Archaeology Wales

Gelli Isaf Tram Bridge

Archaeological Evaluation and Watching Brief

By
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Report No. 1010

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Archaeology Wales

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Prepared For: RSK Environment Ltd

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Date: **March 2011**

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Summary

An Archaeological Evaluation and Watching Brief were carried out by Archaeology Wales on behalf of RSK Environment Ltd during works to improve Gelli Isaf Bridge, near Aberdare, Rhondda Cynon Taff. The bridge dates from 1803-05 and is a scheduled ancient monument. The evaluation revealed that sleeper stones from the original tramline survived in situ, below a depth of modern hardcore. The watching brief recorded archaeology in 12 of the postholes, which probably comprised structural elements of the bridge and tramline. All construction works within the scheduled area were carried out under archaeological supervison, and minimum disturbance to the archaeology occurred.

1. Introduction

In March 2011, Archaeology Wales were commissioned by Brigitte Buss of RSK Environment Ltd to carry out an archaeological evaluation and watching brief on the Gelli Isaf Tram Bridge, near Aberdare, Rhondda Cynon Taff (NGR: SN 9901 0435; fig. 1). The archaeological work was to be carried out in advance of and during works to improve the bridge, involving the erection of a fence and an A-frame.

Gelli Isaf Bridge is a Scheduled Ancient Monument located on the Abenant Tramroad to the west of Aberdare. It lies on the Cynon cycle trail and is in frequent use by pedestrians. Vehicles, including motorcycles and 4x4's frequently cross the bridge. The improvement works were designed to prevent further vehicle access and to safeguard pedestrians. The fencing was erected within the scheduled area under SMC and following discussions with Cadw. The A-frame was relocated slightly from its original planned position, to site it outside the scheduled area.

The work was carried out by Irma Bernardus (Site Assisstant) between the 23rd and 28th March 2011. The project was managed by Dr Amelia Pannet.

2. Site Description and History

The Gelli Isaf Bridge was built between 1803 and 1805 to carry a tramroad from the Abernant Iron works across the Cynon river. It is located 2.5km north-west of Abernant and crosses a northwest/southeast flowing section of the Cynon river.

The bridge is currently open, with gravel forming the surface and several large sleeper stones set into it. The gravel surface is rutted, with tyre marks demonstrating the use of the bridge by 4x4 vehicles. Seeded and scrub trees grow at both ends of the bridge and along sections of both sides. Topsoil has accumulated along both edges.

The gravel and sleeper stones extend south-west from the end of the bridge (outside the scheduled are), to meet the tarmac road of the Cynon Trail. Large boulders have been placed on the edge of the road to prevent vehicular access to the bridge, but these are evidently repeatedly moved.

3. Evaluation

An evaluation was carried out on the proposed A-frame location, to establish the presence or absence of archaeological deposits. The trench was excavated by mechanical digger (3t JCB fitted with a toothless ditching blade) to the top of the

archaeological horizon. The surface of the trench was subsequently cleaned back by hand.

The evaluation trench measured 10m in length by 2m wide and was excavated to a depth of 0.55m. It formed a wide V-shape in plan and covered the approximate footprint of the A-frame at the southwestern end of the bridge (outside the scheduled area).

The whole of the surface of the trench was covered by a thin organic black sandy silt (101), which was up to 0.12m deep and contained occasional brick fragments and small stones. Underlying this topsoil deposit along the whole of the trench, a layer of modern hardcore (102) was identified. This comprised a moderately compact layer of gravel and small stones within a sandy soil, up to 0.13m in depth. Below this layer of gravel was an extremely compact gravel deposit (103) comprising small stones and slate fragments. It was up to 0.16m deep and covered the whole of the trench. Underlying the gravel deposits, a dark black clayey silt (104) was identified along the length of the trench. This was up to 0.14m deep and contained occasional stones and fragments of brick. This deposit was thicker in the southeastern section of the trench, and appears to have been used as to level the ground prior to the deposition of the modern gravel.

Underlying the upper deposits, a layer of dark sandy silt and redeposited natural containing very frequent small stones, fragments of brick and lumps of melted glass (109) was revealed. This was identified along the length of the trench, but was not excavated. The presence of glass and brick fragments suggests that this material was sourced from industrial sites in the local area. On the southeastern edge of the trench a thin deposit of compact pebbles (107) was revealed overlying deposit (109). This was 0.27m wide (not fully exposed) and up to 0.02m deep, and abutted sleeper stone (106).

On the northwestern side of the trench, two stone sleeper blocks were identified, (105), buried into the stone and silt deposit (109). These measured approximately 0.45m by 0.38m and were exposed to a depth of 0.05m. The stones had holes and groves cut into their surfaces, evidently to carry the tram tracks, and were in alignment with sleeper stones visible on the surface of the bridge.

On the southwestern side of the trench further stones were revealed buried into stone and silt deposit (109), although none could be conclusively identified as sleeper blocks. Three large stones (106) were set approximately 1m apart, forming a roughly triangular arrangement. Two measured 0.4m by 0.34m, while the third was smaller at 0.3m by 0.24m. All were revealed to a depth of 0.25m. Two small stones (108) lay 0.5m to east of these three large blocks. They measured roughly 0.5m by 0.24m and were revealed to a depth of 0.25m. These stones had been faced on the southwestern side. While all of these stones were identified at the same depth as sleeper stones (105), buried into the stone and silt deposit (109), none had fittings to accommodate the tram rail cut into their surface, and they were not in alignment with any other visible sleeper stones. They do, however, lie on the approximate route of the south-eastern orientated tramline as depicted on the OS map of 1868 (fig.1), which suggests that they were originally part of the tramline structure.

4. Watching Brief

An archaeological watching brief was carried out during the excavation of postholes to accommodate the fences running along each side of the bridge (see fig. 3). The postholes were located off the trackway crossing the bridge, in areas of built up ground. Archaeology was encountered in 12 of the postholes, which was protected by a breathable membrane prior to the post being positioned and cemented in place.

4.1 Postholes 1-12 East side of bridge (fig. 4)

Postholes 1 to 4 measured approximately 0.35m in diameter at the top and 0.25m at the base and were excavated to a depth of 0.4m. The were excavated through a thick deposit of dark silty clay. No archaeology was encountered in these four postholes.

Posthole 5 measured 0.37m at the top and 0.25m at the base and was excavated to a depth of 0.48m. At a depth of 0.37m a layer of rounded stones was encountered, set in a grey silty clay. The stones were not structural, but appeared to represent a possible leveling deposit.

Postholes 6 and 7 measured 0.35m in diameter at the top and 0.3m in diameter at the base, and were excavated to a depth of 0.45m. At the base of these postholes the same layer of rounded stones seen in posthole 5 was revealed.

Posthole 8 measured 0.34m in diameter at the top and 0.2m in diameter at the base and was excavated to a depth of 0.35m. At a depth of 0.27m the layer of rounded stones was revealed.

Posthole 9 measured 0.3m in diameter at to top and 0.28m in diameter at the base, and was excavated to a depth of 0.28m. At the base of posthole four square stones were revealed – the possible remains of a wall on the side of the bridge. Two bolts were drilled into the stones to secure the post.

Posthole 10 measured 0.3m in diameter and was excavated to a depth of 0.3m – it was excavated through a damaged section of the bridge in which the structure of the bridge was exposed. A rectangular stone was identified in the section of the posthole at a depth of 0.16m, possibly part of a wall on the edge of the bridge. One bolt was drilled into the stone to secure the post.

Postholes 11 and 12 measured 0.3m in diameter at the top and 0.2m in diameter at the base and were excavated to a depth of 0.45m. At the base of both postholes the layer of rounded stones identified in postholes 5, 6, 7 and 8 was revealed.

4.2 Postholes 13 – 21 West side of bridge

Postholes 13, 15, 16, 17 and 18 measured 0.35m in diameter at the top, 0.2m in diameter at the base and were excavated to a depth of 0.4m. No archaeological deposits were encountered.

Posthole 14 measured 0.3m in diameter and was excavated to a depth of 0.38m (fig. 5). In the section on the south side of the posthole part of stone tram ‘block’ was visible, which measured 0.2m by 0.3m. As no other structural archaeology was noticed in any of the other postholes on this side of the bridge it is unlikely to form part of the bridge itself. The size of the stone is similar to the sleeper blocks uncovered in the evaluation trench and visible on the surface of the bridge, and it is

thought likely that this is a displaced sleeper stone or the remains of a second tram track.

Postholes 19, 20 and 21 measured 0.35m in diameter at the top and 0.2m in diameter at the base and were excavated to a depth of 0.4m. At the base of each of these postholes, a layer of rounded stones was revealed, similar to those identified in postholes 5, 6, 7, 8, 11 and 12.

5. Discussion and Conclusions

The evaluation and watching brief carried out during works to improve the Gelli Isaf Tram bridge revealed that while structural stones from the bridge and the tram rail survive, they are largely overlain by modern deposits. In the evaluation trench, sleeper stones were identified set into a bedding layer of stones and redeposited natural, and covered by around 0.5m of subsoil, modern gravel and hardcore. These sleeper stones align with those still visible on the surface of the bridge, and evidently formed part of a tram line which crossed the bridge and turned south-west. The holes and grooves into which the tram rail would have been fitted are visible on both the buried and exposed sleeper stones. The five other stones identified within the evaluation trench did not appear to form a coherent tramline structure and did not have any visible holes to house the tram rail. It is thought, however, that these blocks did form part of the tramline, as they are approximately on the route of the south-east orientated tramline depicted on the OS 1st Edition Map of 1868 (fig. 1).

The postholes excavated during the watching brief revealed that the build up of soil on both sides of the bridge covers part of the original bridge wall. The wall was revealed to comprise large squared blocks of stone. The deposit of rounded stones identified in several of the postholes may represent part of the structural make-up of the bridge, or alternatively could be a leveling deposit associated with the laying of the tram rail. The postholes were too small to be able to conclusively determine the function of this deposit.

While the drilling of bolts into the stone blocks exposed in postholes 9 and 10 was necessary to enable the fence to be securely constructed, it was carried out under archaeological supervision and with the aim of disturbing the bridge as little as possible (fig. 6). In all postholes where archaeology was revealed it was covered by a breathable membrane to protect it from the concrete that was used to secure all of the posts (fig. 6).

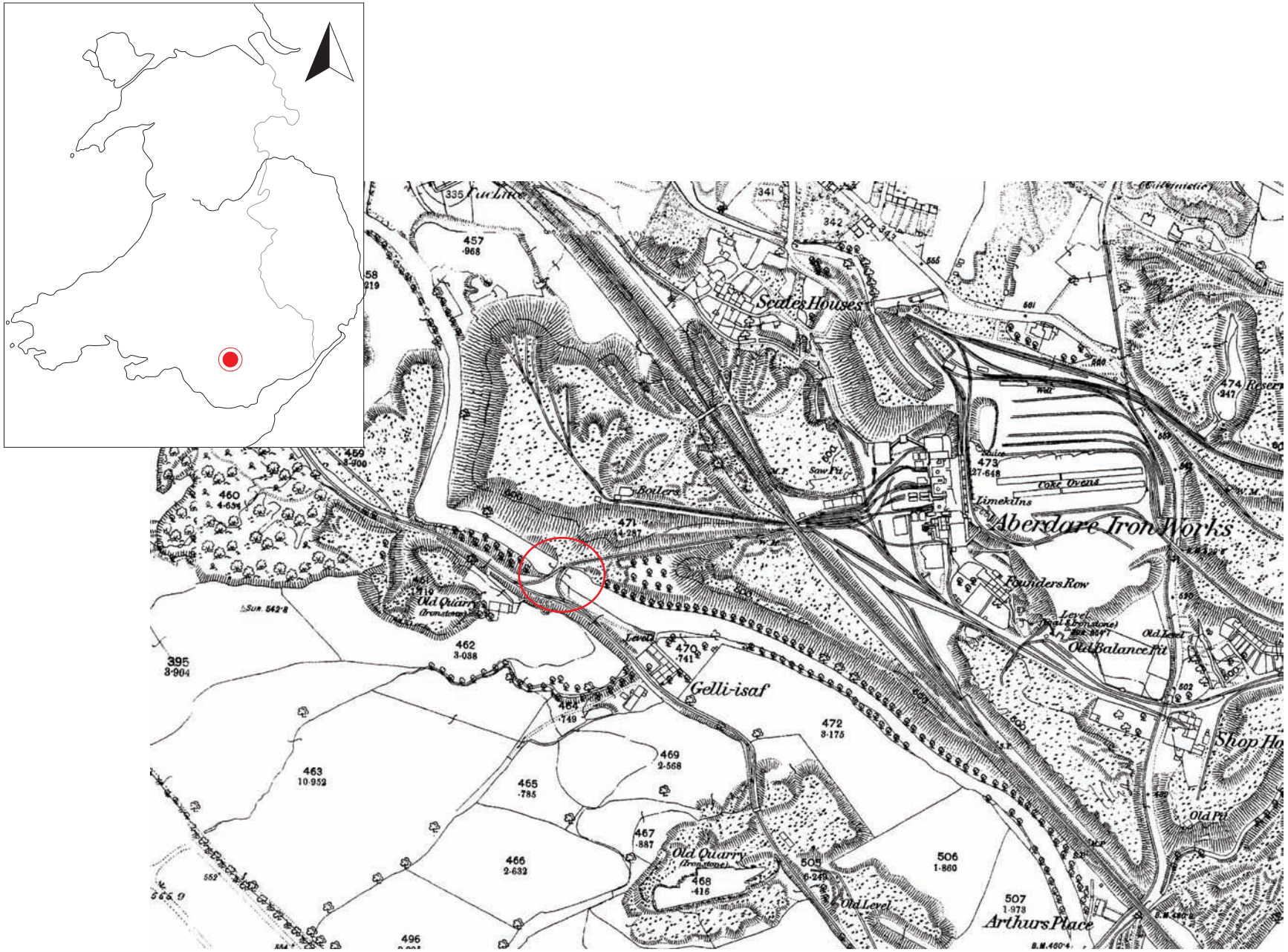

Fig. 1
Location of the Gelli Isaf Tram Bridge as depicted on the OS 1st Edition Map of 1868

Plate 1: Remains of a tram road causeway running in Southern direction, looking South-west. Scale 1m.

Plate 2: General view of trench, looking East. Scale 1m.

Plate 3: Remains of tram road causeway running in South-west direction. Continuation of the tram road causeway still visible on the surface of the Gelli Isaf bridge (SAM).

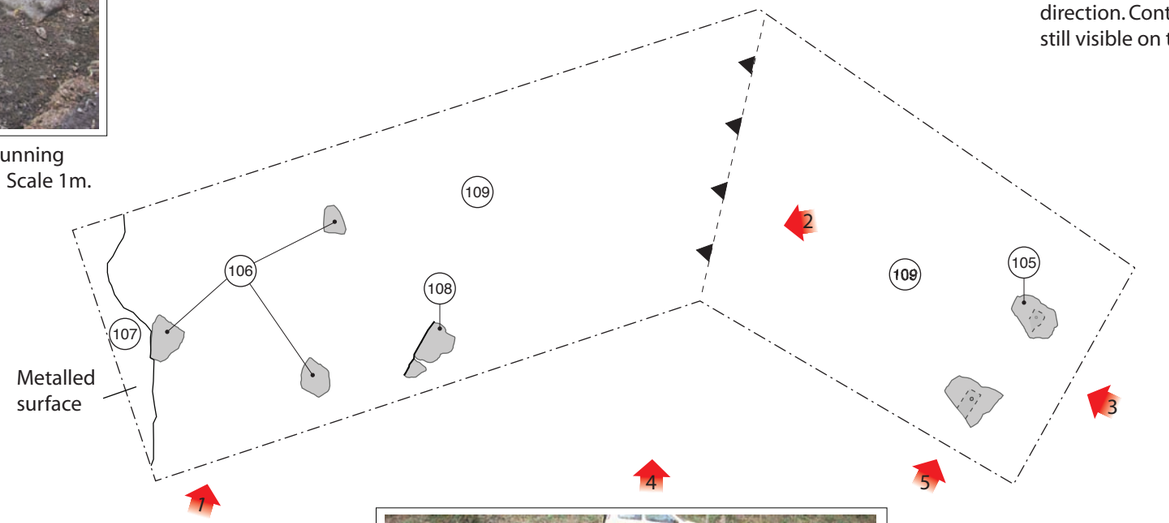

Plate 4: General view of trench location area prior to excavation, looking South-west. Scale 1m.

Plate 5: Detailed shot of tram road causeway, running in South-west direction. Scale 1m.

0 1 2 3 4 5m

Job Title: Gelli Isaf Tram Bridge

Fig. 2: Evaluation trench post-ex

Date: March 2011

Drawn By: Irma Bernardus

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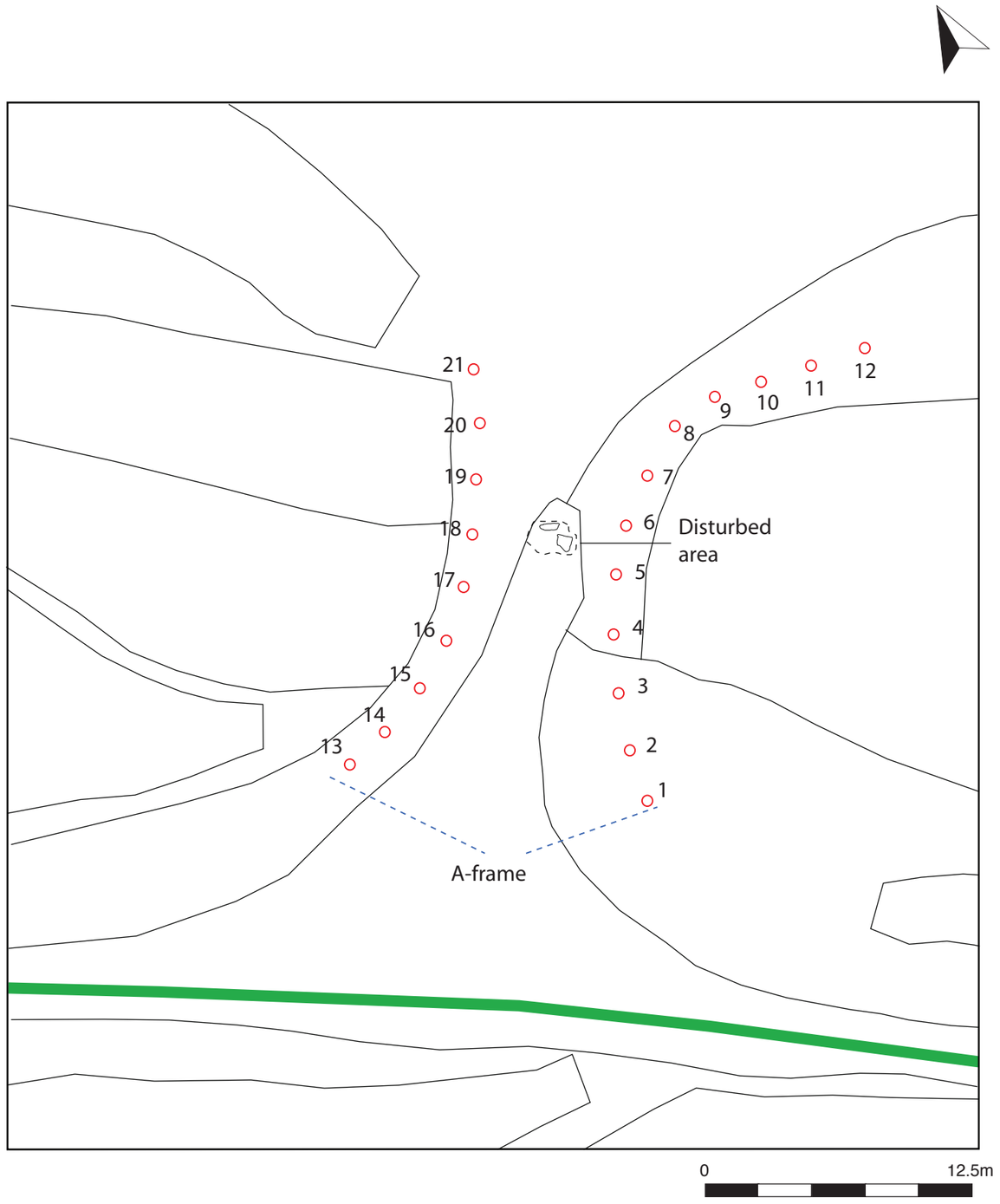

Job Title:	Gelli Isaf Tram Bridge
Fig. 3:	Location of postholes
Date:	March 2011
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Posthole 3

Posthole 5

Posthole 8

Posthole 9

Posthole 10

Posthole 11

Fig. 4
Postholes on the Eastern side of the bridge

Scale=1m and 0.2m

Fig. 5
Possible sleeper stone in the base of posthole 14

Scale = 0.2m

Posthole 5 with membrane covering the stone layer

Posthole 9 with bolts drilled into the structural stone

Posthole 9 with membrane covering the archaeology prior to concreting

The completed rail on the eastern side of the bridge

Fig. 6
Construction of the rail fence

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