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Contributions are welcome:

- (a) as e-mails or e-mail attachments;
- (b) a hard copy of a computer file;
- (c) a typed manuscript;
- (d) a hand-written manuscript, preferably with a contact telephone number so that any queries can be sorted out;
- (e) a CD/DVD;
- (f) a USB storage flash drive.

Any queries to the Editor, please.

The NEXT ISSUE will be dated June 2014, and contributions should get to the Editor as soon as possible, but at least before 1 May 2014.

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The cover illustration this quarter is described in Editor's page later in this issue.

Forthcoming events:

25 Mar. 2014: presentation to HMRS, Bury (Old White Lion, 7ish).

12 Apr. 2014: 7mm running track, Llanbedr (see Editor for details).

26/27 Apr. 2014: Liverpool show.

17 May 2014: 7mm running track, Llanbedr (see Editor for details).

7/8 Jun. 2014: Wigan show ("Mostyn" is appearing).

14/15 Jun. 2014: Chatham show ("Johnstown Road" is appearing).

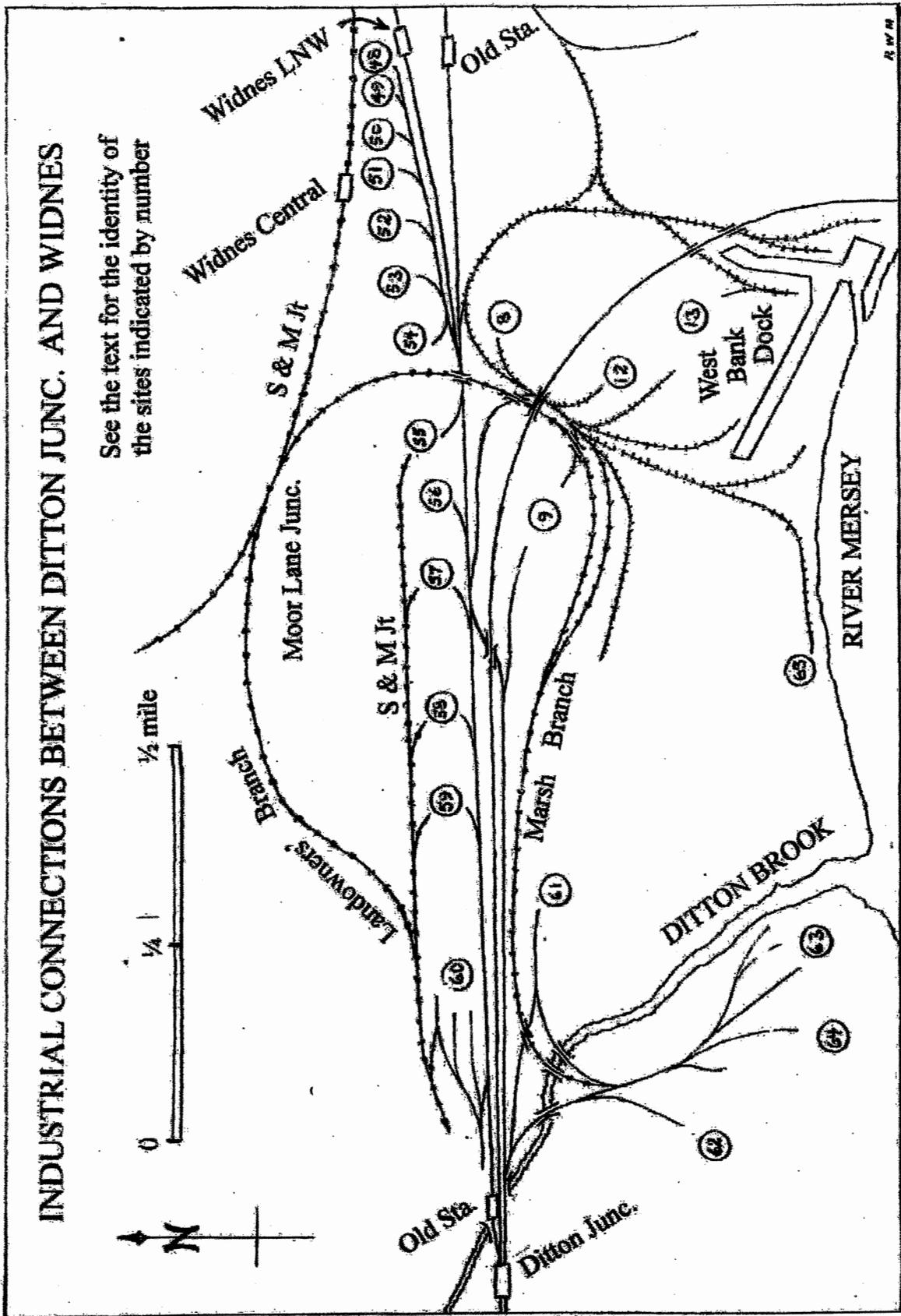
Notes of other railway-related events for this column are welcome

This definitive account of the industrial railway infrastructure of Widnes was first published in 'The Industrial Locomotive' (Journal of the Industrial Locomotive Society), vol.14 nos.1,2,4 and 5; 2011-2012. Bob thought it might be of local interest: he died before we could finish reprinting the series, and we published an obituary in the last issue (BMRJ37). Here is the last part:

INDUSTRIAL WIDNES - Part 4

by Bob Miller

Firstly an additional note concerning the Widnes Traders' Association (site 27 on p70 of IL 143). Most of the traders in the Association were the local chemical manufacturing companies and when the bulk of them combined to form the United Alkali Co Ltd in November 1890 there was no longer any requirement to continue the Association, so it was disbanded in 1891. In the foregoing account the positions of the sites with the prefix numbers 48 to 64 are indicated on the accompanying sketch map; however the situations of the sites numbered 44 to 47 were shown previously on the map in BMRJ 36 (IL 143 p67). We now switch our attention to the industries connected to the Warrington to Garston line of the LNWR through Widnes, commencing at the eastern end near Fiddler's Ferry:



This map shows the various locations numbered in the text.

55 - McKechnie Bros Ltd, Widnes Copper Works at grid ref 350500-384800. Duncan McKechnie (1831-1913), a Scot from Campbeltown (like Neil Mathieson, whose works was at site 9 just across the tracks of the LNWR) who had been involved in the Old Quay Works in Runcorn, had opened a copper works in Peasley, St Helens in 1870, with backing by Mason & Barry who operated pyrites mines in Portugal. The pyrites was processed to produce copper and sulphuric acid, and the Widnes plant was established in 1891 after the Peasley factory was taken over by United Alkali Co in 1890, although the LNWR siding agreement was dated much later - 20 March 1908. There was also a siding connection to the S & M Joint Landowners' branch. The loco shed was by the Marsh branch (no connection) near the bridge over the LNWR. The firm became McKechnie Chemicals Ltd on 31 July 1965 but rail traffic ceased in 1969 and the last two locomotives were for sale in July 1970. Two 0-4-0WT locos were purchased from Edward Borrows & Sons in 1880-82 for use at the Peasley works, of which only one was still in stock in June 1919. There is a possibility (but no evidence) that the other engine ALICE may have been sent later to Widnes:

ALICE 0-4-0WT Borrows 11 of 1882, 12" outside cylinders, new to the Peasley Works, disposal not known but gone from Peasley by June 1919 so may have come to Widnes but this is not certain.

ECONOMIC 0-4-0ST Andrew Barclay 1221 of 1911 with 10" x 18" outside cylinders and 3' 0" wheels. New to R White & Sons as agents (see site 52 above) who ordered on behalf of McKechnie Bros. Noted here in July 1954 and cut up on site by Todd Steels Ltd (of site 50 above) circa 1955.

EFFICIENT 0-4-0ST Andrew Barclay 1598 of 1918 with 14" x 22" outside cylinders and 3' 5" wheels. Came new, noted working in June 1958. Sold on 24 July 1969 to the Liverpool Locomotive Preservation Group. Now at the Ribble Steam Railway and Museum, Preston Dock.

ENTERPRISE 4wVBT Sentinel 9381 of 1947, geared, two vertical cylinders $6\frac{3}{4}$ " x 9", 2' 6" wheels, rated at 100 hp. Came new and noted here in February 1948. Sold in 1969 to Victoria Scrap Metal Co of Appleton Street, Widnes who advertised her for sale in September 1970 but was unsold and later scrapped.

ENDURANCE 4wVBT Sentinel 9383 of 1948, geared, two vertical cylinders $6\frac{3}{4}$ " x 9", 2' 6" wheels, rated at 100 hp. Came new and noted here in July 1950. Sold in 1969 to Victoria Scrap Metal Co of Appleton Street, Widnes who advertised her for sale in September 1970 but was unsold and later scrapped.

56 - Thomas Davies Ltd, Widnes Iron Works at grid ref 350350-384770. Land leased 1905, agreement 20 March 1908. Siding still listed in the 1938 *RCH Handbook*. In addition a portion of the Atlas Foundry in St Helens was leased around 1918-21. One possible loco is known:

(No name or number) Kerr Stuart 3107 of 1918, 'Huxley' class with outside cylinders 12" x 18". Supplied new in July 1918 to Thomas Davies Ltd, St Helens. If this engine was used at Widnes or St Helens it was only for a short period as she was sold, via Kerr Stuart & Co, in 1920, to the British Insulated & Helsby Cable Co at Prescot, becoming BEATTY, where she lasted until about 1957.

57 - McKechnie Bros Ltd, this was an extension to the works on site 55, for which the land at grid ref 350300-384830 was leased in 1916 from the Hutchinson Estate, the LNWR siding agreement being dated 17 August 1916. Eventually the McKechnie works surrounded the Thomas Davies' works on three sides. In the 1877 list of private sidings there is an entry for:

Taylor, Greenhall & Kidd, Moorside Chemical Works, Ditton Road. In the 1891 census this firm had an office on Ditton Road, which is the road serving sites 48 to 60. However the firm is not mentioned in Slater's *Directory* of 1894 so could have ceased business by then. It is listed in the 1892 (14th) edition of *Chemical Manufacturer's Directory of England* (which would apply to 1891) as manufacturing sulphate of soda, soda ash and bleaching powder. The site of the works is not known but may well have been this one later occupied by McKechnie Bros. (There was a Moorside Farm and a Moorside Terrace on Milton Road about a half mile to the NE beyond Moor Lane so the area could have been known as Moorside). Just one locomotive known:

(No name or number) 0-4-0ST Walker Bros 1544 of probably 1877. Outside cylinders 12" x 20". New to Taylor, Greenhall & Kidd, Moorside Chemical Works By October 1889 this loco had evidently passed to Sullivan & Co who ordered new cylinders then. Presumably passed to United Alkali in 1890 but no other details (see site 44 above).

58 - Gaskell, Deacon & Co, works at grid ref 349700-384750. The LNWR siding agreement was dated 29 August 1879. From 1890 became part of the United Alkali Co and believed called the Liver No.2 Works. Probably closed in 1898. Later (by Feb 1916) occupied by the Alumina Co who also had premises by the Iron Bridge (site 25, see Part 3). Sidings for both premises are listed in the 1938 *RCH Handbook*. As mentioned earlier, the Alumina Co Ltd became a part of United Sulphuric Acid Corporation (USAC) when it was formed in May 1951. No loco known at this site.

59 - Liver Alkali Works Co. At grid ref 349900-384750. In 1876 managing director Thomas Stead died after drinking carbolic acid. According to the *Morning Post* of 25 August 1884 the company was in liquidation and had been reconstructed as the Liver Alkali Co Ltd. Thomas Robinson, also of the Atlas Chemical Co, was a director. Became part of United Alkali in 1890 but the works was closed down in 1898. The site was later occupied by the Newfoundland Timber Yard (as shown on the 1908 map) and the Liver Timber Yard (as marked on the 1928 map). Neither of these timber yards is listed in the 1938 *RCH Handbook*.

60 - Broughton Copper Co Ltd, Ditton Copper Works at grid ref 349400-384750, LNWR siding agreement 29 August 1879 and listed in Slater's 1894 *Directory*. The firm was established in Broughton, Salford in 1864. The closure date at Ditton (after 1918 and before 1927) is not known but the Salford factory was acquired by ICI in 1934. No loco known at Ditton although it is possible that one was employed. Site subsequently occupied by the timber firm William Evans & Co (Manchester) Ltd, opened by about 1927. Site marked as Broughton Works (Timber) on the 1927 map. Siding listed in 1938 but rail traffic ceased in 1966. Later became Southern-Evans Ltd. A two road brick shed was located at the west end of the site and was possibly inherited from the copper works. William Evans & Co also had a works and siding on the Moss Pit branch at Skelmersdale, Lancs.

1 MAUREEN 4wVBT Sentinel 6834 of 1927 and built at Saltney (Chester), geared, two vertical cylinders 6¾" x 9", 2' 6" wheels, BE type. Came new to Evans & Co who had ordered the loco on 13 December 1926. John Hutchings, in the *IRS Record 126* p302, states that the original intention had been to build this loco at Shrewsbury but the order was transferred to Saltney on 21 February 1927 and the parts required were sent from Shrewsbury between 26 February and 10 May 1927. She was fitted with block buffers of hard rubber with a steel surround and a spark arrestor, being painted dark green "in accordance with Great Western standard practice." Hired to Birmingham Corrugated Iron Co Ltd (see site 54) during 1948, possibly in 1945 as well. Spares were supplied in April 1947 and she was noted working on 7 May 1957. Scrapped on this site in May 1959 by the local firm Todd Steels Ltd.

KENYON 0-4-0ST Black Hawthorn 296 of 1875. Outside cylinders 12" x 19" with 3' 2" wheels. Built for stock under order of 23 September 1873, ordered new on 3 February 1875 by Golding Davis & Co as EDGAR (see IL141 p.40). Passed to United Alkali in 1890 and to ICI in 1926 and renamed BREIDDEN in 1932. Purchased by Evans & Co about 1935-36 and given the name KENYON after repair by Vulcan Foundry in 1936. Transferred to Skelmersdale on or soon after 28 April 1941 and there until the end of 1945. Noted working back at the Broughton Works in November 1958. Scrapped on site in May 1959 by Todd Steels Ltd.

8 PYRITES 0-4-0ST Andrew Barclay 2095 of 1940. Outside cylinders 16" x 24" with 3' 8" wheels. New in November 1940 to Ministry of Supply, Rhydymwyn Depot, Flintshire (operated by ICI). Came to ICI Wigg Works, Runcorn in May 1949 then, through the agency of Britannia Scrap Metal Co, to Evans & Co in April 1959. Noted here in March 1960; scrapped in 1966.

9 EXETER 0-4-0ST Andrew Barclay 2103 of 1941. Outside cylinders 16" x 24" with 3' 8" wheels. New in July 1941 to Ministry of Supply, Royal Ordnance Factory Salwick, Preston (operated by ICI). Came to ICI Wigg Works, Runcorn in June 1946, then purchased by Britannia Scrap Metal Co about March 1959. Sold to Evans & Co in December 1960; scrapped in 1966.

(No name or number) 0-4-0DM Fowler 19645 of 1932, 100hp, on hire from Britannia Scrap Metal Co (see below) and noted here on 4 June 1952 and again in May 1964.

WADE No. 1 4wDM Fowler 22909 of 1941, 80hp, on hire (after April 1963) from Britannia Scrap Metal Co and noted here in May 1964. Returned by May 1966.

61 - British Patent Portland Cement Co Ltd at grid ref 349270-384530.

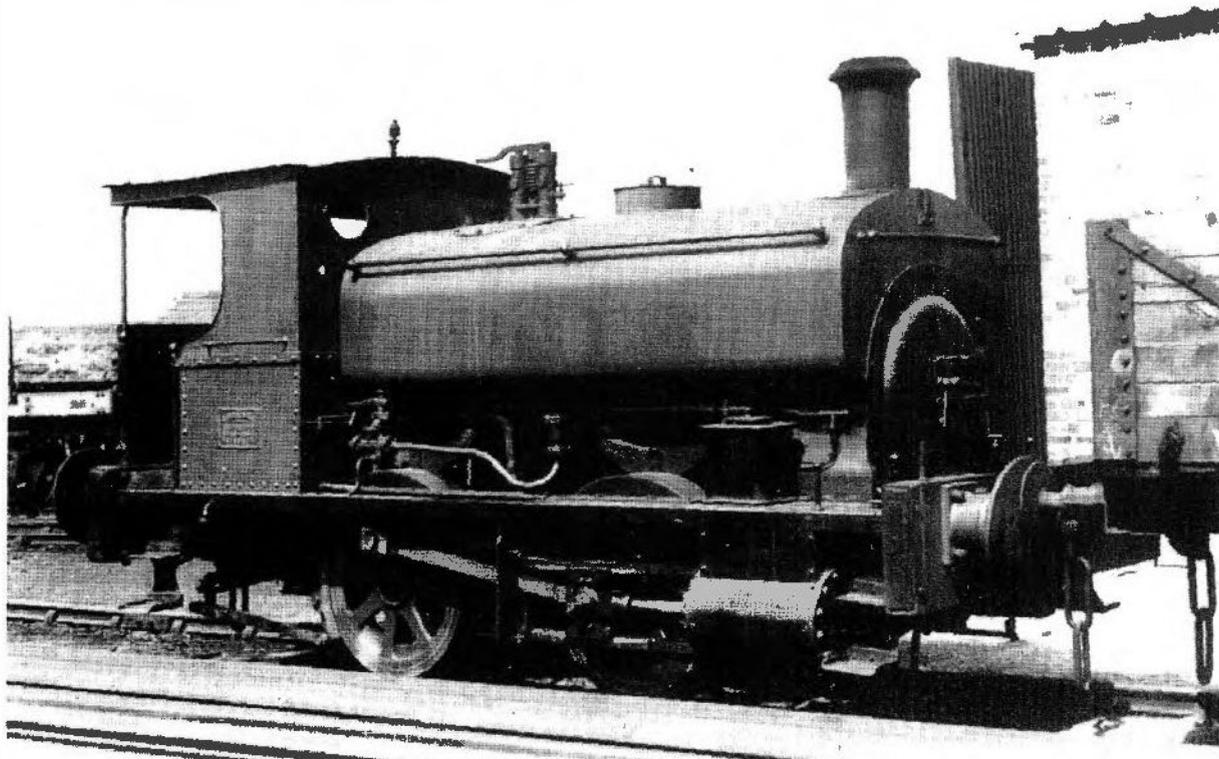
Five kilns were opened in 1881, increased to 9 in 1886 and to 13 in 1891. John Fletcher advises that the sugar refining Tate family were principal shareholders although I understand that Thomas Robinson of the Widnes Foundry Co, the Liver Alkali Co Ltd and the Atlas Chemical Co Ltd was a director in 1888. The LNWR siding agreement was dated 11 August 1882 and was with T Stock and D Gamble (both directors of the Ditton Brook Iron Co Ltd, see 64 below). John Fletcher also advises that this cement company used the trade or brand name 'Adamant'. At Widnes the waste calcium carbonate available from the many local alkali works was used in the patent but the production of this had greatly diminished by 1896 due to new methods of alkali production and the cement works closed that year.

ADAMANT 0-4-0ST Manning Wardle 649 of 1877, class 'D' with 8" x 14" outside cylinders and 2' 8" wheels, new as FOOTSTEP in May 1877 to the contractor T J Waller. Ralph Russell's interpretation of the Manning records has them recording subsequent owners as the Britannia London Portland Cement Co Ltd, the Widnes Alkali Co Ltd and the Stone Court Chalk, Land & Pier Co Ltd (probably in that order); and there was a name change at some time from FOOTSTEP to ADAMANT. Clearly, with this new name, the operator must have been the British Patent Portland Cement Co Ltd at Widnes even though that information does not seem to have been recorded by Manning Wardle & Co. As mentioned in Part 3 (*IL* 143, p75) the Britannia London Portland Cement Co Ltd of Seacombe seem to have obtained a locomotive (presumably this one) about 1880; however the works closed a year or two later due to bankruptcy. The reference to McEvoy & Holt in *IL* 143 should be discounted as they operated the Britannia works at Northfleet (hence the confusion) and had no connection with the Seacombe works. It is now believed that the next owner may have been the British Patent Portland Cement Co Ltd at Widnes about 1881 when they first commenced business (spares were ordered in February 1885 but for whom?) and was renamed ADAMANT. The Widnes Alkali Co Ltd was probably the next owner, either at Widnes or at Birkenhead (or both?). Alan J Bridges in the *IRS Handbook G* (p67) has her coming unnamed to the Birkenhead works in December 1887 but was out of use in March 1888 (is this when the Birkenhead plant ceased production?). Perhaps she then came to Widnes for a time, passing into the United Alkali Co Ltd's ownership, before being acquired by the Stone Court Chalk, Land & Pier Co Ltd of Greenhithe, Kent, still as ADAMANT, where she lasted until scrapped in 1918.

The siding diagram of February 1916 has the intriguing endorsement 'Mr. Brunner has purchased Stock & Gamble's Estate and inherits the 1882 Agreement' (this is Henry Brunner, see *IL* 143, p66 and below under site 64)). By the date of this diagram the siding was for the tar works of P Rowland & Co (no locomotives known). Later Britannia Scrap Metal Co Ltd formed by Mr Carter in 1929 took over the site. By 1947 the scrap yard had moved to a new site on the west side of the Ditton Brook, see the next item. Part of the old site (which was on the east side of the brook) in c1947 and all the old site by July 1948 had been acquired by:-

Montague L Meyer (Manchester) Ltd who were timber merchants. A single road brick shed for one loco used by Britannia Scrap Metal was inherited by Meyer and by August 1953 had been lengthened to take two locos. There was a connection with the Marsh branch of the Sheffield & Midland Joint and the connection to the LNWR had to dip under the joint line: Rail traffic ceased in 1966. The following locos were all operated by Meyer:

2 0-4-0ST Gibb & Hogg 58 of 1905 with 12" x 20" outside cylinders and 3' 4" wheels. Came from J N Connell of Coatbridge in 1947, previously with Babcock & Wilcox, Dumbarton until 1945-46. Recorded here on 20 July 1947 and noted out of use on 10 March 1956; believed cut up on site later that year.



No.2 (GH 58/05) seen at Montague L Meyer in 1951 (ILS Frank Jones collection).

No. 6 0-4-0ST Andrew Barclay 759 of 1895 with 14" x 22" outside cylinders and 3' 5" wheels. Purchased from Britannia Scrap Metal Co (see below) in February 1948 and out of use on 10 March 1956; believed cut up on site later that year.

(No name or number) 4wDM F Hibberd 3769 of 1955 'Planet' type. Came new on 31 October 1955. Sold to Forster's Glass Co (Rockwell Glass Ltd), St Helens in 1967 and lasted until 1974 when scrapped.

SULPHUR 0-4-0ST Robert Stephenson 2668 of 1889. On hire from Britannia Scrap Metal Co after July 1952 and returned by August 1953 (see below).

62 - Britannia Scrap Metal Co Ltd's new site at Ditton was at grid ref 349150-384300. As mentioned above the Company was formed in 1929 and had moved to this new site by 1947, the old site being abandoned by July 1948. The first locomotive was not obtained until 1940 but this was followed by a further 14 secondhand engines which generally were overhauled and made available for hire or for sale. The first three engines are believed

never to have operated from the new site. In contrast all the later locos were purchased after the firm had moved to the new site so were never at the old site.

AIREDALE No. 5 0-6-0ST Hudswell Clarke 561 of 1900 13" x 20" inside cylinders and 3' 3" wheels, new to the Wheldale Coal Co Ltd, Castleton which became Airedale Collieries Ltd. This was the first loco purchased, through George Cohen Sons & Co, in 1940. Noted still at the old site in June 1948 and cut up at the old site soon after (and before 1950).

RUBY 0-6-0ST Manning Wardle 1418 of 1898, class 'L' with 12" x 18" inside cylinders and 3' 0" wheels. New to Walter Scott (later Walter Scott & Middleton Ltd) as BROUGH. To Sir Lindsay Parkinson & Co Ltd as RUBY by March 1938, purchased by Britannia about February 1942. To Calder & Mersey Extract Co, believed on hire at first, by April 1943 and name removed. Scrapped April 1951.

W. B. & Co.Ltd. No.6 0-4-0ST Andrew Barclay 759 of 1895 with 14" x 22" outside cylinders and 3' 5" wheels. New to William Beardmore & Co, Parkhead. Purchased by Britannia in May 1946 and sold to Montague L Meyer (above) in February 1948.

PECKETT 0-4-0ST Peckett 458 of 1887 of class 'W4' with 12" x 18" outside cylinders and 3' 2" wheels, purchased in 1948 (before 7 June) from ICI Gaskell Marsh Works. Had been new to Neil Matheson & Co, see *IL* 141 p39. Noted freshly overhauled on 29 October 1950. Sold circa February 1951 to Cudworth & Johnson, Wrexham who hired the loco, now re-named TYNESIDER, to various operators on Birkenhead Docks until scrapped about 1963.

WESTON 0-4-0ST LYR Horwich 817 of 1901, outside cylinders 13" x 18", 3' 0" wheels, purchased in December 1949 from ICI West Bank Power Station (see *IL* 141 p33) but not overhauled and was scrapped by Britannia in June 1950.

(No name or number) 0-4-0DM Fowler 19645 of 1932, 100hp with jackshaft drive and centre cab. Came to ICI Winnington Works in January 1946 via Abelson from Roads Reconstruction (1934) Ltd, Cranmore, Somerset. Purchased by Britannia in 1949. Noted on hire to Wm Evans & Co (M'cr) Ltd on 4 June 1952 and again in May 1964. Very much the working loco at the scrap yard, she became the last one in use and was not scrapped until September 1968.

No. 2 0-4-0DM Fowler 22557 of 1939, 80hp, new to ICI Winnington Works. Purchased by Britannia in 1949 and resold, probably in 1950, to ICI Wigg Works, Runcorn; scrapped in 1973.

SULPHUR 0-4-0ST Robert Stephenson 2668 of 1889, see *IL* 141 p35 for earlier history. Purchased August 1950 from ICI Muspratt Works. On hire to James H Dennis & Co Ltd by 11 May 1951 and returned by 21 July 1951. Noted at Ditton on 15 March 1952, then hired to Joseph Perrin & Son Ltd, Birkenhead by 15 April but returned after 22 June and by 22 July 1952. On hire to Montague L Meyer (Manchester) Ltd from after 22 July 1952 and returned by August 1953. Hired to ICI West Bank Power Station some time after July 1953 and returned by 10 April 1954. Soon after this date was on hire to Calder & Mersey Extract Co Ltd, there by 27 March 1955, and until October 1958. Scrapped by April 1959.

(No name or number) 0-4-0ST J Scarisbrick Walker & Bro 334 of about 1872-73, 10" x 16" outside cylinders. New as GEORGE DEAKIN to G B Deakin at Winsford, later Salt Union Ltd, and transferred (possibly about 1925) to the Weston Point Works, Runcorn, later ICI Ltd (see *IL* 71 p.39). For sale in March 1950 and sold to Britannia (unnamed) about January 1951. On hire to Com Products Ltd, Trafford Park, Lancs by August 1951 and noted there on 12 November. Had returned to Ditton by 26 February 1952. Scrapped in July 1953.

KILMARNOCK 0-4-0ST Andrew Barclay 766 of 1895. 10" x 18" outside cylinders, 3' 2" wheels. New to United Alkali at the Golding Davis Works (see *IL* 141 p40) and later at the Gaskell Deacon Works. Purchased in April 1954 by Britannia and noted here on 10 April 1954. On hire to ICI Pilkington Sullivan Works in 1954-55. Scrapped in August 1958.

TAY 0-4-0ST Hawthorn Leslie 2295 of 1894. 14" outside cylinders, rebuilt in 1919 (per Bernard Roberts). Came from Ind Coop to the Synthetic Ammonia & Nitrates Co in 1925, became ICI Billingham '47', transferred to ICI Widnes (Muspratt No.2 Works) in 1937 and noted there on 23 July 1956. A new boiler was dated 1925. Sold to Britannia Scrap Metal Co Ltd about April 1958 and noted here in September 1958. Stored at the premises of Calder & Mersey Extract Co (but not used by them) from about November 1959 until September 1960. Scrapping commenced in February 1961.

KEMET 0-4-0T Hawthorn Leslie 3386 of 1919, 14" x 22" outside cylinders, 3' 6" wheels. New as a crane tank to the Ebbw Vale Steel & Iron Co Ltd as J. W. BEYNON, then by 27 July 1927 to the Chemical & Metallurgical Corporation Ltd, Kemet Works, Runcorn, later ICI and included in the Castner Kellner Works before coming to the Gaskell-Marsh Works at an unknown date but by 1952. A new boiler was fitted in 1948 and she was noted at the Marsh Works on 1 April 1957. To Britannia Scrap Metal Co Ltd about April 1958. On hire to Calder & Mersey Extract Co from around May 1959 to circa September 1959 and again from about January 1960 until April 1966. Scrapped later that year or soon after.

No. 9 EXETER 0-4-0ST Andrew Barclay 2103 of 1941. For full details see under Wm Evans (site 60) above. Purchased about March 1959. At first stored at the premises of Calder & Mersey Extract Co until about November 1959, on hire to Albright & Wilson, Widnes during February 1960 and noted back at Ditton on 22 March 1960. Sold to Wm Evans & Co (Manchester) Ltd in December 1960; scrapped in 1966.

(No name or number) 0-4-0ST Robert Stephenson & Hawthorns 7349 of 1947. See below for full details. Purchased from Calder & Mersey Extract Co circa April 1963 and cut up about four months later.

WADE No. 1 0-4-0DM Fowler 22909 of 1941, 80hp, purchased in April 1963 from ICI Wade Works, Northwich; previously at the Hillhouse Works, Thornton, Lancs until about 1949. On hire to Wm Evans & Co (M'cr) Ltd during May 1964; on hire to Albright & Wilson Ltd from about May 1966. Scrapped in 1968.

(No name or number) 0-4-0ST Peckett 1852 of 1933. Purchased from Albright & Wilson Ltd (see *IL* 143, p.72) about 1966 and scrapped in May 1967.

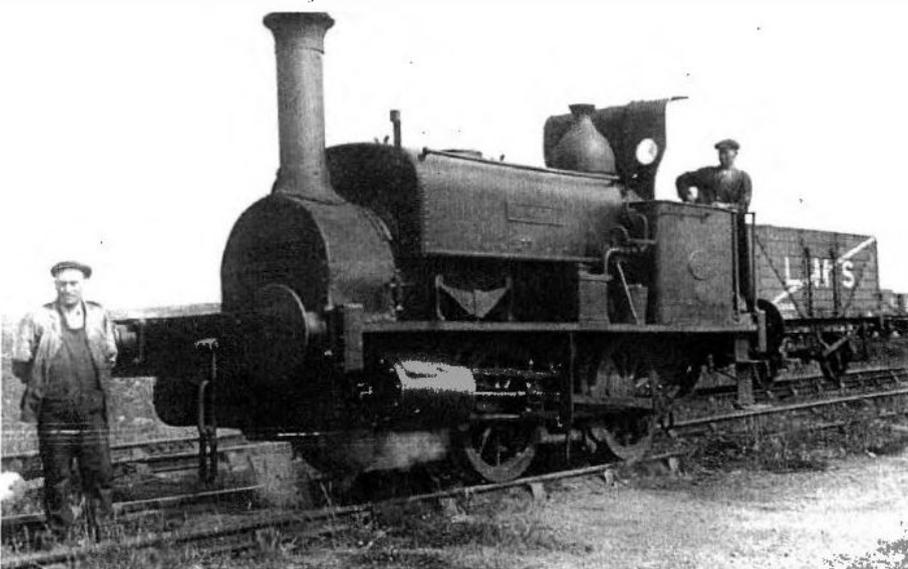
In addition the loco 8 PYRITES 0-4-0ST Andrew Barclay 2095 was purchased from ICI Wigg Works and sold direct to William Evans & Co (Manchester) Ltd, see site 60 above.

63 - Calder & Mersey Extract Co Ltd at grid ref 349450-384100. Previously the North British Manure Co was on this site. Listed in the 1904 *RCH Handbook* as Maloney & Co's Ditton Extract Works and also as Mersey & Calder Extract Co; shown on an LNWR Sidings Plan of February 1916 as Maloney's Mersey & Calder Extract Co. However the 1938 *RCH Handbook* records it as the Calder & Mersey Extract Co, Ditton Extract Works. The change of name perhaps follows a financial reconstruction; also the company seems to have been later (by 1963) associated with Forrestall Industries. Besides their own locos listed below, others were stored here but not operated or owned.

EXTRACTOR 0-4-0ST Hunslet 60 of 1871, outside cylinders 12" x 18", wheels 3' 1". New to Thomas Richardson & Sons, Hartlepool Iron Works; to the Widnes Harbour Trust by October 1897 as LIVINGSTON. Purchased by the Extract Co in 1908 and renamed. Disposal not known.

CAMESCO 0-6-0ST St Helens Railway circa 1853, 11" inside cylinders and 4' 0" wheels. Purchased by the Widnes Harbour Trust about 1865, previously LNWR 1384, and possibly became OSWALD (see *IL* 140 p8). Purchased by the Extract Co about 1914 and renamed. Sold for scrap around 1941.

MARJORIE 0-4-0ST Hunslet 134 of 1875 New to the Kinnerley Co as No.5; to John Knowles & Son as 3 in 1896; to Donisthorpe Coal Co as MARJORIE, also Moira Colliery Co Ltd. Purchased by the Extract Co in 1919. Sold to Liverpool Corporation Electricity Dept for use at Lister Drive Power Station in February 1943.



MARJORIE, seen here in the 1930s (IRS, H.W.Robinson collection).

(No name or number) 0-6-0ST Manning Wardle 1418 of 1898, formerly RUBY ex Britannia Scrap Metal Co (see above) by April 1943 and believed on hire at first; noted here in September 1950. Scrapped by Todd Steels Ltd in April 1951.

(No name or number) Robert Stephenson & Hawthorns 7349 of 1947 with 12" x 20" outside cylinders and 3' 1" wheels. New in April 1947 to the London County Council's Longrove Asylum Railway as SHERWOOD, railway closed in January 1950 and the loco pur-

chased by G Cohen, Sons & Co Ltd, who resold to F Watkins (Boilers) Ltd of Coleford. To Calder & Mersey Extract in 1951. Sold to Britannia Scrap Metal about April 1963.

KEMET 0-4-0T Hawthorn Leslie 3386 of 1919 on hire from Britannia Scrap Metal Co Ltd from around May 1959 to circa September 1959 and again from about January 1960 until April 1966.

64 - Ditton Brook Iron Co Ltd at grid ref 349200-384100 on the west side of the Ditton Brook. The first edition 6" map of 1849 appears to show the works with four furnaces and a rail connection. This branch line was built by the Iron Co and not by the LNWR. Ray Shill advises that in 1881 the lease from the Earl of Derby for much of the land was 57 years unexpired, implying 42 years from commencement which would be about 1839. The 1841 census does not list anyone living in the local village of Halebank described as an iron or foundry worker (there were 163 so listed in 1871- and 112 in 1881) suggesting the works was not yet open. The limited company was incorporated on 8 September 1862 (Company No.2824) but I don't know if it was to take over an existing ironworks or if the previous one had closed earlier. The directors in 1862 were David Gamble (1823-1907), Sir David from 1897, who operated the Gerard's Bridge Alkali Works in St Helens until it was absorbed by United Alkali in 1891 and also was involved with the Tharsis Sulphur & Copper Co (site 36 in Part 3); Samuel Stock (1807-1884) of St Helens who was a colliery proprietor (pits in the Blackbrook area) and James Haddock (1827-1907) who was the proprietor of the Ravenhead and Sutton Collieries in St Helens. An original shareholder, who seems to have become the managing director, was William Thorburn (1806-1876), a Scottish iron manufacturer also involved with the Eskdale Iron Ore Co and the Hematite Ironworks in Cleator Moor and Workington; he was succeeded by his son John in 1876. The firm provided iron for the Runcorn Bridge 1863-68 and in 1868 the number of blast furnaces had increased to six together with a foundry. There was a bad explosion on 6 October 1876 resulting in the deaths of 7 workers (including a piglifter, his 13 year old son and 10 year old daughter) from which the firm did not really recover and the works closed 1880, going into voluntary liquidation on 27 September 1881. A sale of the works took place on 12 April 1881 (per *Sheffield Daily Telegraph* 28 February 1881, also *Birmingham Daily Post* 4 April 1881). Following this J B & B Leech were to conduct an auction sale including four tank locos on 31 October 1883 by order of the liquidator (per *Colliery Guardian*). None of the identities of these four engines have been discovered by me so it is to be hoped that some suggestions at least will surface in any forthcoming correspondence. The works appear to have been purchased by Henry Brunner as he was advertising them for sale (no mention of any locos) in *Engineering* on 13 December 1889. Part of the site was later (by 1904) occupied by the Ditton Extract Works (site 63 above).

65 - Granox Works at grid ref 350050-384050 on the north bank of the Mersey. I am indebted to Geoff Jones (letter in *IL143*, p95) for pointing out this additional works served by an extension to the Hutchinson Estate lines: I had rather dismissed the area of this works as being just a tip for chemical waste. Granox Ltd produced animal feeds from animal oils and fats and was incorporated on 4 August 1948 (Company registration No.00457634); the head office is on Ings Road, Doncaster and I understand the company is still operating. The rail connection at Widnes seems to have gone by 1984.

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This completes the survey of the Widnes industrials. Some further background information may be found in *A History of the Chemical Industry of Widnes* by D W P Hardie, published by John Lane for ICI in 1950 (ISBN 0665874383). My thanks to W Allan Brown, John Fletcher, John Hutchings, Eric Maxwell, Ken Plant, Ray Shill, Russell Wear and particularly John K Williams for their help and not forgetting the contributions in the past of former members Alex Appleton, Harold D Bowtell, Peter Michie, Jim Peden, Bernard Roberts, Harry Townley and John Ward whose snippets of information have all helped to make this account more detailed than it might otherwise have been.

(Some subsequent correspondence is copied here)

From John Hutchings of King's Langley, Herts.: Part 3 of the Industrial Widnes series is very interesting and I can add a few comments as follows.

20. William Gossage & Sons Ltd

Sentinel's 7496 and 7997 (not 7497) were both new with driving wheels of 2' 6" diameter, the standard size for this design. I am not sure where the 2'8½" dimension originates from? The livery details for 7496 reads "Finish painted, upper parts of loco to be green as per sample and under carriage red with springs, buffers etc in black. Lettering in 3" gold letters on each side of the loco". The wording follows that in Bob's article. Livery details for 7997 just says "instructions later" but I would suggest it followed 7496 other than the change of running number. 7997 was recorded as still at Kirkby Trading Estate as a spare loco when Thomas Hill's rep paid a visit in February 1965, but had been "sold" by the time of the next visit in February 1966.

29. Gaskell, Deacon & Co, Ditton Chemical Works

No 2 MW 437 of 1873 had been disposed of by 1925 as the mainframes and wheelsets were used in Sentinel rebuild 6155, assembled that year. See my article in *IRR* No 125 page 264.

30. The Widnes Alkali Co Ltd

Regarding the rebuild of VF 808 of 1877 to S6006. The Chester Job Book gives all the parts used in this rebuild as sent to Muspratt Works, Widnes, so the rebuild took place there rather than at Chester. The drawing for frame alterations gives the wheelbase as 5'4½" and it would be interesting to know if VF 808 had this dimension as built.

From Allen Civil of Uttoxeter: Bagnall 2525 of 1935 GASKELL (*IL* 143, p77) was basically a 12" loco with 13" cylinders, ie. 18.5 cu ft bunker and 550 gallon saddle tank. The spec says delivered under own steam to ICI General Chemicals Ltd, Gaskell Deacon works, North shunt, Widnes. This to me was quite a journey for a loco of this size and new, although as the railways put it, it was a staged journey, but which way did it go? (by LMS of course). The date given as completed was 28/3/1935, so soon after that, subject to the LMS agreeing. It was fitted with a 10 feed Wakefield mechanical lubricator, copper firebox (the copper being supplied by ICI), an open backed cab and 21" dia. radius type buffers and painted standard Bagnall brunswick green livery and lining. I have it as scrapped 5/1959.

Bagnall 2701/1943 SIR HOLBROOK (*IL* 143, p74) was a standard 14" x 22" of the period with copper firebox and steel tubes, a 10 feed mechanical lubricator and 22" dia. buffers. There is no mention of delivery under own steam, but general conditions were far different at this point in time. The loco was finished on 8/9/1943 so delivery would be soon after this and consigned to ICI General Chemicals Ltd, Gaskell Deacon works, station siding, Widnes, which suggests to me delivered dead on rail. I have scrapped 1960.

(Readers will have seen a shortened version of this report on the Woking show in the last issue of BMRJ; the cause of this balls-up is incompetence on the Editor's part – when Alisdair submitted his copy as an email, I didn't scroll down past the hotel memo and didn't discover my error until it was pointed out to me (too late to correct things!). So, I hope I've got it right this time)

WOKING STAG(G) DO

by Alisdair Macdonald

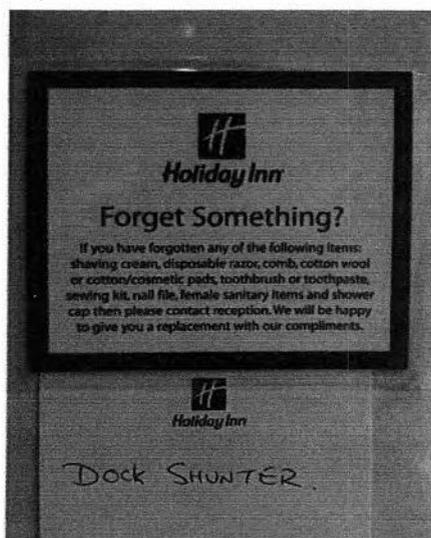
It was Richard Oldfield who asked me "Do you fancy a stag do in Woking?" I wondered who was getting married and what it was all about. "Pardon" I replied.

"Do you fancy meeting up with Richard Stagg to do a show in Woking?"

Definitely was my response, and having agreed to meet the challenge, along with the rest of Team Barrowmore, Richard Stagg and I headed south to Woking to the Railway Enthusiasts Club Annual Model Railway show.

It took Richard and myself the best part of five hours to get to Woking, trying to avoid the worse of the Friday traffic jams. We arrived around 7.30pm that evening, just in time to find Phil and Richard setting out the rest of the stock in the fiddle yards, with Gavin, Mike, Eddie and Dave F putting together the final pieces of Mostyn. My first job was to find the tea urn and who took sugar. There is no truth in the rumour that we had timed our arrival when all the heavy lifting had been completed.

Richard S and I immediately found ourselves in the middle of a Team Barrowmore spat. Before coming south it seems that Mike R had been asked by Richard O to weather a scratch built green industrial diesel yard shunter to be used on the branch from the exchange sidings into Mostyn Dock. The story goes that Mike R completed the task and put the locomotive into the clubroom display cabinet while its paint dried, and to protect it from dust. But here the tale becomes muddled. It is reckoned by some that Richard O was the last person to touch the locomotive when he checked if the paint was dry as is his normal custom, while others provided a different version of the events. Whatever the truth, the Little Green 0-4-0 remained in the display cabinet all weekend up in Barrowmore. And it had even been fitted with a Zimo chip, but that's another story. A Class 24 was duly found to work the branch for the show.



Surprisingly the attached note was found on a bedroom wall at our hotel.

It took the best part of another two hours to complete all the tasks to set up Mostyn that evening. Richard S and myself headed to a local curry house, while the rest of the Team Barrowmore went for a beer or two and to find a Macdonald's for Gavin.

Next morning it was back to the Leisure Centre and the exhibition. We arrived to find Dave F stretched out under the layout working up a sweat. The signals were refusing to work at the Chester end. After a busy session with

screwdrivers, pliers and bits of wire, and some signal engineering jargon, Dave found the problem and soon the signals were working, and normal service was resumed.

I was briefed on operating the down line from Chester and a happy morning was spent operating the varied trains which Eddie proceeded to send me. Richard S spent his time wandering up and down with the 24 on the dock branch and making friends with the locals. Indeed the whole day passed off very well indeed, with no serious glitches or operating problems. Even derailments were the exception, but then again this is Mostyn P4.

The evening event on the Saturday for all the exhibitors and traders was hosted by the exhibition organisers down at the Mizen Railway, a seven and a quarter inch railway running in great loops through a wood with steam and diesel motive power. There was plenty of free beer (London Pride and Chiswick) for us all, and fish and chips in the club house. All in all a most enjoyable evening.

Then back to the hotel and a night cap. It is not known if Gavin had then gone out for another Macdonald's burger as some of us had retired to bed for an early rise next morning for a session of track cleaning before the exhibition opened.

The Sunday operation was as competent as the Saturday, with minimal derailments and very few SPADs. Things went so well that Richard O was able to go off and deal with family matters while we were left to continue look after Mostyn. Gavin was pleased to catch up with his old friend the Commentator again. "Train with blue Class 47 approaching on parcels and some interesting vans" and "Ex-works Class 40 on passenger service making good pace along the line".

All too soon the exhibition was coming to an end. We knew it was getting near closing time as the Langley Models van was at the door and their display stand was already being dismantled. But for the Mostyn team it would be another four and a half hours before we finally got away, only a bit more than half an hour behind the Gresley Beat team, but we were certainly the last out of the hall.

Gavin and Dave F manned the van, while Richard S, Mike R and Eddie K travelled with me in my car north. We all made good time back to the clubroom, Gavin and Dave arriving an hour or so later. Together we had the van unloaded in three quarters of an hour and Mostyn into the clubroom. It was then home. I was in bed just before four, twenty one hours from getting up that morning in the hotel in Woking.

On reflection I thought that Dave F should have been given the title of "Man of the Match" by his deft repairs to the signal servos. But Gavin's performance in organising the dismantling, packing, loading of the van, and delivering it all safely to the clubrooms might just have given him the edge.

And the red card? Probably whoever had something to do with a little green 0-4-0 diesel.

My first Mostyn outing. Would I do it again? Definitely yes! Here's to Newcastle!

.....

.... and another Alisdair-generated report follows.....

WAS IT NURR-CASTLE OR GATES HEED?

by Alisdair Macdonald

Friday 8 November 2013 saw Team Barrowmore with Mostyn heading up to the North East of England for the Newcastle Model Railway Club Exhibition.

The team for this show was Kevin "Man of Kent" Bays who travelled up from Rochester to Peterborough to meet up with Phil "Zimo" Sutton before travelling up to the north east. Gavin, Dave F and Richard O trundled north in the hire van, while Mike "Matey" Rapson, Eddie "Sleeper" Knorn and Alisdair M shared a car for the journey north.

The car journey by the latter three from Chester was by way of the M6 to Tebay for breakfast and a drive around Tebay Village to have a look at the remains of the former yard and motive power depot. While in the Tebay area we noted two Class 37s double heading a Network Rail p-way train and a Class 66 on a further freight train on the West Coast Main Line. And after a pint *en route*, a diversion into the yard at the Kirby Stephen East Station Railway Preservation Centre found red Class 47 – 47785, Regional Railways liveried Class 31 – 31410, and a green Class 20 – 20169. Probably the highest number of diesels spotted in one day for a long time for most of us?

Eddie K entertained us on the journey north by regularly reading the mileometer on the car which was in the 37,000 series. This was between his regular naps. With each change in the mileage number Eddie was able to give us the full history of the relevant Class 37 including depot allocations, names and detail alterations. Mike reckoned he slept while Eddie was awake expounding his expert knowledge.

With the benefit of contact by mobile phone Team Barrowmore were able to meet up at the same time at the A1 Services at Washington Services for a meal at Macdonald's. Suitably refreshed we headed for the exhibition venue at the Gateshead International Stadium. So it was all actually taking place in "Gates-heed" and not "Nurr-castle". A bit like Liverpool Model Railway Club holding their exhibition over the river in Wirral?

We arrived ready to set up before the four o'clock time as directed in the organisers blurb. But in the sports hall we found a couple of the other exhibitors hanging about, and no reps available from the club. Time went by and there was still no sign of any club rep. Team Barrowmore, and the others hanging around, were getting a bit frustrated with the waiting, and it is fair to say that we were on the point of heading back home when a man arrived with a thirty foot tape and some chalk. Very quickly we were allocated our space and set up began.

Once again I felt able to say honestly to friends that I had taken the serious exercise in weight lifting and running in a sports hall. I didn't add that it was with the crates of Mostyn being lifted from van to exhibition space.

Mostyn was set up ready for running with all stock in place by around half nine, all of us noting that we would have been ready earlier had we been given with our allocated space at the allotted time. The day ended with a couple of pints and to bed at the hotel accommodation back close to the Washington Services.

Next morning a text wake-up call from Gavin L saw a seven o'clock breakfast and up to the Gateshead Stadium. Mostyn and the team behaved well all day with few SPADs. The evening was a carvery down the road from the hotel with plenty of SPADs – Supping Pints After Dinner.

Sunday morning and another text wake-up call from Gavin. The exhibition was in Gateshead, and the club had Newcastle in its name so it was felt that we should visit Newcastle across the Tyne. So Phil, Kevin, Eddie, Mike and myself headed north from the hotel via a stop for a look around the Angel of the North and then over the Tyne Bridges through the Newcastle city centre back to the Gateshead Stadium and the exhibition. Kevin said he had never been this far north – (Not sure if this is a euphemism).

The second day passed equally successfully with no major traumas with either Mostyn or the team and by half four it seemed that the show was coming to a close, although it was still open for business for another half hour. Mostyn continued to run trains until closing time.

With the need for the careful boxing and crating of the individual items of Mostyn we were the last of the exhibitors to leave the Gateshead International Stadium. With another evening meal at the Macdonald's at Washington Services on the A1 we said our goodbyes to Kevin and Phil who headed south by the A1 to Peterborough and onward to Kent.

A fast journey via the A1 and M62 saw us back in the Barrowmore clubrooms awaiting the arrival of the truck for unloading in the early hours, and home by just after 2.00 am.

Another excellent and gentlemanly weekend with Team Barrowmore.

....and some relevant correspondence

Letters to the Editor

From: Charlie Miller [<mailto:charliemiller77@hotmail.com>]

Sent: 16 November 2013 14:59

To: richardoldfield@btinternet.com

Cc: nigel.anderson@hotmail.co.uk

Subject: FW: Tyneside Exhibition thank you:

Dear Richard, On behalf of the Newcastle and District Model Railway Society I would like to thank you and your colleagues for bringing Mostyn to our 2013 exhibition.

Your hard work and efforts played a major part in this being one of the most highly praised shows for many years.

We received many compliments from the public regarding the exceptional standard of the layouts and I feel it is only right we should share that with you!

Nigel advises me that you only got unloaded at your clubrooms at 1.30am.

That is above and beyond the call of duty, something only die hard railway modellers would consider part of the fun! I hope you have all recovered.

With best wishes, and many thanks once again, Charlie Miller (Secretary Newcastle and District Model Railway Society)

And Richard's reply: Hello Charlie, Thank you for your e-mail and I will pass the contents on to the rest of our group.

As it happens the last person to bed from our team was our member, Kevin Bays, who travelled back to Rochester, Kent and finally arrived home at 2.30am – now that's what I call commitment to the cause 😊

All the best, Richard

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THE SOMERSET COAST EXPRESS – Saturday 26th April 2014

To Bristol, Weston-super-Mare, Taunton and Minehead

Promoted by Chester Model Railway Club and the Dee & Mersey Group of the Ffestiniog Railway.

As a member of Chester Model Railway Club we bring you notice of our Spring 2014 outing. Please help to make this railtour a success, our share of the proceeds from this tour will provide funds for future enhancements to our clubroom and facilities.

We had a great time in Dorset last year, so we are going south again, this time to the County of Somerset.

We start from **Hooton** then pick up at **Wrexham, Bache, Gobowen, and Shrewsbury** before heading south towards the Severn Tunnel. We arrive at **Bristol** where we drop off. This city is one of Britain's most interesting cities, and with around six hours it will suit the customer who likes longer to explore than at our further destinations. We then make the short hop to **Weston-super-Mare**; somewhere we have never been before, to drop passengers at this classic Victorian seaside resort with its magnificent Grand Pier. Carrying on across the Somerset Levels we drop off again at **Taunton**, the county town with plenty of history. Swinging off the national network, we join the **West Somerset Railway**, a preserved heritage railway that will take us through the Quantock Hills Area of Outstanding Natural Beauty on our way to the coast. Painstakingly restored stations pass by before we glimpse the sea and finally arrive at **Minehead**, where we expect to have about two and a half hours to explore. Minehead boasts a fine beach, small harbour and shops and restaurants to interest the visitor.

This is a very rare opportunity to visit both Somerset and this wonderful preserved railway from your local station in a proper excursion train. We hope that it will be possible for passengers to travel one way on the railway's steam trains (at extra cost).

Full details are now on our website www.chestermodelrailwayclub.com/railtours.htm where you can either book online or download and print a booking form for posting.

Our online system uses the PayPal interface, and is completely secure; we don't have access to any bank details. You can use any debit or credit card or your PayPal balance.

You will receive an email acknowledgement of your online booking and tickets and final times will be posted a few days before the train runs. (There is no need to provide a SAE when booking online).

We look forward to meeting all our existing customers and welcoming many new ones. Please forward this email to friends and family who may be interested in joining us on this splendid day out.

Any questions, please drop me a note by replying to this email or to my personal address, laurence.wheeler@tesco.net.

Laurence Wheeler

Railtour Organiser

Report on a fire that occurred on a diesel multiple-unit passenger train on 29th August 1965 near Connah's Quay in the London Midland Region, British Railways

Ministry of Transport,
St. Christopher House,
Southwark Street,
London, S.E.1.
22ND APRIL, 1966

I have the honour to report for the information of the Minister of Transport, in accordance with the Order dated 2nd September 1965, the result of my Inquiry into the fire that occurred on a diesel multiple-unit passenger train at 1217 hrs on Sunday, 29th August 1965 near Connah's Quay on the Main line from Crewe to Holyhead in the London Midland Region, British Railways.

The train was the 1035 hrs Excursion from Wigan to Llandudno formed of two three-car sets and conveying about 100 passengers. It was travelling at about 60 miles per hour on the Down line when the signalman at Connah's Quay observed smoke and flames coming from underneath it. He took immediate action to have the train stopped at the next signalbox, at once informed Control, and called out the Ambulance and Fire Services. In the meantime the driver, warned by the fire alarm system, brought the train to a stand about 200 yards short of the platform at Connah's Quay station and, after ensuring the protection of the opposite line, set about fighting the flames with the aid of his second man whilst the guard organised the detrainment of the passengers of whom nine sustained minor injuries or shock, though none was detained in hospital. All three members of the train crew suffered injuries, fortunately not of a very serious nature, in the course of carrying out their duties.

The Fire Brigade reached the scene within five minutes and succeeded in confining the fire to the underside of the train and in extinguishing it within about half an hour.

The fire began after the failure of a universal joint in the transmission at the leading end of the third vehicle had caused the gear box to become detached and fall to the track rupturing both the main fuel tank at the trailing end of the same vehicle and that at the leading end of the following vehicle, the spilt fuel becoming ignited by sparks after vaporizing on hot ex-

haust parts. Considerable damage was caused to the third and fourth vehicles and slight damage to the leading end of the fifth vehicle, but the fire did not succeed in penetrating into the interior of the train.

Control at the scene of the accident was promptly assumed by a traffic inspector who was in the vicinity supervising ballast train working. He arranged for the removal of the damaged train and the Down line was re-opened by 1335 hrs when the following train was stopped specially to take forward the uninjured passengers.

The accident occurred on a fine sunny day with a light north-north-west wind.

Description

The site

1. Connah's Quay signalbox is situated nearly eight miles north-west of Chester on the Up side of the Main line to Holyhead at a point where the line narrows from four tracks to two. The station of the same name lies about $\frac{3}{4}$ mile from the signalbox in the Down direction on the double tracked section. The signalling in the area is on the Absolute Block System with semaphore signals. At the point where the train came to a stand the line is on an embankment with a rising gradient in the Down direction of 1 in 98.

The train

2. The six-car diesel multiple-unit train was formed of two three-car sets. Each set comprised two power cars with a trailer car coupled between them, the three vehicles being gangwayed together with driving cabs at the outer ends. The two sets were generally similar to one another but differed in some details as follows:—

(a) Leading set, built by Metropolitan-Cammell in 1958 and fitted with British United Traction (A.E.C. Type) engines,

Motor brake second M 50318 Weight 32 tons

Trailer composite M 59129 Weight 25 tons

Motor composite M 50336 Weight 32 tons

(b) Rear set, built by Birmingham Carriage & Wagon Co. Ltd., in 1957 and fitted with British United Traction (Leyland type) engines.

Motor composite M 50490 Weight 31 tons

Trailer composite M 59146 Weight 24 tons

Motor brake second M 50438 Weight 31 tons

3. The complete train was 364 feet long and weighed 175 tons; it was fitted with quick release automatic vacuum brakes with an efficiency of 79.37%. Its maximum permitted service speed was 70 m.p.h.

The train was allocated to Newton Heath diesel depot, near Manchester, for maintenance.

Layout of underfloor equipment

4. The layout of the underfloor equipment on all British Railways diesel multiple-unit power cars fitted with the standard mechanical transmission is generally the same, but minor differences in detail exist between vehicles supplied by different builders. Each of the power cars on this train was fitted with two 150 h.p. 6-cylinder diesel engines, mounted horizontally and located in tandem under the centre of the car, each driving the inner axle of the adjacent bogie through a fluid flywheel and the standard mechanical transmission which includes a shaft-mounted free wheel device, a 4-speed epicyclic gearbox secured to the underframe and an axle-mounted final drive unit incorporating the reversing mechanism. The power is transmitted from the gearbox to the final drive unit by means of a cardan shaft with a universal joint at each end and a splined section to allow for minor changes in length due to angularity. In the case of power car No. 50336 the shafts were 4 ft. 11 ins. long with an outside diameter of $3\frac{1}{2}$ ins. The universal joints were of the solid bush type designed to be lubricated by

grease introduced through a nipple on the starpiece of the joints. For identification purposes the engines and transmissions are known as No.1 and No. 2, the former being at the driving end of the vehicle.

5. The area immediately round each engine was protected by an independent automatic fire-fighting system of the Graviner type which, when operated by a heat-sensitive device, discharges a bottle of chlorobromomethane through a perforated pipe encircling the engine. This equipment also stops the affected engine, sounds a warning bell in the driving cab and guard's compartment, and illuminates a red warning light on the fire alarm control box on the affected vehicle. It does not, however, protect the area round the main fuel tanks which are located, one for each engine, alongside the transmission in the neighbourhood of the gearbox. The capacity of each fuel tank on the leading set was 80 gallons and on the trailing set 90 gallons.

The course of the accident and the damage caused

6. The first signs on the track were just on the down side of the trailing points near Connah's Quay signalbox and about 1000 yards from where the train came to a stand. The remains of a gearbox and a number of other mechanical parts were found lying on the track which itself had been slightly damaged and saturated with diesel fuel which continued to burn after the train had run past. By the time the train stopped the fire had extended from under the rear part of the third vehicle, power car No. M 50336, to almost the whole length of the underside of the fourth vehicle, power car No. M 50490, and had also affected the leading end of the fifth vehicle, trailer composite No. M 59146.

7. The exterior paint work of the fourth vehicle was severely scorched and blistered and a number of fixed side lights were broken but the fire had not actually penetrated through the floor or into the interior of the vehicle in any way.

8. After the fire, the Graviner apparatus was found to have been discharged at the No.1 end of the third vehicle and at both ends of the fourth vehicle.

EVIDENCE

9. *Signalman C. Connah* was on duty at Connah's Quay signalbox. He watched the train pass at a normal speed. There was no sign of fire and the exhaust note sounded normal. After he had given "Train Out of Section" to the signalbox in rear and the train had passed his box by about 200 yards he saw a cloud of black smoke and flames coming from under a vehicle in the front part of the train which ran on leaving the track in flames behind it. He immediately sent "Stop and Examine" to the signalbox in advance, Rockcliffe Hall, and informed the signalman and a traffic inspector, who was with him in the box, what had occurred. He then informed Control and called out the emergency services. He had not thought it necessary to send "Obstruction Danger" for the Up line since the line was already occupied by a ballast train working in section, but he had sent it for the Down line to Sandycroft, the signalbox in rear. He had observed that the wind, which was blowing from the north-north-west was carrying the smoke away from the Up line.

10. *Driver Robert James Stephenson* had taken charge of the train at Wigan Wallgate Carriage Sidings at 0645 hrs that morning when he found one engine on each set isolated, No.1 on power car 50336 and No. 2 on power car 50438. He started the other engines and took the train to Springs Branch shed for refuelling, where the No. 1 engine on 50438 also failed to restart. Since he had insufficient time to investigate the defect, he isolated this engine as well and the train set out from Wigan for Llandudno with only five engines running out of eight.

11. I asked Driver Stephenson, who had only handled a diesel multiple-unit train on four previous occasions, whether there were any instructions or regulations dealing with the number of engines it was permissible to isolate, but he knew of none, and the matter had not been covered during his training; his own personal view, formed after discussion with other drivers was that, provided there was an average of one engine per car on the train, there should be nothing to worry about. In this instance having only 5 engines for 6 cars he had been a little worried about being able to start away from Bryn, near St. Helen's, where the station is on a rising gradient of 1 in 60. In fact, apart from somewhat slow starts, he had no trouble and the journey was uneventful until just after passing Connah's Quay signalbox at about 60 m.p.h. when the fire alarm bell and guard's buzzer sounded simultaneously. He immediately made a full brake application and brought the train to a stand.

12. Stephenson then described how he and his second man had gone back on the near side of the train with fire extinguishers to attack the flames which seemed to be coming mainly from under the fourth vehicle. While trying to locate the local fire switch to ensure that the Graviner apparatus had discharged properly he had received burns on both hands and on the side of his face when a jet of burning fuel came from under the train. He then went round the back of the train to get to the other side and saw passengers detraining onto the Up line. He therefore sent the second man at once to carry out protection.

13. *Fireman B. Ellison* was acting as second man to Driver Stephenson. He had never before worked on a diesel multiple-unit train, though he claimed that he would have known how to bring the train to a stand in an emergency. He had gone back with the driver as soon as the train stopped, taking a hand extinguisher with him. While standing in the smoke and fumes on the near side of the train it seems that he had breathed some of the gas released by the Graviner apparatus for he had been ill since the fire and had not resumed work at the time of my Inquiry, 12 days later. When the driver told him to protect he had obtained detonators from the rear cab and had set out to protect in rear while a guard who was travelling as a passenger went forward.

14. *Goods Guard J. E. Carmen* was in charge of the train. He described the trip as uneventful until near Connah's Quay, he was suddenly aware of what he described as a ball of flame outside his van and the simultaneous ringing of the fire alarm bell. He made an attempt to apply the brakes but the vacuum had already been destroyed. As soon as the train stopped, realizing the serious nature of the fire, he had shepherded the passengers from the rear set into the last vehicle which was clear of the fire zone whence they climbed down to the ballast from the brake compartment doors. Carmen was sure that all the passengers in the rear set had left the train in this manner. Whilst he was looking after the passengers he had been assured by the second man that protection was being carried out in both directions.

15. The guard who was travelling as a passenger was *T. H. Williams* stationed at Wigan. He had worked regularly on diesel multiple-unit trains but since he did not know the route to North Wales he had taken a seat in the front saloon immediately behind the driver and was taking a close interest in the trip. He had noticed that the train felt somewhat under-powered on up gradients and after the slow start from Bryn had wondered whether it would manage to climb up to Acton Grange from Warrington. From where he was sitting the trip had been smooth enough, but after the incident he had heard passengers who had been travelling in the third vehicle saying that there had been considerable noise and vibration before the train reached Chester and that pieces of paper had been jumping up and down on the floor.

16. When the fire occurred Williams got out as soon as the train stopped and, while the driver and second man set about fighting the fire, went forward at once and checked that the opposite line was protected. On his return to the train he made himself known to the second man who gave him some detonators and he then went back to assure protection in rear as well, and while doing so he saw portions of the gear box lying on the track.

17. Williams was also aware of the toxic nature of the fumes from the Graviner apparatus and drew the attention of the officer in charge of the fire brigade to this hazard, to ensure that anyone suffering from the effects of the fumes received proper treatment.

18. *Divisional Inspector Mellows* was on duty on the day of the accident supervising ballast train working between Connah's Quay and Rockcliffe Hall and was in the signalbox at the latter point when the "Stop and Examine" signal was received from Connah's Quay. He then spoke on the telephone to signalman Connah who told him of the fire. Inspector Mellows then walked back just over a mile to where the train was standing and took charge of the situation. The Fire Brigade had the fire under control by the time he arrived and he found that the passengers had all been detrained and that the uninjured were making their way to Connah's Quay station, where he told them to wait while he arranged for another train. He found the driver and second man trying to uncouple the train between the second and third vehicles and the guard still looking after his passengers and, in view of the injuries they had received, he insisted on their going to hospital with the injured passengers. He then made arrangements for the removal of the damaged train.

19. *Mr. C. Robinson*, the mechanical foreman at Chester diesel depot was called to the scene of the fire where he carried out a careful examination of the train before it was towed to Chester. He established that all the broken transmission components found on the track had come from the No. 2 end of power car No. M 50336, the third vehicle of the train, from which the gearbox and free wheel shaft were missing. The cardan shaft was still in position, hanging on the safety strap. It was slightly bent and the yoke at the gear box end was broken with the star piece of the universal joint missing. This latter component was found on the track in the vicinity of the other debris in a worn and battered condition and showed signs of having been overheated although it had been well away from the fire zone.

20. Mr. Robinson then examined the universal joint at the other end of the cardan shaft. He found it in a badly worn condition as well, almost on the point of disintegration. The lubrication nipple was missing from the star piece and in his opinion the joint had not been lubricated for some considerable time. The gear box, on the other hand, showed no sign of seizure or overheating. It had apparently been torn from its brackets by vibration and had fallen to the track taking the free wheel shaft with it. Mr. Robinson thought that remaining mechanical damage had been caused by the gear box coming into contact with other components after it had become detached, including the displaced flexible exhaust pipe on No. 2 engine of the fourth vehicle which however had been most insecurely fastened with an overlap of only about 1/16" and would not have required a heavy blow to dislodge it.

21. Mr. Robinson, who himself was responsible for the maintenance of 74 diesel multiple-unit power cars based on Chester, was of the opinion that the original failure was that of the universal joint at the gearbox end of the cardan shaft, caused by lack of lubrication and

that the failure of the gear box was a direct result of the vibration set up after the initial failure of the universal joint bearings had allowed the shaft to revolve eccentrically.

22. *Mr. F. Heslop, Depot Superintendent at Newton Heath diesel depot*, to which the sets concerned were allocated for maintenance, had examined the recovered transmission components and he agreed that the apparent cause of the accident was the failure of the bearings in the universal joint at the gearbox end of the cardan shaft on power car No. 50336. He told me that he was responsible for the maintenance of 146 diesel multiple-unit sets and that cardan shafts were changed on account of worn universal joints from time to time but that he had never previously seen or heard of a bearing which completely failed in this manner. He thought the failure could well have happened as a result of lack of lubrication and could possibly have arisen since the vehicle was last examined during which time it had run 1060 miles.

23. The last examination of the set had been carried out at Newton Heath on 27th August, two days prior to the accident, by *Fitter J. C. Watson* who said that he had carried out a 'B' examination which includes greasing of the transmission components. He was sure that all the nipples had been in position and could not remember when he last had to replace a nipple on a cardan shaft. On this occasion, though he had lubricated the shaft he had not examined the bearings for wear because, on the job card issued to him, that part of the 'B' examination which covered a visual examination of the transmission to detect defective parts had been struck out by his supervisor.

24. When asked whether while he greased the joints, he handled the shaft in any way that might indicate to him that there was wear in the joints, Watson was emphatic that he did not even touch the shaft when greasing the joints and that, when told to grease something he would grease it irrespective of its condition.

25. I asked Mr. Heslop to explain why the visual examination had been omitted and to let me know when the last proper examination had been made. He told me that the set had been diverted from its regular circuit working which takes it away into the North Eastern Region, during the previous week and it had come back three days late to Newton Heath on 24th August overdue for a 'B' examination which should be carried out every 2,500 to 3,000 miles. The set had come in during the night, however, and the night staff had not been aware that it was overdue for lubrication; it had therefore been given only a routine 'A' examination (due every 1,250 to 1,500 miles) and released to traffic. This examination included a full visual examination of the transmission, to detect loose or defective parts. When the day staff came on duty the next day it was found that the set should have had a 'B' examination and not an 'A' (the former incorporates the latter) and arrangements were promptly made to have the set brought back. When it got back two days later, having run less than 300 miles, it was given the 'B' examination described by Fitter Watson, from which those items that had already been done as part of the 'A' examination were excluded.

26. *Mr. J. H. Lawson, Senior Technical Assistant, Chief Mechanical and Electrical Engineer's Department*, who was also present at my Inquiry, had examined the components from the failed transmission of power car No. 50336. He was of the opinion that the basic cause of the failure was lack of lubrication of the universal joints and he thought that the joints had taken some time to reach the condition they were in at the time of failure, certainly longer than three days. He had seen worn universal joints on previous occasions, but never one as bad as on this vehicle.

27. In order to establish whether any noticeable vibration had occurred prior to the day of the accident, a report was called for from *Driver A. Nightingale*, stationed at Newton Heath, who had driven the set from power car No. M 50336 from Manchester to Blackpool on the previous day. He stated that the set had behaved in a completely normal manner throughout and that he had not been aware of any unusual roughness or noise during starting or stopping or during the periods of high speed running which are achieved on this working. At this time both engines on car No. M 50336 were working but I was informed that the No. 1 engine on this vehicle had stopped, probably due to an air lock in the fuel system, while working the 2310 hrs service from Manchester to Wigan the same evening. On the other set, the No. 2 engine of power car No. 50438 had also been isolated after it had failed to start whilst in service on the previous day. This isolation had been duly reported by the driver concerned when booking off duty at 2340 hrs that evening.

28. In company with Mr. Lawson, I examined the train and the recovered transmission components from power car No. M 50336. The only items which displayed signs of wear, as opposed to accident damage, were the pieces of the disintegrated universal joint from the gearbox end of the cardan shaft, which had also received impact damage after failure and the similar joint from the final drive end of the shaft, which had not been damaged as a result of the accident but which was so worn that it was possible to introduce the tip of a finger into the bearing housings alongside the star piece. The whole joint was in a dry condition and had obviously been very hot; the grease nipple was missing and the threads in the hole were filled with dirt. Both of these universal joints had been remote from the area affected by the fire.

29. All the broken transmission components found on the track had come from the leading end of the third vehicle and all the mechanical damage found under the other end of that vehicle and the following one could be ascribed to contact with the gearbox after it had come adrift. It had torn the bottom out of the No. 1 main fuel tank of the third vehicle and done other damage to the No. 1 engine and its transmission which had been isolated at the time of the accident. Under the fourth vehicle, power car No. M 50490, a small gash had been torn in the underside of the No. 1 main fuel tank, the air reservoir had been punctured, and other minor damage sustained by the engines and auxiliary equipment. The flexible section of the exhaust pipe had also come adrift at the manifold of No. 2 engine. This in itself could have caused the fire but since it was at the extreme rear end of the fire zone it is more probable that the actual source of ignition was sparks caused when the transmission components struck the ballast under the third vehicle at the same time tearing the bottom out of the full No. 1 main fuel tank releasing 80 gallons of diesel oil in a matter of seconds. After the train came to a stand the fire, by then centred under the fourth vehicle, was fed by the slower discharge of fuel from the No. 1 main fuel tank of that vehicle until the heat round the tank caused an explosion inside it, tearing the internal baffles away from the sides and squirting jets of burning fuel in all directions.

CONCLUSIONS

30. I have no doubt whatever that this transmission failure and consequent fire were the result of the lack of lubrication in these universal joints. It is difficult to estimate how long it had taken for the joints to reach the condition they were in when failure occurred but in my opinion it would have taken considerably longer than the two days which had elapsed since Fitter Watson claimed to have greased them. Since the bearings were of the solid bush type,

wear would have been fairly slow as long as a trace of grease remained and no serious vibration would have been felt while running until the bushes became badly worn and/or seized in their housings. When this occurred the shaft would have started to revolve eccentrically causing severe vibration and resulting eventually in the failure of the gearbox output shaft and collapse of the light alloy gearbox housing. It seems probable that this final phase set in somewhere between Wigan and Chester on the day of the accident and that it was speeded up by the high torque maintained during the longer periods that this under-engined train required to accelerate away from stops and climb steep gradients.

31. The fact that the present examination and lubrication periods have proved satisfactory on many hundreds of similar vehicles leads me to the conclusion that, on this vehicle, neither examination nor lubrication had been carried out conscientiously and that at the time the 'A' examination was carried out on 24th August a noticeable degree of wear in the universal joints would have been apparent to anyone handling the cardan shaft.

32. By the time the vehicle got back to Newton Heath on 27th August, when the 'B' examination was carried out by Fitter Watson, the wear would have become even more noticeable, but the latter did not look at the condition of the bearings because, he claimed, he had no instructions to do so. Whether, in fact, the grease nipple on the rear joint was already missing on 27th August cannot be known for certain. From the appearance of the joint after the accident it had not been there for a considerable time, but it is just possible that it had been loosened by the vibration after the joint began to fail.

33 It is also possible that, on account of a period of dry running which had occurred as a result of the set being overdue for lubrication, the grease feed holes from the centre of the star piece to the bearings had already become blocked by plugs of hard carbonated grease. This could have resulted in any further grease being unable to reach the bearings making their eventual failure a certainty. In order to guard against this possibility it should be automatic for a fitter to check the condition of a joint by feeling the play in the shaft when he greases it.

REMARKS and RECOMMENDATIONS

34 Though Fitter Watson's attitude was entirely incompatible with his being a tradesman jealous of his skill, it was supported by the job card system in use at Newton Heath depot for carrying out periodical examinations. Each examination is broken down into a number of clearly defined tasks and a time allowance made for each. Thus item 7 of the 'B' examination reads: —

"Lightly lubricate throttle motors, linkage and hand control throttles on the two power cars. Lubricate all nipples on engines, transmissions and control equipment on two power cars". To do this a fitter is allowed a standard time of 51 minutes plus a further allowance of 14 minutes for obtaining and subsequently disposing of the greasing equipment. Item 4, the item which had been cut out of the examination on 27th August, reads:—

"Make visual examination of all mechanical components of the engines, transmissions, control and auxiliary equipment to detect loose leaking or defective parts. Examine belts."

For this task a fitter is allowed a standard time of 21 minutes for a set including two power cars.

35 I consider the deliberate omission of this visual examination to be a petty economy which has the effect of

encouraging fitters to develop a wrong attitude towards their responsibilities. Whenever a fitter is at work on a vehicle he should always be alert for signs of trouble and I recommend that, if at any time it is considered advisable to carry out only part of a scheduled examination, the visual examination for defects should never be omitted.

36 I do not consider that the fact that this train was running with three of its eight engines isolated can be regarded in any way as a cause of this accident, but it may well have accelerated the final failure by extending the periods during which the torque in the transmission was high while the train accelerated away from stations and climbed steep gradients. It is apparent that there must be some limit to the number of engines that can be safely isolated in any given circumstances and I recommend that some definite guidance be given to drivers on this subject during their training.

37. In conclusion I would like to commend the conduct of the members of the train crew who continued to fight the fire and give aid to the passengers after receiving burns and other injuries, and also the prompt assistance rendered by Guard T. H Williams who was travelling as a passenger.

I have the honour to be..... I. K. A. McNAUGHTON, *Lieutenant Colonel*.

Associate Membership – A new way to take part in our Group

One of the challenges of small groups like BMRG is to ensure that we have a regular supply of new participants in our activities. This will not only ensure our longer term survival but also provides the necessary fresh ideas and enthusiasm to keep us from getting stale and/or complacent. Since our foundation in 2004 we have had just one level of membership, “Full membership”, which gives everyone equal rights and obligations within BMRG. Prominent amongst the obligations is the requirement to pay a subscription to cover our costs and this is currently £360 per year (£30 per month). In many ways this subscription level is a bargain, given the facilities we enjoy, but we also have to recognise that it is not a trivial sum of money and may deter potential members who, for whatever reason, are unable to participate fully in our activities.

We have therefore introduced a new membership category, “Associate membership” for people who wish to play some role in BMRG but for whom geographic distance and/or other interests and obligations make “Full membership” impractical. The subscription for Associate members has been set at £100 per year (£8.50 per month) which is substantially less than Full membership but is still enough to ensure we only get applications from people who are seriously interested.

Our first associate member is Kevin Bays who lives near Rochester in Kent and regularly operates “Mostyn”. He is no stranger to our operating teams when we go to Chatham show with

either layout! His commitment to the group is demonstrated by his willingness to drive from Rochester to Newcastle for our last exhibition. It is to be hoped that we may attract other potential Associate members interested in "Johnstown Road" and/or contributing to the *Journal* and/or using our clubrooms for modelling. It is also hoped that, in the longer term, some Associate members may wish and be able to change to Full membership.

What does Associate membership bring?

Associate members have all the same rights and obligations as Full members except:-

- Associate members do not carry the right of veto on major decisions taken by the group (unlike Full members). Major decisions include subscription levels, membership matters and large expenditure.
- Associate members do not have the right to a club key but may be given a key if the rest of the group so decides.

Associate members can, and will be encouraged to, take part in the modelling projects and exhibition activities of the group. They will receive the quarterly *Journal* and be encouraged to contribute to it. They will become members of our e-group. But, above and beyond this, we hope they will enjoy the camaraderie of a happy productive group, learn some skills from us and pass on some skills and experience to us.

"I'm interested in Associate membership, what should I do?"

Please contact our *Journal* editor, David Goodwin, in the first instance or any other member of the group if you know them better. We will then seek unanimous approval from the existing membership in order to confer Associate membership. Once membership is approved there is a probationary period of six months, at the end of which either the new member or the group can say "this has not worked" – in which case all subscription monies paid so far will be refunded and the parties will go their separate ways. Assuming all is OK at the end of six months then the probationary status disappears.

The same process works for applications for Full membership and for changes from Associate to Full membership.

Please note that we have never refused to confer membership nor have we ever been in a situation where either party has said "this has not worked" at the end of a probationary period. We do, however, keep these rules to ensure we maintain our group's ability to rub along happily.

(Richard Oldfield)



A memoir of the Blondin cranes and wagons at the Pen yr Orsedd slate quarry

by John Hobbs

(Pen-yr-Orsedd slate quarry, Nantlle – about five miles south of Carnarfon in Snowdonia; on the northern slopes of the Nantlle valley; started early 19th century (1816) then had several owners until: “Pen yr Orsedd Slate Quarry Co. Ltd.” which lasted from 1862 to 1979.

Four main pits/quarries, with wagons lifted out of quarries by Blondin ropeways onto a 2ft gauge rail system connecting to mills and waste tips, then to the Nantlle Tramway until that was closed in 1963).

I was lucky that I worked in the slate industry in the seventies and saw the working practices at Pen Yr Orsedd, Maenofferyn, Llechwedd and Manod Mawr, and I rode on the Maenofferyn incline before it closed; they were having problems with the Mines and Quarries Inspectorate who required safety devices fitting to it if it was continue in use.

I had to inspect the Blondin cranes at Pen Yr Orsedd, and went there for the first time about May 1974 when three Blondin cranes [named after Charles Blondin (1824-1897, the famous French tight-rope walker, and used for lifting loaded wagons out of the quarry pit] were still in use. On the first morning, I got soaked just going from the car to the bothy (it was about three yards), in driving rain and a howling gale. My first company car was a mark 1 Ford Escort, it was brand new and caused a stir in the Quarry. I was then a crane inspector with the British Engine Boiler and Electrical Insurance Company. My arrival unannounced caused some confusion, I could not locate a phone number for the Quarry Company, so had to go blind to see them, and although I had a contact name, my predecessor's paperwork was not all it might have been.



Blondin towers at Pen yr Orsedd

The language of the bothy was Welsh, so I was well out of my depth, being a non-fluent Welshman; the conversation naturally turned to my skills etc. However from somewhere, in my school days, I was able to summon up a comment about the good quality of the tea in Welsh. Whereupon I was advised that they did not know I knew so much Welsh, and the topic for discussion was changed. So it is everywhere

where two languages are spoken!

You had to learn quickly: I had never seen a 'Blondin' before but on this day you could only see ten yards in the driving rain. I had a walk around one of the engine houses, with the quarry Manager, but examination was futile in the driving rain.

I arranged to call by phone on the following Tuesday morning when I woke up in Mynydd Isa, Mold, at 06.30, and if the weather looked favourable arranged to be at the Quarry for 10.00 for a cup of tea and some snap. It was a much better day, although cold with a view across to Snowdon from the vale.

The examination started in the engine house with the cable drums which drove the hoist and travel ropes, provided with gearing and clutches and the motor being provided with a water starter, with plates that could be wound in and out to increase/decrease the resistance as required. On the beams of the engine house were photos of beauties which reflected the age of the installation - Betty Grable, Mae West etc. were the ones I could identify.

Outside the engine house was a pylon about 30ft high to which all the wire ropes ran, each wire being provided with its own sheave. The pylon was itself stayed with four cables each terminated at ground level in appropriate anchorages. The catenary rope was fixed to the top of the pylon and suspended over the quarry pit to end in a fixing at the far side on the hillside above the quarry about 400 yards away.



One of Dave Sallery's excellent photos of a Blondin slate wagon at the Dinorwic quarry; those at Pen yr Orsedd were similar but not exactly the same (see the website www.penmorfa.com/ and similar sites: search "Blondin wagons slate quarries").



The travel rope went under the sheave at the base of the pylon and over a sheave at the top across the pit and fastened to the 'Blondin' carriage at the engine house end; the other end of the rope was fastened to the other side of the 'Blondin' carriage and then ran to the fixing on the hillside where it went around a sheave and then returned across the quarry, passing through the 'Blondin' carriage to the pylon around sheaves at the top and bottom and back to the drum in the engine house. This travel rope was supported by runners (buttons) from the catenary rope which prevented it sagging too far away from the catenary rope. A separate button rope was provided to enable these runners to be deployed. The drum on which the travel rope was wound could be powered in either direction by the driver who received his instructions from a banks-man.

The hoist rope was provided with its own drum, which could be reversed, the rope again left the engine house to the base of the pylon around its own sheaves at the top and bottom of same and then via diverter sheaves on the 'Blondin' carriage ran down to the hook and back to the carriage; thence to the far side of the quarry where it was anchored in the fixing. This enabled the hook, suspended from the 'Blondin' carriage to be held level no matter how the carriage was traversed across the quarry.

It was possible to examine a large proportion of the travel rope from the pylon, and a smaller proportion of the hoist rope but the whole of the catenary rope and large sections of hoist rope and the remainder of the travel rope could only be examined by riding on the 'Blondin' carriage!

This was achieved by a bracketed seat being brought out and fitted to the 'Blondin' carriage, the carriage being drawn close to the pylon to enable it to be fitted. This required close work between the banks-man and the 'Blondin' driver; in order that the carriage did not foul the pylon. A safety harness was also worn although what use this was in the event of rope failure was never explained.

The task now was to climb into this seat and be strapped in to examine the catenary and hoist ropes which were otherwise inaccessible. I agreed hand signals with the quarry foreman as to

"stop" and "proceed", "reverse" and the examination commenced. It became obvious when I was about 50 yards out over the quarry that my hand signals, to the Quarry Foreman were having little effect on proceedings, the motion out along the wire being quite arbitrary. So I examined the ropes as best I could.

The weather was wonderful and the sun's heat could be felt as I swung 400ft above the quarry floor, 200ft or so from the pylon, in complete silence, flying as if like a bird in my own world; Snowdon came in to view, a magnificent unique perspective from my position on the 'Blondin' carriage. As I dwelt on my unique position, there was an enormous explosion beneath me, as shards of slate came upwards towards me from the pit below. Nobody had instructed the quarry hands to cease working as I swung above them in the ether; this was the most terrifying experience I have ever had in my life! Not only was I not in control of my movement, I was being shelled as well!

When my uncontrolled travel to the remote end of the rope was complete, or somebody thought it was, my direction was reversed and I returned to the pylon and dismounted. After complaining about the explosion profuse apologies were offered and cups of tea provided to calm my nerves! During this conversation, I discovered my banks-man had cataracts!! That explained why my hand signals were not being responded too!

The final part of the examination required a walk across the mountain to the far side of the 'Blondin' to examine the fixing; this was made of large timbers; which had obviously been in place for many years. My screwdriver entered them like they were made of cheese.

It was the last occasion the machine was used as I required it to be immediately withdrawn from service.

The owners were not surprised at my stance, the cost of replacing the timbers was too much for the state of finances at the time and the cost of dismantling and re-erecting the machine were too great. It is always sad as a crane inspector to see an interesting machine come to the end of its working life but safety must always be paramount.

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This is an edited version of John's piece which first appeared in the Hatherill's book (below). Where the photographers' names are not given, they are from John Hobbs collection.

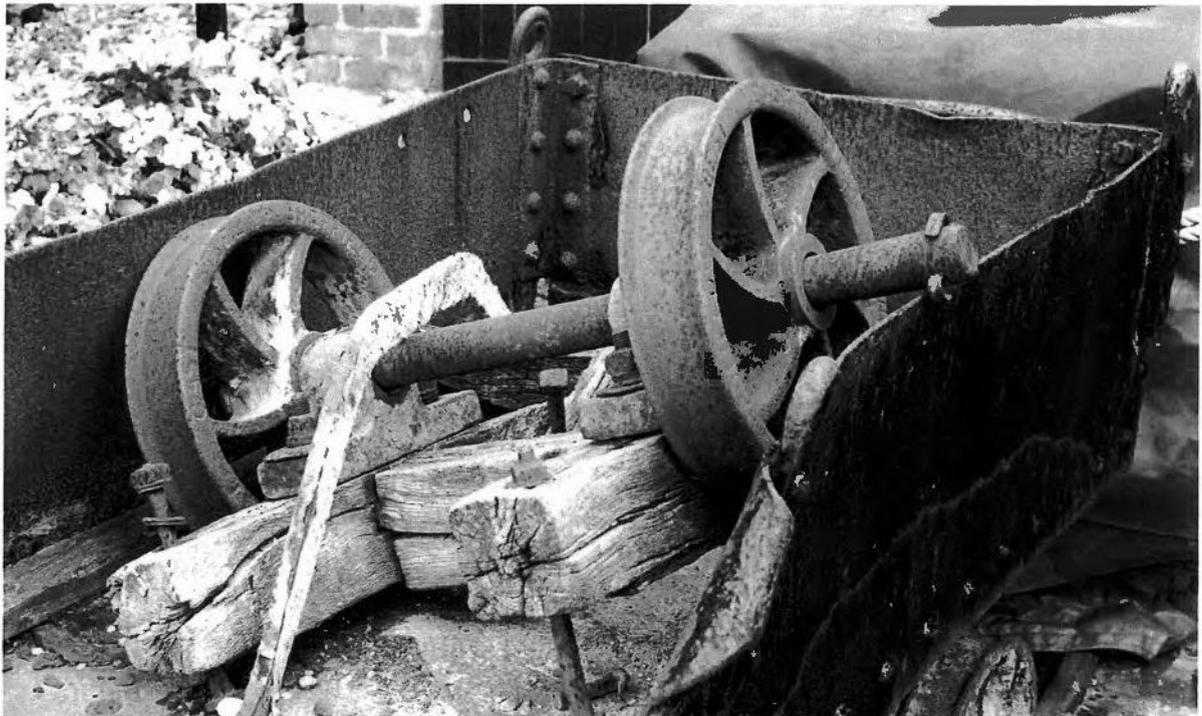
Notes

1. *Industrial Locomotives of North Wales*, by V.J.Bradley. Industrial Railway Society, 1992. ISBN 0 901096 72 5.
2. *The slate regions of North and mid Wales and their railways* by Alun John Richards. Carreg Gwalch, 1999. ISBN 0 86381 552 9. £7.50.
3. *Slate quarry album* by Gordon and Ann Hatherill. RCL Publications, 1974.

Editor's note: On a visit to the West Lancs Light Railway at Beconsall in August 2006, I came across some small 2ft gauge wagons, and photographed them – without, at the time, having a clue as to what they were. It now turns out that they are Blondin wagons, probably from the Dinorwic quarries. A few are illustrated on the next page:



Note the double-flanged wheels often used on industrial tramways





Editor's page

Recent books (including yet more rescued from recycling in Ludlow!):

British Railways unfitted and vacuum-braked wagons in colour by Trevor Mann.
Ian Allan, 2013. ISBN 978 0 7110 3636 9. £22.50.

Great Northern Railway (Ireland): Working time table, Sunday, 2nd April, 1944.
Until further notice. G.N.R.I., 1944.

Great Northern Railway (Ireland): Working time table, Sunday, 26th September,
1948, Until further notice. G.N.R.I., 1948.

Giant's Causeway, Portrush & Bush Valley Railway & Tramway Co. Limited by
John McGuigan. Ulster Folk and Transport Museum, 1983. ISBN 0 902588 10 9.

Derry Road in colour by J.D.Fitzgerald. Colourpoint, 1995. ISBN 1 898392 09 9.
£4.50.

Lough Swilly memories by P.S.Halton, in *The narrow gauge*, no.83 (Spring 1979;
Narrow Gauge Railway Society).

Appendix to the working time table, May 1930 until further notice. Great Northern
Railway (Ireland), 1930.

Turf burner: Ireland's last steam locomotive design by J.W.P.Rowledge. Irish Railway Record Society, 1972.

Irish railways in pictures, no.2: The Midland Great Western Line. Irish Railway Record Society (London Area), 1990. ISBN 0 902564 04 8. £2.95.

Irish railways in pictures, no.1: The Great Northern. Irish Railway Record Society (London Area), 1976. 65p.

101 class locomotives of the G.S.&W.R.: steaming through a century, 1866 – 1966 edited by P.J.Flanagan. Irish Railway Record Society, 1966.

A decade of steam on C.I.E. in the 1950's by Drew Donaldson, Bill McDonnell, Jack O'Neill. Railway Preservation Society of Ireland, 1974.

Sligo, Leitrim and Northern Counties Railway by N.W.Sprinks. Irish Railway Record Society (London Area), 1970. 15s.0d. (4pp Addendum [1980] insert).

Grainne Uaile railtour: souvenir brochure [Dublin-Mullingar-Westport-Ballina-Athlone-Dublin-Belfast-Ballymena-Belfast-Whitehead, May 1992]. Railway Preservation Society of Ireland, 1992.

Bye-laws and regulations, general notices and conditions. Great Northern Railway (Ireland), 1947.

ABC locomotive series: bound volume containing – L.M.S. 1943; B.R. (W.R.) 1950, 1952, and 1953; London Transport rail, trams, trolleybuses, buses 1944; Irish 1945 and 1949. Ian Allan.

Great Northern Railway (I.) carriage sets, November 1924. G.N.R.(I.), 1924.

Saint Munchin railtour [Dublin-Ballybrophy-Limerick-Ennis-Dublin-Belfast-Coleraine-Whitehead; May 1999]. Railway Preservation Society of Ireland. 1999.

G.N.R. Society: publication no.1 [Dundalk as a railway centre; Charles Clifford; Dundalk and Junction Works]. G.N.R. Society, n.d. (197-?).

I got married in 1956, at a time when I was not interested in railways or railway modelling – in those days I was keen on maritime history and ship modelling. So in those days, when my wife showed me a photograph of her standing in the cab of a steam engine, I expressed polite interest and promptly forgot about it. That was until Lorna had died, and I was sorting out all the stuff we leave behind when we turn our toes up, and I came across this same photograph, along with four similar half-plate prints from the 1940s.

They were all taken outside the Pearson & Knowles engineering works in Warrington where Lorna's father John Plews, was managing director (which explains how the photographs came to be taken during those austere WW2 days!). Pearson & Knowles was a well-known general engineering firm, first building steam locomotives in 1899, after previous experience making wheels, axles, etc. They expanded until taken over by Armstrong, Whitworth & Co. in 1920 (John Plews had joined Armstrongs as an apprentice and worked his way up through various subsidiaries until being appointed to the Pearson & Knowles subsidiary in 1928, and staying there until his retirement).

Our cover photograph shows a 13 year old Lorna on No.18 of the Lancashire Steel Corporation Irlam Works, on 23 September 1944. This engine was originally built by Kerr Stuart as their works no.4145 in 1919, an outside cylinder 0-4-0, for the Partington Iron & Steel Company (an associated Pearson & Knowles firm, later part of Lancashire Steel), after its repair and overhaul in 1944. [The information on the locomotive was kindly supplied by the Alex Jackson, librarian of the Industrial Locomotive Society.]



This plaque, provided courtesy of retired railwayman Tommy Jones of Chester, records the award of a prize to Saughall station during its last year before Nationalisation; the station was still open for passengers in those days – it eventually closed to passengers in 1954, and the line from Chester to Dee Marsh Junction was closed in 1968 (but the track remained in place, used only intermittently, until lifted in 1993).

Contents (no.38, March 2014)

Cover; Forthcoming events	2
<i>Industrial Widnes, part 4</i> by Bob Miller	2-13
<i>Woking Stag(g) do</i> by Alisdair MacDonald (full version!)	14-15
<i>Was it Nurr-castle or Gates Heed?</i> by Alisdair MacDonald	16-17
Letters to the Editor (Charlie Miller)	17-18
Somerset coast express railtour	18-19
<i>Report on a fire ... on a diesel multiple unit ... August 1965 ... near Connah's Quay</i>	19-27
Associate Membership	27-28
<i>A memoir of the Blondin cranes and wagons at the Pen yr Orsedd slate quarry</i> by John Hobbs	29-34
Editor's page	34-36