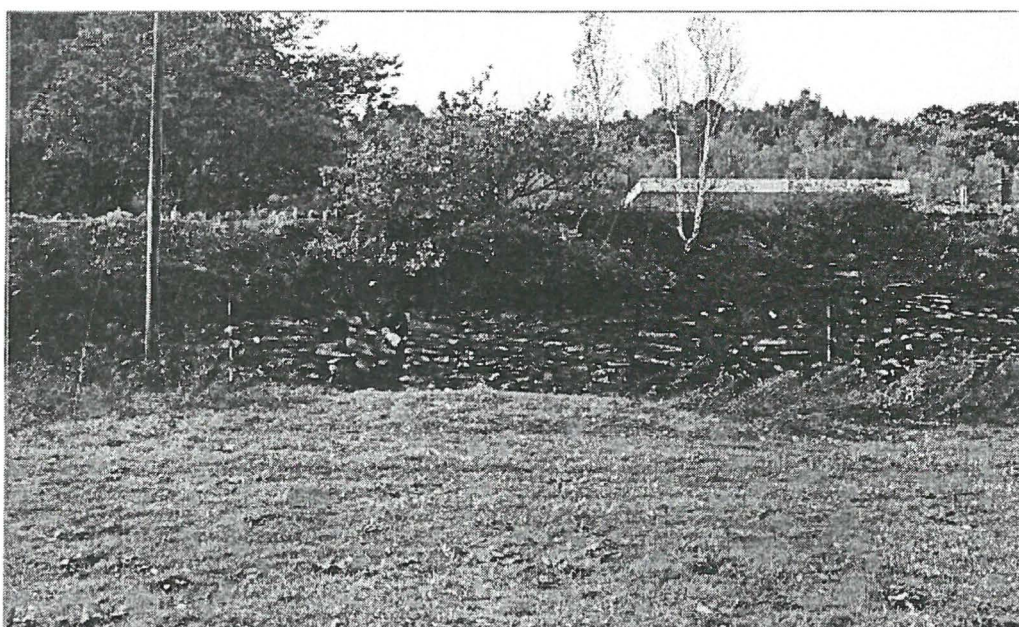


A470 (T) DOLWYDDELAN TO PONT-YR-AFANC  
IMPROVEMENT : SITE 74

ARCHAEOLOGICAL RECORD



Report No. 384

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by J.Kenney

**Ymddiriedolaeth Archaeolegol Gwynedd**  
**Gwynedd Archaeological Trust**

Event PRN  
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**A470 (T) DOLWYDDELAN TO PONT-YR-AFANC IMPROVEMENT  
SITE 74 (G1583)**

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## **A470 (T) DOLWYDDELAN TO PONT-YR-AFANC IMPROVEMENT: SITE 74 (G1583)**

### **ARCHAEOLOGICAL RECORD**

#### **1. INTRODUCTION**

An environmental statement was prepared in 1992 to describe the effects of the improvement of the A470 (T) between Blaenau Ffestiniog and Betws-y-Coed, Gwynedd. All archaeological sites affected were recorded by Gwynedd Archaeological Trust (GAT). Recently an alteration to the original scheme proposals has been necessary, involving the construction of a walled embankment on the eastern side of the road near the Cambrian Filling Station, on the section between Dolwyddelan and Pont-yr-Afanc. As this would lead to the disturbance of the north-western end of a quarry tramway (site 74), and the existing revetment wall supporting the eastern side of the road. Gwynedd Archaeological Trust were asked by WynThomasGordonLewis Ltd to carry out additional recording work.

#### **2. RECORDING BRIEF**

The tramway was examined during the work for the environmental statement, and was classified as a category II site. For such sites preservation is the preferred option, but detailed recording may be accepted as an alternative. The tramway was recorded in detail as part of the subsequent programme of archaeological recording (GAT Report No. 345). This work suggested that the revetment wall for the road was related to the tramway. As the road revetment had not been recorded in detail previously, the brief for the present work was to make a detailed photographic record and a measured survey, before the commencement of improvement works.

#### **3. METHODS AND TECHNIQUES**

##### **3.1 Desk-top Study**

This involved consultation of maps, computer records, written records and reference works, which make up the Sites and Monuments Record (SMR), located at Gwynedd Archaeological Trust, Bangor. Documents and maps held by Caernarfon Record Office were also consulted.

##### **3.2 Field Recording**

The fieldwork was undertaken on 3<sup>rd</sup> October 2000. A full photographic survey was carried out of the revetment wall, involving a complete record of its elevation. Photographs were taken of 10m sections, except at the northern end of the area, where the presence of trees made this impossible. Here 5m sections were photographed from positions closer to the wall. Detailed shots of all features of interest were also taken. The photographs were taken on Kodak Tmax 400 pro 35mm monochrome, and printed at 6" x 4". A catalogue of all the photographs taken is included in the appendix, along with a selection of prints reproduced to illustrate the nature of the site. The full photographic collection is held in the GAT archives.



The line of the revetment was surveyed using a Geodimeter 600 total station, and features of interest were located. This survey was overlaid on the plan supplied by WynThomasGordonLewis. A detailed written description was also produced.

## **4. RESULTS**

### **4.1 Archaeological and Historical Background**

The archaeological assessment carried out for the Environmental Statement (1992) identified a tramway (site 74), now a public footpath, with its centre point located at grid reference SH 7450 5272. A detailed record of this site was made by Gwynedd Archaeological Trust (GAT Report 345). It is described as a well preserved raised tramway, running for c. 200m across the valley bottom, linking Chwarel y Fedw to Prince Llewellyn Quarry. A multi-span bridge supported on slate piers, described by William and Lewis (1989, p16) as "most unusual", carries the tramway across the flood plain of the Afon Lledr. The river crossing itself has been replaced by a modern metal bridge to carry the footpath. Near the road the tramway is revetted on both sides by a 1.0m high wall of poor quality slate. It was recorded that no discontinuity could be seen between the tramway and the road revetment.

The embanked tramway and site of the bridge over the river were also recorded during a survey of Gwynedd slate quarries (GAT Report 154). The 25" County Series map (1889) marks the "Old Tramway", which, at its southern end, joins an incline running from Chwarel y Fedw Quarry. The remains of both the tramway and incline plain are still shown on the OS 1:10,000 map in 1978.

The exact date for the construction of the tramway could not be established, but it was probably built during the expansion of the slate industry between 1860 and 1877. Although not specifically mentioned, it is likely that permission to build the tramway was contained in a lease to Samuel Clift and Company of Chwarel y Fedw, dated 10 October 1865 (CRO: XD38/279). The tramway is marked on an undated map showing a proposed railway from Betws y Coed to Blaenau Ffestiniog, probably drawn up around 1875 (CRO: X/Maps/8213).

The original function of the tramway was to bring slate down from Chwarel y Fedw to be processed at Prince Llewellyn (Bwlch Cynnud) Quarry (Richards 1991, p63, 78), but it may later have also provided access to the main road between Dolwyddelan and Betws-y-Coed. There were problems with transport in this area, only solved by the arrival of the London and North Western Railways standard gauge line to Blaenau Ffestiniog, which was completed in 1879 (Richards 1991). A tramway to the nearest road was often the only solution to the problem (Williams and Lewis 1989). Even after the railway was built the only quarry with direct access to it was Tyn y Bryn, to the south-west of the present site (Richards 1991, p63).

There is a road from Dolwyddelan to Betws-y-Coed shown on John Evan's Map of North Wales, dated 1797, but this is unlikely to have been able to take wheeled vehicles. The first cart road along the Lledr valley was built in 1810 by William Jones of Tan y Castell, Dolwyddelan, to serve Chwarel Ddu, the Gwydir estate slate quarry near Dolwyddelan castle (pers. comm. Steffan ab Owain; Williams and Lewis 1989, p21). A map of 1863 (CRO: X/Plans/RD/17) shows a road, possibly this one, running to the north of the extant slate mill, on a site now partly covered with the rubble heaps from the Bwlch Quarry. The road followed its present course by 1889 (25" map), so it was presumably re-routed between 1863 and 1889.

The County Series map (1889) clearly shows how the tramway turns and joins the main road, merging into it like a slip road. This can still be seen on the ground, and suggests that the road revetment was deliberately constructed to merge with the pre-existing tramway, and that they were in use together. It is assumed that the revetment to the north-east of the junction with the tramway was constructed to support the road. However, it is possible that the

tramway originally followed the line of the road for some distance, and that the revetment was actually constructed for the tramway, before the road was built. The latter suggestion is the least likely because some change in constructional style would be expected where the tramway diverged from the road, and none can be identified at a suitable location. If the tramway was constructed in 1865, as suggested above, the road revetment would post-date this. The tramway is shown as disused on the 1889 map, so the period when they were in use together cannot have been long.

## **4.2 Description of revetment wall**

Twenty-one features of interest relating to the form and construction of the revetment wall were recorded. These, and the wall itself, are described below in sequence from south to north (see **figure 1**).

### **4.2.1 Feature 1 (plate 1)**

Where the north-western end of the tramway merges into the revetment wall the nature of the wall construction changes. The tramway is constructed of long, thin slate slabs, neatly laid in fairly regular courses. The stones of the revetment wall are blockier, and generally smaller, though some long slabs are still used. The coursing becomes very irregular, and in some places the stones are so randomly laid that there is no coursing evident at all. Both walls are drystone, and the slate used is of poor quality.

The point of change is not marked by a vertical joint, or other clear break in construction, though three long slabs laid on top of each other do end at this point. There is a berm, over 1m wide, between the face of the revetment wall and the roadside wall at this point, which appears to be the continuation of the tramway. The curve of the tramway and the continuity of the tramway and road revetments suggest that they were constructed to be used together.

### **4.2.2 Features 2-13 (plates 2 and 3)**

The most interesting features of the revetment wall were a series of vertical joints, which formed a distinctive part of the original construction technique. These joints were fairly evenly spaced; a gap of between 8 and 10m seems to be the intention, although there are occasional intermediary joints, and a gap of c. 20m between features 6 and 7. These features are actually sections of walling built in a repeating pattern. Each section is composed of a southern face built of large slabs, and not bonded with the wall to the south, so creating the vertical joint. Typically this southern face is battered. On the northern side the slabs are bound into a more irregular section of wall, built of smaller, blocky stones. This ends at the next joint, where it is not bonded to the next section of slabs. In some cases the pattern was clearer than others, features 9, 12 and 13 were difficult to identify, but only in the case of feature 7 was the basic pattern not followed. In this case the unbonded joint was to the north of the slab section, rather than the south. The rough walling to the north lacked vegetation cover, and may have been rebuilt.

Just south of feature 2 an iron drain, c. 60cm in diameter protrudes from the base of the wall.

### **4.2.3 Between features 13 and 14**

Here the wall is even more irregular than usual and constructed of smaller stones. It is partly obscured by a mound of stones and earth built up against it, which may indicate a collapse and rebuilding. There are no vertical joints visible in this section, and further north this technique does not seem to have been employed.

### **4.2.4 Features 14-16 (plate 4)**

Towards the northern end of the study area there is a lay-by at the side of the road, and this has a revetment wall which is stepped out beyond the general line. This section is neatly faced and well built, with much more regular coursing than is normal elsewhere. The revetment wall is continuous with the roadside wall on top, and the facing stones are bonded



with cement. Ceramic pipes are visible in 3 lines up the face of part of this wall. This is clearly a later construction related to the present road. It butts onto the existing revetment wall, and is not bonded with it. At the north end of this section, feature 16, the facing ends in a jagged, unfinished edge, and the northern return is left completely unfaced. Why the facing was never completed is unclear.

#### **4.2.5 Features 17 and 18 (plate 5)**

The northern part of the revetment is abutted by two low buttresses. Feature 17 is a simple reinforcing buttress, rather collapsed at its southern end. Feature 18 merges back into the revetment at its northern end, and seems to have been constructed to support a slight change in angle of the wall. The revetment above feature 18 has many loose stones, some out of line, and clearly suffered from weaknesses.

#### **4.2.6 Features 19 and 20**

There is a section of neatly faced wall, ending at sharp, vertical joints at each end (features 19 and 20). This section is continuous with the road-side wall, and is more prominently battered than much of the rest of the revetment. It appears to be a later rebuild of the revetment to strengthen it at this point. A concrete drain protrudes from the bottom of the wall, about mid-way between features 19 and 20.

#### **4.2.7 Between features 20 and 21**

Here the upper part of the wall is loose, and lacks vegetation, suggesting that it has been rebuilt. The lower part is covered in moss and is undisturbed. It is heavily battered.

#### **4.2.8 Feature 21 (plate 6)**

Feature 21 is a concrete chute carrying water from a concrete drain, 0.4m in diameter, which emerges from just below the level of the base of the roadside wall. At this point the revetment as such ends, and only the roadside wall continues. However, the roadside wall rests on top of a steep embankment, presumably the unfaced continuation of the terrace revetted by the main wall. The roadside wall continues to the gate in the corner of the field, after which the boundary is only a post and wire fence.

## **5. RECOMMENDATIONS**

A watching brief is recommended during the taking down of the tramway and the road revetment, so that details of construction can be recorded. The new masonry should be in character with the original, but the two should be distinguishable. An obvious straight joint should not be constructed where the road revetment meets the tramway, as one is not visible at present.

## **6. NON-TECHNICAL SUMMARY**

A photographic record of the revetment wall running along the eastern side of this section of the A470 was carried out. Various constructional features were identified, located by a measured survey, and described. It seems likely that the revetment wall was constructed after 1863, when the road was diverted to run south, rather than north, of the slate mill. The revetment seems to have been built to merge with the pre-existing tramway, and both were probably in use together for a short period.

## **7. BIBLIOGRAPHY**

### **7.1 Cartographic and unpublished references in Gwynedd Sites and Monuments Record**

Environmental Statement 1992 A470 (T) Blaenau Ffestiniog and Betws-y-Coed Road Improvement. Sir William Halcrow and Partners Ltd.

GAT Report No. 154, 1995 Gwynedd Slate Quarries.

GAT Report No. 345, November 1999 A470(T) Dolwyddelan to Pont-yr-Afanc Improvement

25" County Series map, Caernarfonshire sheet XXIII.11 (first edition 1889)

OS 1:10,000 map SH 75 SW (1978)

John Evan's Map of North Wales, 1797 (copy)

### **7.2 Cartographic and unpublished references in Caernarfon Record Office**

X/Plans/RD/17 (1863) Plan of Portmadoc and Beaver Pool Bridge turnpike

XD38/279 (1865) Abstract of Gwydir Estate Leases

X/Maps/8213 (1875) Proposed railway from Betws y Coed to Blaenau Ffestiniog

Steffan ab Owain pers. comm. (November 2000), Caernarfon Record Office

### **7.3 Published Sources**

Richards AJ, 1991 A Gazetteer of the Welsh Slate Industry

William, M.C. and Lewis, M.J.T. 1989 *Gwydir Slate Quarries*. Snowdonia National Park Study Centre.

**APPENDIX  
CATALOGUE OF PHOTOGRAPHS**

<b>FILM 1</b>		
Neg. No.	Description	View From
1	1 <sup>st</sup> 10m section, north-eastern end of tramway	E
2	Detail of feature 1	E
3	2 <sup>nd</sup> 10m section, southern end of road revetment	SE
4	3 <sup>rd</sup> 10m section	SE
5	4 <sup>th</sup> 10m section	SE
6	5 <sup>th</sup> 10m section, including feature 2	SE
7	6 <sup>th</sup> 10m section, including features 3, 4, 5 and 6	SE
8	Repeat of shot 7	SE
9	7 <sup>th</sup> 10m section, including features 6 and 7	SE
10	8 <sup>th</sup> 10m section	SE
11	9 <sup>th</sup> 10m section, including features 8 and 9	SE
12	10 <sup>th</sup> 10m section, including feature 10	SE
13	11 <sup>th</sup> 10m section, including features 11 and 12	SE
14	12 <sup>th</sup> 10m section, including feature 13	SE
15	13 <sup>th</sup> 10m section	SE
16	14 <sup>th</sup> 10m section	SE
17	Detail of corner of lay-by buttress, feature 14	SE
18	Feature 14 and wall just to south	SE
19	Butt joint between feature 14 and road revetment	S
20	16 <sup>th</sup> 10m section, including feature 15	SE
21	17 <sup>th</sup> 10m section	SE
22	Detail of north end of lay-by buttress, feature 16	SE
23	18 <sup>th</sup> 10m section, including feature 16	SE
24	1 <sup>st</sup> 5m section, 19 <sup>th</sup> 10m section, including feature 17	SE
25	2 <sup>nd</sup> 5m section, 19 <sup>th</sup> 10m section, including feature 17	E
26	3 <sup>rd</sup> 5m section, 20 <sup>th</sup> 10m section, including feature 18	SE



Neg. No.	Description	View From
27	4 <sup>th</sup> 5m section, 20 <sup>th</sup> 10m section, including feature 19	SE
28	5 <sup>th</sup> 5m section, 21 <sup>st</sup> 10m section, including drain	SE
29	6 <sup>th</sup> 5m section, 21 <sup>st</sup> 10m section, including feature 20	SE
30	7 <sup>th</sup> 5m section, 22 <sup>nd</sup> 10m section, including feature 21	SE
31	8 <sup>th</sup> 5m section, 22 <sup>nd</sup> 10m section, including steep bank	SE
32	9 <sup>th</sup> 5m section, 23 <sup>rd</sup> 10m section, including steep bank	SE
33	10 <sup>th</sup> 5m section, 23 <sup>rd</sup> 10m section	S
34	11 <sup>th</sup> 5m section, 24 <sup>th</sup> 10m section, road-side wall	SE
35	Northern end of road-side wall, ranging rods are not 5m apart	SE
36	General shot of north end of wall with Prince Llewellyn Terrace in back-ground	SE

<b>FILM 2</b>		
Neg. No.	Description	View From
1	Feature 1, junction between tramway and road revetment	E
2	Feature 2, vertical joint	SE
3	Feature 3, vertical joint	SE
4	Feature 4, vertical joint	SE
5	Feature 5, vertical joint	SE
6	Feature 6, vertical joint	SE
7	Feature 7, atypical vertical joint, with face to north	SE
8	Feature 8, vertical joint	SE
9	Feature 9, vertical joint	SE
10	Feature 10, vertical joint	SE
11	Feature 11, vertical joint	SE
12	Feature 12, vertical joint	SE
13	Feature 13, vertical joint	SE
14	Feature 15, corner of lay-by buttress	SE
15	Feature 16, northern end of lay-by buttress	SE

Neg. No.	Description	View From
16	Feature 16, northern end of lay-by buttress	NE
17	Feature 17, buttress	E
18	Feature 17, north end	SE
19	Feature 18, buttress	SE
20	Feature 19, south end of faced section	SE
21	Drain protruding from base of wall between features 19 and 20	SE
22	Feature 20, north end of faced section	SE
23	Feature 21, drain and chute	SE



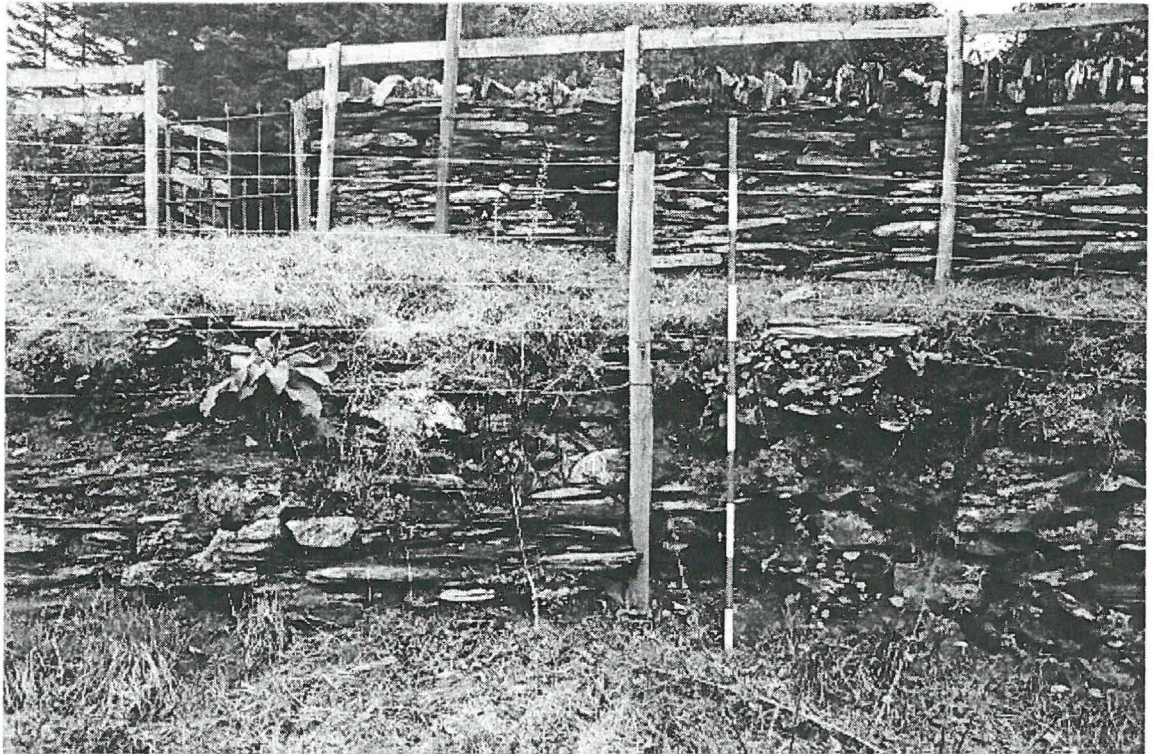


Plate 1: Feature 1, junction of tramway and road revetment



Plate 2: Feature 3, a typical vertical joint



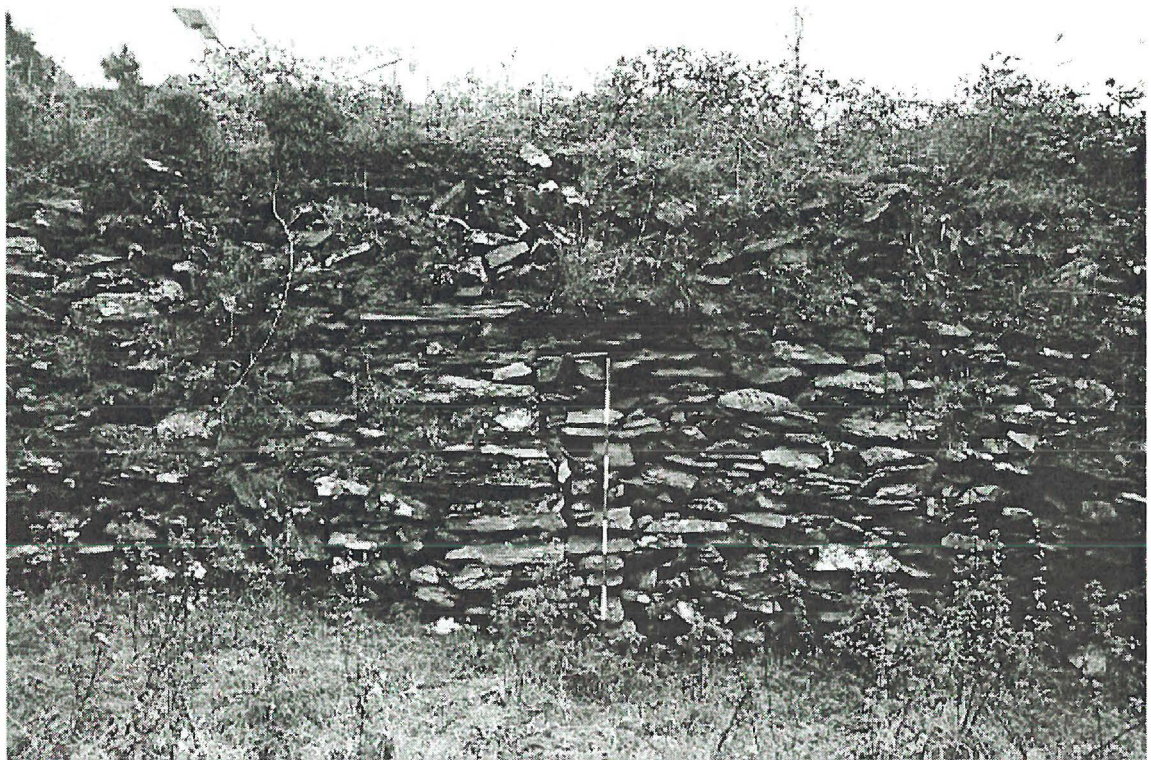


Plate 3: Feature 7, an atypical vertical joint



Plate 4: Lay-by buttress





Plate 5: Feature 17, a buttress at the base of the road revetment

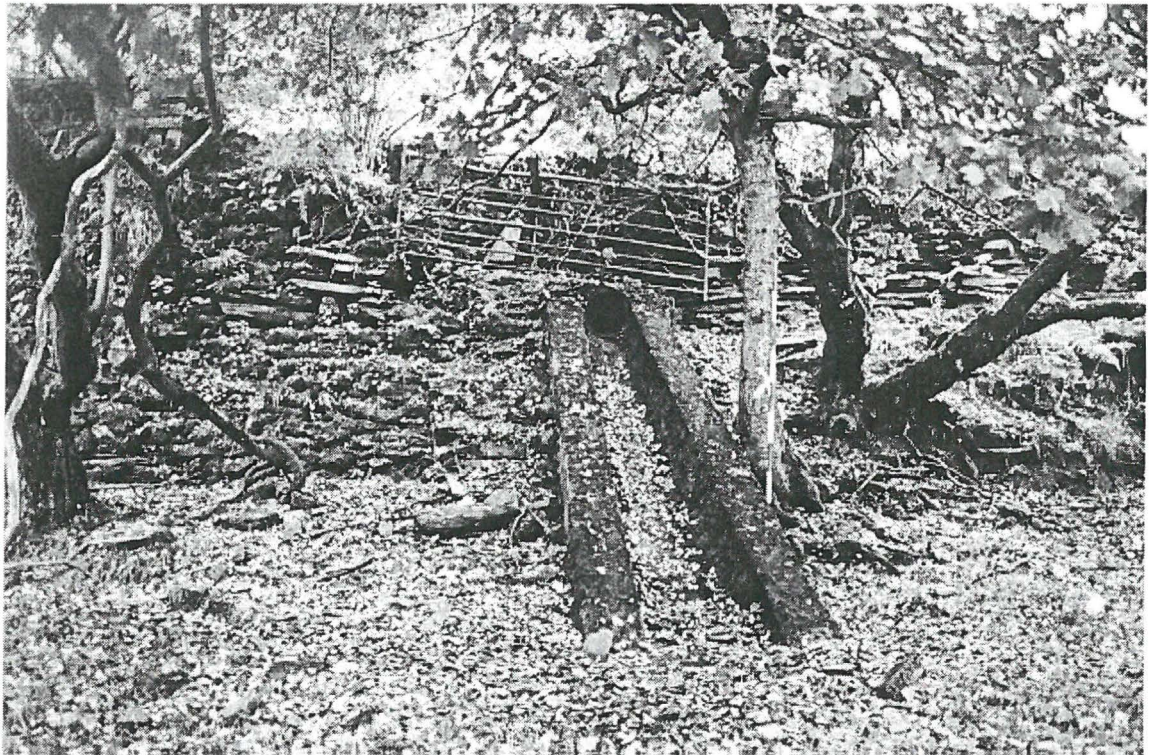
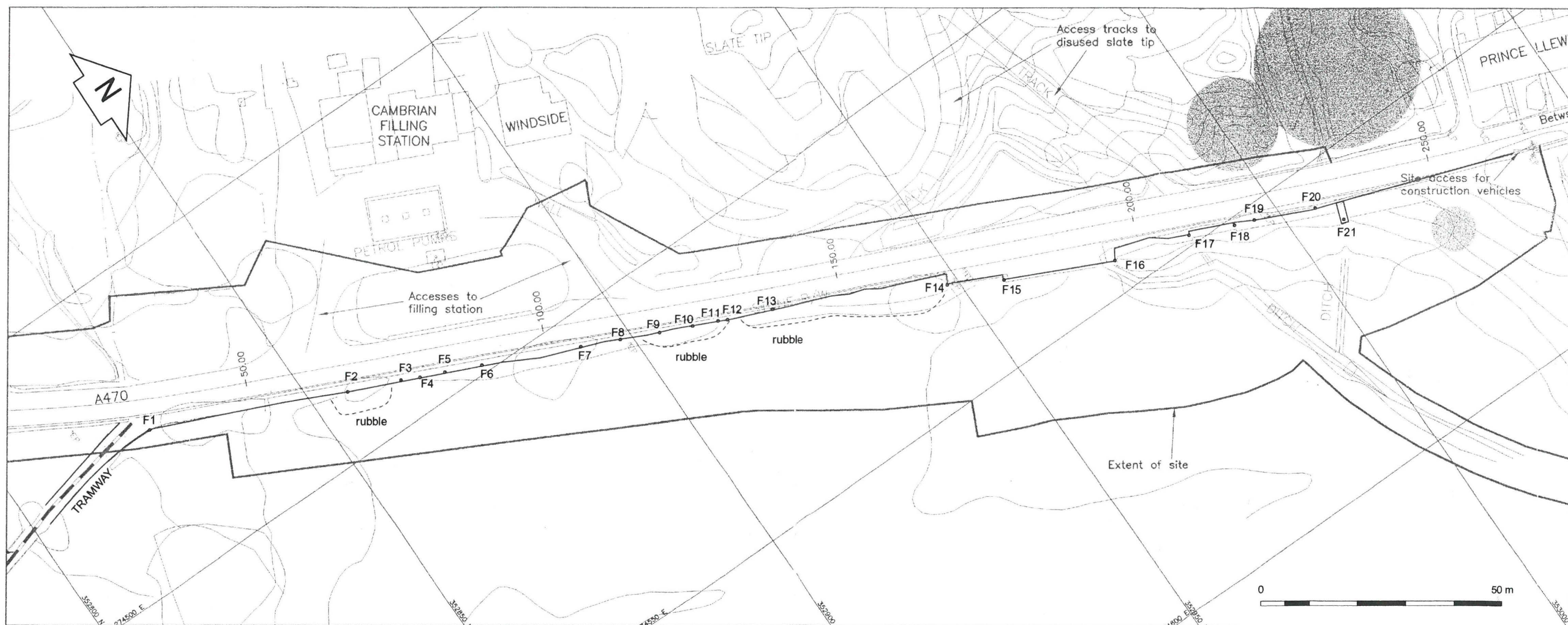


Plate 6: Feature 21, a drain and concrete chute





<b>Ymddiriedolaeth Archaeolegol Gwynedd</b> <b>Gwynedd Archaeological Trust</b> <small>01248 352535 01248 370025 email: gat@heneb.co.uk</small> <small>Craig Beuno : Ffordd y Garth : Bangor : LL57 2RT</small>			
<b>Title: Location of features (F) along line of revetment wall.</b>			
<b>Client:</b> National Assembly for Wales / Halcrow / Wyn Thomas Gordon Lewis		<b>Scales:</b> 1: 7500	<b>Date:</b> 04/10/00 <b>Drawn:</b> LAD
<b>Drawing number</b> C:\G1583_A470_A3.ai		1 of 1	

A470 Dolwyddelan to Pont yr Afanc Improvements.

Site 74 : Archaeological Assessment