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## KS4415

Diesel Locomotive No. 4415, built by Kerr Stuart of Stoke on Trent, was trialled on the Welsh Highland Railway in 1928. It arrived at Dinas in July of that year for proving trials accompanied by a young engineer with the name of Tom Rolt. A widely reported demonstration was arranged for the press and media on the 15th November. Kerr Stuart, perhaps realising that they had a winner on their hands, carefully choreographed the event to obtain maximum publicity.

A special saloon carrying a press party left Chester at 9.02am for Caernarfon. Following lunch in Caernarfon the party went on to Dinas by motor coach arriving there at 1.40pm where 4415 "was found in its Shed quite cold". The loco "was started within two minutes of the crew boarding"; it was then run out and attached to its train which consisted of a "buffet and saloon coach and a brake van". The Press party boarded and an excursion was made to South Snowdon station and back. That this exercise was a success is confirmed by the several reports in various contemporary newspapers, journals and magazines.



In March 1929 4415 was transferred to the Ffestiniog Railway where, in common with other Welsh Highland locos that had a spell on the FR, its roof was lowered!

The machine was returned to Kerr Stuart in August 1929 which caused Col Stephens to caustically comment "We thought we'd been given it"; he added, somewhat ungratefully, that "its fuel consumption was too high and that it cost too much compared with second-hand WWI surplus locos then in use." !

In August 1929 the loco resumed its trav-

els, being lent to the contracting firm of Sir Lindsay Parkinson & Co who were building the East Lancashire Road between Liverpool and Manchester. On completion of this trial it was converted to 3ft gauge and sent to the Castlederg and Victoria Tramway in Ireland but this excursion was a failure as the machine was underpowered for the work.

By the end of 1930 Kerr Stuart was in liquidation and the loco was acquired by Hunslets before being finally sold by their agents, Robert Hudson, in March 1934, to the Union Vale Sugar Estate in Mauritius, having been re-gauged to 2ft (60cm).

Thanks to the efforts of French rail enthusiast Olivier Joubert and the Greenwich & District Narrow Gauge Railway Society it was repatriated to the UK in 1999. An agreement was reached between the FR (&WHR) Heritage Co and the Greenwich Group for ownership to be transferred to the former. Since then, thanks to initiatives by Andy Savage, several efforts have been made to reconstruct the machine to its 1928 design, but they have stalled in recent years for a variety of reasons.

However following a suggestion by Martyn Owen, chairman of the WH Heritage Railway, to have the machine on display in Gelert's Farm Museum consideration is once again being given to its restoration.

4415 is the oldest British-built diesel loco still in existence; its charmed life not to mention its service on both the WHR & FR, must surely make it an ideal candidate for restoration.

More pictures on page 15



4415 in Minffordd yard after repatriation to the UK

# Tunnel Vision

Two drawings in the Sir Douglas Fox archive show some fascinating construction details of how the Portmadoc, Beddgelert & South Snowdon Railway (PBSSR) electrification might have looked in reality. I am indebted to John Manners for additional information provided by him from his researches into Bruce Peebles & Co. for a forthcoming book to be published by WHHG.

One of the Douglas Fox drawings shows a cross section of a tunnel in the Aberglaslyn Pass<sup>1</sup>, and is headed North Wales Power in an unusual stencilled typeface - rather than Portmadoc, Beddgelert & South Snowdon Railway. The drawing is interesting because the 3-phase overhead wires are in place, and dimensions are given that have not been discussed previously. However, the drawing is unsigned, un-numbered and undated so whether it truly represents the tunnels 'as built' in the years before 1908 is somewhat open to debate. No other clues are given, so it is likely that it was drawn in-house by North Wales Power. It may well be the same as drawing No. 516 described in Harper Bros 1905 write up, referred to by John Manners in his forthcoming booklet on Bruce Peebles.<sup>2</sup>

#### Richard Watson explains the light at the end of the tunnel!

The title of the drawing is *Section of Tunnel* (singular) *at Aberglaslyn Pass* but as we know three such tunnels were constructed in addition to the one close to the Goat Hotel. However in the Pass itself only Tunnel 4, the longest, would have had refuges every 66 feet as depicted in the diagram.

The bore is shown as parallel sided, with a width of 11ft 0ins between the walls to eaves level, approximately 7ft 8ins above the rail top. The arch of the tunnel describes a semi circle, contrasting with the flatter arc shown in Boyd's diagram for the same period in its history <sup>3</sup>. Boyd avers that the tunnels had this arc shape 'as finished in 1908', but superimposed on his drawing is the WHR version in which a semi-circular arch is shown as completed in 1923. The profile is very similar in appearance to the NWP drawing, but Boyd states neither the height of the bore nor the source of his information.





The NWP drawing shows the apex of the tunnel as 14ft 0in from the ballast sub-base and 12ft 10<sup>1</sup>/<sub>2</sub>in from the sleeper tops. The radius of curvature of the roof is not clear from the drawing but measurements suggest it would have been 5ft 2in. The dimensions of the tunnel refuges are not given either; measurements show them to be 7ft 4in high and 1ft 5<sup>1</sup>/<sub>2</sub> in deep.

The overhead catenary arrangement is a simple tramway type with a single suspen-

sion wire positioned 90° to the track, secured to the rock on the right hand side by a swan necked steel insulator bracket and to the left by what appears to be a cable tension adjuster. The 3-phase contact wires are held  $27\frac{1}{2}$  in apart, clamped in insulated cable grippers 11ft 6in above the rail top. The information is supported by Jim

Hewett's researches <sup>4</sup>, and by Harper Bros. description: "The height of the trolley wires in the tunnel is reduced to 11 feet 6 inches above top of rails, and the suspension is made by strain wires fixed on a



double petticoat insulator on one side, and on an adjustable insulated turnbuckle on the other side".<sup>2</sup>

As the electrification system was to be 3-phase, around 630 volts, two phases would have been carried by the twin overhead wires with the third carried through the running rails. The steel sleepers shown in the diagram may have been intended to improve the return path by providing a passage to earth, and it is interesting to compare them with the steel sleepers employed on much of the line today. As an aside, there is no sign in the drawing of the overhead wire troughs mentioned in the Peebles estimate <sup>5</sup>.

A brick sided cable trench is present at the left hand side of the track, with a stone lined drain to the right – essential in this very wet environment. The cable trench contains two cables, one for the railway and the second for the lighting supply at such places as Portmadoc and Criccieth.



According to the Peebles estimate, the trench was to be filled with bitumen and timber lined, although these details are not clear from the drawing. The Harper Bros. document elaborates by saying "The cables are of the three core type, paper insulated, lead covered and armoured. The troughs are filled with bitumen and covered with tiles. The depth of the trench is sufficient to protect the cables against incidental damage from working men making repairs on the permanent way."

Harper Bros. go on to say "The extra high tension primary wires are taken across the 3 Aberglaslyn tunnels in the form of underground cables entering the short North tunnel and terminating at the South end of the Main tunnel."

We know less about the Goat Tunnel arrangements, as no details are given in the NWPT drawing or the Harper Bros. Document, which is not surprising as full details of the electrification proposals for this section had not then been settled. However

> the overhead would most likely have been similar, but the high voltage supply was intended to go over the top of the Goat tunnel rather than through it. With reference to the Aberglaslyn tunnels the latter's description says in regard to the mixing of three-core cables and overhead wires in one supply line "The mixing is made compulsory by the natural formation of the ground at Aberglaslyn the side of the mountain being very steep



(Left) Swan necked brackets still in situ in the rock cutting at Nantmor, 2005 (David Allan) (Centre) typical railway style telephone insulator, (Right) 1900s electrical insulator, for comparison

and absolutely unfit for the erection of poles."

The choice of three-phase electrification is interesting as it was used mainly in the

early years of the 20<sup>th</sup> century, particularly in Italy. The system could in theory provide regenerative braking with the power fed back to the system, so was suitable for railways in hilly terrain. However it suffered from the disadvantage of requiring separate overhead conductors (as above) together with a return through the rails. As locomotives tended to operate at one, two or four constant speeds there was limited scope for fine tuning to suit local conditions.

It is sometimes said that the tunnels were built to standard gauge dimensions. That is an interesting theory, but a more likely explanation is that they were built to a height and width sufficient to accommodate overhead wires and to allow carriage doors to be opened in an emergency. The British standard W5 gauge specifies a vehicle width of 9ft 0in maximum, with a height of 13ft 0in above the rail top. It follows that a main line vehicle of standard dimensions would have been too tall to pass through the North Wales Power tunnels, with insufficient room width-ways to enable the carriage doors to be opened fully.

Reverting to the overhead line equipment, there is a familiar photograph taken from inside one of the short tunnels showing a bracket complete with insulator fixed just inside, and close to, the tunnel apex (see left). I had long supposed this to have been a fixture for a telephone wire, as it has an insulator similar in appearance to those used on telegraph poles. A photograph taken as recently as 2005 shows a pair of these in situ in the rock cutting at Nantmor, and these may well have been used for telephones latterly.





On the left, an enlargement of the well known "short tunnel" photograph showing the bracket and its similarity to the sketch of the electrification bracket, on the right

However, correspondence between Evan R Davies and Sir Douglas Fox and Partners in the 1922-23 period says that an approach was to be made to the North Wales Power and Traction Company with a view to using their *adjacent electricity poles* for the telephone wire. If this actually happened, it seems possible that the brackets were originally adaptations for suspending electrification wires in confined spaces. Comparison of an enlargement of the photo against the sketch of the 'tunnel' electrification bracket supports this suggestion.

As often seems to be the case when looking at WHR historical matters, information unearthed – pardon the pun - tends to lead to other unanswered questions. If any reader can add to the information I will be very glad to hear from them.

Dealing now with the electrical bonds, the second drawing (No.537), also for North Wales Power, showed bonds which would have been needed to provide electrical continuity through the running rails. This is because they were intended as the conductors of the third phase of the 3-phase electrification.



The first pattern, a flexible bond, was to occupy a gap between the fishplates and the rail webs, being mounted between adjoining rails at the joints. The drawing at the top of the document shows that additional holes, of <sup>3</sup>/<sub>4</sub> in diameter, were to be drilled in the rail ends to accommodate the bonds. The latter are of unspecified material, but most likely copper with a rectangular cross section. The bonds are broadly oval in outline with parallel sides, but with each side twisted inwards and outwards in serpentine fashion. The pitch between the fixing holes was to be 7<sup>3</sup>/<sub>8</sub> in. Each joint was to have two bonds mounted either side of the rail, hidden behind, but held away from the fishplates which would have been bolted on top. Each would have overlapped the joint slightly, staggered in such a way that roughly  $\frac{7}{8}$  of the bond would have been in contact with one rail, and 1/8 with the one adjoining.

One question left unanswered by the drawing is that a staggered gap would have existed between the fishplate and the end of the rail in the section where there was no bond. Although not shown, this must have been filled with an insulated distance piece.

The second type of bond was to be mounted crosswise between the two running rails, providing continuity between steel

Letter

Dear Sir

Malcolm Hindes (*WHH* no. 57, p.11) would not have been surprised by the regulations quoted in *WHH* 56 (those on page 9 being GWR issue of 13 June 1923, superseding some temporary ones for the start of WHR service) had he purchased a copy of the Group's publication *Chronicles of Croesor Crossing* (now into its forth printing and available at £6 post paid from John Keylock, address page 11.

Also therein he would have found the photograph which Mr Editor used to illustrate his letter - with the following caption: "The right foreground is the west corner of Croesor Crossing cottage with the road access (occupation crossing) to what is now Gelert's Farm beyond. The photo was taken from the Pickering Brake-Compo No. 8 on a Down WHR train at the moment of crossing the GWR. The Stop signal - at Danger - protects the train from Up GWR trains. The crossing gates at Portmadoc East can be seen in the distance, closed across the GWR. Photo by H F Wheeller, 8 August 1935". (obviously, it appears again in the Group's latest publication, *Wheeller's Day - August 8th 1935*, £19.00 post free from John Keylock).

I do, however, agree with Malcolm's strictures about the picture caption in *WHH* 56: the caption for this photo in *Chronicles* reads thus: "Looking east with an England engine on an Up train about to pull into Portmadoc 1923 station. Note the GWR Porter signalman with flag outside his box; the about-tobe removed gong on a wooden post in the south- west angle between the two lines, and a lineman up a telegraph pole. ... This iconic shot, from the Topical photographic agency, appeared in The Railway Gazette of 26 October 1923." Yours sincerely Richard Maund and earth. The Peebles estimate has them occurring at intervals of 120 feet. The two running rails were to be joined by means of a cross bond of "squared-off C" shaped bar with tabs designed to fit over the rail foot. These were to be held in place by ballast alone, as although the drawing shows an example of a dog spike none are evident in the cross section.

The cross bar is buried in the ballast, which as discussed would have aided passage of the current. However, rather confusingly the schedule for 'line equipment' in the 1903 tender document provides for 'telephone service bonding for railway track and signalling for the tunnel'.

The image shows the use of timber sleepers instead of the steel type shown in the Aberglaslyn Tunnel drawing. The reasons for this are unknown but a likely explanation is that timber sleepers would have been short lived in a damp environment like the tunnels in the pass.

#### References.

<sup>1</sup>NWPT drawing: Section of Tunnel at Aberglaslyn Pass. Undated. Sir Douglas Fox (Hyder) Archive, Cylinder 293-03

<sup>2</sup>Manners, John: Emailed information from his researches into Bruce Peebles & Co., from papers by the engineers Harper Brothers.

<sup>3</sup>Boyd, J.I.C.: *Narrow Gauge Railways in South Caernarvonshire*. Oakwood Press, 1972. p.180

<sup>4</sup> WHH 17, September 2002 p. 2 *Electrify the P.B.* & *S.S.R.*! Jim Hewett.

<sup>5</sup> WHH 27, March 2005 *The Bruce Peebles' Estimate* David Allan

Other interesting WHH articles consulted include: WHH 28, June 2005 *The Bruce Peebles Estimate* Jim Hewett

WHH 29, September 2005 The Bruce Peebles Affair & The Birth Of 'Russell' Michael Bishop WHH 51, March 2011 p.11 What happened to those poles for the PB&SSR?

#### John Kimber



With sorrow we record the death of John Kimber in mid November. John was an early member of the Group and vocally prominent at our AGMs. Several of his suggestions have consequently been acted upon. Our sympathy is extended to his widow Anne, son and daughter.



### Further Light On the 1922 Welsh Highland Proposals

n the 1st April 1922 a letter was written by Sir Douglas Fox and Partners (DFP)<sup>1</sup> to Evan R.

Davies<sup>2</sup> just before construction of the Welsh Highland Railway (WHR) commenced. Some of the detail has appeared

before, mainly in Johnson<sup>3</sup>, but as the content is of interest it is thought worthy of expansion.

The letter confirms that the promoters of the WHR were still considering inclusion of parts of the 'old' Portmadoc, Beddgelert & South Snowdon Railway (PBSSR) alignment only a year before the WHR finally opened. The letter informed Davies that tenders had been received from five potential contracting companies, Sir R. McAlpine & Sons, Laing & Son, Alban Richards & Co., MacDonald Gibbs & Co, and Muirhead Macdonald.

The value of the tenders varied consider-

#### Richard Watson illuminates those schemes

ably, and as the actual figures quoted do not appear to have been printed in full before, they are included here for comparison. The quoted figures are the total amount of the tenders, based on engineers' quantities and prices quoted by the contractors.

Contractor	1 in 28 route	1 in 40 route	
Sir R. McAlpine & Sons	£54,171	£60,819	
Laing & Son	£54,743	£57,637	
Alban Richards & Co.	£70,320	£74,983	
Macdonald Gibbs & Co.	£72,185	£81,611	
Muirhead Macdonald	£86,729	£93,648	

It will be noted that McAlpine's quote for the 1 in 28 route was the lowest with Muirhead the highest, but Laing & Co quoted the lowest figure for the 1 in 40 route with Muirhead again the highest. Nevertheless, DFP confirmed a previous recommendation to Davies that McAlpine's tender be accepted. DFP stated they considered McAlpine's schedule rates for items such as rock cuttings and bridge foundations to be the most favourable given the uncertainty of the quantities to be excavated.

The letter was very likely to have persuaded the promoters to accept the 1 in 40 route over the steeper P.B.S.S.R. version, as DFP pointed out that the existing gradients of the connecting North Wales Narrow Gauge (NWNG) and Festiniog Railways were considerably 'flatter' than 1 in 40. The clear implication was that the latter would be easier to work once finished. and was recommended despite it being more expensive to construct and requiring acquisition of more land.

DFP had discussed terms with McAlpine upon which the latter

would enter into a 'Lump Sum Contract'. This type of contract is sometimes called 'Stipulated Sum' and is a basic form of agreement wherein the contractor agrees a fixed price to undertake all the specified contract works, and the employer agrees to pay this price upon completion. This

> would have been binding upon agreement of the contract drawings and specifications. The advantage for the Promoters would be lower financial risk, with consequent higher risk for McAlpine. The Promoters' representative would need less time supervising the work, while McAlpine would have an incentive to finish on time or indeed earlier than scheduled.

The disadvantages of this form of contract are, firstly, that changes postagreement are difficult and costly to execute, and design work needs to be relatively complete before bidding can take place. The Contractor in turn can seek lower-cost solutions within the meaning of the specification, but naturally bears the brunt of the risks in material and labour cost fluctuations.

The quantities in the schedule included everything needed for completion of the railway, excepting:





By February 1922 Mr J.K. Prendergast was installed at the Royal Goat Hotel as McAlpine's 'chief man on site'. He wrote to S.E. Tyrwhitt requesting details of 'Moel Tryfan' (and coaching stock). The response is reproduced in the lower drawing.

Top - Letter heading used by McAlpine for the contract.

1. The cost of additional land near Beddgelert. The estimated cost of this was to be between £1000 and £2000. McAlpines were at liberty to make deviations approved by the engineers on gradients and curves, for which necessary land could be obtained.

2. The contractors were prepared to provide a telephone line at a cost of £750, with instruments at all halts and stations. The parallel electricity transmission poles belonging to the North Wales Power & Traction Company (NWPT) were to be used, subject to consent. [See also p4 para 1].

3. The sum of  $\pounds 1000$  had been allowed for stations but increased to  $\pounds 1500$  following a review with the contractors.

4. Fencing was not included in the schedule of quantities, but McAlpines offered to construct any new fencing required, and to repair sections already erected for the sum of £3500 (we are told that the latter were 'seriously dilapidat-ed').

5. Contingencies had not been allowed for in the schedule of quantities but it was conceded that 'some extra costs will almost certainly be involved which may not be balanced by savings'. McAlpines were prepared to include contingencies without charge provided the



6. The contractors were to use their "best endeavours" to complete the section from Dinas to Beddgelert station by July 22nd 1922, and "every effort" to likewise complete the section between Portmadoc and Nant-mor (sic) Halt, inclusive, by the same date.

7. An "essential feature" of the contract was that the whole rail-way should be ready for public traffic by March 31st 1923.

#### References

1 A letter from Sir Douglas Fox & Partners to Evan R. Davies, dated 1st April 1922, in which details are given of tenders received for the construction of the Welsh Highland Railway. Kindly made available by David Allan.

2 A note on Evan R. Davies Evan Robert Davies was born at Llannor, a village and community on the Llŷn Peninsula

in the year 1870. His career was multi-faceted as he was not only Town Clerk of Pwllheli, but also served on Carnarvonshire County Council as alderman and secretary of education. A solicitor by profession, Davies served in Lloyd George's office during the First World War. He later became a board member of the FR Co., served on the WHR Board, and apparently, the NWNG board. On the death of Colonel Stephens he became FR Company Manager between October 1931 and December 1934 and died of a stroke in 1934. (Sources: Johnson, Festipedia)

3 Source Johnson, P. An Illustrated History of The Welsh Highland Railway.

4 Dated 30th April 1922. The Welsh Highland Railway (Light Railway) Company and Sir Robert McAlpine & Sons. Agreement for the construction of a Railway between Portmadoc and Dinas. and Welsh Highland Railway (Light Railway) Contract and Specification for Construction of Railway. March 1922. Sir Douglas Fox & Partners. Transcribed by Richard Maund and Derek Lystor, August 2010. Available at

http://www.railchronology.free-online.co.uk/WHRcontract.htm.

By kind permission of Richard Maund.

Interested readers should also refer to the following articles in the Welsh Highland Heritage journal: Welsh Highland Chronology Year 1922. No. 2 page 4 (March 1998)

Welsh Highland Chronology Year 1923. No. 3 page 4 (August 1998)

Nineteen Twenty-Two. Jim Hewett explains the 1922 'To Do' List. No.15 page 4 (March 2002) Yet More On What Needed To be Done in 1922. Jim Hewett. No. 36 page 6 (June 2007) Creating the WHR in 1922/23. Richard Watson with John Keylock. No.55, page 7 (March 2012) Full Steam Ahead For Highland Railway No.55, page 6 (March 2012)

engineers (DFP) would allow them to make minor changes to specifications to allow them to make savings, but not 'prejudicial to the quality or permanence of the completed work'. In other words, they were not allowed to cut corners – and in any event, any changes would be permitted solely by Douglas Fox & Partners before they could go ahead. The total contract sum based on the above became:

Original tender	£60,819
Land	£1,000
Telephone	£750
Stations – extra cost	£500
Fencing	£3,500
	£66,559

McAlpine were stated to be prepared to enter into a 'lump sum' arrangement based on their tender and the modifications above, for a consideration of £66,500. For this they would provide a railway complete in all respects, subject to inspection and approval by the Ministry of Transport when complete for public service. Further, they undertook to complete the works within twelve months from the date of acceptance of the offer. Douglas Fox, for their part, advised the promoters that they should accept the offer and if approved, would prepare a revised specification for inclusion in a formal agreement with McAlpines. It is interesting to compare the information with that contained in the Contract and Specification for Construction of Railway. March 1922, by Sir Douglas Fox & Partners. This precedes the letter described by less than a month and is

available on-line <sup>4</sup>.

Further information from the last named includes the following

1. A motor car was to be provided by the contractor to access the railway at various points, to be made available to the railways' engineers and officers as reasonably required.

2. Materials could be delivered to either end of the works by using the NWNGR, with a 25% discount on the current rates, or by Croesor Tramway (CT) but on the latter, if required by the company the contractor might be required to transport all traffic during the construction period.

3. Repairs to the NWNGR section were to be completed by May 1st 1922 to permit re-opening.

4. The works were not to delay the operation of either the NWNGR or the CT, and traffic was not to be held up completely for more than three days.

5. The contractors were to put the works into effect working if necessary by night and on Sundays to ensure the works were "substantially completed fit for use" within the time stated.

## The End of Croesor Crossing

n 18 May 1937, having decided they would not run the Welsh Highland at all for passenger or goods traffic during the 1937 season, the Festiniog Railway served the GWR with one calendar month's notice of their intention to determine the arrangements for using the narrow/standard gauge flat crossing at Portmadoc (as it then was). They also told the standard gauge company that, being only lessees rather than owners, it wasn't their job to consent or otherwise to the crossing's removal. According to

Lee and others (<sup>1</sup>), the last narrow gauge (non-passenger) use of the crossing was Saturday 19 June 1937, but in a letter dated 19 July 1937 the FR Company Secretary (Cynan Evan Davies (<sup>2</sup>), who was also an FR director and son of the late Evan Robert Davies) told the GWR: "The transference of [FR]

stock from the WHR line and vice versa was completed on [*Friday*]

25<sup>th</sup> [June 1937] and since that date we have not had cause to use the above crossing for any purposes whatsoever." This may or may not imply movements over the crossing after the normally quoted date.

Davies also made it clear that the FR would pay nothing further in respect of the crossing, regarding it as henceforth entirely up to the WHR's Receiver & Manager, Richard Thomas Griffith of Caernarvon. Later that summer, Griffith wrote to the GWR: "I have to inform you that until the lease granted by us to the FR Co has expired I am not in a position to do anything in the matter *[of agreeing* to meet GWR costs of retention of the crossing]" - the GWR were trying to get someone in the narrow gauge world to take responsibility for the crossing: either to pay for work on the crossing and its signalling, or to agree to its removal. Another GWR approach to the FR brought a reply from Davies on 15 October 1937 declining to be responsible for any costs after 30 June of that year and adding: "If the Receiver of the WHR is not prepared to give you a definite statement as to whether he will be responsible for the maintenance [of the crossing] we must leave you to take such steps as you think fit." In December the GWR made one

ABSOLUTE OCCUPATION OF THE LINE BETWEEN MINFFORDD AND PORTMADOC. MONDAY, DECEMBER 27th.

The Engineering Department will have absolute occupation of the Single Line between Minffordd and Portmadoc at 119m.34ck. on Monday next, 27th instant, from 11. Nem (or after passage of the 10.25am ex Pwllheli) to 12.50pm for the purpose of taking out Welsh Highland Railway Crossing and Catch Points.

Drivers of all trains to be warned at Minffordd and Portmadoo respectively, that whilst passing the site at 119m. 34cg. between the hours of 7. an and 5. opm on this date, speed must be reduced to 15 m.p.h. Token for the Section Portmadoc - Peurhyndeulraeth

Token for the Section Portmadoc - Pearhyndeudraeth to be withdrawn at Portmadoc after passage of the 10.25am Passenger Train ex Pwllheli. The token to be returned to the Signalman at portmadoc in time for the passage of the 12.5pm Passenger Train ex Barmouth.

Please see my Notice No. NW.317 of date relating to "Taking out of use of Croesor Narrow Gauge Level Crossing Ground Frame and Signals, Monday, December 27th 1937". District Inspector Owen to make the necessary

arrangements so far as the Traffic Department is concerned.

All concerned to note and arrange accordingly.

FOR J. W. ENSER. 9

more effort, by giving formal notice to Griffith that they intended to dismantle the crossing unless they heard from him to the contrary; they received neither acknowledgement nor reply from him (a fact not disputed by the WHR) Having exhausted the routes open to them (and their patience, no doubt) – hardly with "unseemly haste" [*WHH* 42/3] – the GWR replaced the crossing with plain line.

#### Richard Maund digs up the details

When challenged by the Investing Authorities (the local authorities whose money was tied up in loans to the WHR) on this, Griffith replied on 4 February 1938 that "... I was under the impression, in view of the fact that the whole of the Undertaking had been leased to the FR Co, and that there was a clause in the Lease that on the expiration of the Lease they were to give up the property in the same condition as they took it over, that it was not part of my duty to interfere in this matter." The Receiver's noted reluctance to take any action for which he might later be called to account was, perhaps, sadly misplaced in this instance – it is clear that he did not even trouble to seek guidance (legal or otherwise) from the Investing Authorities, through the Caernarvonshire county secretary, still less did he play for time with the GWR. Perhaps this is not entirely surprising for in spring 1934, before the FR came along seeking to lease the line, Griffith had been endeavouring to persuade the Investing Authorities to agree to closure of the line (<sup>3</sup>). So the Welsh Highland just rolled over and died.

The actual date of removal of the flat crossing has been the subject of conjecture by writers for many years (<sup>4</sup>). However, the National Archives at Kew (<sup>5</sup>) have at long last yielded up the definitive date – in the shape of stencilled notice no. 532 issued by the District Traffic Manager's office at Oswestry on 21 December 1937 – see the accompanying illustration



Photo left

The crossing from the south in its final form prior to removal in bridge rail and angle-iron style check rails. Photo by F C LeManquais, 11 August 1934.

(<sup>1</sup>) C E Lee, *The Welsh Highland Railway*, 1962, p.40; J I C Boyd, *Narrow Gauge Railways in South Caernarvonshire, Vol. 2*, 1989, p. 45

(<sup>2</sup>) FR Heritage Group Journal no. 109, p.17

(<sup>3</sup>) Minutes of meeting of Representatives of Investing Authorities 13 March 1934 (proposal deferred), held at Gwynedd Archives

(<sup>4</sup>) J I C Boyd, *op cit*, p. 49, *WHH* no. 8, p.5 and elsewhere have usually quoted October 1938. My own *Chronicles of Croesor Crossing*, 2009, p. 25, posited January 1938

(5) file reference RAIL 279/43

- which states that the work was to be undertaken on Monday 27 December 1937, in an occupation of the line between 11.10 am and 12.50 pm, i.e. between the passage of the 10.25 am train from Pwllheli and the 12.05 pm from Barmouth.

## Light My Fire!

es, she did! Bethan Williams, Clerk to Llanwnda Community Council – which had donated  $\pounds 500$ towards the cost of re-instating the fireplace and chimney breast in the rebuilt Tryfan Junction station building - did the honours having arrived rather wet thanks to The smoke disapthe usual downpour. peared up the lined chimney causing the assembled throng to rush outside to view this phenomenon, and the fire drew well. Coal – which found its way from the bunker of a passing Garratt – was subsequently added and was quick to ignite, confirming the suitability of the product for all things Bethan was presented with a railway. framed print of Edward Tomlinson's imaginary scene at the junction kindly supplied by Phil Hawkins.

Since that occasion the fire has served a less ceremonial function in keeping those working inside warm and providing a crumpet toasting facility! Also since then, an impressive amount of woodwork has been completed – battening has been fixed to the walls – below cill and mantelpiece level – and this will subsequently carry the vertical tongue and groove wainscoting. Fitting the timber to the window recesses is well in hand.

When the timbered areas have been defined, lime mortar plastering will be on the agenda. Unless a suitably skilled volunteer can be found this will be a four figure expense. If you would like to make a contribution to this comparatively unglamorous aspect of the restoration, John Keylock would be pleased to receive your cheque!

The bulk of the work is being done by Lewis Esposito and Ian Lord and even though they both have a determination 'to see the job through to the bitter end' they would appreciate new faces to lend a hand – if that's not an oxymoron?

On related matters the WHR Society – who have generously funded this restoration to the tune of  $\pounds 4000$  – are providing a platform seat and a picnic table – similar to those at Rhostryfan.

During the last two weekends in January the platform is being extended by

twenty metres to more than cover the station building frontage. This will not only enhance the scene but also make life easier for the crews of stopping trains. This job is being taken on as a West Midland Group



Top - John Keylock & Bethan Williams enjoy the first fire in the grate for 80 years

Lower - smoke issues once again from the chimney of Tryfan Junction station building

(of the WHR Society) project and will be part funded by them. Thank you to both the Group and to the Society

### NWNGR Station layout changes on the Bryngwyn Branch

The 1914 range of historical maps showing the route of the NWNGR are well known to most members, but the additional study of two earlier editions throw up some interesting developments and changes in the layouts of many of the stations. This article deals with the Bryngwyn branch, its intermediate station at Rhostryfan and the passenger terminus at Bryngwyn.



The basic layout at Rhostryfan remained virtually unchanged throughout the period covered by the maps, but there were one or two changes of note. The 1889 edition shows the station building, a goods shed served by a siding, and signal box with attendant signals.



By 1900, the goods shed had been replaced by a simple loading platform, and a weighing machine had been installed just inside the entrance to the station. By the time of the 1914 revision, both this and the two signals, had been removed.

### Derek Lystor profiles the changes



Rhostryfan station building - derelict



In contrast, the layout at Bryngwyn was significantly altered to suit traffic requirements. The 1889 map shows the terminus in its simplest form, with the line from Tryfan Junction crossing a minor road on the skew, entering the station site with a signal on the left and a signal box on the right.



The double tracked incline up to Drumhead and the quarries beyond is clearly seen with its associated storage loop for slate wagons at its foot. A passing loop for passenger traffic with station building alongside, had a siding at its eastern end serving a coal depot.



The 1900 & 1915 plans show a much enlarged goods layout, and the station building appears to be twice the size. It was in fact, two separate buildings, said to be about a foot apart, the more easterly portion being the goods shed. The siding to the coal wharf shown in the 1889 plan seems to have been moved from its original position to terminate at the end of this goods shed, whilst the coal wharf not only had a new and longer siding on a different alignment, complete with loading platform for goods and flour, but had a weighing machine, similar to that at Rhostryfan, installed at its westerly end. These two new sidings merged opposite a new water tower, sited at the bottom of the incline, and ended in a headshunt.

Yet another new siding had been installed serving a new slate mill to the south of the yard, entering it at its northern end complete with a small headshunt. Known as Bryngwyn Mill, it was erected some time prior to October 1893, as there is a record in the National Archives at Kew (ref LRRO 16/98) stating that it was leased from the 10<sup>th</sup> of that month to Messrs John Morris Jones, Inigo Jones and William Morris Jones. It had a waterwheel at its southern end fed by a pipe from a sluice in the nearby stream, supplemented by a reservoir in times of drought. In his various books on the railway, JIC Boyd refers to this building as a gunpowder store, but it's close proximity to the station buildings make this seem unlikely. Of all the buildings which once stood at Bryngwyn, the mill is the only one which remains, now converted into two dwellings.

Editor : David Allan, 132 Eastham Village Road, Eastham, Wirral, CH62 0AE. Tel 0151 327 3576 Email : david.allan132@ntlworld.com Secretary : John Keylock, Weathervane Cottage, Childswickham, Broadway, Worcestershire, WR12 7HL Tel : 01386 852 428 Membership Secretary : Derek Lystor, 14 Teign Village, Bovey Tracey, Newton Abbot, Devon, TQ13 9QJ. Tel 01626 853963. Email dickandsuelystor@aol.com

### Working the Croesor valley traffic in the 1930s

hat short stretch of the original Croesor Tramway which became part of the statutory Croesor & Portmadoc Railway by the Act of 1865, between Croesor Junction (Tanlan) and its end-on junction with the non-statutory tramway at Carreg Hylldrem (by the crossing of today's A4085 road), passed through the ownership of the Portmadoc, Beddgelert & South Snowdon Railway to become part of the Welsh Highland from 1923. Nevertheless, it was not rebuilt and continued to be horse-worked, by contractors, throughout its active life. When the WHR opened, steam and internal-combustion power took over the working south of Croesor Junction.

## Boyd (*Narrow Gauge Railways in South Caernarvonshire, Vol. 1* (1988), p.132), says:

"Work ceased in Parc (1916) and Croesor (1930) [quarries]; they were the last workings in the [Croesor] valley. After this [presumably he means 1930] there was spasmodic working and an occasional train on the Tramway. More often it was a single wagon drawn by horse and even in the early thirties, Welsh Highland trains were known to stop at Croesor Junction to attach a slate wagon on the rear. Sometimes a rail tractor from Boston Lodge worked to the foot of the Lower Parc Incline (heavier units were not allowed further than the Llanfrothen road [A4085] level crossing as the track beyond here had not been relaid with flat-bottomed rail)." In Vol. 2 (1989), p. 40, he records a February 1931 report to the effect that, while still functioning, Rhosydd quarry was no longer using the tramway.

### Richard Maund explores a little known operation

Doubt has to be cast on Boyd's summary of the working methods in the 1930s because there was no provision in McAlpines' contract for relaying the branch between Croesor Junction and the Llanfrothen road crossing at Pont Garreg Hyldrem. Bearing in mind the careful separation of the operating costs of the two railways after the WHR went into receivership in March 1927, the use of FR power to trip up to Croesor Junction – as was happening five years earlier – would



have been unlikely in 1930. Evidence to reinforce this

doubt is a traffic statement for four months ended 30 April 1930 (which can be found at Caernarfon archives under references XC2/33/37 and /58), called for by the Investing Authorities. This revealed:

Portmadoc – Croesor	28 tons coal	@ 2s.6d. p.t.
Park & Croesor – Portmadoc	555 tons slate	@ 2s.2d. p.t.
Rhosydd – Portmadoc	541 tons slate	@ 2s.6d. p.t.

However, more interesting is the foot note that these rates included haulage charge of 1s.6d. p.t. being "the payment made to the horse haulier, for hauling traffic, by horse, between Croesor Junction and Gelert Siding Portmadoc, and from the Rhosydd and Park & Croesor Slate Quarries. No haulage at all being performed by the W H Rly herein".

The context in which the question was asked made clear that this was the totality of the Croesor traffic - we can conclude that none passed towards Dinas, and that all that did move did so by horse to Gelert Siding. Although not explicitly stated, we can probably assume that all was transhipped with the standard gauge, that none passed over the junction railway. Another tabulation for the nine months ended September 1930 showed that traffic over Croesor Jn - Portmadoc section had been 59 tons "goods", 84 tons coal and 2373 tons slate. The nature of the "general"

Croesor tramway approaches the Llanfrothen Road level crossing

traffic conveyed on the tramway was discussed in *WHH No.37*, p.5.

I believe, therefore, that we can conclude that

by 1930 all Croesor valley traffic (up and down) was horse worked north of Gelert Siding, certainly in winter, possibly also in the tourist season; and
nothing would have changed before July 1934 - except that Croesor valley traffic (if surviving) will have been inwards goods only, after 1930 with the loss of the Rhosydd outwards traffic.

It is reasonable to assume that by this time (1930) coal was the only bulk/heavy traffic up to Croesor as other valley requirements would have been satisfied by motor lorry transport.

A poor quality, but unique picture, (Edgar Parry Williams collection) that needs close inspection. Three horse-drawn wagons are parked before the road crossing in Croesor Village. Behind the leading wagon is a building with a square hole, the top of which is plain to see, through which goods are passed for storage. It is said that this was the village coal store.



#### Recording Yesterday for Tomorrow



Manoeuvring wagons by hand on the weed infested track of the Croesor Tramway - Dave Southern collection

Whether or not Moses Kellow's subcontractor was diligently carrying the train staff (WHH no.51, p.9) on each trip is a very moot point! Likewise, what happened in summer is not clear - haulage outpayments were still being made but it's not possible to adduce whether they were at a reduced rate per ton to reflect the much shorter haulage that would have been applicable had the horse working been restricted to north of Croesor Junction. Are there any reports to substantiate Boyd's claim of the passenger round trip in this period calling at Croesor Jn to pick up and set down slate wagons? The time at Portmadoc wasn't really generous enough to do other than run round the train, let alone engage in shunting at both Croesor Junction and at Gelert Siding.

formed by the "on request" Up mixed train advertised three days a week during 1929 and until September 1930 (it was advertised in only one direction so that if there was no need to go beyond for wherever it had traffic -Croesor Junction or Beddgelert - the train could save unnecessary mileage). However, with the Croesor valley traffic now being worked by horse through to Gelert Siding at Portmadoc, the "on request" train would rarely have run south of Beddgelert, probably leaving the Beddgelert ⇔ Croesor Junction section out of use during winter.

From all this, however, we cannot infer anything about movements between Gelert Siding and locations on the junction or Festiniog Railways (such as Snowdon Mill), but continued freight use of Croesor Crossing is evidenced by a letter from Robert Evans dated 13 February 1930 (Johnson, *Illustrated History of the WHR* (2009), p. 74) to the effect that the crossing was being used twice a week and a letter from Lt-Col. Holman Stephens dated 8 November 1930 (Maund, *Chronicles of Croesor Crossing*, p.23) to the effect it was still being used for goods.



Croesor Tramway approaching Croesor Village from the quarry. Photo - David Mitchell



The metal object inustrated nere is just one of many treasures that David Kent discovered in the barn when he and Gina moved into Ffridd Isaf farmhouse close by Rhyd Ddu station. It appears to be a forging or casting with dimensions that seem to relate to a two foot gauge railway. It measures 3ft 6 in long, 2 in wide and  $\frac{1}{2}$  in thick with a measurement of 2ft 2in between the tops of the projecting 'cast' in lugs. There is a central round hole with a square hole on either side. The 'squareness' suggests the use of a con-

ventionally sized 'dog spike' for attaching to a wooden sleeper. There are three round holes outside the "2ft". 2ft 2in would allow the lugs to be in positive contact with the rail webs. Could this curiosity have had a possible use as a rail bond in conjunction with the proposed PB&SSR electrification?!

### Welsh Highland Passenger Services - October 1934 Richard Maund explains further.....



journeys had been accounted for by Dinas booking office – both in the shape of card tickets sold there and guards' on-train sales paid in there – in October, and that there were also some 21 passengers transferring from the LMS and 34 from the Festiniog that month – a grand total of 102. A more detailed analysis of the Dinas figures is available from the ticket register maintained by the booking clerk there and currently in the care of this Group.

he tabulation set out in WHH 57 (page 7) caused one or two eyebrows to be raised when the end date of the 1934 season was shown as Saturday 13th October, rather than 29th September – the expiry date of the only known FR-issue timetable for the first year of the lease period. Of this, the poster version appeared in the 2002 edition (only) of Illustrated History of Welsh Highland Railway (P Johnson) and an extract of the handbill in More about the Welsh Highland Railway (anon.; 1966 the "red book"). The hand bill – with a gummed overlay about the FR high-season service - is reproduced herewith. Having shared the grounds for my conclusions with my correspondents, it seemed sensible to set them out here for other WHH readers who may have harboured similar doubts.

In judging whether such an extension of service seemed likely, we should factor in Evan R Davies's keen-ness to give his "baby" (he had been promoting the WHR since the turn of the century) a fair chance to prove itself: one gets the distinct feeling he was antipathetic to the penny-pinching exercised in the receivership era. One must recognise that the receivers had little scope for entrepreneurial risk as any loss would have had to be made good from their own pockets – they were only there as agents of the Chancery court to protect the interests of those to whom the company was indebted. Now with a free hand (and the FR's resources - he was its Chairman), Davies would

have relished instructing Robert Evans to be more adverturesome, both by running a much more frequent service in the main season *and* by running the season as long as (if not longer than!) reasonable.

The *Railway Gazette* of 7 December 1934, pages 929-930, reported that "Under Festiniog management [the passenger service] was continued until October 13th, when it was suspended for the winter, but goods and mineral trains are

still being operated." – and this has been repeated in writings by Charles E Lee (who was associated with that journal), right down to his *The Welsh Highland Railway* (1962 - the "blue book").

WHR ticket totals for October 1934 are shown as nil on page XIII of *Branch Lines around Portmadoc 1923-46* (Mitchell & Smith, 1993). However, we cannot rely on this source for it is contradicted by 7 transfer tickets WHR to FR in the lower right table on page XI (which *can* be validated – see below). A bound volume entitled *Register of Number of Passengers and Season Tickets...*, rescued from Stephens's Tonbridge office by Michael Davies had been analysed to show that tickets for some 47 passenger

#### **Monthly Totals - Dinas**

Card tickets - Dinas booking office		
Adults	7	
Children	1	
Total	8	£1-2s-6½ d
Punch tickets - paid in at Dinas	39	£1-2s-9d
TOTAL	47	£2-5s-4½ d

#### of which the card issues were:

Fare	Station	Туре	Opening No.	No. issued	Amount	Closing No.
2/6	Portmadoc	Excursion	1007	1	2/6	1008
3/1	Bl Festiniog	38	1459	6½	£1-0s-0½	1466

We can identify when the booking office sales took place:

1 Blaenau Festiniog Tuesday 2nd October 1 Portmadoc Friday 5th October 2½ Blaenau Festiniog Tuesday 9th October (date inscribed in Register – but it may possibly have been Saturday 6th October as the printed column heading might suggest)

3 Blaenau Festiniog Friday 12th October The 6½ tickets to Blaenau were, of course, the 7 transfers to the FR, noted above. The Punch tickets – issued by guards – are not related to specific dates. The figure equivalent to 102 for the first fortnight of October for the whole month



Note that an additional train from Beddgelert to Portmadoc at 2.25pm is advertised on the poster version of this timetable, thus "balancing" the service.

of September was 2708 so it's not really surprising (particularly after Davies'

death in December 1934) that there was no repeat of an October "tourist" service on the WHR (even though there was on the FR).

Unfortunately, none of this tells us what service was actually operated in October 1934 but it does seem unlikely that the full summer service was operated, in a month when holiday makers with school-age children would have returned home and when the end of summer time on 7th October would have hastened the on-set of sunset for the final week. Bradshaw's Guide carried forward the summer service into their October issue, but that cannot be taken as definitive evidence. My own speculation would suggest a single round trip from Dinas to Portmadoc and back, providing the connections with the LMS and FR to facilitate both the clockwise and counter-clockwise Five Valleys circular tours. Certainly, the FR's service in the equivalent month of 1937 was simply two round trips Portmadoc – Blaenau, with a Portmadoc arrival at 1.17pm and departure at 3.10pm; 1934 would likely have been similar and would have "fitted" with a morning WHR working from Dinas, returning after lunch. But this schedule is nothing more than speculation, so if any reader knows of any WHR timetable for the month of October 1934, your editor would be very keen to hear from him or her!

My thanks to Michael Davies, Derek Lystor and David Woodcock for their contributions.



Kerr Stuart 4415 in Mauritius - left on a plinth outside the Union Vale Sugar Estate : Right - the cab being removed prior to shipping - both pictures by Olivier Jaubert 26<sup>th</sup> August 1997

# 'The Russell'





The acquisition of any previously unseen photograph taken on 'our railways' between the 1870s and 1930s can be exciting in itself. However if any such photograph features a previously unrecorded location – let alone an old friend – on gets a sort of double bonus!

Such a photograph is reproduced here, (main picture - photographer unknown). It depicts Russell on a southbound train passing Glanrafon sidings with a capless Goronwy Roberts – with his ubiquitous cigarette – on the footplate. No doubt he is leaning out to add 'human interest' to the photograph, which is being taken from the leading carriage.

Like his 'relative', Willie Hugh Williams, 'Gron' - as his wife Myfanwy called him always obliged for the photographer's benefit as depicted – without a cigarette – on the signed photograph of *Russell* (lower left by *F.M. Gates*). In



the context of the signature it is worthy of note that in his younger/stoker days he had very neat handwriting and when stoking for 'Willie Hugh' Goronwy would make out the driver's logs!

Our worthy editor likes 'lots of photographs' in our quarterly offering so a third photograph (lower right - photographer unknown)) of Goronwy – with cigarette – is included. In this picture, seen above his left shoulder, is the unmistakable cap of guard Dafydd Lloyd Hughes. All these photographs were taken in 1934 and it will be noted that in the lower two pictures Russell is carrying the same wooden sandbox. Aficionados will no doubt tell us during which period the three different types of sand container were carried!

And why the title of this piece? Goronwy invariably referred to his favoured WHR locomotive as *'The Russell'*.

#### - JOHN KEYLOCK