Sussex Industrial Archaeology Society Newsletter

Number 139 **July 2008**

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Newsletter 139

Contents **July 2008**

Front Cover:

Visit to Ashdown Brickworks, 9th July 2008.

The party in the rain,

Kiln for handmade 'Tunbridge' bricks

Handmade brick just turned out of mould.

Back Numbers of Sussex Industrial History

Ron Martin

There is a steady demand for back number of SIH and although most are still available some of the earlier ones are now out of stock. If any members have old copies which are no longer required I would be grateful if you would send them to me. Postage will be refunded, on request.

Editorial

Thanks are due to all the contributors for the items in this issue. However don't let the trusty band of usual suspects do all the work. I'm sure that others among you have material, sites, visits, personal research and interests, don't worry if it needs finishing off, I can arrange that.

Please don't be shy, share it with other members, I love to read about all aspects of IA in Sussex and I know that other members do as well.

I have included an item from the archives on the mine at Marehill, Pulborough, this is now a Geological SSSI, something I did not know existed until recently. This is in addition to being of IA interest and having the seemingly mandatory bats, which, while it means the site is closed to the public, is possibly responsible for its survival.

I would be pleased to consider suggestions of archive material that may be worth a fresh airing, there are many people who may have missed it the first time, or have come to IA in recent times, so any pointers would be welcome.

OOPS! When the review of *'A Description of the Remains of the Ford to Hunston Section of the Portsmouth and Arundel Canal'* appeared in *Newsletter 137,* details of how to obtain this useful book were omitted. Send £3.25 to include p&p to :- Roger Reed, 81 Abbeyfield Drive, Fareham, Hants PO15 5PG

Forthcoming SIAS Events

Malcolm Dawes

Canal Weekend

Saturday 13th September, 10.00am. *Guided walk on the route of the Portsmouth & Arundel Canal from Barnham to Ford led by SIAS member Adge Roberts.* Parking at Barnham Court Farm, Barnham. 01903 773575.

Sunday 14th September

10.00am to 4pm. *Poyntz Bridge operating day.* Opportunity to cross the unique, cast iron, Poyntz canal bridge, just south of Chichester canal basin. Bridge in operation by SIAS.

At 2.30pm *Guided walk around the basin, looking at its industrial past, Alan Green.* 01243 784915.

Saturday 1st November 7.30pm. *Norman and Burt, builders of Burgess Hill.* Talk by Fred Avery of Burgess Hill Local History Society. West Blatchington Mill Barn, Holmes Avenue, Hove.

Saturday 22nd November 2.30pm. AGM *followed by illustrated talk by Chris Horlock on the changes that took place in Brighton during the 1960s.* West Blatchington Mill Barn, Holmes Avenue, Hove.

Events from Other Societies
Malcolm Dawes

Detailed below are events organised by other societies,
which may be of interest to our members.
If you have details for future events please send these to:
Malcolm Dawes, 52 Rugby Road, Brighton, BN1 6EB
or e-mail to *malcolm.dawes@btinternet.com*

Sunday 27th July. *Worthing Seafront bus rally.* www.worthingbusrally.co.uk

Sunday 27th July. *Classic cars from the 50s, 60s and 70s.*
Amberley Working Museum. 01798 831370.

Saturday 26th July, 10am to 4pm. *Working day at the Brede Steam Engines. Steam and working industrial engines.*
Situated 6 miles from Hastings on A28 to Ashford. 01323 897310.

Sunday 3rd August. *Classic Microcar and Scooter Rally, bubble cars, three-wheelers and scooters.* Amberley Working Museum. 01798 831370.

Saturday 16th – Sunday 17th August. *Vintage Transport weekend.*
Vintage cars, traction engines and trains. Bluebell Railway. 01825 720800.

Friday 29th August – Saturday 30th August. *Ale at Amberley.*
Beer festival with over 20 different beers, many from Sussex.
Amberley Working Museum. 01798 831370.

Saturday 30th – Sunday 31st August. Shoreham Air Show. Shoreham airport. www.shorehamairshow.com

Sunday 31st August. *Steam Special from Brighton to Faversham,* as part of Shepherd Neame's Hop Festival in Faversham. 01795 542285. www.shepherd-neame.co.uk/tour/train.html.

Wednesday 3rd September, 7.45pm. *The Radar Station at Truleigh Hill.*
Beeding and Bramber Local History talk by Roy Taylor.
Village Hall, High Street, Upper Beeding. 01903 812847.

Sunday 7th September. *Wood from the trees, woodland trade crafts and steam-driven timberyard.* Amberley Working Museum. 01798 831370.

Wednesday 10th September, 7.30pm. *Archaeology in the Chichester area.*
Chichester Local History Society talk by James Kenny. £2. New Park Centre, New Park Road, Chichester. 01243 787592.

Wednesday 10th September, 7.40pm. *British Trolley Bus systems.* Tramway and Light Railway Society presentation by Malcolm Keeping. £1.50. Deall Room, Southwick Community Centre, Southwick Street, a short walk north of Southwick railway station. 01273 512839.

Friday 12th September, 8.00pm. *Who is my neighbour? Health care in Sussex including Cuckfield Workhouse.* Burgess Hill Local History Society talk by Dr John Dale. £2. Cyprus Hall, Cyprus Road, Burgess Hill. http://burgesshillmuseum.co.uk.

Thursday 11th – Sunday14th September. *Heritage Open Days 2008.* Access to buildings normally closed to public – many Sussex buildings open during the weekend. *www.heritageopendays.org.uk*

Saturday 13th September. Burgess Hill Local History Society Museum open from 10am to 12noon. Cyprus Hall, Cyprus Road, Burgess Hill. http://burgesshillmuseum.co.uk.

Saturday 13th- Sunday 14th September 10.30am to 5.00pm. *Fernhurst Furnace Open Days*. Tours of the furnaces, charcoal burning, musket and cannon demonstrations, cookery and refreshments. 1 mile west of Fernhurst. SU879283. www.fernhurstsociety.org.uk/furnace

Saturday 13th September, 10am to 4pm. *Heritage day at the Brede Steam Engines. Working engine, classic cars and motorcycles.* Situated 6 miles from Hastings on A28 to Ashford. 01323 897310.

Sunday 14th September. *Amberley Bus Show.* Ride on buses dating from the Edwardian era to recent times. Amberley Working Museum. 01798 831370.

Monday 15th September. Paddle Steamer *Waverley* will be sailing from Worthing during the day. www.waverleyexcursions.co.uk

Saturday 20th - Sunday 21st September. *Open House weekend in London.* Opportunity to visit over 600 buildings across London – many normally closed to the public. www.londonopenhouse.org

Saturday 20th – Sunday 21st September. Miniature Steam and Model weekend. Over 60 model steam engines in action. Amberley Working Museum. 01798 831370.

Thursday 25th September, 7.30pm. *Horsham to Littlehampton in 100 years – the River Arun and its history* .Worthing Society talk by Tony Pratt. £2. Note: early arrival recommended as venue has restricted numbers.
Worthing Library Lecture Theatre. 01903 700325.

Sunday 28th September. *Craft day, traditional skills and crafts*. Amberley Working Museum. 01798 831370.

Tuesday 30th September, 7.45pm. *Port of London Authority films. A unique glimpse of a vanished world before and after World War II.* Digitally remastered archive film. Hailsham Film Club, The Pavilion, George St, Hailsham. For further details contact Pavilion Box Office, 01323 841414.

Wednesday 1st October, 7.45pm. *Amberley Working Museum.*
Beeding and Bramber Local History talk by Sheila Dollin.
Village Hall, High Street, Upper Beeding. 01903 812847.

Sunday 12th October. *Autumn vintage vehicle show.* Vintage cars, motorcycles buses and lorries. Amberley Working Museum. 01798 831370.

Wednesday 15th October, 7.45pm. *The past ten years of the London bus scene*. Sussex Transport Interest Group presentation by Haydn Davies. £2. London Road Station, Brighton. 01273 512839.

Friday 17th October, 7.00pm. *Recent archaeological excavations at Baxter's site, Lewes.* Polegate and Willingdon Local History Society illustrated talk by Simon Stevens. St.John's Church Hall, High Street, Polegate. 01323 485971.

Friday 17th - Sunday 19th October. *Giants of Steam weekend*. Running of larger locomotives plus a visiting engine. Bluebell Railway. 01825 720800.

Sunday 19th October. *Industrial trains day.* Industrial locomotives and rolling stock in action. Amberley Working Museum. 01798 831370.

Thursday 23rd October, 8.00pm. *Pullman Special.* Eastbourne Historic Vehicle Club talk by Dave Jones. Red Lion Public House, Stone Cross nr. Pevensey. 01323 843202.

Looking further ahead –
Amberley Working Museum will be open at weekends during November. Details 01798 831370.

Do please check details before travelling.

The details of these meetings and events organised by other groups are only included as a guide and as a service to members: inclusion here is not intended to be seen as an endorsement.

Ron Martin

Please note that Ron Martin has a new e-mail address for Society business.
sias@ronmartin.org.uk

Tour of Iron, Rail and Beer in the North-West Frontier
Society Visit 3rd May

On a fine May morning a good number of SIAS members arrived at Fernhurst for an excellent day of IA visits organised by Alan Green. We were each presented with a well prepared set of notes by Alan, for the day.

Fernhurst Furnace

Robin Barnes' our guide and host for the visit to Fernhurst Furnace, kindly provided transport in the form of a large trailer towed by his Land Rover. The first stop was the probable position of the encampment that housed up to 200 workers but archaeology has found no positive evidence.

The furnace site is in Linchmere Parish, which a 1773 boundary stone near the overflow sluice confirms. The site is now known as Fernhurst Furnace (previously North Park) because this was the title of the book published by Chichester District Council, as a result of the archaeological excavation and detailed surveys of the site in 1989 and 1993. The furnace was known to have been working in 1614 but may have been in use in 1595.

The southern part of the site is the spillway for the overflow from the furnace pond and is shored up due to the danger of collapse. A large mound of slag separates the overflow from site of the furnace buildings, some of which can be positioned by visible remains. The two wheel pits can be clearly seen, one for driving two pairs of bellows and one for boring. The top of the circular gun casting pit is visible where cannon were cast end on. This has only been dug out to a depth of three feet during archaeological investigations.

The process of smelting involved roasting the locally dug ore first on open fires so that it dried out and shattered, starting the change from ferric oxide to ferrous oxide. The ore was then transferred to the furnace with charcoal in equal measure of weight. The charcoal was produced by coppicing within a three mile radius of the furnace. The firing of the furnace required continuous 24 hour attention when charging. The scum from the top of the molten iron was removed at 1200°, this is the slag found around the site, the molten iron was run to the foundry at 1753°. The proportion of ore to finished iron was 10 to 1.

The Fernhurst Furnace worked until 1776, at which time there is evidence of buildings being destroyed by fire. The site was for sale in the *Sussex Weekly Advertiser* in 1777. Robin Barnes owns the site now, it having been in the family since 1793. The Cowdray Estate owns the furnace pond. The dam burst in 1939 and was restored in 1942. As a listed site there are limitations imposed by English Heritage e.g. no slag to be removed and no post holes to be dug for interpretation boards.

The Fernhurst Preservation Group are holding a two day event on September 13th and 14th 10.00am to 5.30pm. Link on fernhurstsociety.org.uk.

Thanks go to Robin Barnes for giving us a most informative tour of the site.

Ballard's Brewery

At Rogate Station, located in Nyewood, within a small industrial unit, we were invited to help ourselves to some liquid lunch time refreshment sampling some of the splendid beers brewed by Ballard's, straight from the barrel. This was followed by a guided tour of the brewery and a description of the brewing process by Carola Brown, who has been running the brewery since 1988. Some 1,500 gallons of beer are produced each week using malted barley milled on the premises, whole flower English hops, yeast and water. No sugars, colourings or additives are used except isinglass finings to settle the yeast sediment.

Three types of malt are used at the brewery as well as torrified wheat. The same Bamford twin roller mill has been used to crack the whole grain barley since the brewery started at Cumbers Farm in 1980. It was one of the last produced by Bamford's as they then concentrated on their world famous JCB excavators.

Carola gave an insight into the problems of growing hops and the associated pests and diseases; if hop wilt is diagnosed, the crop is destroyed and cannot be replanted for five years. Ballard's uses hops grown in Herefordshire.

The brewing process starts in the mash tun with water and barley, followed by heating in the copper (which is stainless steel) by means of three 18kW heaters. Then the wort is transferred to the fermentation vessel via a heat exchanger to cool it down and the yeast is added. The brewery has five fermentation vessels, each holding 360 gallons. After fermentation the beer is finally put into a cask, of which three different sizes are used.

Ballard's beers are distributed to over 40 public houses and the bottled beers can be purchased from over 30 retail outlets.

Our thanks to Carola for a well appreciated visit to a small brewery.

Singleton Station

At Singleton Station it was the time for Alan Green, who had organised the day's events, to provide us with a most informative tour courtesy of the West Dean Estate and the tenants of the station and goods shed. This was Alan's introduction:-

The independently-promoted Chichester and Midhurst Railway was adopted by the LB&SCR and opened as part of their network in July 1881. The line was very heavily engineered since it had to traverse the Downs by means of steep gradients, deep cuttings and three tunnels. The engineer was Frederick

Bannister, Chief Civil Engineer of the LB&SCR, and the contractor was Thomas Oliver of Horsham.

Singleton was the largest station on the new line. It had four platform faces, arranged as two islands, lengthy sidings, two signal boxes and a turntable, its size being dictated by the need to provide accommodation for the trains bringing crowds to Goodwood races. However the station was not very convenient for Goodwood since punters faced a three-mile uphill walk on arrival. Goodwood races at that time took place just once a year, over the course of a week in August, so that the vast station facilities remained virtually unused for the rest of the year. Never generating the expected traffic, largely owing to none of its stations being anywhere near the villages sharing the same names. The line closed to passengers in 1935 and to freight (north of Lavant) in 1953.

Singleton station is built into the side of a steep hill with its platforms at the level of the roof of the station buildings and connected to the latter via a subway. The station buildings are bounded on three sides by a massive mass-concrete retaining wall – an early example of the re-adoption of this Roman construction technique. The enormous gentlemen's lavatory was designed to cater for crowd loadings since the majority of the Brighton Company's coaches did not have toilet facilities.

The architect for the stations on the line was J. L. Myers and they are in the style he used on the Hailsham to Eridge (Cuckoo) line of 1880 and the Lewes to East Grinstead (Bluebell) line of 1882, as well as at Ardingly (1883) and the 1880 rebuilding of Hassocks on the Brighton main line. Reflecting the LB&SCR's expansionist ideals the buildings are lavish and opulent but exhibit a typically Victorian blend of architectural styles. Most noticeable are the oriel windows and the use of pargetting to the mock-timbered first storey – now mostly covered by hanging tiles.

The goods shed is in the same decorated style and is the only survivor of those to Myers' design, the others at Heathfield, Mayfield and Rotherfield on the Cuckoo Line having been demolished.

The tour started between the building that was the gentlemen's lavatory and the main station building and through the subway and up the steps onto the island platform, now completely overgrown with vegetation and some large trees, though the brick facings to the platforms can still be seen. The walls of the water tower are still intact, though only a shell, the tank gone and only the cast iron girders that once supported it still in situ. A short walk took us to the London end of the station and into the goods yard, which is used by a scrap dealer. The goods shed is still

completely intact and is made good use of by the tenant. Alongside is the hand-operated yard crane with its maker's plate still intact.

Skew Bridge (aka Tunnel Bridge), West Dean.

After a short walk half a mile south of Singleton Station, Alan then took us through a short tunnel.

To quote Alan's introduction:- *This interesting structure was built to take the line under the Chichester to Midhurst (A286) road and so high was the skew that it was built in the form of a tunnel. The portal at the country end is at an inordinately sharp angle to the bore calling for some amazing skills in brick laying. Note how the skewed courses tie in with the horizontal ones inside the tunnel. Even allowing for the fact that the bricks were probably cut using steam-powered saws it is an amazing achievement.*

Here was the opportunity to look at brickwork that one would rarely get the opportunity to see. The neat way the bricks in the skew are blended into the tunnel bore with cut bricks in a saw tooth shape over several courses of bricks. At the portal, the first brick course has each brick cut individually to a different compound angle. This was a fascinating sight for anyone who has attempted or been involved with bricklaying.

West Dean Tunnel

A short walk north from the skew bridge toook us to the country portal to West Dean tunnel.

Alan's notes:- *One of three tunnels that pierced the crest of the South Downs, it is built on a horizontal curve. Although the over and underbridges on the line were built to take double track, should the need have arisen, (which it didn't) the tunnels could only accommodate a single line. This tunnel, after a long period as a mushroom farm, is now used by the Weald and Downland Open Air Museum.*

Alan provided us with a well organised day of visits on a good variety of subjects and it was nice to have some of his extensive knowledge of railways included.

Rye Harbour and Winchelsea Beach

Ron Martin

I have recently been looking at some of the industrial archaeology of Rye Harbour. Rye was an important port in the 15th and 16th century - it was even larger than Southampton and was one of the ports added to the original five Cinque Ports of Hastings, Romney, Hythe, Dover and Sandwich. These had been created in the 11th century with the requirement for them to provide ships for the King's use in exchange for certain privileges.

The port was at the confluence of the Rivers Brede, Tillingham and Rother but by the end of the 16th century the harbour began to silt up so that the vessels were having difficulty reaching Rye. A solution was proposed as early as 1593 when the town appointed an Italian engineer, Fredrico Genebelli, to devise a scheme. This consisted of a new channel to be dug from Rye, running to the south-west to reach the sea at what is now Winchelsea Beach at TQ 918 160. After a gap of 130 years the work started in 1724 and proceeded intermittently for the next 63 years. John Smeaton the eminent civil engineer was appointed in 1763 to complete the work, which was finally finished in 1787. At the seaward end there was a pier head, a battery, a drawbridge and a sluice house. Within four to six months of completion it was realised that the location of the new harbour was a disaster as it silted up and the project was abandoned. Some evidence of "Smeaton's Harbour", the wooden piles of the pier head can still be seen on the beach at low tide although shingle currently covers all the east pier stonework. Some stone blocks beside the road leading to the East were probably salvaged from the East Pier. These have dovetailed notches in their upper surfaces made to receive bonding stones. Subsequently the channel was created down which the River Rother now flows to Rye Harbour.

At Winchelsea Beach I also investigated the old Lifeboat House which is located on the beach almost midway between Winchelsea Beach and the River Rother at TQ 932 172. This was built in 1865 and is a modest structure of concrete blocks with, originally, double doors at both ends. It is mystifying why the Lifeboat House was built in this location. It would probably have been difficult for an

unpowered boat to make its way out from Rye Harbour under certain sea conditions but with lifeboat house located where it is it could more easily get to sea. However it was 1½ miles from Rye Harbour village which provided all the crew that manned the lifeboat and this would have entailed some delay awaiting for the crew to assemble. A new lifeboat the *Mary Sandford* was commissioned in 1914 and was an oar-pulling and sailing, non-self righting boat. In 1928 when it was launched to help a Latvian steamer which was in trouble, it capsized on returning to the harbour and all 17 members of the crew were drowned; their graves can still to be seen in Rye Harbour churchyard. The Lifeboat House was immediately abandoned and it has never been used since. By 1928 motor-powered lifeboats were available and one was then installed in Rye Harbour. Some 600 yards inland of the the lifeboat house is the Watch House on slightly raised ground.

The village of Rye Harbour was started in 1805, the original Watch House dating from that time. The Martello Towers were built in 1810 and there was also a limekiln with an adjacent house, *Limekiln Cottage* at TQ 946 185 which is still extant and is used by the Nature Reserve as their information centre.

During the nineteenth century Rye Harbour was a hive of industrial activity. A standard gauge goods line, opened in 1854, branched off the Hastings to Ashford line just outside Rye at TQ 915 201 and ran down the south side of the Harbour Road, crossing it with a level crossing and ending at the wharf where the last few hundred metres of the track bed are still visible. A wooden bridge which carried the railway over a watercourse can also still be seen at TQ 933 193. A siding branched off this line to the north into an oil refinery now owned by Rye Oil and another, later, ran to the southwards into a works which variously had produced bricks, tiles and spun concrete products. Where this siding ended there is a derelict steel framed building which is still (just) extant. The line closed in 1960 and the rails have since been lifted.

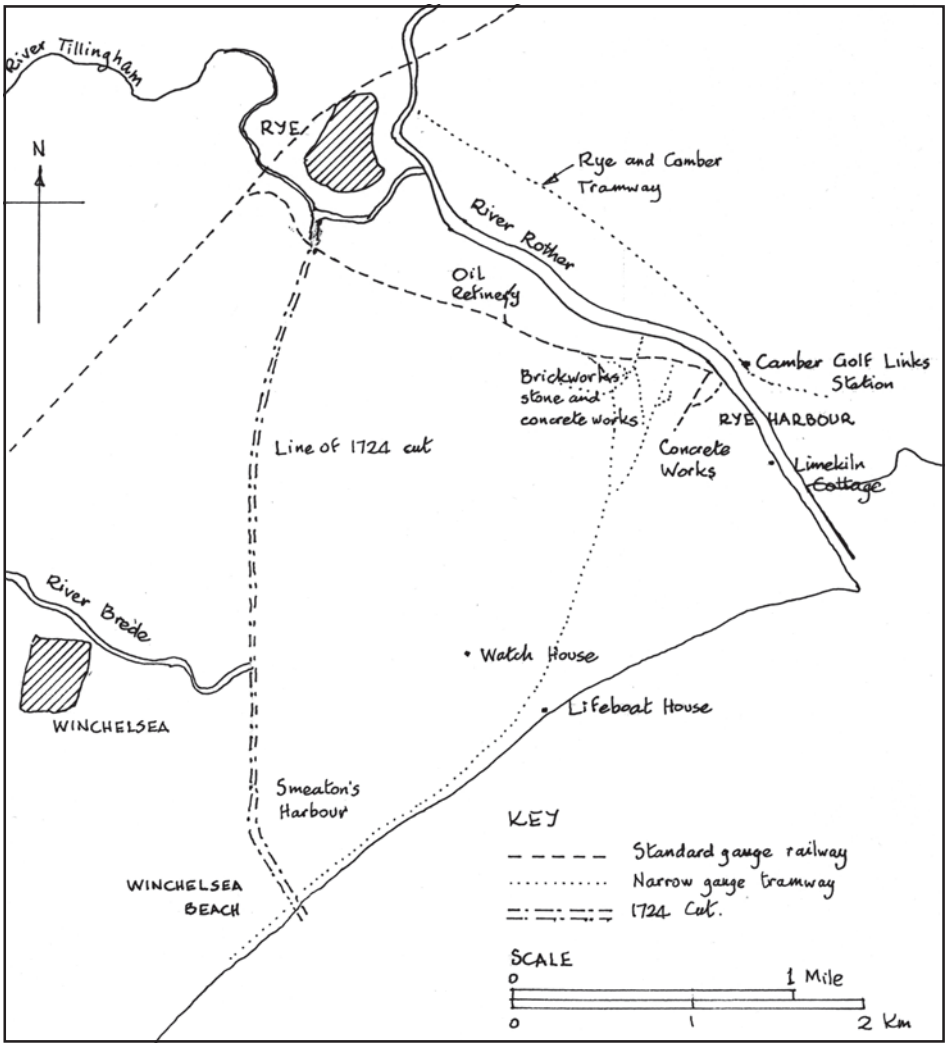
There were also extensive narrow gauge tramways - one serving the oil refinery and the adjacent chemical works and one which ran ran from a landing stage at the river for over three miles westward along the coast for the transport of ballast for use in the stone works and an adjacent brick and tile works where there was a network of lines, reputedly the longest narrow gauge railway system in Sussex.

There was also a concrete works located at the end of Tram Road, so named as this was the route of yet another tramway, this being standard gauge and was connected to the main line by a turntable at the harbour's edge. These works produced concrete blocks which were used to construct the Admiralty Pier at Dover Harbour in 1847 - 1850, being transported there by sea. Some of these blocks may still be seen lying adjacent to the river just beyond the *Limekiln Cottage*.

The pay office of the works is still extant having been converted into a bungalow. The works subsequently went into the production of other concrete products.

And finally, across the river, can be seen, close to the Harbourmaster's Office, the Golf Links Halt building, being the terminus of the 3 ft-gauge tramway built by Col. Stephens in 1895 and described by John Blackwell in SIAS Newsletter No.128 (October, 2005) p.11.

All-in-all this small area of Sussex is a fascinating and interesting example of mixed industrial development which still continues to this day with many new industrial units being created along the road between Rye and Rye Harbour.



Visit to Fawley Hill Railway

John Blackwell

The visit on Sunday 1st June to Sir William McAlpine's private railway at his country estate near Henley on Thames was fully subscribed with 40 members and friends enjoying a splendid day out. A standard gauge line of about 100 yards was first laid out in the grounds in 1965, but it did not really prosper until the small band of volunteers was augmented and the Fawley Museum Society formed, in 1981. A trip behind 0-6-0 ST *Sir R McAlpine & Sons* built by Hudswell Clarke of Leeds in 1925 commenced on a 1in 13 gradient and passes the salvaged remains of the facades of London termini. Recently arrived artefacts are side panels from two railway bridges from the Wokingham to Reading line. These are marked, "Gardener's Patent - Gilkes Wilson & Company Middlesboro' on Tees 1848". Gardener's patent was a system using cast iron strengthened by wrought iron. Down on to the original valley line one passes various railway buildings with glimpses of wallabies in the trees and columns from Victoria Station, high on the hill, before the exciting dash back up the gradient.

Then into the Museum, this is a treasure trove of railway memorabilia. I have never seen so many chairs, crockery, silverware and cast iron notices. The collection of enamelled iron advertising signs must be world class with some particularly fine and rare pieces; my favourite was for the Queens Hotel Great Yarmouth with its incredible detail closely followed by two for Aquascutum rain-wear. LB&SCR items were difficult to find, only a monogrammed carpet from a first class compartment, a No Trespassing cast iron sign and hidden in a display case and not fully captioned a model of the seven coach all first 1908 *'Southern Belle'* ("the world's most luxurious train") drawn by one of Douglas Earle Marsh's J Class tanks 325 *'Abergavenny'*. This was the first Pullman train constructed in this country rather than in Chicago where previously they were built, then 'knocked down', shipped and re-assembled in England. All in all a superb day out rounded off by a fairground ride on the newly arrived gallopers.

Bring Back the Brighton Belle

John Blackwell

The spring issue of *'Transport Digest'* the journal of the Transport Trust launches a rallying cry to revive the *'Brighton Belle'*. American Pullman cars were introduced to Britain on the Midland Railway in 1874 and the following year an eight-wheel parlour first named *'Jupiter'* appeared on the LB&SCR. On 5th of December 1881 Europe's first all Pullman train, the Pullman Limited Express, commenced running between Victoria and Brighton. It was also unique as the four cars were electrically lit using Fauré electric accumulators carried in the guard's van. On Sunday November 1st 1908 a sumptuous new seven-coach all first class Pullman train named the *'Southern Belle'* was introduced with a sixty minute running schedule every day of the week. Following electrification three five-coach units of electric stock were built for the British Pullman Car Company, each unit comprising two third class motor brakes, two first class kitchen cars and one third class parlour car. Normally two units were coupled together each unit providing seating for 40 first and 152 third class passengers. The hourly service commenced on 1st January 1933 the first day of electrified service. In June 1934 the train was renamed the *'Brighton Belle'*, following the introduction of the *'Bournemouth Belle'*. The two first class cars of each of the three sets were named *'Hazel'* and *'Doris'*, *'Vera'* and *'Audrey'*, and *'Mona'* and *'Gwen'*; a pool of 35 attendants was required with 14 on duty at any time to serve the 384 passengers. The familiar brown and cream livery was sadly replaced by grey and blue when the units were refurbished in 1969 but at least they were not condemned. With a reduced journey time of 55 minutes they provided an uncomfortably rough ride until the final day of service on 30th April 1972. I remember that Sunday well, taking one of the special return trips to Victoria which was followed by a Sussex railtour.

Amazingly all but one of the fifteen coaches have survived (albeit without their motors) and all have been repainted in the traditional livery complete with the crest on the front. Members may be interested in their whereabouts, noting that the Venice – Simplon – Orient - Express (VSOE) has made an important contribution to their survival.

VSOE	*'Vera'*, *'Audrey'*, *'Gwen'*, are in service with *'Mona'* the next to be refurbished; also 3 motor thirds and 2 parlour thirds, one of which is surplus to requirements and will I understand shortly be auctioned on E-Bay; any bidders?
Bluebell Railway	*'Doris'*, currently at Horsted Keynes in use. Work to bring it up to operational condition will start at the end of this year.
North Yorkshire	*'Hazel'*, restaurant at Black Bull Inn, Moulton near Richmond.

Derbyshire	Motor third, visitor accommodation at Little Mill Inn, Rowarth. The inn also has a fine restored water wheel from a candlewick mill which formerly occupied part of the site.
North Norfolk Railway	Motor third and parlour third, currently on loan to Keith and Dufftown Railway (the Whisky Line) in north east Scotland.

The cars from the NNR and a motor third from VSOE would form a putative 'Belle' drawn by a Suitable 'diesel' but what is needed in the short term is a railway with covered accommodation, an operator willing to carry out some refurbishment and most importantly funding.

For details of the Transport Trust see www.transporttrust.com

Not Another Swing Bridge !

Christopher Bryan

Work is ongoing at Barnham Court Farm conserving substantial pieces of cast iron which were recovered from various sites within the locality. A major missing piece is identical to the so far only surviving piece of Casher Bridge and resides on the canal bank at Chichester Marina. Before asking for the loan of this missing piece to help re-construct a bridge at Barnham a search would be instigated to check that no other piece of the Casher Bridge survives. Adge Roberts contacted two people with recollections back to the 1950s who were convinced that the bridge had been taken away for scrap. There was still however the rumour that the bridge was buried nearby. With the co-operation of the Marina Management, Adge Roberts organised a magnetometry survey which was carried on Sunday 24th February 2008. The survey was carried out by members of the Chichester and District Archaeology Society (CDAS) led by Neville Haskins, assisted by a few members of SIAS. The equipment used was a Fluxgate Gradiometer loaned by English Heritage. The survey area was 60 x 25 metres within a car park near the bridge canal abutments. The scanner was carried along grid lines laid out by the team of helpers. The collected data was then downloaded to a laptop computer and a check carried out for accuracy of data before leaving the site for the full processing to be carried out later.

The results show a number of intense anomalies of metal objects buried, one of which is approximately 12 x 3 metres (40ft x 10ft), the size of a cast iron swing bridge.

A copy of the CDAS report is available via e-mail from Adge Roberts :- adgeroberts@yahoo.co.uk

If you would like to help or watch when the dig takes place contact Adge on 01903 773575.

South East Regional Industrial Archaeology Conference (SERIAC) 2008

Robin Jones

SERIAC 2008 was held at the University of East London, Docklands Campus located on the north side of the Royal Albert Dock opposite London City Airport on Saturday 19th April. Hosted by the Greater London Industrial Archaeology Society, the morning session was chaired by Professor David Perrett. Members arriving at the Campus found many stands in the reception area where registration took place and coffee was available. Most of the Societies were represented with the SIAS stand displaying Ron Martin's excellent drawings of various projects he has worked on over the past years. Copies of *Sussex Industrial History* and other publications were also on sale.

The Lecture Theatre for the presentations was in a different part of the campus, and after obtaining directions to this location, those present were welcomed to the conference. All the lectures were illustrated either using traditional slides or Power Point presentations. It was encouraging to hear that a record number of delegates had registered for this conference with over 300 present, although a number using public transport arrived late due to unforeseen engineering works on the Docklands Light Railway. The first lecture entitled *'Making the Metropolis'* presented by Denis Smith, examined the importance Joseph Bazalgette and the Metropolitan Board of Works (MBW) made in constructing the thoroughfares, sewers and water supply for London as the population of the city increased dramatically during the 19th century. The work by the MBW with Bazalgette as Chief Engineer undertook a prodigious programme of works including the construction of tunnels for sewage, embankments and pumping stations all to improve the health and sanitation of Victorian London. The most notable pumping station was at Crossness Engines, now preserved, which London's sewage into a reservoir before being discharged into the River Thames on ebbing tides. This was an interesting lecture highlighting the significant contribution made in cleaning up London during this period.

The second lecture was a SERIAC Bursary presentation by Charles Norrie from the Kings Cross Action Group. In this talk, IA subjects around the Railwaylands of Kings Cross were discussed, which in addition to industrial buildings associated with Kings Cross Station and the immediate area, other projects were covered including the Julius' Automatic Totalisator and the Limehouse Accumulator at the Regent's Canal Dock. The London Canal Museum, and its association with Ice Cream production, was also mentioned. Although the area discussed in this lecture is relatively small, a wealth of IA interest exists around the Kings Cross Railwaylands.

Plotting the Progress by Exploring Industrial Development with Maps was the last presentation of the morning session. Here Roger Cline, Treasurer of the London Topographical Society showed many early maps of London and explained how the development of industry can be plotted by looking at specific areas of London purely by

studying maps of different periods. Keeping to the timetable fairly rigidly, on conclusion of this lecture, delegates returned to the reception area and those who had ordered lunch assembled in the room where coffee was served earlier, and enjoyed the food on offer. There was also another opportunity to look round the various stands.

The afternoon sessions, chaired by Dr. Denis Smith, started with a lecture by Brian Bloice on Henry Doulton, sanitary engineer and potter. Doulton built up this business from a small workshop in Lambeth to the multi national company it was to become at the end of the 19th century. It was during the time Joseph Bazalgette was designing the new sewage system for London that improvements in domestic sanitary arrangements materialised and Henry Doulton guided the firm through this period of great demand for sanitary fixtures and fittings. The work Henry Doulton did in London amassed the vast income during this period and was used to produce the artistic pottery which was later manufactured in Staffordshire.

Gordon Knowles followed with a disertation on the Railways which radiated from the South of the Metropolis. He started by saying the first true railway was opened in 1836 between Spa Road and Deptford with the earliest terminus opening in the same year at London Bridge. Although he mentioned all the main line termini as well as the towns that they served in Surrey, Sussex and Kent, the presentation was basically a tabulation of facts and figures about the various lines south of London and tended to be rather repetitive.

Alan Green, a SIAS Committee Member, then spoke about the work of the Georgian engineers in the South. During the Georgian period, turnpike roads, canals and docks were created and mention was made of the Chichester Canal and the Portsmouth and Arundel Canal with photographs shown of the remains found in the last few years. A short biography of two of the great engineers of the time, Thomas Telford and John Rennie was also provided.

After the tea break, the work of the Scottish Millwright and Engineer Sir William Fairburn was discussed. Unfortunately Brian Strong, who was to present the talk, was ill so he provided slides and notes knowing he would be unable to attend. The presentation, made jointly by David Perrett and Denis Smith, covered Fairburns' involvement with engineering in the Manchester area, together with his work on shipbuilding in London and the machinery he designed that was installed in House Mill at Bromley-by-Bow.

In conclusion it was agreed that the Conference was well received with most of the lectures covering Industrial Archaeology in London. With the high turn out of delegates at this year's conference it is hoped that a good attendance will be present at the next SERIAC in Winchester, Hampshire on Saturday 18th April 2009.

A post conference visit to House Mill at Bromley-by Bow followed and a short report on this is provided in the Sussex Mills Group Newsletter.

More Than Just Manhole Covers – Halsted & Sons of Chichester
Winter Lecture
Christopher Bryan

The talk by Alan Green on 16th February provided an excellent example of how a small piece of research for an SIAS walk round part of Chichester can lead on to much deeper research when it was realised that there is a fascinating historical account to be told. This was written by Alan and published in *SIH number 35* in 2005. Alan was able to add a lot more to the talk having researched the Halsted family in more detail and tracked down the properties they owned and inevitably more products of the foundry coming to light.

The family featured in the first part of the talk, with second generation Charles Townsend (1823-1891) being the controlling mind behind the business with a sound engineering knowledge and later becoming a JP, Mayor twice and partner in a bank. Slides were shown of the various substantial properties the family had acquired around Chichester. The extent of the foundry site then featured, the best pictures of the foundry buildings which were taken during demolition in 1960 to make way for a city centre car park. Many varied products of the business survive since its demise in 1936, from the superb wrought iron screen in Chichester Cathedral and gates at the south end of Petworth House down to mundane manhole covers, fence posts, a water pump (which Alan is now the proud owner of) and two kitchen ranges. The subject was excellently presented and surely a stimulus for research by other members of SIAS on the numerous foundries that once existed within Sussex.

Association for Industrial Archaeology Conference. 22nd to 28th August. To be held at Lackham College, Chippenham. Programme of visits to industrial archaeology sites. Further details from AIA Liaison Officer, School of Archaeological Studies, University of Leicester, Leicester, LE1 7RH, 0116 2525337. Programme and booking forms can also be obtained from www.industrial-archaeology.org.uk

New Industrial Archaeology Museum at Hassocks

The South Downs Heritage Centre has opened at South Downs Nurseries, Brighton Road, Hassocks. Of particular interest is the display of a number of historic artefacts from the Volks Electric Railway Association and there are also plans to display one of the Volks Electric cars at the museum. Other displays in the museum include a rope-making trolley from Hailsham, an original trug making workshop and extensive displays related to agriculture. The heritage centre is open every day and admission is free.

From The Archives

Pulborough Mine, Marehill, West Sussex

Location

At NGR TQ 066189. Turn north from the A283 at the "White Horse Public House" into Broomers Hill Lane. The entrances are at the end of a small, man-made, overgrown valley which leads east from the lane behind a green fence almost opposite the gateway to Warenne Lodge.

Access

In 1984 there were no physical restrictions to access but it was customary to inform Mr. and Mrs. Price at Hill Barn Farm, of intentions to visit. *(see update)*

History

Little documentation has so far come to light.

There is a mention on page 31 of *"Sussex Industrial Archeology, a Field Guide"* by J. Hoare and J. Upton 1972. There is also a brief mention and a photograph in *Proc. Geol. Assoc. 46* (2) 207-209.

Norman Langridge has spoken to local residents who say that the mine was active in 1918. The contractor's name was Perrier and the sand digger was Tom Nickham. The sand was shipped to the Midlands from Pulborough Station for use as moulding material for iron castings. In 1946/7 the mine was derelict and was taken over for a spell by a Colonel Nichols for mushroom growing. He is said to have abandoned this after a roof fall.

Description

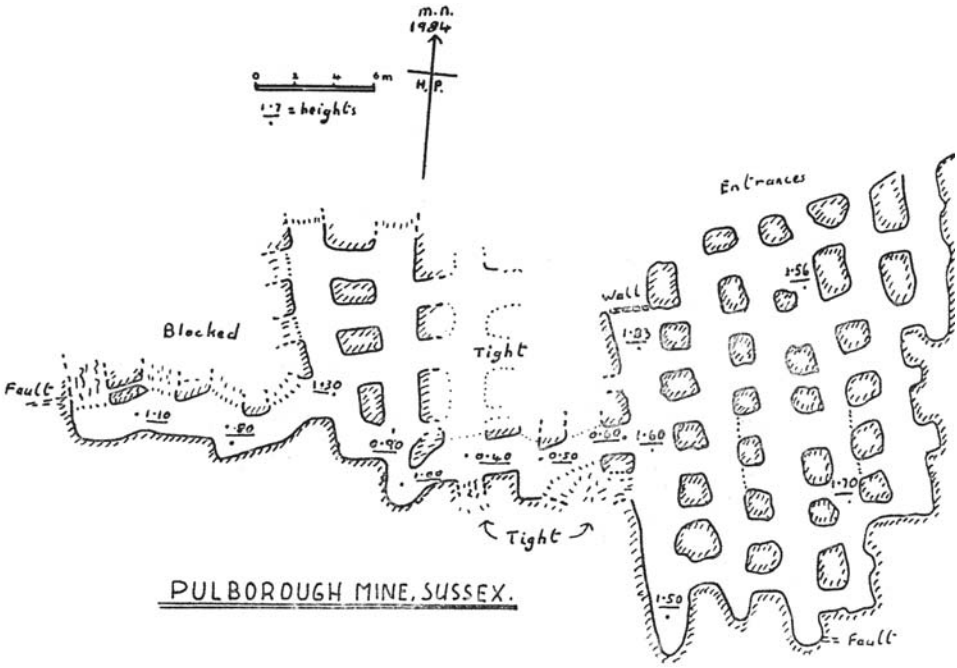
The local geology is the Sandgate Beds of the Lower Greensand and the sequence is Marehill Clay, Ironstone and Pulborough Sand Rock. The Sand Rock was dug and the harder Ironstone used to provide a flat roof. The eastern series of passages is intact.

It slopes into the hill at about 15 degrees and features the remains of the mushroom beds. It can be explored by natural light and is photogenic.

The western series is backfilled and can only be partly entered by crawling. There is scope for extending the survey by digging. Crawling around can be enlivened by the presence of foxsh.. or possibly badgersh.. on the floor and wandering spiders.

The Survey

The eastern series was surveyed by the late Neil Young in 1969 but his notes were not plotted until 1978 by Harry Pearman. In 1984 Harry and Dale Pearman and Norman Langridge visited the mine to check the plan, whereupon Dale crawled into a hole in the wall and revealed the presence of the other series. This too was surveyed by the above with assistance from Valerie Bannister, Ken Cooper. Jim Morris and Paul Dixon.



This archive report is reproduced unedited, by the kind permission of *Chelsea Speleological Society*, where it originally appeared in Volume 14 of their *Records* for 1984. This society has a series of *Records* covering 'holes' in South East England see : - www.chelseaspelaeo.org.uk/pubs.htm for details of coverage.

Update - 2008

The site is now a nature reserve owned by Sussex Wildlife Trust and is protected as a 1.25 acre Geological Site of Special Scientific Interest.
The tunnels are also important for hibernating bats.

The nature reserve is closed to the public to prevent disturbance and for public safety.

Members will be interested as it was a source of moulding sand used in industrial iron casting. To see the use of moulding sand arrange to visit the casting shop at Amberley Working Museum.

If you have any more information on the history of this site, I would be pleased to receive it and possibly include an update in a future newsletter.

Martin Snow (editor)

Roy Jennings 1945 - 2008

Christopher Bryan

Roy, who died on February 24th had an interest in IA for most of his life and was always keen to help out on the practical side. As a former pupil of Chichester High School for Boys, where he took part in cross-country runs via Poyntz Bridge at Hunston, he became aware of its historic significance in the 1960s. He worked for IBM for a number of years and travelled the world extensively as a software expert particularly when problems required sorting out. This travelling often left him unable to see IA tasks through, as when he organised with Alan Allnutt the first few working parties at Coultershaw only to be despatched to France for three years and continued to travel in the rest of Europe for IBM. When Poyntz Bridge was being restored during the 1980s he was always a member of the team when working parties took place and was still in the team to help out with solving problems in 1998. As SIAS work moved to Barnham Court Farm in 2002 Roy was regularly on site for clearance work and the dig to investigate the site of the lock-chamber at Ford. The day at Barnham, that the first piece of cast iron labelled 'Hollinsworth Bridge 1820' was recovered we knew little about the name. Roy, within minutes of arriving home was able to announce that Hollinsworth was the Engineer who built the Crinan Canal on the West Coast of Scotland.

More on Bungaroosh

Ron Martin

In Newsletter 135, of July 2007 I raised the question of the use and origins of the word "bungaroosh". It seems that my original thoughts on its very local use in the Brighton area were correct but I was recently amused by a local architect who, in a recent Planning Application spelt it "bungarouche". As the word was probably never written down this conversion to a pseudo French spelling seem a bit pretentious. A few weeks ago there was also some correspondence in the *Argus* about its derivation. The opinion of several correspondents was that "roosh" was a corruption of "rubbish" and "bungaroosh" implied "bunging rubbish" into the wall, which fairly describes the way this material was used. There is a lot about "bungaroosh" on the internet but nothing about its derivation.

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Sussex Industrial Archaeology Society

President : Air Marshal Sir Frederick Sowrey,
Home Farm, Heron's Ghyll, Uckfield.

Chairman : J. S. F. Blackwell,
21 Hythe Road, Brighton. BN1 6JR (01273 557674)

Vice-Chairman : Brig. A. E. Baxter,
9 Madeira Avenue, Worthing. BN11 2AT (01903 201002)

General Secretary : R. G. Martin, E-mail sias@ronmartin.org.uk
42 Falmer Avenue, Saltdean, Brighton. BN2 8FG (01273 271330)

Treasurer, Membership Secretary and Archivist : P. J. Holtham,
12 St. Helens Crescent, Hove. BN3 8EP (01273 413790)

Chief Editor : Dr. B. Austen, 1 Mercedes Cottages,
St. Johns Road, Haywards Heath. RH16 4EH (01444 413845)

Newsletter Editor : M. B. Snow, E-mail news@sussexias.co.uk
32 Orchard Avenue, Worthing. BN14 7PY (01903 208975)

Programme Co-ordinator : M. H. Dawes, E-mail malcolm.dawes@btinternet.com
52 Rugby Road, Brighton, BN1 6EB

Committee :

C. Bryan	Mrs. Diana Durden	A. H. J. Green
C. C. Hawkins	P. J. Hill	Dr. Claire Seymour
R. Taylor	R. L. Wilson	

Area Secretaries : Eastern Area : R. F. Jones – 3 Nutley Mill Road,
Stone Cross, Pevensey. BN24 5PD (01323 760595)
Western Area : Brig. A. E. Baxter – Address above
Central Area : J. S. F. Blackwell – Address above
Northern Area : E. W. Henbery, 10 Mole Close,
Langley Green, Crawley. RH11 7PN (01293 406132)

Website www.sussexias.co.uk

Stop Press : Visit to Ashdown Brickworks

Ron Martin

In a carbon copy of the weather experienced when we visited Chailey Brickworks last July, a small group of our members visited Ibstock Brick Ltd's Ashdown Brickworks in Bexhill on 9th July. In contrast to Chailey, which still used clamp burning , this is a modern plant with kilns. The clay is all dug in an adjacent pit and comes from two different geological strata, which have to be carefully blended together to get the required qualities for the different bricks being made. The clay is stockpiled over the winter and it is then mixed with a small quantity of coal fines to assist with the burning. The mixture then passes through a crushing plant to reduce the clay to the right consistency. Handmade stock bricks are marketed under the name *Tonbridge* and these are moulded by a team of half a dozen young men whose target is 1,000 bricks per day. The level of the bench and the floor on which they stand is adjusted to suit the height of each man to make their work ergonomically efficient. The sand which is thrown into the mould to enable the green bricks to be released is dried on site in a rotary kiln. The handmade bricks are dried in gas-fired chambers, before being transferred to the kilns.

The machine-made bricks, which are marketed under the name Ashdown are moulded in a machine which has racks of moulds for 12 bricks at a time mounted on a conveyor belt, which then inverts the moulds to place the green bricks onto pallets, which are then loaded into stillages. These are conveyed by forklift trucks into the kilns which are flat arch chamber kilns, based on the Hoffmann principle and have 42 chambers, the cycle of loading, drying, firing, cooling and unloading taking 10 to 12 days. Each chamber holds 30,000 bricks. The firing is carried out using gas pokers which are inserted through holes in the roof of the kilns as firing is needed. The maximum temperature attained is between 1,035°C and 1,080° C, depending on the type of brick being fired and the heat is drawn through the chambers by powerful fans. There is a colour variation depending on the degree of oxidation and reduction in the firing which produces multicoloured bricks. After firing the bricks are sorted using a laser controlled selection system to separate the "firsts" from the "seconds". The plant produces some 31 millions brick per annum with only a 10% wastage.

We are greatly indebted to Steve Chapman who so admirably showed us round the works.

Cast Iron Fire Backs

Ron Martin

Jeremy Hodgkinson, the Chairman of the Wealden Iron Research Group is carrying out research into cast iron fire backs. He has requested that, if any members know of any examples that are in not in the public domain, he would like to be informed, in order that they may be recorded. The ultimate aim is to publish a book on the subject. He may be contacted at 3 Saxon Road, Worth, Crawley, RH10 7SA, on 01293 886278 or by E-mail at JSHodgkinson@hodgers.com