore reserves were further exploited from 1871 by W. Gregory, no further mention is made of the ironworks, itself (Hughes and Reynolds 1988, 18-19; Ince 1993, pp 93-94).

Ironworks Boundary

The ironworks boundary, as defined for the purpose of this report, is essentially based on the core area of activity shown on the 1st and 2nd edition 1:2500 OS map, though tied into current boundaries as depicted on landline mapping data.

Identified Threats

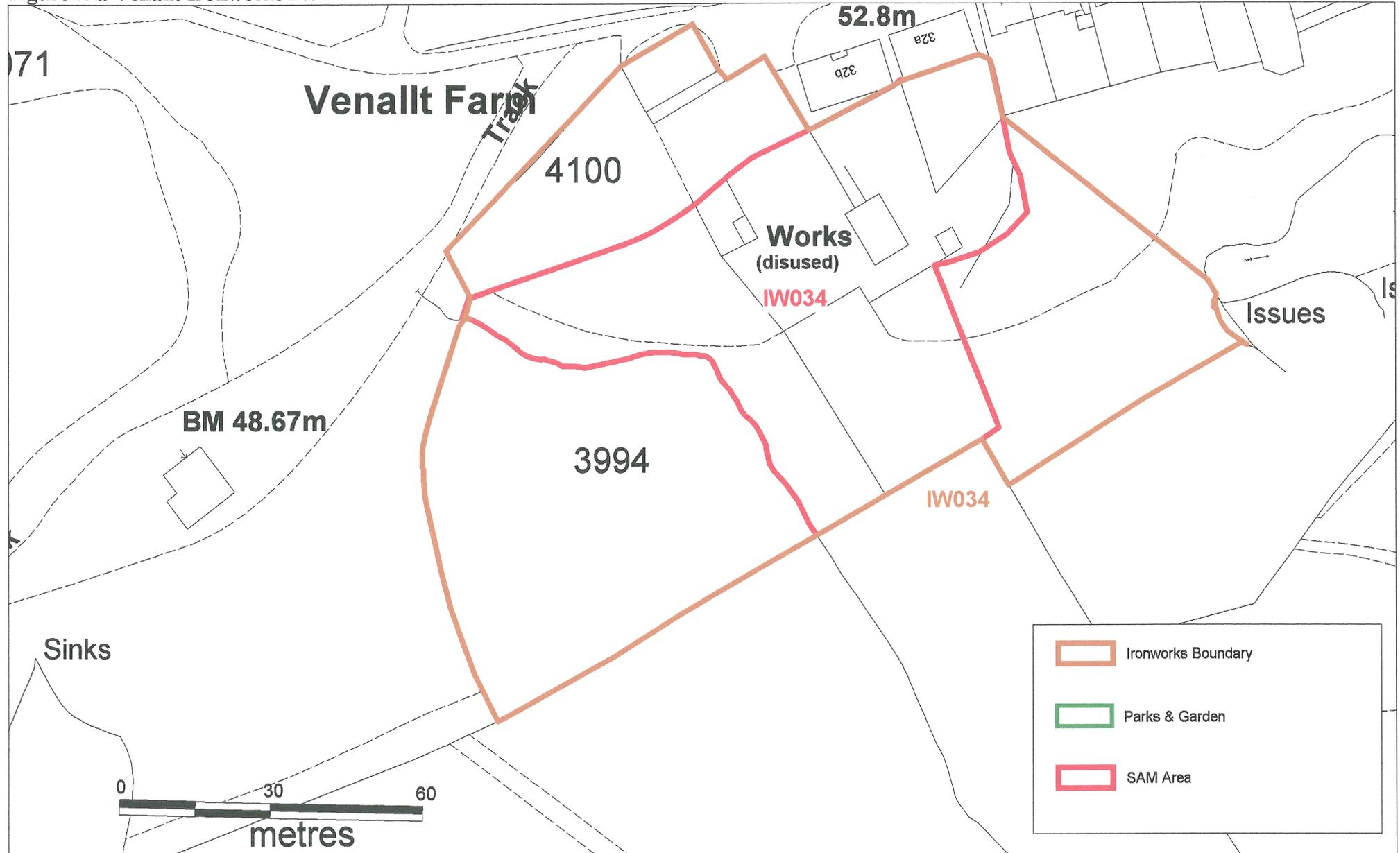
There are no identified threats to the area from the UDP. Though generally in good to fair condition since restoration in the 1980s, the condition of the site has varied; erosion to access paths and vegetation growth, for example on the charging platform, has been noted in the last decade. The visit to the site confirms the general condition of visible above ground remains is generally excellent; some recent tree growth on the masonry structures, was noted however, this requires remedial attention to prevent further deterioration. Continued monitoring of the site's condition, currently in the ownership of the Forestry Commission, is recommended.

Plate 022 Venallt Ironworks IW034



Plate 022: Remains of the Engine House (PRN 04295w), Venallt Ironworks (SAM Gm423), view to northeast.

Figure 39a Venallt Ironworks IW034

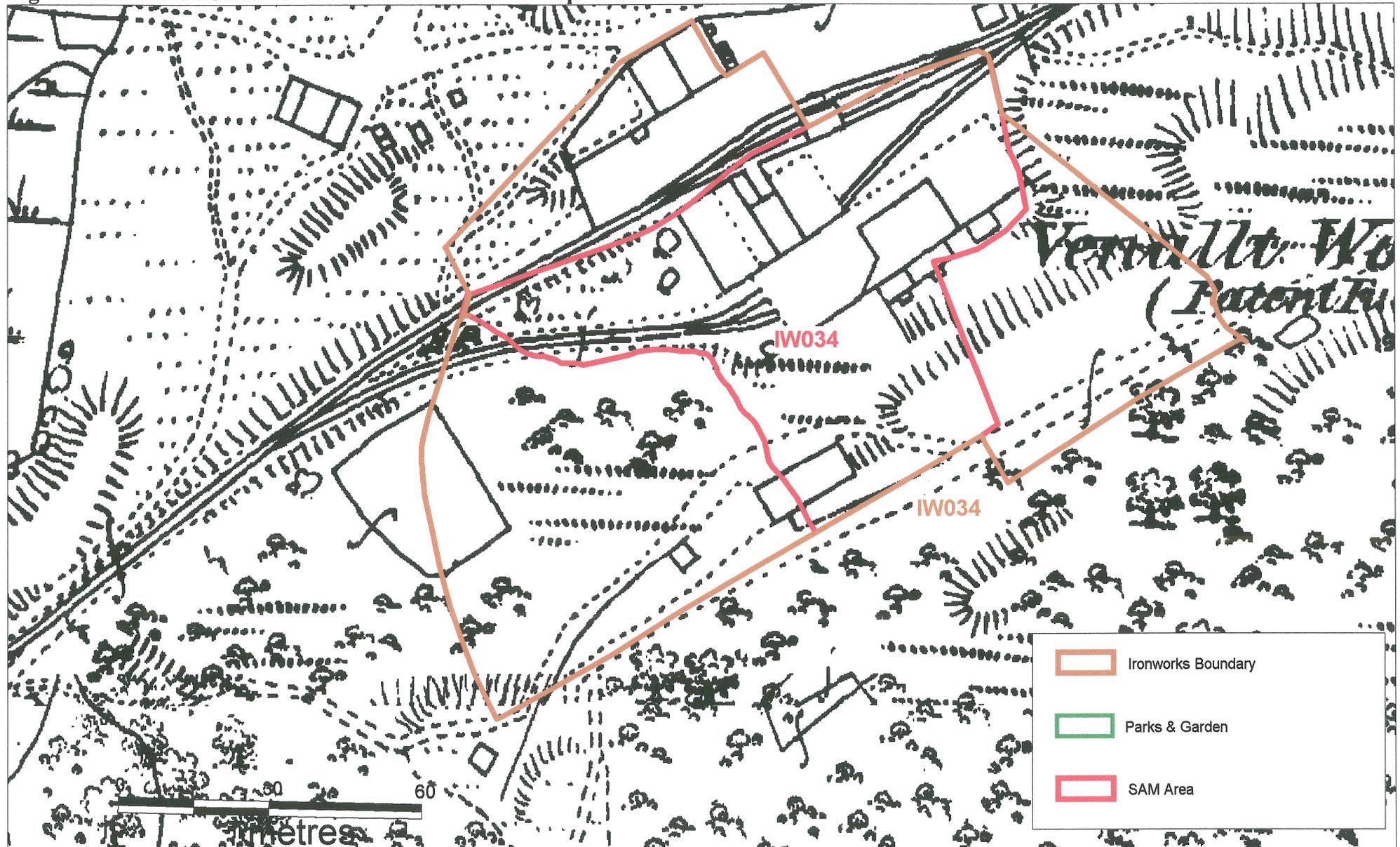


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Figure 39b Venallt Ironworks IW034 on 1st edition OS map base



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IW Number 035 Abernant Ironworks SN 88160 0632

General Description

The Abernant Ironworks, located at Glyn-neath, is one of several anthracite ironworks founded in the Neath Valley by the Neath Abbey Iron Company during the mid-19th century and like most was in production for a relatively short period. The works, dating from 1845, was located at the northern terminus of the Neath Canal (NPRN: 34,465; SN 8823 0635). The Abernant Ironworks area is currently thought to be of low archaeological value: unfortunately the site was partly levelled before the mid-1970s, the remainder being reclaimed during the following decade and subsequently removed by the construction of the A465(T). The construction of the A465(T) has destroyed the northern half of the site, which comprised the main core of the ironworks and included the site of the former furnaces and calcining kilns, engine house the chimney, smithy and limekilns. In addition it removed the bridge terminus of the Neath Canal and the wharf area associated with the ironworks. Now only the southern part of the site bordering the River Neath survives, though in an altered and reclaimed state; this area contained the site of the former associated Brickworks. It is currently unknown whether any buried remains relating to this site survive.

The first edition 1:2500 OS map identifies a number of features at the Abernant Iron And Brick Works including the following: the furnaces and kilns at SN 88127 06320; lime kilns at SN 88158 06315; a smithy at SN 88145 06317; and an engine house with associated chimney at SN 88093 06304. North of the furnaces was the ironwork's wharf on the Neath Canal (SN 88155 06350) with its crane. The southern part of the area included a brick works with five brick kilns (SN 88172 06287), while the work's cinder tip, now reclaimed, bordered the River Neath at the south eastern edge of the ironworks area (SN 88254 06312).

By the survey of the second edition OS the site was divided between the Carbon Works and the enlarged site of the Abernant Brick and Cement Works, now with eight circular kilns; by the publication of the third edition, the former had been removed and the latter is shown disused and partly dismantled.

Historical Background

The Abernant Ironworks was a subsidiary works of the Neath Abbey Iron Company (under the Fox-Price partnership). It was the second works to have been constructed by the company and had a fairly short life compared with the Neath Abbey Ironworks, itself.

The Abernant ironworks, built in 1845, was situated on the boundary between bituminous and anthracite coal deposits, was purpose-built to use anthracite fuel in its blast furnaces. It initially comprised two furnaces and refineries. According to Ince the two furnaces at Abernant were blown by a 40in. x 8ft. Neath Abbey beam blowing engine (60 h.p.), while the refineries received their blast from a 12in. table engine. The third and final furnace was added in 1851.

During the period 1856-57 all three furnaces were in blast but by the following year iron production had ceased. The period 1859-61 saw only one furnace in blast and it would seem that the works, like most anthracite ironworks, was a commercial failure. In 1862 the Abernant Ironworks was put up for sale. At this date the Abernant property consisted of 127 acres of mineral ground, three blast furnaces capable of making 250 tons of iron per week, a cupola, two refineries, hot blast stoves, calcining kilns, workshops, cast houses and twenty one cottages.

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Unsold, the works was eventually dismantled c. 1868 (Ince 1993, p 93).

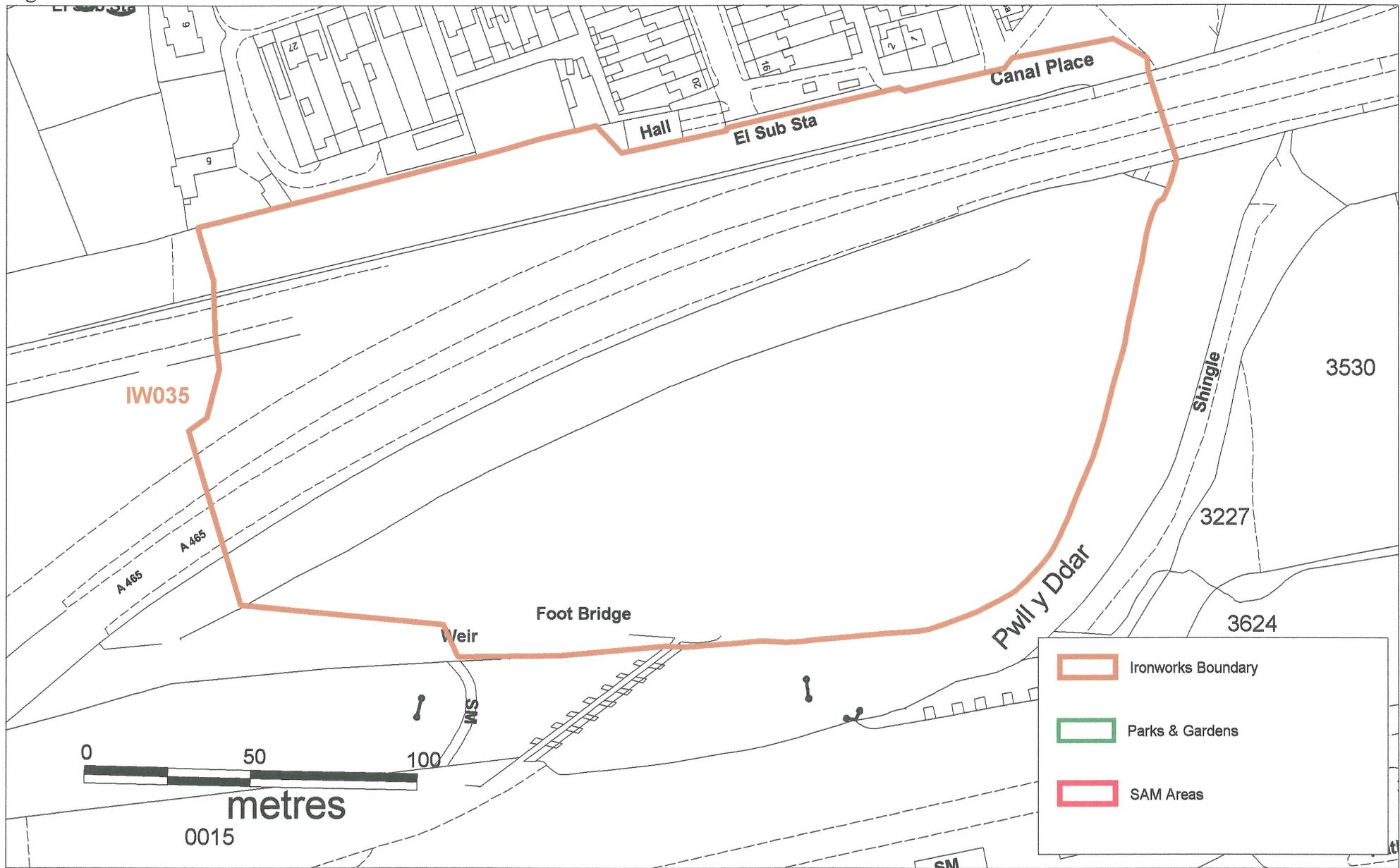
Ironworks Boundary

The ironworks boundary, as defined for the purpose of this report, is essentially based on the core area of activity shown on the 1st edition 1:2500 OS map, though tied into current boundaries as depicted on landline mapping data.

Identified Threats

There are no identified threats to the area as identified from the UDP. The area has been extensively altered in the latter part of the 20th century and little of significance is thought likely to survive.

Figure 40a Abernant Ironworks IW035



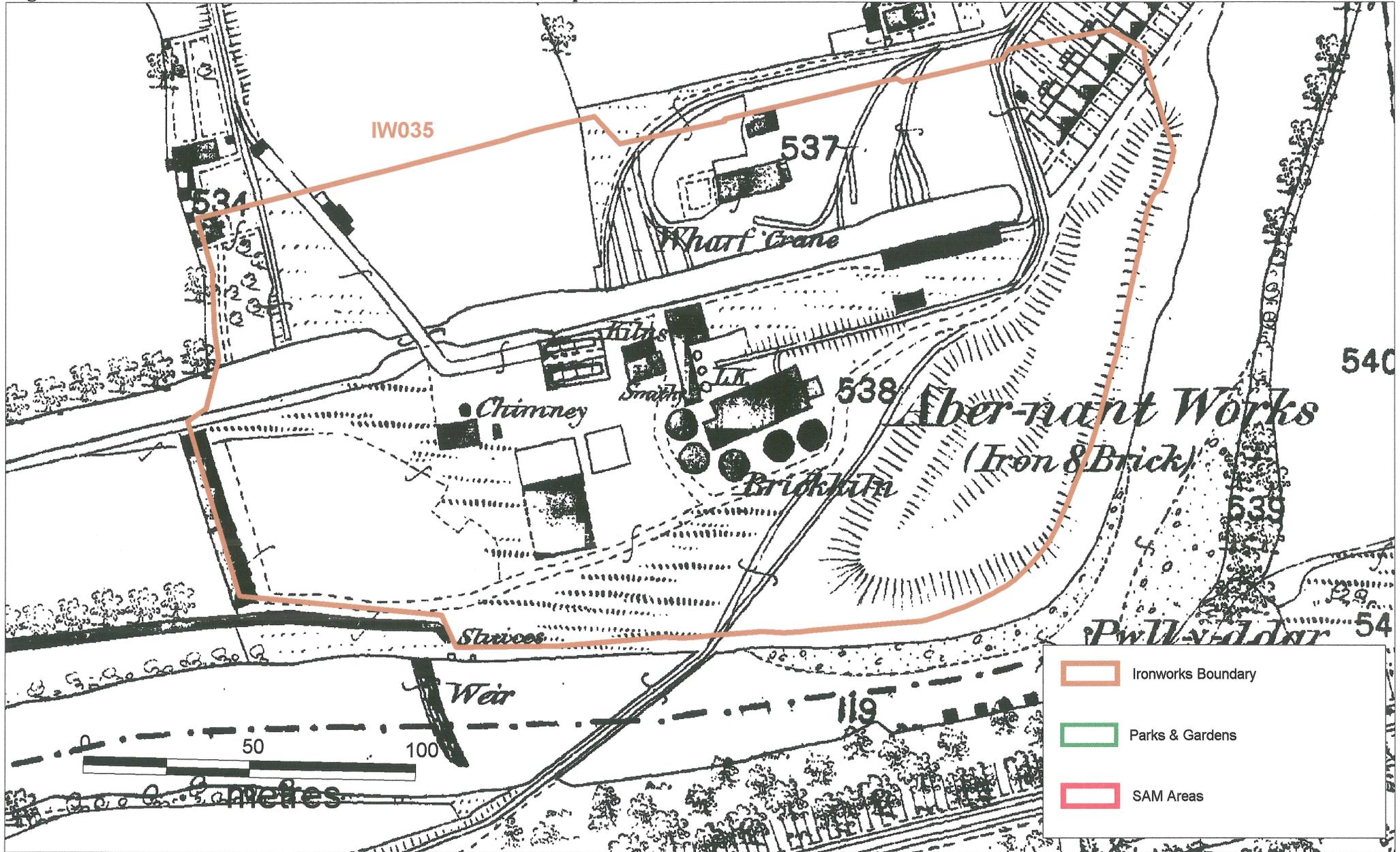
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Figure 40b Abernant Ironworks IW035 on 1st edition OS map base



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