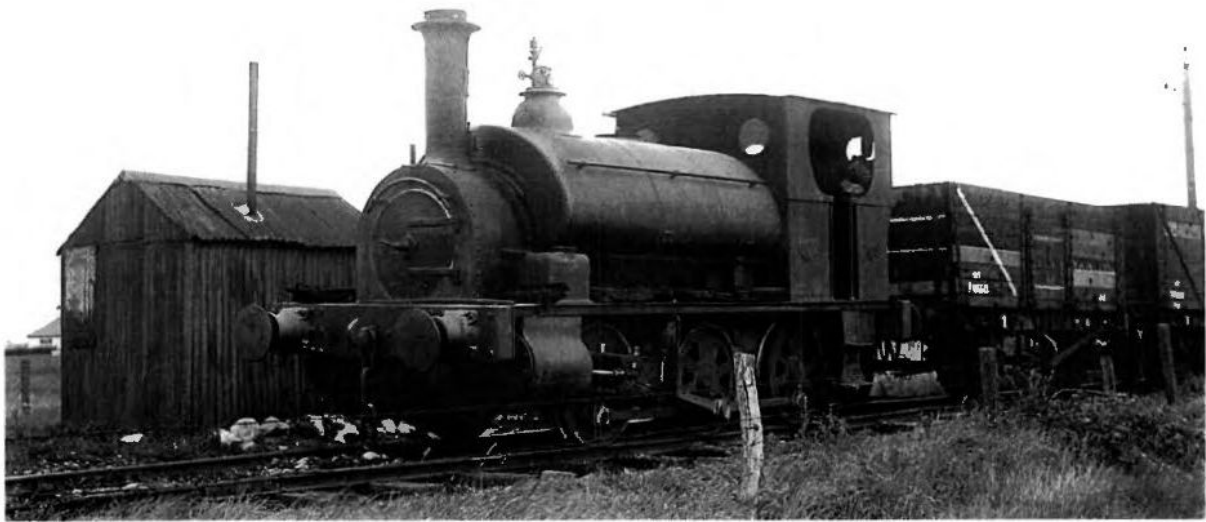


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Published on behalf of Barrowmore Model Railway Group by the Honorary Editor: David Goodwin, "Cromer", Church Road, Saughall, Chester CH1 6EN; tel. 01244 880018. E-mail: david@goodwinrail.co.uk

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 December 2013, and contributions should get to the Editor as soon as possible, but at least before 1 November 2013.

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Copies of this magazine are also available to non-members: a cheque for £9 (payable to 'Barrowmore Model Railway Group') will provide the next four issues, posted direct to your home. Send your details and cheque to the Editor at the above address.

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The cover illustration this quarter comes from the collection of Stan Yates of Rhyl: the locomotive *ELEANOR* is a typical product of the Avonside Engine Co Ltd of Bristol (No.1432 of 1902) and older readers will recall that the Mersey Docks & Harbour Board were particularly fond of them, employing them all over the Liverpool Docks system. One of them, *LUCY*, was involved with a memorable railtour on the Birkenhead Docks and is now preserved at the Ribble Steam Railway at Preston. With 14" by 20" outside cylinders and 3' 3" wheels, these 0-6-0ST featured safety valves in the top of the dome and a saddle tank that was not long enough to cover the smokebox. The engine is on the private line of Limestone Products Ltd of Parc-y-Meirch Quarry, St George, Abergele, Denbighshire (now Conwy) in June 1953. The quarry is easily seen on the left when travelling west on the A55 road about two miles east of Abergele and its cream coloured stone was largely used for aggregate when mixing concrete. Unfortunately over the years the quarry has completely destroyed an ancient hill fort.

The line ran from the quarry to the LMS (LNWR) at Foryd, just west of Rhyl. It was originally built in 1915 to serve military camps in the grounds of Bodelwyddan Park [Kimmel Camp], and closed in 1922. The quarry opened in 1923 as a subsidiary of Lime Firms Limited of Llanderbie, Carmarthenshire (a company formed in 1906 by the amalgamation of older companies) and built a rail connection to the former Military Railway, which was now worked by the LMS although a locomotive was obtained by the Quarry to operate the new connecting line. This arrangement lasted until about 1932 when the quarry engine took over working the whole line through to Foryd.

The first engine at the quarry was another Avonside (No.1923) new in June 1923 as *MARGARET* and, apart from repairs at Avonside in June 1934, remained at Parc-y-Meirch until transferred to Llanderbie about 1948-49. The subject of our photograph, *ELEANOR*, was sent from Llanderbie (where she had been since being built) to replace her and remained until February 1954 when she returned to Llanderbie. At the same time *MARGARET* was transferred back to Parc-y-Meirch and continued at work until about May 1960 when replaced by a little diesel. *MARGARET* was scrapped at the quarry about 1961, rail traffic ceased in February 1965 and the track was all lifted in the next few months. Just to complete the story it might be mentioned that in 1975 Lime Firms Ltd was purchased by Alfred McAlpine & Son Ltd.

Forthcoming events:

14/15 Sep. 2013: Woking show ("Mostyn" is appearing).

5 Oct. 2013: Gresford show (Gauge O Guild).

26/27 Oct. 2013: Merseyside show ("Johnstown Road" is appearing).

16 Nov. 2013: 7mm running track, Llanbedr (see Editor for details).

9/10 Nov. 2013: Newcastle show ("Mostyn" 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: part 1 was in "BMRJ34" – and here is the second part:

INDUSTRIAL WIDNES - Part 3

by Bob Miller

Firstly some additional points and a couple of corrections concerned with Part 2 of this account. On a visit to Fisons Ltd on 27 March 1957 John K. Williams observed Peckett 495 at work; subsequently on 17 March 1962 John noted Fox Walker 396 as the only locomotive present, but out of use. John Fletcher saw RELIANCE AB 1621 working at the West Bank Power Station on 13 April 1954, which is a little later than the date previously given. The wrong grid references were quoted for two of the sites served by the Hutchinson Estate lines. That for Bowman & Co (Site No.7 on the sketch map on p.34) should be 350800-384600; that for Vickers & Sons (later Fisons and No. 13 on the map) should be 350770-384220.1 also refer a couple of times to Hutchinson rather carelessly as Huskisson. My apologies for these errors.

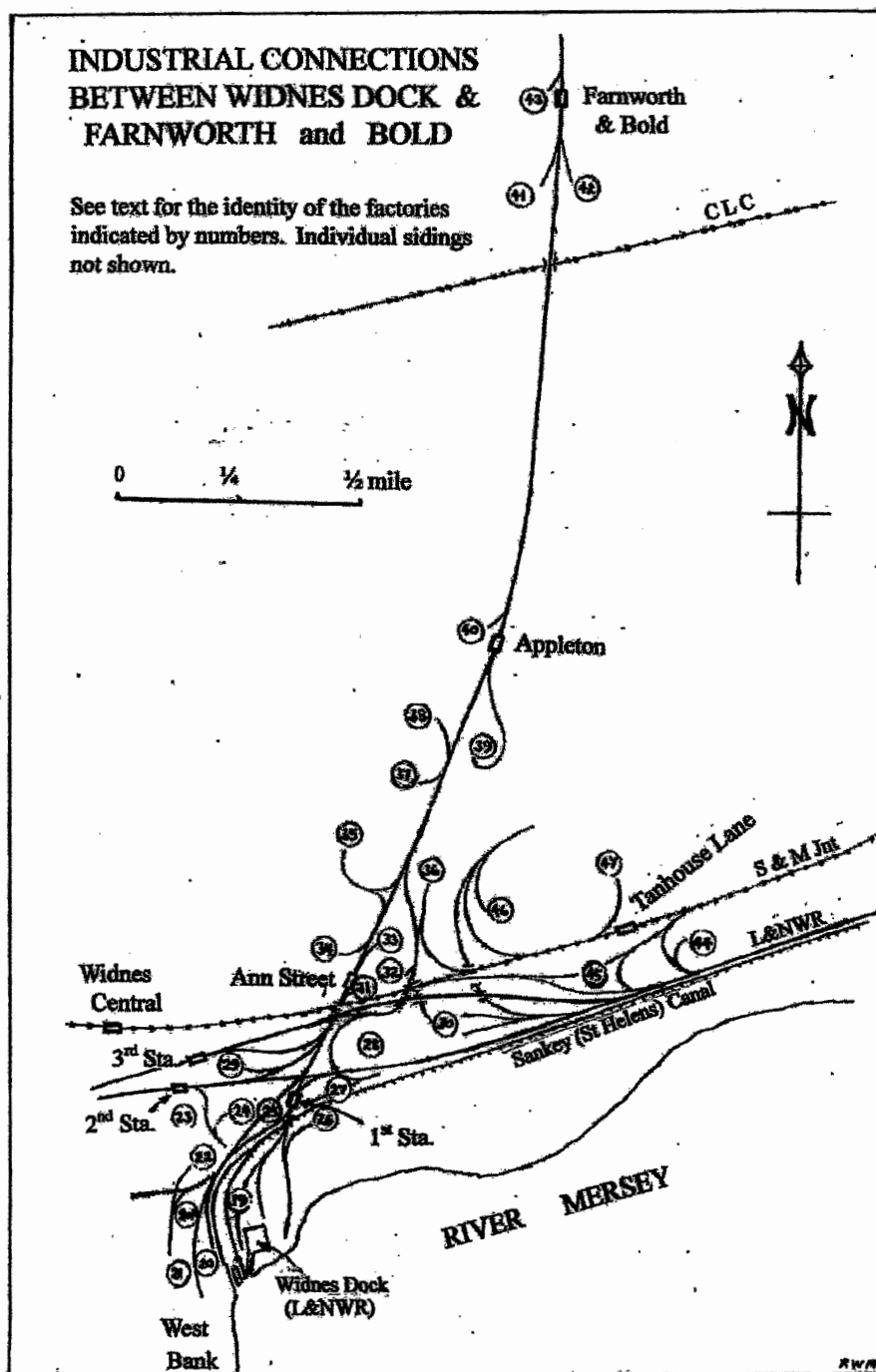
Eric Maxwell has pointed out that, according to the R & W Hawthorn, Leslie & Co's Forth Bank engine book and a drawing office note book, the supposed first locomotive at the West Bank Power Station - VICTORY HL 3358/18 - was supplied unnamed to United Alkali under order No.T3897 for delivery to the E.C.H.S. Plant Sullivan Works; the name VICTORY has been added later in the engine book. However a sister engine - HL 3359/18 - was also supplied unnamed to United Alkali under order No.T3898 for delivery to the Power House H.S.; this loco was subsequently named POWER (presumably by United Alkali on arrival) which strongly suggests that HL 3359 (and not 3358) was the first engine at the Power Station. Subsequently POWER was associated with the Pilkington Sullivan Works, being renamed MERLIN in circa 1930 or later, and was scrapped in November 1958.

I also need to mention an additional firm on the West Bank Dock Estate. This is Thomas Snape & Co, who established the Phoenix Works in 1865 and was located on the south-east side of Vickers' works (No. 13 on the plan) and closer to the eastern arm of the dock; the grid ref is 350778-384170. The works was acquired by United Alkali in 1890 but was closed down in 1894. There is no siding listed in 1877, neither is this firm mentioned in Slater's 1894 *Directory*. Thomas Snape (1835-1912) was born in Salford and worked for John Hutchinson before leaving to establish his own business. He was listed as a subscriber (with many other local industrialists) to the Widnes Diamond Jubilee Fund in 1897 so was evidently still involved with local affairs then. Snape went on to become MP for Heywood in 1892 and died at his home The Gables, 5 Croxteth Road in Liverpool. The ref DIC/X10/273 to some papers in the Chester & Cheshire Archives (now Cheshire Record Office) may contain some further information which I will try and look up some time in the future. By 1905 Vickers & Sons had expanded their works to encompass the former Snape site.

Attention is now focussed on the firms with plants alongside the original line of the St Helens Railway northwards from Widnes Dock (Runcorn Gap) as far as Farnworth & Bold Station. I have been unable so far to discover the exact locations of two of the chemical firms - those of John McClellan and Hay Gordon & Co. The 1877 *Handbook of Stations* lists a private siding for MacClellan's [sic] Works between Widnes and Appleton. John McClellan was one of the early entrepreneurs to open a chemical works in Widnes, believed to be in the early 1850s, and known as the North British Chemical Co but it is not in a list of alkali companies registered under the Alkali Act of 1863 (for that matter neither were Gossage or Gaskell, Deacon), was not among the companies involved in the formation of United Alkali in 1890, and was not included in Slater's 1894 *Directory*. The 1881 census has John McClellan age 70, born Liverpool, living at Highfield House, Highfield Road, Widnes, a retired borax and alkali manufacturer. The use of the term 'retired' would indicate that McClelland's business had ceased by 1881, perhaps sold to one of his competitors. Interestingly a seven year old grandson living in the house was named Frederick Ernest Brunner, suggesting a family connection with John Brunner (office manager for Hutchinson & Earle in the 1860s). It is thought that Frederick was the son of Henry Brunner (the younger brother of John) who married Sarah Jane McClellan on 6 May 1868. The 1881 census has Henry aged 43 and born in Everton (as was John) as an alkali manufacturer living at Mill Brow, Appleton. As there is no firm using the name of Brunner in Widnes it is possible that Henry Brunner was a director of a company such as the Widnes Alkali Co Ltd (see item 30 below) but note this is just a suggestion. On the 1901 census, when living in Huyton-with-Roby, Henry describes himself as a 'Director of Alkali Works and Colliery'. Note that the name Brunner will be mentioned again in connection with site No.61 in Part 4 of this series.

Hay Gordon & Co was taken over by the newly formed United Alkali Co Ltd in 1890 but the works was closed in 1892. A siding for this firm is listed in the 1877 *Handbook of Stations* in Widnes. In the Chester & Cheshire Archives (now Cheshire Record Office) there are some papers relating to this firm under ref. DIC/X10/112 which may give some further information and which I hope to look up in the future. James Robert Hay Gordon was born in Edinburgh about 1850 so

would only have been 27 in 1877. The *Liverpool Mercury* of 24 January 1881 quotes Mr J R Hay Gordon, chemical manufacturer of Widnes, as a subscriber to the new Liverpool Pure Ice Co Ltd. His address at that time was Vernon Lodge, Halewood Road, Woolton (Liverpool). Apart from these two, the locations of the following concerns are known and the site prefix numbers are repeated on the map.



19 - John Hutchinson's No.1 Works

was erected in 1847 on Spike Island between the LNWR's Widnes Dock and the Sankey Canal at grid ref 351400-384400. This was the first alkali works to be established in Widnes. About 1853 the firm became Hutchinson & Earle, then in 1881 became John Hutchinson & Co. Hutchinson had died in 1865 and the family interests were looked after by his Trustees, principally James Cross. The LNWR siding agreement is dated 20 April 1864 but there will have been rail connection well before this date. For further details see under the No.2 Works after prefix 21 below.

20 - William Gossage & Sons Ltd, soap works,

was at grid ref 351330-384200. William Gossage (1799-1877) was born in Burgh-le-Marsh, Lincolnshire and had established an alkali works in Stoke Prior, Worcs, before opening his alkali works in Widnes in 1850. Soap was first manufactured here in 1855 and gradually took over as the principal product, so that the firm was not attracted to join in with the

formation of the United Alkali Co Ltd in 1890. Nevertheless Slater's 1894 *Directory* listed Wm. Gossage & Sons Ltd as making silicates of soda and potash, soda crystals and soap. An agreement for a rail connection with the LNWR into the works was signed on 4 March 1870. William's son, Frederick Herbert Gossage, became the first mayor of Widnes in 1892. In 1911 the firm became a part of the Brunner Mond empire but in 1919 the works was disposed of to Lever Bros Ltd and the factory was closed in 1932. Five locomotives are known, all unnamed:

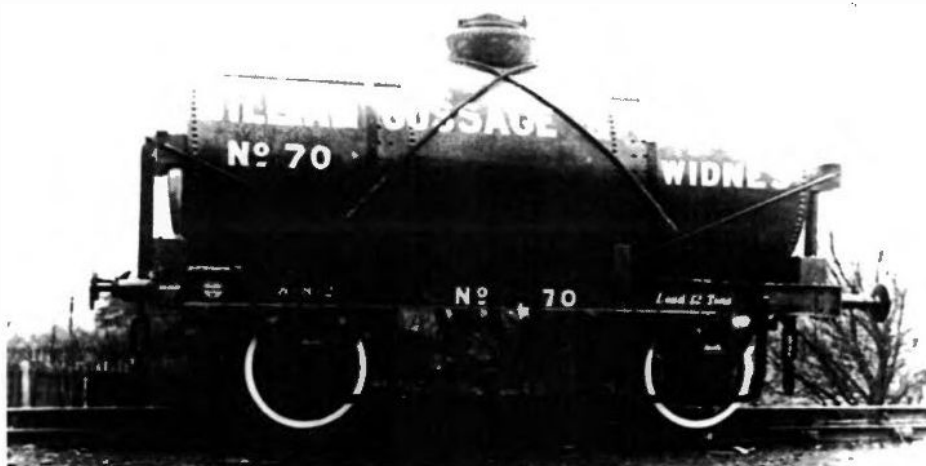
No.1 0-6-0ST Fox Walker 372 of 1878, outside cylinders, came new. Sold (for scrap?) in circa 1932.

No.2 0-6-0ST Peckett & Sons 428 of 1883, class 'BI' with outside cylinders 14" x 20", 3' 7" wheels, came new in September 1883. Sold (for scrap) in circa 1932.

No.3 0-4-0ST Peckett & Sons 600 of 1895, class 'W4' with 14" x 20" outside cylinders, 3' 2½" wheels, came new in September 1895. Sold January 1930 to Rossett Sand & Gravels Ltd and named GORDON. Resold to Cudworth & Johnson, Wrexham in 1942-43 (at Rossett on 21 August 1942 but gone by June 1943) and scrapped 1950-51.

No.4 4wVBT Sentinel 7496 of 1928, geared, vertical cylinders 6¾" x 9", 2' 8½" wheels, rated at 100 hp. Came new. Transferred to Lever Bros Port Sunlight factory in December 1932 (where added to stock on 16 February 1933). Despite the Widnes factory being owned by Lever Bros Ltd when newly purchased, this loco was lettered "William Gossage & Sons Limited Widnes No.4". At Port Sunlight much of the lettering was later painted out leaving just "No.4". Sold for scrap to George Cohen, Sons & Co Ltd in 1943.

No.5 4wVBT Sentinel 7497 of 1929, geared, vertical cylinders 6¾" x 9", 2' 8½" wheels, rated at 100 hp. Came new. Transferred to Lever Bros. Port Sunlight factory in December 1932 (where added to stock on 16 February 1933). As with No.4 (above) this loco was lettered "William Gossage & Sons Limited Widnes No.5". At Port Sunlight this was reduced to just "No.5". Sold via George Cohen, Sons & Co Ltd to Liverpool Corporation about 1946 for use at Kirkby Trading Estate. Disposed of (for scrap?) about July 1965 or later.



*HMRS photo
no.W1015: which
works this tanker
served is not
known.*

20A - A site at grid ref 351240-384400 later part of William Gossage & Sons' Soap Works but could earlier have been a separate plant with its own rail siding so could be a possible location for the works of Hay Gordon or John McClellan.

21 - John Hutchinson's No.2 Works at grid ref 351250-384300 was established in 1859 by Hutchinson & Earle on land acquired from William Gossage. In 1869 the two Hutchinson plants employed 600 men and produced 32,500 tons of alkali in the year. To do this some 16,500 tons of salt, 13,000 tons of pyrites, 23,000 tons of limestone and no less than 58,050 tons of coal were consumed. Both the Hutchinson Works were acquired by United Alkali in 1890 but were gradually run down. A report in the *Liverpool Mercury* of 5 January 1892 said that most of the No.2 Works had closed. From 1916 both works were administered as part of the nearby Gaskell- Deacon Works but were closed completely in 1919. What is known about the locomotives used at the Hutchinson Works is stated in IL 140 (page 7) and under Mort Liddell & Co in IL 141 (page 38).

22 - Possible site at grid ref 351300-384525 for a separate plant with its own rail connection before being later incorporated into the Gaskell Deacon Works, so might have been originally used by Hay Gordon or John McClellan.

23 - J B Aitkin had a small works to the west of the Gaskell Deacon Woodend Works at grid ref 351300-384720. Established in 1889 to manufacture ammonium chloride from gas liquor and listed in Slater's 1894 *Directory*. Taken over by United Alkali in 1916 and closed in 1917. Just a single siding shown entering the works so unlikely to have operated a locomotive. I have a note that James B Aitkin died in 1934.

24- Gaskell Deacon's Woodend Works was established as an alkali works in 1853 by William Pilkington (the younger brother) and Henry Deacon. The partnership was dissolved in 1855 and was replaced by Gaskell, Deacon & Co. Henry Deacon (1822- 1876) was born in London and joined the Patricroft firm of Nasmyth Gaskell & Co in the 1840s before moving on to Pilkington Bros in St Helens. He came to Widnes in 1851 to work for John Hutchinson. Holbrook Gaskell (1813-1909) joined Deacon in 1855 after Gaskell had dissolved his partnership with Nasmyth. In 1869 the firm employed 500 men and produced 30,500 tons of alkali plus 3,000 tons of bleaching powder in that year and consumed 15,000 tons of salt, 8,000 tons of pyrites, 19,000 tons of limestone and 50,000 tons of coal. The following year, in 1870, copper chloride was first used as a catalyst by Gaskell Deacon. Additional capacity being required, a second works (the Ditton Chemical Works) was built to the north side of the original Warrington to Widnes line, which was bridged to form a connection (with rail tracks) between the two works. On the formation of United Alkali in 1890 H Gaskell became Vice-president (later President). See reference 29 below for further details and locomotives.

25 - Runcorn Soap & Alkali Co Ltd, Rosin Works at grid ref 351550-384710. The Ironbridge Oil Works was established on this site by 1845, the iron bridge being the adjacent railway swing bridge over the canal. The works was purchased by the Johnson Bros (John 1800-1883 and Thomas 1803-1884), who had a salt works in Over and a soap works in Runcorn, and was converted into a plant to produce rosin (an ingredient used in soap making). Unfortunately the Johnson Bros made a substantial loss following their involvement in the American Civil War, so the Runcorn Soap & Alkali Co Ltd was floated on 13 November 1865 as a public Company (a colliery in St Helens was also operated). One of the original Directors was Neil Matheson (see IL 141, pp. 38-39). It was one of the firms acquired by United Alkali on its formation in 1890; Managing Director Charles Wigg became Vice-chairman of the United Alkali Co. I have no date for the siding agreement, but a private siding is listed in 1877. The rosin factory had evidently closed by 1905 when the 1:2500 map revised that year marked it as "Manure Works" with a single siding reached via a wagon turntable, whilst an LNWR plan of May 1916 showed it as "Alumina Works" occupied by the Alumina Co. The 1927 OS 1:2500 map called it an "Alum Works". No locomotive known. The Alumina Co also had a site further west on the Ditton Road on the north side of the LNWR Deviation line, see site 58 in Part 4 of this account (to follow).

26 - William Gossage & Sons Ltd, an additional soap works at grid ref 351670- 384690 was opened later on Spike Island. The siding agreement with the LNWR was dated 1 August 1913 and this may indicate the date of this factory. It is thought (but not known) that this factory may have been shunted by the LNWR/LMS rather than by a loco from the main Gossage works.

27- Widnes Traders' Siding. This consisted of a single siding along the north bank of the canal at grid ref 351850-384800 and was for interchange traffic between rail and canal for the use of local traders. The siding agreement with the LNWR (who presumably performed any required shunting) was dated 20 January 1861. Maps suggest the siding remained in position for many years but had gone by 1952. The Widnes Traders' Association held regular meetings until at least 1891.

28 - James Muspratt & Sons, Alkali Works at grid ref 351750-384900. The site was purchased by James Muspratt (1793-1886), who had chemical works in Liverpool and St Helens, and the alkali plant started production in 1852, being managed by James' son Frederick Muspratt (1825-1872); it was one of the works first registered under the Alkali Act of 1863. In 1867 the management was taken over by Frederick's younger brother Edmond Knowles Muspratt (1833-1923), who also formed the Widnes Metal Co the same year (see IL 141, p.41). He became a Director of United Alkali on its formation in 1890 and later became President. The plant was connected to the LNWR Gasworks branch, with the siding agreement being dated 26 July 1864, and also with the original Widnes to Warrington line. A connection was effected with the Sheffield & Midland's Joint Line in 1877; one connection included a short section of 1 in 30 gradient. The Joint Line Officers' Committee Minute 891 of 16 May 1877 records "Muspratt's engine shed is practically complete and the siding alterations are in hand". This suggests that the original engine shed had to be demolished during the building of the new line and the replacement shed was being provided at the Joint Line's expense. The alkali plant became the Muspratt No. 1 Works in 1919 (the Widnes Alkali Works becoming No.2, see prefix 30 below); then in 1929 was absorbed into the Gaskell Marsh Works. The known locomotives were all supplied by the Hunslet Engine Co:

JULIA 0-4-0ST Hunslet 43 of 1870, 10" x 15" outside cylinders and 2' 9" wheels, came new in March 1870, disposal unknown but gone by 1952. Julia born 1862 was the daughter of Edmond Knowles Muspratt.

NESSIE 0-4-0ST Hunslet 177 of 1877, outside cylinders 12" x 18", 3' 1" wheels, came new in May 1877. After overhaul by Hunslet this engine was sold to the South Durham Iron & Steel Co. as '2', also had a period in 1900 on loan to Lever Bros before passing to the Holwell Iron Co Ltd. Nessie born 1864 was another daughter of Edmond K Muspratt.

CONSTANCE 0-4-0ST Hunslet 322 of 1884, 13" x 18" outside cylinders and 3' 1" wheels, came new in April 1884. Spares supplied to this engine at the Muspratt No.2 Works in November 1919 and May 1926. Scrapped in 1934. Constance Molesworth in 1883 had married Sydney Knowles Muspratt.

VERA 0-4-0ST Hunslet 466 of 1888, 15" x 20" outside cylinders and 3' 7" wheels, came new in July 1888. Vera Muspratt, daughter of Sydney Knowles Muspratt and great granddaughter of James, was born in 1887. Spares supplied

to this engine at the Muspratt No.2 Works from June 1898 to April 1921. Later used at the Pilkington- Sullivan Works and spares supplied to the Sullivan Works in July 1927. Scrapped by 1952.

For locomotives acquired after 1890 see The Widnes Alkali Co. prefix 30 below. By 1933 the site was acquired by Albright & Wilson Ltd for a phosphates plant; by 1996 this had become Rhodia Consumer Specialities Ltd (a subsidiary of a French company). It is thought that rail traffic had ceased by 1967. Just the one locomotive owned by Albright & Wilson is known, plus three on hire:

(No name or number) 0-4-OST Peckett 1852 of 1933, class 'R4' with 12" x 20" outside cylinders and 3' 0½" wheels, new in April 1933, disposal not known.

FALCON 0-4-OST Hawthorn Leslie 3723 of 1928, 14" x 22" outside cylinders and 3' 6" wheels. On hire from ICI Pilkington Works from November 1958 to March 1959.

No.9 EXETER 0-4-OST Andrew Barclay 2103 of 1941 on hire from Britannia Scrap Metal Co Ltd during February 1960.

(No name or number) 4wDM Fowler 22909 of 1941 on hire from Britannia Scrap Metal Co Ltd from about May 1966. (This loco was scrapped in 1968).

29 - Gaskell, Deacon & Co, Ditton Chemical Works, grid ref.

351300-384850. The rail connection was with the curve to the St Helens line, the siding agreement with the LNWR being dated 22 January 1877 which will give some indication as to when this second works was established. I regret I do not have the date for any agreement with the Woodend Works. Both plants were vested in the United Alkali Co on its formation in 1890; from 1916 both the Hutchinson Works were included in the Gaskell-Deacon Works; in 1930 they were amalgamated with the Marsh Works and the two Muspratt Works to form the Gaskell Marsh Works (the Marsh Works had been formed in 1915 by combining the Golding Davis and Mathieson Works). Note that United Alkali had become the General Chemicals Division of ICI in 1926. Three locomotives, all unnamed, were operated prior to 1890:

No.1 0-4-OST Fletcher Jennings 110 of 1872, bar frames, outside cylinders 10" x 20", 3' 4" wheels. New, but seems to have returned to the makers in 1873 for alterations. Disposal not known. However note that in IL 98 p266 there is reference to a payment on behalf of the Lancashire Alkali & Sulphur Co Ltd on 12 January 1891 to the Lowca Engineering Co (successors to Fletcher Jennings) for piston rings. There is no other clue as to the identity of this engine other than my suggestion it might have been FJ 110. The Lancashire Alkali & Sulphur Co had premises on Ditton Road in Widnes and will be mentioned again (under site 54) in a future part of this series.

LUCY (No.3?) 0-4-OWT Rebuilt in St Helens in 1908, see IL 140 p.7 for further details but possibly built about 1859 at the Atlas Foundry. Came from the Hutchinson Works in 1916 and scrapped in 1920.

No.2 0-4-OST Manning Wardle 437 of 1873, class 'H' with 12" x 18" outside cylinders and 3' 0" wheels, came new in April 1873. Spares ordered in April 1893 for this loco at the Gaskell-Deacon Works. Disposal not known but gone by 1952.

No.3 0-4-OST Manning Wardle 742 of 1880, class 'H' with 12" x 18" outside cylinders and 3' 0" wheels, came new in February 1880. A new smoke box was ordered in January 1891, a new copper firebox in December 1913 and new axle boxes in January 1922. Disposal not known but gone by 1952.

The locomotives acquired by United Alkali (and later by ICI) after 1890 follow; those that came after 1930 are for the Gaskell-Marsh Works:

KILMARNOCK 0-4-OST Andrew Barclay 766 of 1895. 10" x 18" outside cylinders, 3' 2" wheels. Came (probably after 1929) from the Marsh Works. Sold for scrap in 1954. See IL 141 p.40.

MERSEY 0-4-OST Andrew Barclay 1138 of 1908. New in February 1908 to the Wolverhampton Corrugated Iron Co Ltd at Ellesmere Port but by 1916 (when spares were supplied) had been purchased by United Alkali for use at the former Muspratt Works in Flint. This closed in 1920 so the loco was sent to the Gaskell-Deacon Works. It is now believed that this loco was never at the Baxter Alkali Works in Parr, St Helens as has been reported in the past. Disposed of by 1952.

ISABEL 0-4-OST Barclays & Co, 12" cylinders. Believed new to the Greenbank Alkali Co Ltd, St Helens as GREENBANK and possibly acquired about 1877 as this firm were advertising for a locomotive to purchase in December 1876. Spare parts for this loco were supplied by Andrew Barclay, Sons & Co in July 1884. Greenbank Alkali was merged in United Alkali in 1890 and the loco was still in use in 1921 when the works closed. There is an

unconfirmed suggestion that United Alkali transferred this engine to their Hardshaw Brook Chemical Works, also in St Helens, until that in turn was closed in 1928 by ICI, before coming to the Gaskell-Deacon Works. Disposal not known but gone by 1952.

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, Runcom, 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 and cut up around 1966.

TAFF 0-4-0ST Hawthorn Leslie 3672 of 1927. 14" outside cylinders. Came to Widnes in 1938 from the ICI Billingham Works. New boiler fitted 1951. Noted at the Gaskell Works on 1 April 1957. Disposal not known.

SULPHUR 0-4-0ST Robert Stephenson 2668 of 1889, outside cylinders 13" x 18", wheels 3' 6". See IL 141 p35 for full history but came to the Gaskell Deacon Works in 1934 and had moved to the Muspratt Works by May 1947 until August 1950 when sold.

SIR HOLBROOK 0-4-0ST W G Bagnall 2701 of 1943, 14" x 22" outside cylinders and 3' 6½" wheels. Noted at the Gaskell Works on 1 April 1957 when painted dark green. Holbrook Gaskell III (1878-1951) was the grandson of the founder of Gaskell, Deacon & Co and became Chief Engineer of United Alkali Co in 1914. On the formation of ICI in 1926 he became Chairman of the General Chemicals Division and was knighted in 1942.

WALLACE 0-4-0ST Andrew Barclay 2266 of 1949, came new. Noted at the Marsh Works on 1 April 1957. Disposal not known.

MUSPRATT 0-4-0ST Andrew Barclay 2301 of 1951, came new. Noted at the Marsh Works on 27 March 1957. Disposal not known.

30 - The Widnes Alkali Co Ltd. The works at grid ref 352080-385000 was established in 1865 and manufactured caustic soda and bleaching powder, but I have not been able to say who was involved with setting up the company. The firm also made a type of Portland cement from caustic lime mud to the patent of John S Rigby (could he have had some connection with the company?). The works was served by an extension to the Gas Works Branch off the St Helens line as well as connected to the Widnes - Warrington line; the siding agreement was dated 7 January 1887 but a private siding is listed in the *1877 Handbook of Stations* as between Widnes and Fiddler's Ferry. Edward Evans, a brakesman in the employ of the Widnes Alkali Co, was fatally injured on 3 February 1882 when caught between the buffers of the tender of a locomotive (MS&L or LNWR?) and the first wagon when attempting to uncouple whilst the train was moving. There was also a plant on Birkenhead Docks (believed to be on the Seacombe side on Havelock Street, now Alfred Road, at grid ref 332000-390350). The Widnes Alkali Co was one of those taken over by the United Alkali Co Ltd on its formation on 1 November 1890 but the Birkenhead Works had evidently closed by then. In 1919 the Widnes factory became the Muspratt No.2 Works and was duly absorbed into the Gaskell Marsh Works in 1930 after becoming part of ICI in 1926. Known locomotives prior to 1890 are:

BRISTOL 0-4-0ST, outside cylinders 9 x 14", 3' 0" wheels, purchased second hand from 1 W Boulton in 1873 after having been on hire for some weeks. Had been purchased by Boulton in an auction at Grays Chalk Quarries, Essex in March 1866. A R Bennett suggests that indirect evidence points to T R Crampton being the previous owner. In his original *Locomotive Magazine* article he gave the builder as England & Co, but this was changed to Slaughter, Gruning & Co of Bristol when his *Chronicles* was published in 1927. This firm built locomotives from 1856 to 1864 but the date 1852 has been ascribed to this engine which would mean that the builder would be Stothert & Slaughter. John Fletcher, in IL 133 pl23, quotes the Sale Catalogue as saying the maker was Slaughter, Gruning & Co. Bennett's drawing shows the sides of the short saddle tank (over the barrel only) extending down to the running plate, and says the engine was painted chocolate with black and yellow lining, being scrapped in 1880.

(No name or number) 0-4-0ST Walker Bros 345 ordered in 1873 (so probably built 1873-74), 10" outside cylinders. Came new, no other details.

FOOTSTEP 0-4-0ST Manning Wardle 649 of 1877, class 'D' with 8" x 14" outside cylinders and 2' 8" wheels, new in May 1877 to the contractor T J Waller but soon sold to the Widnes Alkali Co but believed at the Birkenhead Works. Doubtful if ever at Widnes. Passed to the Britannia (or British) London Portland Cement Co (McEvoy & Holt) at Seacombe about 1880 when they commenced business (spares ordered February 1885). Just to confuse matters, note that the British Portland Cement Co had premises in Widnes around 1880 which will be mentioned again under site 61 in a later part in this series. Sold in 1888 or later to the Stone Court Chalk, Land & Pier Co Ltd, Greenhithe, Kent as ADAMANT; scrapped in 1918.

BRITON 0-4-0ST Manning Wardle 659 of 1877, class (new) T with 13" x 18" outside cylinders and 3' 0" wheels, new in May 1877. Weight 20t 9cwt, height 9' 3", painted in LNWR style and had brass nameplates with 3¼" letters. Spares ordered in October 1891. Scrapped 1934.

SAXON 0-4-0ST Manning Wardle 783 of 1881, class (new) T with 13" x 18" outside cylinders and 3' 0" wheels, new in November 1881. Scrapped 1932.

NORMAN 0-4-0ST Vulcan Foundry 808 of 1877 with 14" x 20" outside cylinders and 3' 3" wheels, new to J P Edwards, Chester. This was the office address and it is more likely that the loco was delivered direct to one of Edwards' contracts such as the NW curve at Burscough Bridge for the LYR. Most of John Price Edwards' locos at this period were disposed of around 1881-83 but the actual date this engine came to Widnes is not known. In 1925 a locomotive, believed to be this one, was sent from the Muspratt Works to Sentinel Industrial Locomotives (England) Ltd of Saltney, near Chester in 1925 for conversion into a vertical boiler geared locomotive and received the Sentinel works number 6006. It was sold about 1930 to Ravenhead Sanitary Pipe & Brick Co Ltd, Upholland and lasted until about 1957.

ROMAN 0-4-0ST Manning Wardle 1083 of 1888, class (new) 'T' with 13" x 18" outside cylinders and 3' 0" wheels, new in February 1888 incorporating some parts originally built in 1882 for number 833 (never completed). Painted in LNWR style with red rods, brass nameplates with 3" letters. Scrapped 1934.

The locomotives obtained after the formation of United Alkali in 1890 are:

ELLA 0-4-0ST Peckett 469 of 1888, class 'W4' with 14" x 20" outside cylinders and 3' 2" wheels. Came from the former Hall Bros & Shaw Works in 1903, moved on to the Fleetwood Works probably before 1927. See IL 141 p.41.

VICTORY 0-4-0ST Hawthorn Leslie 3358 of 1918. 14" x 22" outside cylinders and 3' 6" wheels. Believed new to the Sullivan Works and subsequently at the Muspratt Works until 1931 when transferred to the Gaskell-Marsh Works. This amends the information given in IL 141 p.33.

BREIDDEN 0-4-0ST Walker Bros 440 of circa 1873, 10" outside cylinders. A former Hall Bros & Shaw loco which may have come to the Muspratt Works in 1903. The Hunslet Engine Co supplied spares for this loco to United Alkali from July 1889 to October 1926. Presumably scrapped by 1932, see IL 141 p.41.

BREIDDEN 0-4-0ST Black Hawthorn 296 of 1875. 12" x 19" outside cylinders and 3' 2" wheels. Came from the Marsh Works in 1932 and presumably then renamed BREIDDEN, previously EDGAR, and sold about 1935, see IL 141 p.40.

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 scrapping commenced in February 1961.

GASKELL 0-4-0ST W G Bagnall 2525 of 1935, 13" x 18" outside cylinders and 3'0½" wheels. New in March 1935 to the Gaskell-Marsh Works. Was at the Pilkington- Sullivan Works before being noted at the Muspratt Works on 23 July 1956. Disposal not known.

(No name or number) 4wDM Ruston & Hornsby 463149 of 1961. Believed new, to the Pilkington-Sullivan Works about 1969. Sold to a local scrap merchant by about 1980.

The LNWR St Helens line passed under the Widnes Deviation and under the Sheffield & Midland's Joint line then passed through Ann Street station, opened on 1 November 1911 to serve the passenger steam railcar (later push-pull) trains which were operating a service between Ditton Junction and St Helens. The platforms partly extended under the Joint line's bridge. Immediately north of the station Ann Street was crossed on the level and a siding was thrown off on the east side:

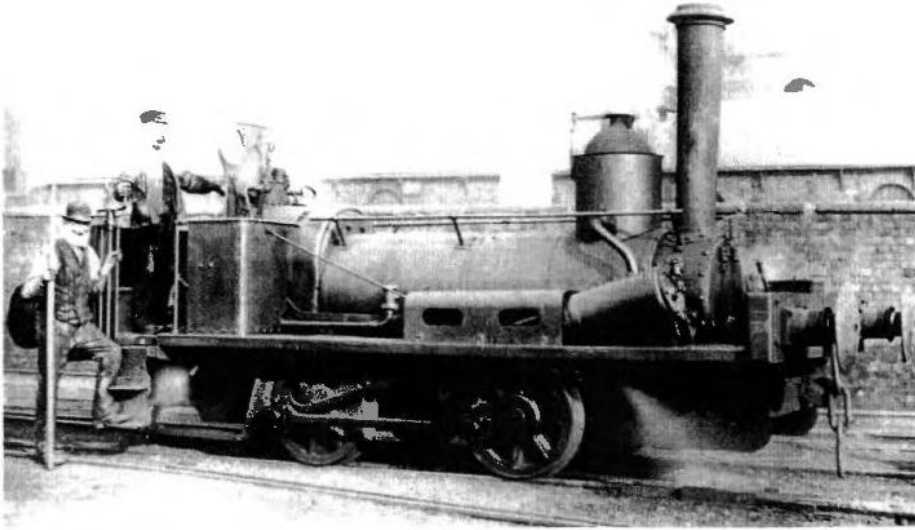
31 - R Evans & Co Ltd siding at grid ref 351830-385100 on the east side of the line just north of Ann Street and west of Earle Street. It is presumed (but not known) that this could be Richard Evans & Sons, the Haydock colliery owners, formed in 1850 and a limited company from 20 September 1889. No siding agreement is known but an Evans' Siding is listed between Widnes and Appleton in the Oliver & Airey's July 1877 *Handbook of Stations* (M'Corquodale & Co). The 1904 *RCH Handbook of Stations* also lists under Widnes an Evans & Co's Siding. An LNWR plan of December 1917 shows that by then the siding served the Widnes Corporation Gas Depot (see the next item). Richard Evans & Sons operated a number of coal trains over the LNWR in the 1850s using one of their main line tender engines so it is not beyond possibility that this included trains to Widnes.

32 - Widnes Gas Works Siding at grid ref 351950-385170 was on the east side of Earle Street and served by the LNWR Gas Works branch, probably opened in 1852 and at first known as the Lugsdale Branch and which closed on 1 April 1966. The LNWR siding agreement with the Widnes Local Board was dated 10 July 1877; it became Widnes Corporation in 1892 and Slater's *Directory* for 1894 refers to the Widnes Corporation Gas & Water Works on Ann Street East. No locomotive known.

33 - Widnes Foundry Co, Widnes Old Foundry at grid ref 351900-385240 on the east side of the St Helens line, established by Robinson & Cook in 1861. For further details see under prefix 35 below.

34 - Widnes Foundry Co, Brookhouse Foundry of Robinson & Cook at grid ref 351810-385240. This was on the West side of the St Helens line. The siding agreement was dated 28 October 1873 which may indicate when the Brookhouse Foundry was first established. For further details see under prefix 35 below.

35 - Widnes Foundry Co. When further expansion was required a new factory was established on the west side of the Lugsdale Road at grid ref 351800-385460, the connecting railway crossing the road on the level and then making a triangular junction with the west side of the St Helens line; the southern end of the triangle also connecting with the Brookhouse Foundry sidings. The siding agreement for this new site was dated 29 April 1903. Thomas Robinson (1814-1901) of St Helens and his uncle John Cook had established a foundry in St Helens in 1841 and moved to the Atlas Foundry about 1850. The first privately owned locomotive in Widnes - LUCY - (see under site 29 above) was reputed to have been built for John Hutchinson at the Atlas Foundry. Robinson was also involved with the Atlas Chemical Co Ltd on the Hutchinson Estate (see prefix 4 in IL 141 p35) and the Liver Alkali Co Ltd on Ditton Road (to be mentioned in a future part in this series under site 59). Robinson & Cook opened their first Widnes Foundry in 1861. Benjamin Brown (1836-1909), who came from Haigh (Wigan), became manager in 1866 and a partner in 1884. About this time the firm became known as the Widnes Foundry Co (Limited from 1910), was reconstructed as the Widnes Foundry (1925) Ltd and was purchased in 1936 by Thos W Ward Ltd who then created the Widnes Foundry & Engineering Co Ltd as a subsidiary. Rail traffic ceased in 1971. The known locomotives are:



The Lewin loco in later years at the Widnes Foundry Co; note the kettle (of tallow?) on the firebox. See also photo on the cover of IL 98. (*Collection John K Williams*)

BUFFALO 0-4-0WT Lewin, outside cylinders, built about 1875 for the Desoto Alkali Co, Widnes which later became the Lancashire Alkali & Sulphur Co Ltd until wound up in 1890 (see site 54 in a later part of this series). After overhaul by Edward Borrows & Sons the loco was sold to the Widnes Foundry Co and was scrapped about 1908.

TANFIELD no details but it would seem that a loco of this name was purchased in 1890-91 from the Lancashire Alkali & Sulphur Co Ltd. There is just a slight possibility she may have been Fletcher Jennings 110 of 1872 and originally with Gaskell Deacon & Co, see prefix 29 above.

BENJAMIN BROWN 0-4-0ST Peckett 938 of 1902, new in May 1902 class 'R1' with 12" x 18" outside cylinders and 3' 0" wheels. Scrapped by the owners (T W Ward Ltd) on site about January 1950.

(No name or number) 4wD Ruston & Hornsby 279594 of 1949, on loan new from the makers until May 1950.

(No name or number) 4wD Ruston & Hornsby 284842 of 1950, came new being delivered in March 1950. Presumably lasted until rail traffic ceased in 1971.

36 - Tharsis Sulphur & Copper Co, Lancashire Metal Works at grid ref 352050- 385450 was connected to the LNWR Gas Works branch and also to the Sheffield & Midland Joint Line, extracted copper and sulphur from pyrites imported from the Tharsis mines in southern Spain. The company was formed by Charles Tennant (1823-1906) in Edinburgh in 1862; Limited from 27 October 1866. Other works were at Glasgow, Willington on Tyne, Oldbury and Cardiff. The Widnes factory was opened in 1870 with the LNWR siding agreement being dated 10 November 1869. The siding agreement with the Sheffield & Midland Joint Committee was dated 9 January 1878. The works was acquired by the Lancashire Metal Co Ltd in 1885 (but note that the 1877 *Handbook of Stations* under Tharsis Sulphur & Copper Co's Wks also quotes "same as Lancashire Metal Wks"), was taken over by United Alkali in 1894 and was closed down in 1927. No locomotives are known although the extent of the sidings would suggest that one could well have been employed.

37 - Thomas Kenyon had a siding on the west side of the line at grid ref 352050- 385800. The LNWR siding diagram is marked "Conveyance" rather than Agreement and is dated 27 May 1880. The Kenyon Brothers set up the Vine Chemical Works, a patent for the purification of zinc being taken out in 1886. The plant was acquired by Orr's Zinc White Ltd in 1898, see the next item.

38 - The Lugsdale Chemical Co Ltd had a works at grid ref 351970-385950 for which a siding agreement was dated 6 March 1907. By March 1912 this had been acquired by Orr's Zinc White Ltd and this together with the Vine Chemical Works above was developed into a large plant to manufacture white pigment. John Bryson Orr (1840-1933) had developed this new white pigment and arranged for Thomas Kenyon to produce it. Orr's Zinc White Ltd was incorporated on 21 July 1898 and replaced Kenyon's business. In 1930 it merged with the Impe-

rial Smelting Corporation Ltd with J B Orr a Director. It is not known when rail traffic ceased. The known locomotives of Orr's Zinc White are:

(No name or number) 0-4-0ST Manning Wardle 1443 of 1899, class 'H' with 12" x 18" outside cylinders and 3' 0" wheels, new to Wombwell Main Colliery, Barnsley and came to Widnes in 1915. Spares supplied to Orr's Zinc White included a steel firebox in January 1927, a copper firebox in August 1934 and other spares in November 1935. Disposal (after 1952?) not known. However another account (now discredited) had the engine going in 1929 to Hanson & Edwards Ltd, Vernon Street, Warrington, who made stranding and wire winding machines but do not appear to have been rail connected.

JUBILEE 0-4-0ST Andrew Barclay 2014 of 1935 and new to Orr's Zinc White Ltd. Still here on 23 July 1956. Disposal not known but gone by 17 March 1962.

(No name or number) 0-4-0ST Hawthorn Leslie 3590 of 1924, came to Widnes in August 1950 from ICI Landore. Still here on 17 March 1962. Disposal not known

(No name or number) 4wD F C Hibberd 3918 of 1959, 'Planet' type, noted here on 17 March 1962.

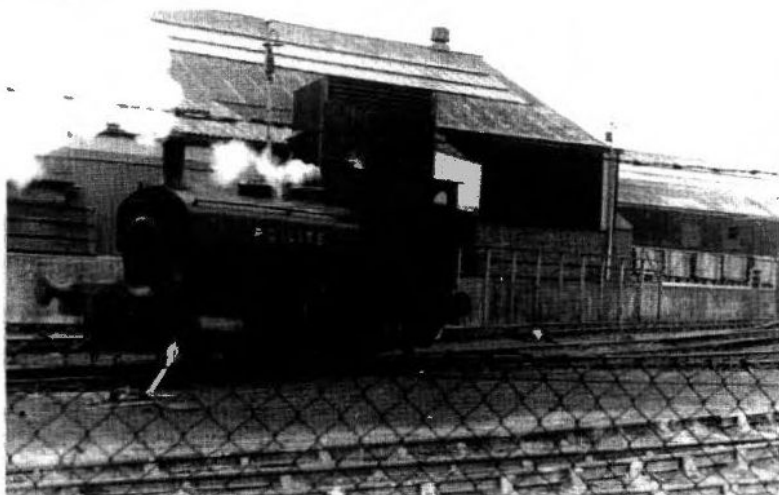
39 - unnamed site on east side of St Helens line opposite the Lugsdale Chemical Works and believed developed as part of the Orr's Zinc White factory. The grid ref is 352250-385925 and there was no separate siding agreement.

40 - J Remer & Co, Appleton Saw Mills were on the west side of Appleton Station at grid ref 352200-386160 with the connection to the main line just north of the station. The siding agreement is dated 1 March 1918 and it is unlikely a locomotive was ever employed.

41 - The British Everite & Asbestilite Co Ltd was south of Farnsworth & Bold station, on the west side, at grid ref 352200-387500. The plant opened in 1916 to manufacture asbestos cement products. The siding agreement was dated 9 August 1916. The firm became the Poilite & Everite Co Ltd in 1922, then in September 1928 was acquired by Turner & Newall Ltd and a subsidiary Turner's Asbestos Cement Co Ltd was created. There was a small timber engine shed near the connection with the LNWR in 1950, but by June 1959 this had been replaced by a new brick shed. Rail traffic continued until about 1980, the main line closing on 1 November 1981. No locomotive is known before 1927:

EVERITE 0-4-0ST Andrew Barclay 1446 of 1916 with 12" x 20 outside cylinders and 3' 2" wheels. New to the Ministry of Munitions and then to Carntyne Iron & Steel Co Ltd, Carmyle, passing to Thos W Ward Ltd who overhauled the loco at Brightside and resold her to Poilite & Everite in 1927. Noted painted green on 12 January 1947; green with black lining and a T W Ward plate on 24 December 1962. Disposed of (for scrap?) in November 1968.

POILITE 0-4-0ST Andrew Barclay 1818 of 1924 with 12" x 20 outside cylinders and 3' 2" wheels. New to Sir William Arrol & Co Ltd, Glasgow before passing to British Fibrocement Ltd, Erith as FIBRENT. Came to Widnes in 1931 and noted on 12 January 1947 painted red; in July 1950 green with black lining and no back to the cab; on 13 May 1961 in steam with a back to the cab. She had gone by May 1962 so the disposal was during the previous 12 months.



POILITE (AB 1818/24) seen here at work on 29 March 1960. (John K Williams).

POILITE II 4wD F C Hibberd 3953 of 1961, 'Planet' type. Came new. Disposal not known.

(No name or number) 4wD F C Hibberd 3866 of 1958, 'Planet' type. Came from the South Works, Erith in 1968. Disposal not known.

42 - Peter Spence & Sons Ltd was south of Farnsworth & Bold station, on the east side, at grid ref 352550-387700. Peter Spence had created the Pendleton Alum Works in Salford by 1882 and the firm became Peter Spence & Sons in 1887. The Widnes plant was fully operational in 1923 for the production of aluminium sulphate (used in water treatment), the siding agreement having been signed on 18 April 1918 with the siding connection shown on an LNWR plan of April 1919. The company was taken over by Laporte Industries Ltd in 1960 and acquired by Rockwood Additives Ltd (an American firm) in 2000. The locomotive stock included two of unknown build:

1 0-4-0WT with outside cylinders, scrapped in 1929, said to have possibly been built by Andrew Barclay, but this is doubtful as they are not known to have built any well tanks for the standard gauge.

2 **GREENACRES** 0-4-0T Adamson 17 of 1873 with 12" x 24" outside cylinders and 3' 10" wheels, new to Platt Bros & Co Ltd, Oldham. Purchased by the Government in 1916 and presumed to Widnes by 1927. Scrapped c1936.

3 0-4-0WT with outside cylinders, unknown build, obtained from Leslie Allen & Co of Rainford in 1927, disposal date not known. This firm operated an oil and tar works on the site of the former Victoria Colliery but had no locomotives. However the works manager - Jack Johnson - was the brother of H W Johnson who had taken over the locomotive business of Edward Borrows & Sons and who operated from some of the buildings of the Allen oil works until moving to Sutton Oak in 1924.

1 4wVBT Atkinson Walker 117 of 1930, three vertical cylinders 7" x 10", geared with 3' 0" wheels. New to the Doncaster contractor H Arnold & Sons Ltd as "1" and used on the Barking to Upminster and Mottram to Dinting widenings. Advertised for sale from May 1933 and purchased for £150 on 5 February 1940 by Thomas W Ward Ltd (ref.53132) Resold to Peter Spence & Sons Ltd on 16 March 1940 for £550. Noted here on 27 February 1949 and scrapped about April 1950.

2 4wVBT Atkinson Walker 118 of 1930, three vertical cylinders 7" x 10", geared with 3' 0" wheels. New to the Doncaster contractor H Arnold & Sons Ltd as "2" and used on the Barking to Upminster and Mottram to Dinting widenings. Sold to Thomas W Ward Ltd, Charlton Works (ref.49573) for £200 on 24 May 1937 who resold to Peter Spence & Sons Ltd for £650 on 24 January 1939. Noted here on 27 February 1949 and scrapped later that year.

3 4wVBT Atkinson Walker 119 of 1930, three vertical cylinders 7" x 10", geared with 3' 0" wheels. New to the Doncaster contractor H Arnold & Sons Ltd as "3" and used on the Barking to Upminster and Mottram to Dinting widenings. Sold to Thomas W Ward Ltd, Charlton Works (ref.49572) for £200 on 24 May 1937 who resold to the Pilsley Colliery Co Ltd on 1 February 1938 for £500. Subsequently purchased by Peter Spence & Sons Ltd (believed for spare parts). Noted here on 27 February 1949 and scrapped later that year.

2 **HOWARD SPENCE** 4wVBT Sentinel 9378 of 1947, two vertical cylinders 6¾" x 9", geared with 2' 6" wheels, 100hp, new. Disposed (for scrap?) in 1965.

PETER SPENCE 0-4-0ST Kerr Stuart 4150 of 1920, 'Moss Bay' type with 15" x 20" outside cylinders and 3' 6" wheels, new in March 1920 to the Mersey Docks & Harbour Board as '31', sold to the machinery dealer F V Clarkson of Wigan in September 1934 who resold to Peter Spence & Sons Ltd. Disposal not known.

43 - H D Pochin & Co Ltd had a siding on the west side of the station with entry through the goods yard. It is believed this was a timber yard at grid ref 352350- 387920; the siding agreement was dated 21 June 1916. No locomotive known.

My thanks to Eric Maxwell, Ken Plant, Russell Wear and John K Williams for some of the locomotive information; John also kindly checked the script and made useful contributions. In the next part it is intended to look at the industrial connections with the Warrington to Garston line commencing at the Sullivan Works and progressing westwards. (To be continued...)

A method for building copperclad pointwork

by Richard Oldfield

Introduction

Having built nearly 50 turnouts for Mostyn's second fiddle yard and scenic extensions a couple of years ago, I eventually established a method that worked very well for me. I do not like tasks to 'drag out' and was finally able to complete a turnout from start to finish in less than three hours, typically doing three per day in a session at Barrowmore. Time has passed and I came across my handwritten guidance notes the other day and thought I would share them.



No fewer than 35 of the new fiddle yard turnouts demonstrate the concentrated approach which saw all turnouts built within a few weeks. It was often advantageous to construct pairs or triples of turnouts together (maintains overall alignment more easily and prevents clashing of sleeper positions). Just left of centre you can see a crossover with an unusual pattern of sleepers – this denotes a board joint with two pairs of sleepers which will be positioned parallel to the board edge.

It has to be borne in mind that this technique was used for bullhead rail turnouts principally for fiddle road usage. Minor modification to the technique will enable flat-bottomed pointwork to be built and scenic pointwork can be constructed by either using a generous solder fillet to represent the chairs (this is the Mostyn method) or by being sparing with the solder and then adding cosmetic chairs.

Layout design considerations

We have used Templot layout design software to plan out Mostyn's trackwork and paid particular attention to ensure that no part of a turnout went across board joints, that the switching mechanism could be installed easily (i.e. keep it away from baseboard timberwork) and that the turnouts were positioned as close to one another as possible so as to maximise

the storage road lengths available for trains. One big advantage of the Templot approach is that you can print out full size layout plans which can be taped to the baseboards and enable the laying of plain track before the turnouts are completed. You simply leave the plain track slightly over-length and then trim to fit when each turnout becomes available.

Preparation

Templot produces an accurate template of your layout design such that turnouts can be built directly on the appropriate print-outs. At this stage you need to consider whether to build multiple turnouts at the same time (if they are close together) and whether to extend the turnout to include sections of plain track – this is very useful where there are short lengths of plain track in between successive turnouts and where turnouts are close to board joints.

Mostyn's fiddle yard design meant that it was sensible to produce up to three turnouts together in some locations, especially at the fiddle yard throats.

The first step is to carefully tape down the Templot print-out to a flat, smooth and movable surface such as an old piece of shelving, preferably not much bigger than the turnout(s) to be built. Double-sided tape is then applied to the print-out at the edges of the sleepers and between the rails. Try to avoid running the tape over the printed rails so you can still see them very clearly.

Getting started

We sourced our copperclad strip from the EM Gauge Society stores remembering, of course, to specify 4mm wide strip for turnouts rather than the thinner 3.3mm strip for plain trackwork. It is worth noting that copperclad strip is not all the same – its depth can vary and it can have either one or two conductive faces. I prefer to have a single conductive face as it eliminates the minor risk that stray wisps of copper, created when gapping the sleepers later on, might cause a short circuit – you might think this is a chance worth taking but I can assure you that an intermittent short circuit can be a right pain to rectify when the pointwork is installed! Also, check the depth of the plain trackwork you are using (in our case C+L Flextrack) to ensure that there is not a 'step' between the two types of trackwork. The guillotining action required to produce copperclad strip can create a roughish edge which is not a problem for the timbering under non-moving rails but can cause friction between the bottom of the moving length of switch rails and the copperclad. It is best removed in these areas with fine wet & dry paper before laying the timbering.

I do my timbering by working with several lengths of copperclad at once, planning ahead to ensure that any waste is minimised and laying whichever sleeper(s) make best use of the available copperclad. The copperclad is cut using an old pair of Xuron heavy side-cutters (remember, this is for fiddle yard turnouts!) but greater precision can be achieved with a razor saw. As a final job, at this stage, you can lightly go over the completed timbering with a track rubber to ensure the copper leaf is bright and ready for soldering.

Templot gives you various timbering pattern options which you can choose from and you can also manually adjust sleeper positions but I have never found this necessary. The key sleeper positions, in my experience, are those either side of the switch rail actuation and, crucially, the sleeper which supports the tip of the crossing vee. The cheapskates amongst us have been known to eliminate entire sleepers or perhaps only lay one sleeper in two for fiddle yard pointwork but I want the turnouts to be ultra-reliable, 'fit-and-forget' in use and have never skimped in this area.

Switch Rails and Crossing Vees

I do not propose to go into much detail about these critical areas of turnouts apart from to say that I use the Portsdown Models filing and assembly jigs available through the EM Gauge Society stores. These were designed by the late Peter George and, for me, removed the major obstacle to building pointwork. By following the clear instructions that come with the jigs I find I can make a pair of switch rails and a crossing vee in under 30 minutes. The only tip worth passing on is to use good quality files for the finishing work – I use Swiss Vallorbe precision files which are available from Shesto (amongst others). See www.shesto.co.uk. It is also worth mentioning that bullhead rail has a top and a bottom – you can avoid tears and recriminations by ensuring the larger cross-section area is correctly at the top.

The fun begins

For soldering I use a temperature-controlled iron on its maximum setting with a chisel tip for easy access to the rail/sleeper joint. This requires a ‘wham, bam thank you ma’am’ technique with a minimal dwell time ‘on the job’ to avoid damaging the copper/substrate interface on the timbering. The tedious part of the technique is cutting hundreds of short lengths of cored solder, one of which is tweezered to each joint to be soldered. Additional flux is not really



A close-up showing the evenness of the soldered joints which is a by-product of cutting individual lengths of solder. It also shows the tedious, but critical, job of 'gapping' the copperclad sleepers.

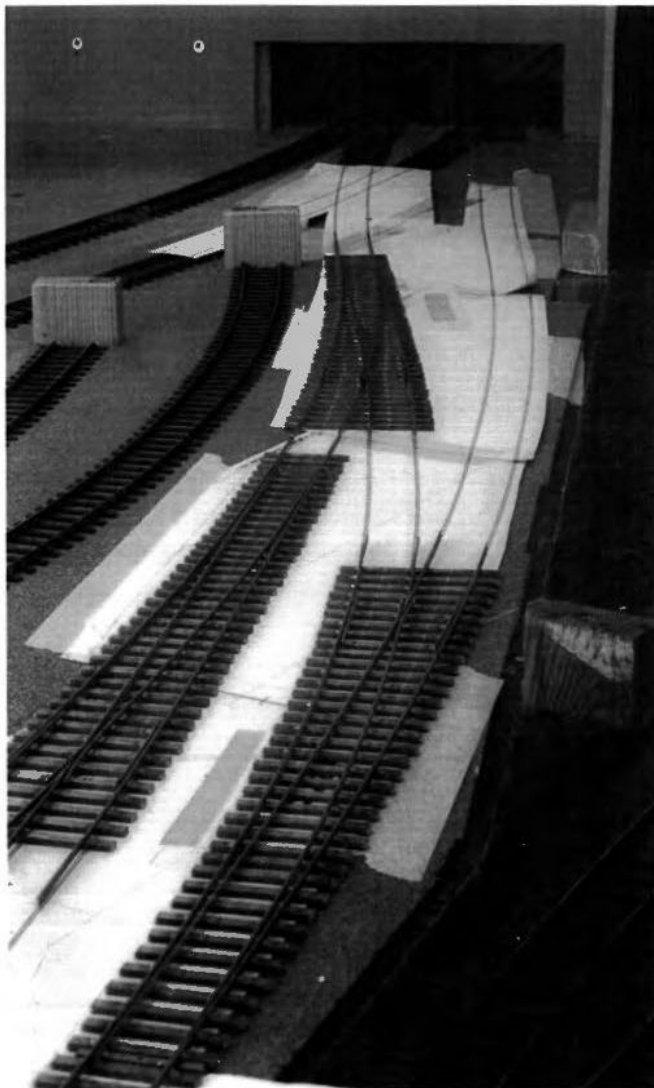
necessary but I keep a bottle of Carr's Red Label flux handy in case of difficulties. The order of attack is as follows:-

- Crossing Vee (taking great care to ensure the main running rail is spot on).
- Main stock rail.
- Diverging road stock rail.

- Diverging road switch rail (you may need to 'ease' the main stock rail along the closure length to maintain gauge).
- Main switch rail (you may need to 'ease' the diverging road stock rail along the closure length to maintain gauge).
- Main wing rail and check rail.
- Diverging road wing rail and check rail.

The importance of getting the crossing vee correctly positioned cannot be stressed highly enough – there is nothing you can really do with the rest of the turnout that will compensate for an inaccurately aligned crossing vee.

The gauges I used are available as a pack from the Scalefour Society (and elsewhere) – apart from slight easing to maintain gauge along the length of the switch rail closure, I have not found it necessary to introduce 'slop' anywhere and would strongly advise against it. A well-made turnout will work without the check rails fitted and I do test this just after fitting the wing rails.



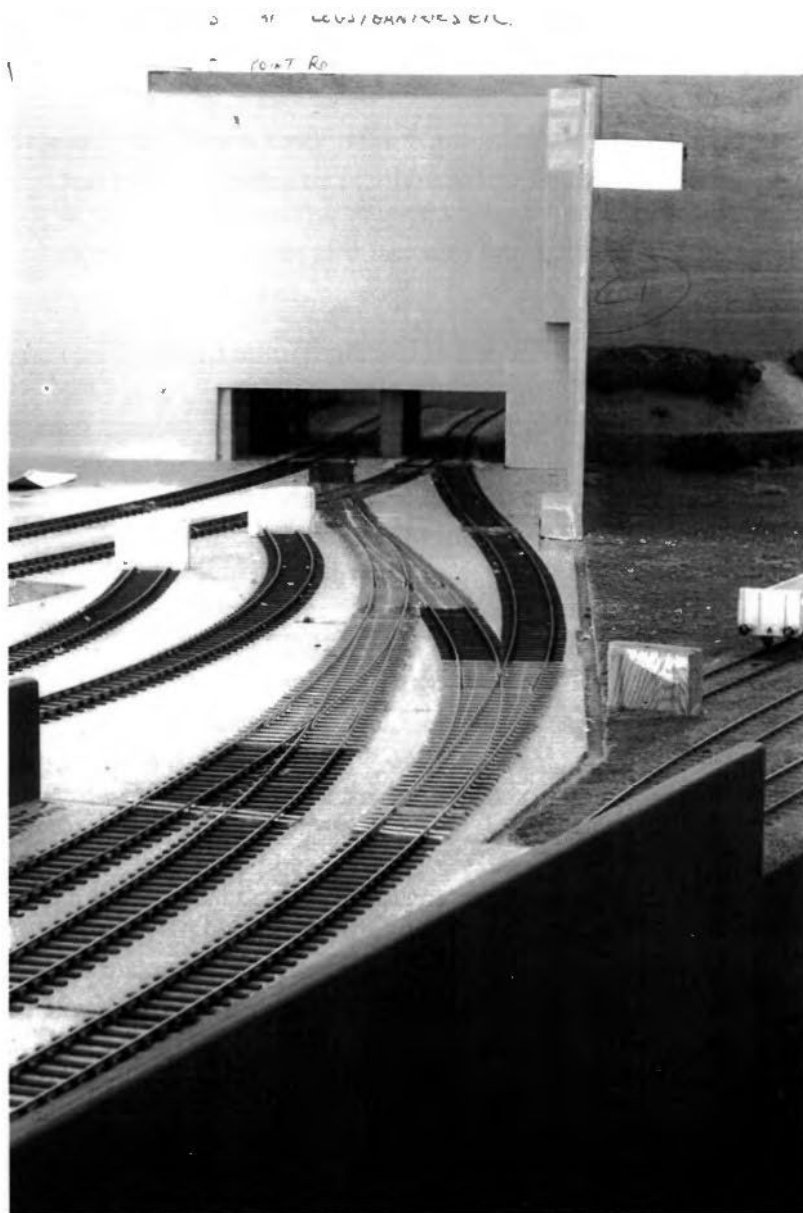
When soldering lengths of rail, especially the longer stock rails, I find it helps to solder at every 4th sleeper then carry out any fractional adjustments having carefully checked for a smooth line/curve. The intermediate sleepers can then be soldered quite quickly because they have taken a natural alignment. The key mistake to avoid is to ensure that solder cannot creep between the rail and sleeper – I use a metal block in my free left hand to hold the rail down firmly whilst applying the soldering iron to the joint.

There are other techniques for building copperclad trackwork and those interested might care to buy *A pragmatic guide to building, wiring and laying PCB track* by Iain Rice. It is a RailMODEL handbook published in 1997 – ISBN 1-900349-09-4.

The Chester end of the new fiddle yard under construction. The turnouts are being checked against the Templot track design which has been printed without sleepers for clarity. The trailing crossover will enable Down trains departing the new fiddle yard bi-directional roads to regain the down main line. The right hand of the two sidings used to be the old dock branch leading round the original version of Mostyn to the exchange sidings

Checking and Cleaning

I like to keep a sacrificial long wheelbase wagon handy for testing as they tend to be more sensitive to variations in trackwork than shorter wheelbase or bogie vehicles. You normally find the odd stray piece of solder or flux has escaped your attention and needs removing. The completed turnout is only removed from the flat surface when I am sure it is free running. For cleaning, first separate the Templot template and turnout from the flat surface then peel the template back and away from the pointwork. Hot soapy water followed by rinsing will remove any flux residues.



The Chester end after the tracklaying gang has been at work. The critical nature of the double junction under the dock bridge is clearly shown as all trains including 75mph expresses negotiate this formation (and the mirror image at the Holyhead end).

Stretcher bars

Hopefully you have arrived at this stage with a smooth running point and now need to add the stretcher bar to enable it to be electrically operated (in our case using Tortoise Point motors). I use plain track copperclad for the stretcher bar because it is narrower and file the substrate slightly down so it is shallower and will not cause friction with the baseboard surface whilst in movement. Drill a central hole in the stretcher bar to receive the Tortoise actuation wire.

- Position the stretcher bar centrally beneath the stock rails and switch rails (its location is shown on the Templot printout).

- Take the first stock/switch rail pair and insert a thin piece of paper between the stock rail and the switch rail. Fold the end of this paper so it passes between the bottom of the stock rail and the top of the stretcher bar. This right-angled piece of paper serves two purposes – it reduces friction by creating a small gap between stretcher bar and stock rail plus it prevents accidental soldering of switch rail to stock rail and/or stretcher bar to stock rail.

- Using an aluminium hair clip (or similar) hold the switch rail against the stock rail. Check for a nice tight fit along the closure length and then solder stretcher bar to switch rail. Remove spacer paper and check for free movement.
- Insert a 1.5mm or 1.6mm drill bit horizontally between this switch rail / stock rail pair before moving on to complete the other side in a similar fashion

The final job is to check that the completed assembly moves with minimal friction and that the switch rails move fully away from their associated stock rails.

E voila! One turnout ready for installation.....

Helsby to Hooton: the 150 year celebration by Tony Robinson

Quite by chance I discovered that my old Hawker Siddeley colleague and fellow enthusiast John Hobbs of Warrington had, along with some other like-minded enthusiasts, organised a Gala to commemorate the 150th anniversary of the opening of the above local line. The celebrations were held on Saturday 6 July 2013 and principally involved the running of a special train from Liverpool Lime St via Warrington (and return via Runcom's little used Halton Curve) to Helsby, Ellesmere Port and Hooton. A return working was then made to Helsby where I joined the train for a re-run to Hooton and back. The train consisted of a four car 156 set and snacks were served on board from a trolley. There was a simple price tag of £10 regardless of where on the journey you joined the train (provided jointly by Northern Rail, Arriva Trains & Merseyrail) that thankfully was also manned entirely by enthusiasts from the above companies and the North Cheshire Rail Users group.



All stations regardless of size and importance twixt Helsby & Hooton were decked out with bunting and commemorative memorabilia; Helsby station had a special display and organiser

John Hobbs smartly dressed in 1860s Station Masters Tails and Topper gave running advice to passengers and visitors (via a hand held Tannoy) from the station footbridge as the train made its repeat arrivals at that handsomely bedecked station. In the station yard and in steam stood a superb half scale model of a narrow gauge slate quarry Hunslet 0-4-0ST.



THE HELSBY STATION YARD WORKING STEAM MODEL DISPLAY.

Timings of the Special train were:- Dep. Lime St. at 09.42 via Warrington Bank Quay arr Helsby 10.29. Then two trips to Hooton and back to Helsby finally departing at 13.30 then travelling to Runcorn via the Halton Curve and on to Lime St arriving 14.07.

Having looked at the various exhibits around Helsby station I joined the special on the far platform 4 for the 12.10 departure. This was to be the first time that I have ever travelled on the line (having never found a convenient excuse before!) and I have to be honest that despite the bonhomie amongst the passengers the views from the windows were depressing to say the



The start of the UKF branch today

least. Firstly the short branch to UKF (Shellstar Fertilisers) is now disused and overgrown with trees and shrubs although the junction and signalling is still intact. There are persistent rumours that Quinn Glass are reopening the line with a branch and sidings to their immense factory on the site of the old Ince "A" power station. I did notice however a gigantic collection of sleepers and rails lying about 50 yards from the line near Ince station so obviously something is afoot. Moving on past the site of

Shell's former sidings and oil loading facility one is sadly presented with a sea of undergrowth and weeds where a once busy yard complex used to be – it all goes by underground pipeline now and has done for about ten years!

The last trains emanating from the Stanlow area were, I believe, the Ethylene tanker trains and even the sidings for this loading facility are no more. The marshalling yard at Ellesmere Port is like everything else, covered in undergrowth, I clearly remember the Octel tankers being brought up to the yard by their yellow liveried diesel shunter in the late eighties via the long ramped track that ran down the far side of the yard to their sidings on the other side of the Oil Sites Road. The company sidings are now a car park!

Arrival at Ellesmere Port station boosted my spirits somewhat as thanks to organiser John Hobbs and his team the station buildings were decked out in bunting with historic photo and artefact displays on both platforms. Moving west from here the divergence of the daily used branch to Manisty Wharf leaves to the north of the formation. This as most people will be aware is used by Railfreight to transport imported coal from ships at the wharf (near Bowaters) to Fiddlers Ferry power station via Warrington Arpley where the locos run around their trains for the reversal to access the power station from the eastern side on the Warrington – Widnes line.

It transpired that my enquiries revealed that Quinn's are in fact having sand delivered by rail from Kings Lynn in Norfolk, three train loads per week are being delivered to the old Cawoods sidings on the previously mentioned dock branch and (until their own sidings are laid) the final part of the journey is by road up to the Ince factory.



A SAND TRAIN BEING UNLOADED AT CAWOODS SIDING.
(The Manisty Wharf line is to the left).

Moving on we pass a modern if somewhat Spartan Overpool station before reaching Little Sutton again pleasingly bedecked in bunting. Finally clattering across the junction with the Chester line we arrived in Hooton at 12.38 in the old platform 2 which once served the Chester to Birkenhead down fast line now terminating at stop blocks.

We had a 25 minute layover at Hooton, just long enough for a cooling pint at the Hooton Arms Hotel where I found Eddie Knorn quenching his thirst under a tree in the garden! We didn't have long to relax before re-joining the train back to Helsby where I alighted at 13.30 and Eddie continued on to Lime Street via the little used Halton Curve. (I believe there is a "Parliamentary" train running over it every Friday evening from Chester to Runcorn to keep it legally open!)



OUR TRAIN REplete WITH HEADBOARD

And so a very pleasant if short outing terminated (for me at least) back at Helsby, one more local line I can put a tick against, let's just hope they get those sand sidings laid quickly before somebody upstairs suggests tripping the lot by road all the way from Norfolk (eight million lorry loads a week!!)



Organiser John Hobbs at Helsby

My thanks to John Hobbs and the rest of the organisers and train companies involved.
(All photos AJR.)

(E-mail from Paul Shannon to Tony Robinson ...)

" RE: HELSBY - HOOTON CELEBRATIONS.

....The stub of the former Cawoods terminal is used to offload sand, as you say; it is also being used to load biomass for Ironbridge power station until a more permanent loading point at Liverpool has been commissioned. Best wishes – Paul"

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Book review ... by Emlyn Davies

***The Cambrian Railways: a new history* by Peter Johnson. O.P.C., 2013. £30.00.
ISBN 978 0 86093 644 2.**

I had been anticipating the publication of this book with great enthusiasm and received it with a mixture of pleasure and disappointment. The quotation which introduces the book gives an idea of the contents; I quote it in full. "This history of the Cambrian, from the date of its first inception should be forced again and again, on the attention of Parliament, as well as rehearsed in the ears of credulous subscribers who are considered by speculating solicitors, engineers and contractors as their lawful prey. [*Railway Times*, 3rd December 1870]".

An incredible amount of research has gone into this book which is a highly detailed political and social history of the growth of the Cambrian lines from their beginnings as small independent and usually semi-bankrupt companies to a mid-20th century period of relative financial stability.

Time and again, the devious and dishonest behaviour of contractors, directors and engineers show that although the years pass, some things do not seem to have changed at all.

It was disappointing to see that many of the photographs, particularly of locomotives and trains had been seen in many previous publications about the Cambrian, but to compensate there were many photographs of stations, bridges and buildings plus scenes along the line which were new to me. All in all, a book which 'fills in the gaps' to make a more complete and detailed story of the line; if you are interested in the political history of railway development, this is a good one.

Despite the obvious rigorous research there is an error on page 33 which should have been spotted. The caption to one of the photographs states that the locomotive on the short passenger train is no.15 – a Jones goods. Someone has not noticed that the 4 in 45 is partly obscured by the vacuum pipe on the rear buffer plank of the tender. The loco is actually a small Sharp Stewart 0-6-0 no.45, which had a four wheeled tender – the Jones goods had six wheeled tenders, larger cabs and were much bigger engines (Maybe I should get a life!)

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Editor's page

On 8 August 2013 I went down to Ashford Carbonell, where Tony Miles' son Paul was sorting out his father's railway modelling stuff preparatory to selling the house. Paul had invited me, as one of Tony's friends of many years, to help myself to the modelling stuff. Of course,

there were many books, especially on Irish railway subjects, so I propose to list what I chose within "Recent books" (along with locally sourced titles) for Group members' information; and, as always, they are available for borrowing. This is the start of the listing, and my thanks go to Paul for his generosity.

Locomotives of the GSR by Jeremy Clements and Michael McMahon. Colourpoint, 2008. ISBN 978 1 904242 26 8. £35.

Irish railways in colour: from steam to diesel, 1955-1967 by Tom Ferris. Midland, 1992. ISBN 1 85780 000 1. £14.99.

Irish railways in colour: a second glance, 1947-1970 by Tom Ferris. Midland, 1995. ISBN 1 85780 019 2. £19.99.

The Clogher Valley Railway by Edward M.Patterson. David & Charles, 1972. ISBN 0 7153 5604 6. £3.75.

Irish standard gauge railways by Tom Middlemass. David & Charles, 1981. ISBN 0 7153 8007 9. £5.95.

The narrow gauge railways of Ireland by H.Fayle. Greenlake, 1946.

The Dublin & South Eastern Railway by W. Ernest Shepherd. David & Charles, 1974. ISBN 0 7153 6361 1. £3.95.

The Great Northern Railway of Ireland by Edward M.Patterson. Oakwood, 1962. £1.16s.

Irish railway album by C.P.Boocock. Ian Allan, 1968. ISBN 7110 0043 3.

The Londonderry & Lough Swilly Railway by J.I.C.Boyd. Bradford Barton, 197?. ISBN 0 85153 447 3. £6.95.

The Midland Great Western Railway of Ireland: an illustrated history by Ernie Shepherd. Midland, 1994. ISBN 1 85780 008 7.

Outline of Irish railway history by H.C.Casserley. David & Charles, 1974. ISBN 0 7153 6377 8. £6.50.

The railways of the Republic of Ireland: a pictorial survey of the G.S.R. and C.I.E. 1925-75 by Michael H.C.Baker. Bradford Barton, 1975. ISBN 0 85153 235 7. £3.50.

Ireland, vol.1 by Alan McCutcheon. (Railway history in pictures series). David & Charles, 1969. ISBN 0 7153 4651 2. £2.50.

Ireland, vol.2 by Alan McCutcheon. (Railway history in pictures series). David & Charles, 1970. ISBN 0 7153 49908 8

The industrial tramways of the Vale of Llangollen by J.R.Thomas and D.W.Southern. Oakwood Press, 2013. (Locomotion papers no.238). ISBN 978 0 85361 727 3. £9.95.

Underground Clwyd: ... a pictorial expedition into the nether regions of Northeast Wales by Cris Ebbs. Emery, 2000. ISBN 1 872265 93 6. £9.99. [Includes many users of rail haulage in underground mines, quarries, etc.]

'Trains Illustrated' summer annual no.4. Ian Allan, [1960]. [Includes: *The last days of the County Donegal* by G.R.Thomson].

Trains annual, 1967. Ian Allan, [1967]. [Includes: *Last days of steam on the Great Northern of Ireland* by J.C.Natzio].

Bradshaw's British railways guide, from 2nd January until 5th February 1961. Blacklock, 1961.

Bradshaw's general railway and steam navigation guide, 7th July 1922. Blacklock, 1922; reprinted David & Charles, 1985. ISBN 0 7153 8708 1.

London Midland & Scottish Railway sectional appendix to the working time tables, Midland Division, March 1937. L.M.S., 1937.

London Midland & Scottish Railway sectional appendix to the working time tables, Western Division, March 1937. L.M.S., 1937. [Includes Chester – Holyhead.]

British Railways, London Midland Region, Supplement no.5 to the sectional appendix to the working time tables, Midland Division, (March 1937). January 1949. B.R., 1949.
Steam finale: a review of present-day steam traction on Irish railways by L.H.Liddle. Irish Railway Record Society, 1964. [1965 supplement attached].
Northern Ireland railways: report by Henry Benson, presented to Parliament ... July 1963. Northern Ireland Government, 1963 (Cmd.458).
The Bessbrook & Newry Tramway by Alan T.Newham. Oakwood, 1979.
The Hill of Howth Tramway by R.C.Flewitt. Transport Research Associates, 1968.
The Cork Blackrock and Passage Railway by A.T.Newham. Oakwood, 1970.
Great Southern Railways rules for observance by employees. G.S.R., 1933.
The history of traffic signs. Department of Transport, 1991.

West Kirby (Birkenhead Joint) station

by David Goodwin

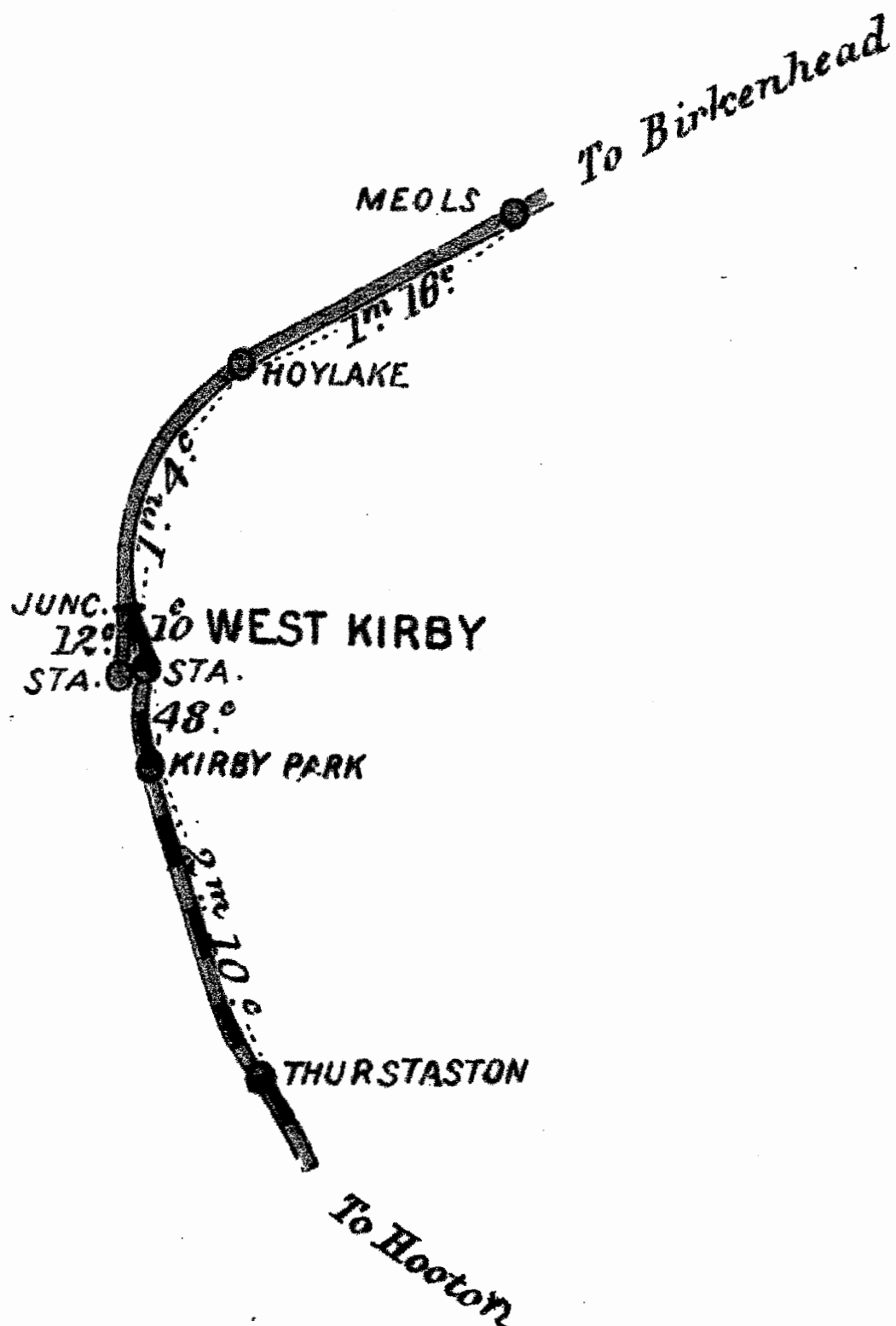
I came across this photograph of the just-closed West Kirby (Joint) station at about the same time that I learned that Paul Rees and friends at Merseyside Model Railway Society had embarked on a project to model it in EM gauge; I have asked Paul to do a short piece on the group's plans, and I hope to print this in a future issue.



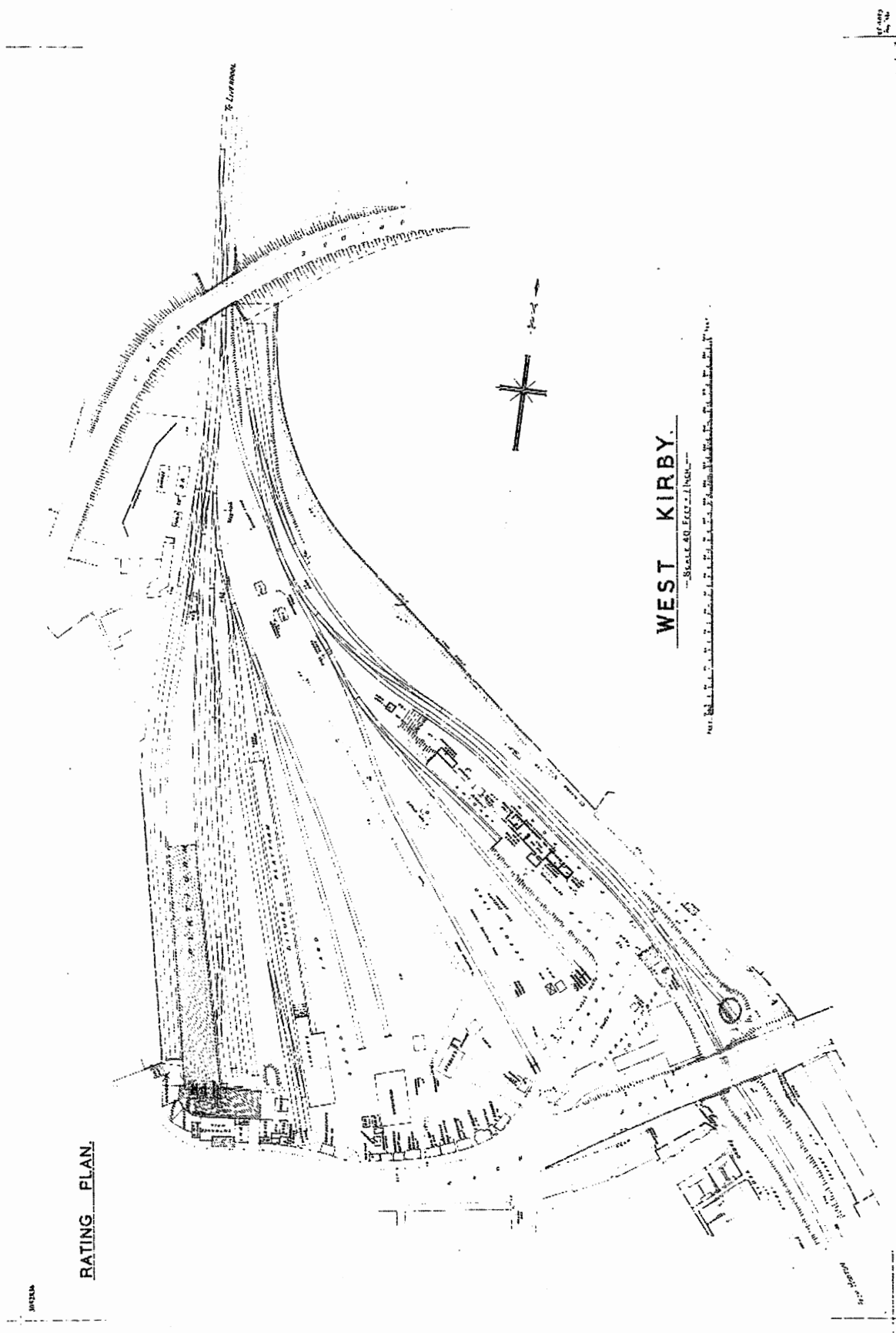
*West Kirby station
 (Birkenhead Joint
 branch – Hooton
 to West Kirby);
 after 1962 when
 the station was
 closed completely.*

There were two stations in West Kirby: the first was the Wirral Railway station opened on 1 April 1878 and re-sited slightly in 1896 (and of course still operating today under the management of Merseyrail). Second was the Birkenhead Joint station (London & North Western / Great Western Railway) which opened on 19 April 1886 (this closed to passengers on 17 September 1956).

West Kirby junction in 1903: Wirral Railway from Birkenhead at the top, Birkenhead Joint from Hooton at the bottom
 [From the Railway Clearing House Railway Junction diagrams, 1915].



An undated rating plan: Wirral station to the left, Birkenhead Joint station on the right



A joint goods depot, situated in the triangle of land between the two stations, carried on after the Joint station closed completely on 7 May 1962; the former joint goods yard continued in use (mainly for domestic coal) until 30 October 1965.

The Hooton-West Kirby line was used for DMU driver training from 1961; demolition and track-lifting started in 1964.

A 1960 photograph by Mike Lewis, from the same viewpoint as the one on page 25.



The Joint station photographed on 7 July 1963 from the approach road: closed, but not yet demolished. (Photo from the Mike Morton Lloyd collection, courtesy of the Welsh Railway Research Circle).

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