

**North East Derbyshire
Industrial Archaeology Society**
NEDIAS Newsletter No. 28 – November 2007

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Chairman's Comments:

In our August Newsletter I was contemplating the resumption of our lecture meetings after a series of watery experiences during the summer. In September, Mike Taylor's guided tour of the background to industrial chemistry took us from the classroom Bunsen burner through to the heat of the coke ovens, with illustrations of machinery, equipment and modes of transport which are now just a memory.

For October, Oliver Jessop from Sheffield University's ARCUS unit gave us a highly inspiring insight into the work of his unit. With examples of findings at industrial sites throughout South and West Yorkshire, plus gleanings from both the Dema Glass site in Chesterfield and the former Clay Cross Company's site at the place of that ilk, we saw a rich heritage of industrial activity being examined and recorded for the benefit of future generations. Working to tight deadlines, in grimy and often hazardous surroundings, with fewer resources than a Time Team tea wagon, the results were certainly impressive.

Oliver's talk was yet another reminder that evidence of our industrial heritage continues to be eroded. All the more reason for our own contribution to be made, perhaps at not such an academic or professional level, but important just the same. This is the task set by Chesterfield Borough Council for identification of the town's industrial sites which have so far escaped recognition. Within these pages, there are details how you, as NEDIAS members, can help to rectify this situation (see page 10). The project was mentioned in the previous Newsletter and I am pleased to say that with your help and

support we can now make progress.

With David's guidance and leadership I hope we can at last get out and get our hands dirty - weather permitting of course!

David Wilmot

WHAT'S ON?

NEDIAS Lecture Programme, 2007-8

When: Meetings are usually held the second Monday of each month, starting at 7:30pm

Where: Friends' Meeting House, Ashgate Road, Chesterfield

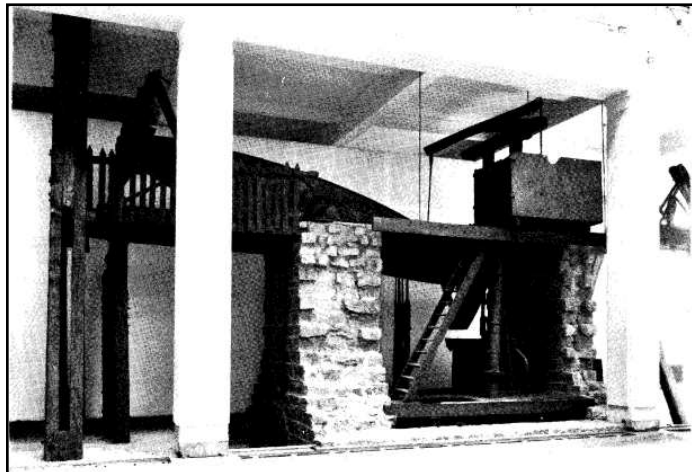
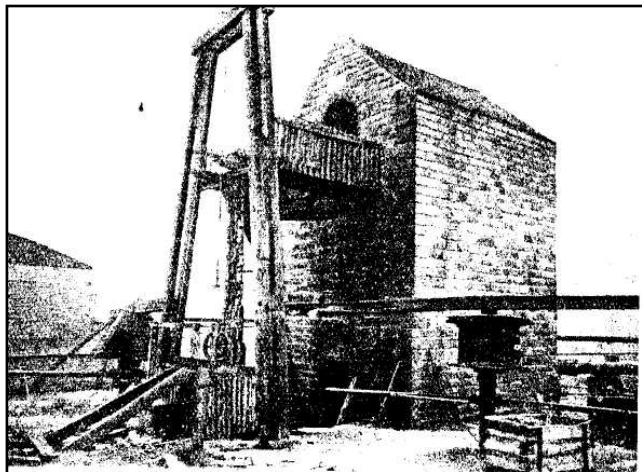
10 December 2007	Christmas Meeting: David Wilmot – <i>“From Ankerbold to Antonito – a miscellany of canal, road and rail.”</i>
14 January 2008	Malcolm Dungworth – <i>“A history of the Sheffield Motor Industry”</i>
11 February 2008	Graeme Walker – <i>“The History and Technology of Caudwell's Mill, Rowsley”</i>
10 March 2008	AGM

Pentrich Engine Reconsidered

Cliff Williams

Whilst researching my coalmining project at Chatsworth I had the opportunity to examine a short run of accounts for the sinking and opening out of a substantial colliery at Pentrich under the general supervision of the Duke's agent George Dickens. These accounts (see the reference details in the text) commence 24th August 1793 and conclude 8th March 1794 and were reckoned every four weeks and show regular references to a 'fire-engine'. These entries prompted further investigation and I wondered if this particular fire-engine might be the famous Pentrich Atmospheric Engine now located in the East Hall of the Science Museum. To satisfy my curiosity I e-mailed the museum and they kindly sent me a 'flier' briefly describing their 1791 Atmospheric Pumping Engine and this compelled me to do a little more research. Their 'flier' reads that the Pentrich Engine was first erected at Oakerthorpe and is the oldest type of atmospheric engine to survive complete and unaltered in its essential features. It also emphasises a working life of 127 years, and is amongst the longest recorded; but after examining the Pentrich Colliery accounts and various other documents my findings suggest that their 'flier' needs to be seriously re-considered. As a consequence I thought it might be useful to present my findings about this atmospheric engine in a historical context that would make a useful contribution to the NEDIAS news letter and would give a different account on the origins of the Pentrich Engine that was first erected at Pentrich and not at Oakerthorpe. Also the engine had a good number of modifications and improvements and probably was not the 'complete and unaltered' engine that proudly stands in the East Hall. Its working life of 127 years also needs to be reconsidered as it was laid idle for about eight years between its moves from Pentrich to Staveley and then back to Pentrich.

The building of the Cromford Canal was authorized by Parliament in 1789, and the 141/2 mile stretch of this canal was opened up for traffic in 1794, but the Duke of Devonshire was well aware of its



The photographs show the engine at Pentrich in 1917, and displayed in the Science Museum

potential and decided to first sink and develop a more substantial colliery at Pentridge. In preparation to opening out this Pentrich Colliery it would appear that sometime in 1792, a 60 yard pumping shaft was sunk and a Newcomen type atmospheric engine was installed to unwater a large tract of quality Top Hard Coal. This fire-engine, pumping shaft, engine-house and boiler room took between nine months and a year to complete and was subsequently known as the Pentrich Engine. As part of this colliery complex a second shaft known as the drawing or coal shaft was commenced in March 1793. The engineer who designed and installed it was Francis Thompson of Ashover and his name and the manufacturing date 1791 are moulded round the collar of the cylinder. Francis Thompson of Ashover (1741–1809) according to Farey was an ‘operative engineer who had an extensive practice in that district at the period when the mines were in great activity’. The major parts for the engine were cast and prepared by the Chesterfield founders Ebenezer Smith and Company and their industrial epitaph is also moulded onto the cylinder cast in a single line 6 feet 10 inches long and 3 inch high lettering that extended halfway round the cylinder from front to back.

T. W. Anderson in 1917 presented a detailed and excellent technical paper on the Pentrich Engine to the Institute of Mining Engineers that was followed by a discussion paper. At the time these contributions appear to have convinced the Science Museum that the engine was first installed at Oakerthorpe and not Pentrich. Frank Nixon’s paper ‘Notes on the Engineering History of Derbyshire’ also asserts Oakerthorpe as the origin of its first site but new evidence in the Chatsworth Collection unequivocally locates it first at the Pentrich Colliery and identifies with the 1791 chronology moulded on the engine.

A run of about six months ‘Pentridge (Pentrich) Colliery’ accounts reckoned every four weeks commencing 24th August 1793 and concluding 8th March 1794, show that the Duke was opening out and developing this new colliery under the general supervision of his agent George Dickins. The first of these accounts for August and throughout the period confirm that a fire-engine and substantial pumping shaft had been previously erected and John Twigg was paid 2s 2d per day for attending the engine and doing sundry other jobs. On one occasion he was paid for wheeling slack to the engine but this task may also have been concealed in his other sundry jobs. The only other mention of taking slack to the fire engine was in the last reckoning when George Godber was paid 12s 6d for leading ‘bricks to sinking pits and slack to fire-engine 2 days’. According to Farey large steam engines, like the Pentrich Engine, consumed between 20 to 24 tons per week but as the colliery was still developing it probably did not require this amount of slack. Twigg was a key worker and was employed for 167 days out of a possible 168 days and working a six day week.

Joseph Clee, plumber, was employed on a casual basis for small repairs to the engine when needed and was only mentioned once throughout the reckonings when he supplied and fitted a lead ring at 12s 3d and a lead cistern under the cock at 4s 6d.

As the colliery was being developed the Duke laid a short iron tramway sitting on stone blocks leading to the canal and also built a small wharf on the navigation. The rent charge for this iron railway, called the ‘Pentridge Railway’, was £29 17s 9d per year and should not to be confused with the later Oakerthorpe tramway - if this rent was 71/2% of the price of the railway, as was the later Oakerthorpe tramway, it would have cost the Duke about £398, to construct. T series No21. Clark’s Acc 1812.

In 1814, extensive repairs were done to the Pentrich Engine by the Butterley Company at a cost of £41 8s 8d and a new boiler made by Samuel Frearson was installed. This boiler cost £236 14s at 36s per cwt giving a weight of about 6.5 tons and the total cost of installing it, including groundwork, mason's work, plumbers and blacksmiths was £320 0s 9d of which the Duke agreed to pay two-thirds amounting to £213 7s 2d. On completion of the work, as was the custom, the workmen were treated to a tipple and dinner worth 19s. It is not yet clear what happened to the boiler but one third of the costs were demanded from the proprietors Pearson and Goodwin. At the time the proprietors were struggling to survive and this extra burden would have been prohibitive and may have reflected some neglect on their part. This particular boiler was probably of the 'beehive' type heated from the underside which was concave with circular flues spiralling outwards and fixed in a separate building.

During 1818, J. Woodhouse, colliery viewer, was requested to inspect and report back to the Duke on the state of all his collieries and ironstone works including the Oakerthorpe and Pentridge (Pentrich) collieries. William Stayley was the surveyor for this report 'under the order of the late Mr Woodhouse'.

Pentridge Colliery was situated about a mile south of the Oakerthorpe coal works with a continuation of the same bed of coal at similar depths and working conditions but heavily faulted. There were two hard coal shafts at Pentrich and one was sunk on the edge of a step down fault of eight yards that ranged north-east through the entire works and caused considerable problems when working the coal.

According to Woodhouse the Oakerthorpe and the Pentrich pits were not profitable to the proprietors or the Duke and he recommended that they should be consolidated otherwise 'to shut up the latter (Pentridge) works entirely'. This would enable the renter, with the aid of an iron rail road to the canal, to work out five or six acres of coal a year and pay £140 per acre annually or so in proportion. 'If the plan for an iron rail road be approved, the tenant might be able to retain the rent of a certain number of acres of coal to enable him to meet the expenses of completing the road'. Woodhouse recommended that if the Pentrich Colliery is discontinued 'that powerful engine which is the Dukes Property might be immediately removed to the Staveley Colliery where an engine of this description ought to be erected directly; the iron rail road and sundry other colliery materials are also his graces property at Pentridge Colliery'. L/114/85/1 pp 5 -7

Soon after the 1819 reckoning the Pentrich colliery proprietors, Thomas Pearson and Humphrey Goodwin, decided to give up their lease on the Pentrich Colliery and were reimbursed about £156 for sundry articles and implements left by them 'pursuant to account in their lease'. T. 22 Series. Lockett 25th March 1820.

A footnote at the end of Woodhouse's Oakerthorpe report records 'Oakerthorpe and Pentridge let to Geo Haslam for 21 year from 24th March 1819 at £140 per acre to pay for not less than 6 acres' that would raise £840 per annum for the Ducal purse. This involved sinking a new foundation at Oakerthorpe and George, John and William Haslam leased this new Colliery for £303 and the agreement was celebrated 'By expenses at the George Inn at the letting of the Oakerthorpe and Kingsley Collieries £3 3s.' T22. 1819. Casual Outgoings. AS/ 857.

In March 1819, it was decided to dismantle the Old Pentrich Pumping Engine and re-erect it at the Staveley Lowerground Colliery, and particularly so when they had expended so much on a new boiler and repairs. The careful dismantling of the engine took about nine weeks under the supervision of Thomas Eyley and the wages paid to the labourers amounted to £82 10s 6d. John Wharton was paid £43 6s 6d for taking part of the 'old engine' from Pentrich to Staveley and John Brown was paid £18 18s 3d for taking the 'other part'. New parts were purchased for the engine's reconstruction at Staveley and Ebenezer Smith, who had made the original cylinder, supplied £164 3s 4d worth of cast metal articles and some castings worth £87 0s 3d. Appleby and Walker were paid £43 10s 11d for castings but no description in either entry of what these might be. AS/1494. An account of taking down the Old Staveley Engine at Pentrich. The total cost of dismantling this engine at Pentrich reconditioning and re-erecting it at the Lowerground Colliery at Staveley was £1,162 and the cost of sinking and building a new engine shaft to accommodate the engine was £504. It took just over a year to complete this work and in November 1820, Samuel Tudor valued this engine at £2,150 and the annual rent was ascertained at £161 5s. Farey commenting in 1811, wrote that large steam engines for mines could cost £2,000 or more. Farey Volume I. p338 -339. The Upperground Engine also at Staveley was valued £1,800 c1823,

and rented by Messrs Smith and Company for £112 19s per annum.

With the stagnation of the iron trade at the end of the Napoleonic Wars Ebenezer Smith and Company gave up the lease of the Lowerground Colliery in 1819 as the more accessible and drier coal had been won. However there was still a large reserve of coal left that could only be exploited if a sufficient pump was installed and G. H. Barrow welcomed the arrival of the large Pentrich Engine. He immediately took up the Lowerground Colliery lease on the 24th June 1819 for a term of 14 years ending 24th June 1833 and he was contracted to get 15,000 tons annually at a royalty of one shilling per ton or payments on account of £375 every six months.

The first years rent of £750 was due 24 June 1820 and the yearly rent for the pumping engine and other effects was £161 5s and Barrow was reimbursed £984 for sinking 20 yards below the Old Engine Shaft at this colliery. Ashby's ACC. Green Book 1819.

It would appear that Barrow had exhausted the Lowerground Colliery by the time the lease terminated in 1833, and if this was the case, the engine was laid idle for about seven years and 'then removed to Pentrich Colliery by Messrs Haslam at the request of the late Mr Lockett, and I suppose with the assent of Mr Barrow, as he had ceased to work it for some time and could have no further use for it, as all the coal was gotten there'. As/1494. Note J. Ashton 14th March 1843.

Anderson's paper explains that the boiler's chimney 'was evidently erected there when the pit was sunk and bears its date (1841) by an ingenious, but hardly distinguishable, arrangement in the brickwork' However, the New Pentrich Colliery had been sunk sometime previous and was in production by 25th March 1838 and during the first year it had got just over 4 acres of coal at £10 per acre.

Clearly this Pentrich Engine was not removed from Oakerthorpe to Pentrich as suggested by Anderson, Nixon and other people but from Staveley Lowerground Colliery. This error, understandably, is perpetuated in the Science Museum's current literature which undoubtedly took cognizance of Anderson's paper at a time when the Chatsworth papers were probably not as readily available as now.

It would appear that the Haslam Brothers purchased the Pentrich Engine off the Duke, and it remained their property until it was removed to the Science Museum in 1917 after considerable service.

This short article is part of a much larger piece of work on the Pentrich and Oakerthorpe Collieries that might appear in the NEDIAS journal at a later date. Sincere thanks to the Duke of Devonshire for my continued access to the Devonshire Collection and to Stuart Band and Andrew Peppit, archivists, for their help and support.

What Derbyshire did for the Romans

David Wilmot

The Italian city of Albenga, on the Mediterranean coast between France and Savona, has a small museum housing artefacts recovered from the wrecks of Roman trading ships. The vessels, dating from about 400AD when Albenga had been an important Roman town and port, had been found off shore during the last forty years of the 20C.

One vessel had a cargo of no less 10,000 amphorae for shipment of wine to the northern parts of the empire. A large collection had been stacked in the recreation of a section of the ship's hull





and I could not help thinking that here was the Roman equivalent of a modern container ship.

More significantly, a glass case contained a large pig of lead said to weigh 75kg and bearing a very clear inscription of its Romano-British origins.

Where it came from in England was not clear but Derbyshire seemed to be the most likely source. Nearby, a pair of ship's anchors emphasised not only the importance of lead to the Romans but also the scale of their smelting and casting facilities. The anchors both had flukes (to dig in to the seabed) and stocks (the cross-piece at the top) made of lead.

Each piece appeared to have been made as a single casting and, given that each stock was over four feet long and averaged about six inches square in cross section, the size of the crucible must have been very impressive. The finished product's cost and value to the Roman mariners must also have been formidable and one hopes their rope making skills prevented too many losses of the anchors while at sea.

Ed – See also the Reflections Magazine of this month, Volume 16, Issue 190 (Nov 2007), where an article by Barry Marsden describes the Roman pottery industries in Derbyshire. He describes finds from the Derby Racecourse (Derwentio) area, Holbrook, Hazelwood, Pooles Cavern, Kingsterndale, Creswell Crags and Bolsover, and he speculates as does DW on uses of Derbyshire lead at the heart of the Empire.

Bob Nicol and the R. D. Nicol Co Ltd., Dronfield and Sheffield

Cliff Lea

Until mineral oil was available locally, Britain's supplies of early crude and of refined lubricants were sourced largely from America at the turn of the 19th century. However, as internal combustion engines became more common, the demand for lubricants grew rapidly, and many companies started to emerge across the country that developed their own refineries and plants for manufacture.

Bob Nicol

One of the early entrepreneurs active in the South Yorkshire and North Derbyshire area was Robert Dale Nicol. Bob Nicol was a marine engineer who originated in Dumbarton, served as an apprentice on board ship, eventually moving to join the Vacuum Oil Company, a US based oil company, which later would become better known under the name Mobil Oil Company.

Nicol settled in Sheffield becoming a well known character; he was a member of the Institution of Marine Engineers, he held an important position in one of the famous London craft guilds, the Plumbers' Company of London, and becoming President of the Caledonian Society of Sheffield. He moved to the exclusive Kenwood Park area of Sheffield, and he was clearly a well known personality when the Yorkshire Telegraph and Star of 8 January 1937 carried a cartoon of him, in a series from the artist Heap.

Cartoon from Yorkshire Telegraph and Star, 8 January 1937



The rise of R. D. Nicol & Company

Nicol recognised the potential in the early years of the 20th century, forming R. D. Nicol & Co Ltd. in Sheffield and Dronfield for the production and sale of lubricating oils and greases.

White's and Kelly's Directories show that Bob Nicol had left the Vacuum Oil Company in about 1907, setting up his company initially at 87 Pinstone Street in Sheffield, now overlooking the Peace Square, starting production in works at Callywhite Lane, Dronfield by about 1916. The Dronfield site can still be seen converted to use by other companies just past Padley and Venables with two entrance gates on the left along Callywhite Lane.

Nicol had moved into and expanded existing works, part of which had previously been occupied by a site variously described as Ernest Ridgill's grease works and "Sheffield City Grease Works".

Ernest Ridgill is recorded as living at The Avenue and also The Beaches, Green Lane. He had also set up "The Anglo German Engineering Company", an organisation that may not have found favour at the outbreak of the First World War. Opportunism may have played a significant part in Nicol's business venture, and Ridgill's businesses disappear from records during the war.

The core Nicol business was in manufacture of lubricants from mineral oil, moving from the era when lubricants had been based on natural fats and oils. Bob Nicol therefore was developing and supplying into a rapidly growing market, and at a time when mineral oil was viewed as "the new approach".

However, being based in the Sheffield area, he developed specialised lubricants for industry and for metalworking applications. With the proximity of a source of oil actually in the county, it is likely that he may even have used locally sourced crude oil in the 1920s; it is worth noting that the Callywhite Lane site was described in many directories as an "Oil Refinery", however crude the process by today's standards. Callywhite Lane was of course well served by rail, with oil tank wagons being able to be shunted directly on to site in the early years, and right up to 1989, previous rail tracks were visible on site. However, in the earlier years, deliveries were by horse and cart.

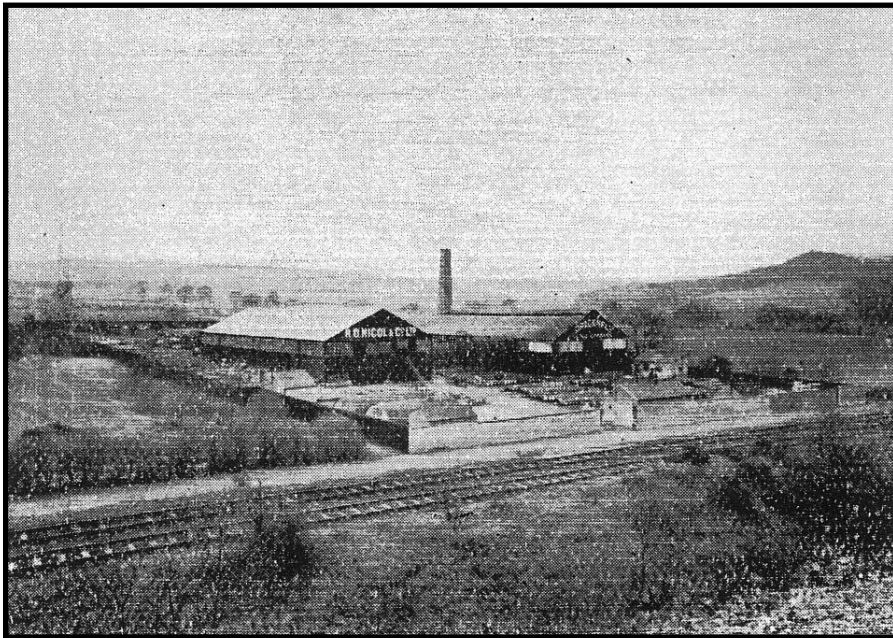
American connections

R. D. Nicol particularly pioneered metal forming lubricants, liaising with a specialist American industrial lubricants company, the Montgomery Company of Detroit. The family-owned Montgomery Company had developed niche business with the growing US auto makers, particularly specialising in presswork lubricants for automotive body panels; this industry moved rapidly from manual panel beating, to semi-automatic sheet metal pressing, and to transfer press lines, requiring very specialised lubricants to complement the process. In the 1950s & 1960s, the UK auto industry became the largest in Europe, manufacturing more cars than in any other European country, and Montgomery in the US saw great opportunity in their collaboration with Nicol.

This collaboration initially proved very successful for Nicol. They introduced to the UK a new high technology dry film lubricant for metal pressing called Kold Lube, and the Kold Lube process was quickly taken up by some of the UK's largest auto press shops. The Kold Lube process involved installation of equipment that could both apply the lubricant coating to steel panels, and then dry it out on the steel panel to form the film that lubricated through the presses. This special approach to auto pressings continued until 1980, when new auto assembly processes made the system obsolete; Nicol's sales to this business sector declined, and the partnership with Montgomery dissolved.

The company nevertheless produced a full range of both automotive and industrial lubricants, using the trade name "Dragonfly". It manufactured engine oils, hydraulic fluids, gear oils, motorcycle lubricants, metalworking fluids, heat treatment oils, agricultural lubricants, in fact was a full line supplier. R. D. Nicol was particularly well known for manufacture of lubricating greases, for wheel bearings and a host of other applications; its greases were particularly sought by the Sheffield steel industry.

One unusual speciality was in manufacture of sealing compounds, types of very specialist greases, used by the valve industry, very much sought after by the water industry, also for oil well valves, and sold for the very specialised underwater equipment used in the North Sea.



R D Nicol Works 1936. Photo courtesy of the Derbyshire Countryside, No. 22, p 46, April 1936

The production at Callywhite Lane was split between a number of workshops: an “oil shop” with approximately 10 blending vessels produced engine oils, gear oils, etc., whilst a separate “grease shop” carried out the complex process of manufacturing greases. The grease manufacturing process was highly specialised: soaps were prepared from fats, a highly energy intensive process, and these were then blended with mineral oil, together with additives at high temperatures to yield the final special grease. Since grease manufacturing required special skills and expertise, it was attempted by very few companies in the UK, and even now, only three companies produce lubricating greases in Britain. A

measure of the special expertise and scientific knowledge in Callywhite Lane.

The grease plant in the early days was described as a dark, hot, smoke-filled workshop, and a hive of activity. Right up to the eighties, the processing vessels used belt drives, similar to those used in textile mills. Traces of the early belt drives can be seen in the rafters of one of the original buildings, still standing and occupied currently by Richland Engineering.

Bob Nicol passed away on 1938, and following ownership by Staveley Industries, the company was purchased by the US chemical company, Witco Chemical in the mid 1970s. It was during its ownership by Witco that new investment was introduced in the late 1970s for manufacture of special chemicals called metallic stearates, a core business of the US parent. Metallic stearates are still widely used as ingredients of plastics, rubbers, and paints, but did little to lift Nicol’s decline.

R. D. Nicol & Co was ultimately bought in 1981 by its Derbyshire competitor Silkolene, the site closing in 1986 with all production shifting to Silkolene’s Belper refinery. It was however during its ownership by Silkolene that further major investment was put into Callywhite Lane; new refining plant was installed to recycle and reprocess used hydraulic and metalworking oils.

The reprocessing or oil-laundering plant stripped contaminants from old used oils, by the “acid-earth” process, refining and returning it to customers in as-new state. This environmentally attractive process, to re-cycle used oils, would today be welcomed; however in Thatcher’s 1980s it found a sluggish market that was interested only in use of new oil. Plant that was designed to treat 5 million litres of used oil per year barely treated one fifth of that, and the otherwise inspiring venture eventually failed

Kastrol or Castrol?

But it has left an interesting legacy and at least one famous name. One of Nicol’s early trade names was an agricultural and engine oil brand name of “Kastrol” - spelled with a K. Presumably named Kastrol because of its similarity to Castor Oil, a natural oil widely used as an early engine oil, and particularly used by early aircraft.

Interestingly, at about the same time that Nicol had been setting up his own company, one of his old friends and colleagues from the Vacuum Oil Company, Charles Wakefield, was also setting up another company. They clearly talked closely, and Wakefield chose the brand name “Castrol”, spelled with a “C”.

Charles Wakefield however went one further, and made sure that he registered his trade name, and of course it has continued to this day. But how much different it could have been were Nicol to register

first, and for “Kastrol” to have become the household name.

Callywhite Lane today?

At Callywhite Lane, some of R. D. Nicol’s original but unspectacular buildings, laboratory and production units, can still be seen now used for different purposes. The old works laboratory has simply been converted to a café and snack bar, part of the old oil shop which saw investment for oil re-processing still sits opposite, the remains of part of the grease plant are still occupied by Richland, and the Stearate manufacturing plant can be seen right at the back of the site.

References:

Yorkshire Telegraph & Star, 8 Jan 1937

Sheffield Telegraph, 16 April 1938

Dronfield Miscellany, Issue 13, Spring 2007

Industrial Heritage, Volume 29, Spring 2003.

Derbyshire Countryside, No. 22, p 46, April 1936

White’s Directories of Sheffield; Kelly’s Directories of Derbyshire

NEDIAS Archives

Pete Wilson, Archivist

At last the publication department of NEDIAS have caught up with me and asked that I make an entry into the newsletter. I suppose that being the group’s archivist I should share all the information that we have in storage for our members use. Up to now it has been a bit of a secret and we must put this right.

Over the last few years we have slowly but surely gathered together quite a few items from various places; some from well known companies, some from individuals but all have their place. It is our intention to place a list of our archives onto a CD for our members, who for a nominal price will be able to take away a copy. If there is anything on the list that you are interested in then let me know and provided you are a member of NEDIAS then there should not be a problem for you to borrow or a copy of an item for your own research. (Copyright must be observed.)

Also should you come across any archive material that is at risk of being lost, we would appreciate it if you would let any of our committee members know so that we may endeavour to save these items. As we heard at a recent meeting many archives are simply being lost due to lack of time, money or interest. I myself have written several letters to GKN at Sheepbridge to ask that they release any archives to the library, records office or at the very least ask NEDIAS to take temporary custody of any items they may have or even to allow a limited amount of members to have a guided tour to allow us to take some photographs. Up to yet I have not received any reply.

We have some items from the site at GKN from the now obsolete Sheepbridge Engineering Ltd in the form of catalogues, adverts and even engineers drawings of mine cars that were built by them. We also have a few items from Dema Glass in the form of photographs of their machinery.

Only recently, NEDIAS was given a permanent loan of about 40-50 hard backed books containing Patent Abridgments, these are wonderful books dating from about 1900 to the 1970’s, and they cover subjects from the very common to the very obscure. My problem is that I now have to index them, which will take quite a while to complete. At the moment I am trying to work out what will be the best way of carrying out this long job but Should you wish to look up a particular subject, I would be glad to look through them to see if we have any information for you. We have some wonderful magazines, journals and reviews that cover numerous subjects which will be listed on the CD.

If you should have any questions or interests that may benefit from our small but growing archive please get in touch with me. I attend most of the lectures at NEDIAS or you can contact me via our email address at the back of the news letter.

Further to my appeal for volunteers to start a fieldwork group within NEDIAS it was decided at the last committee meeting that I should convene a meeting of those interested in order to get things moving. I should stress at this point that I am not in a position to lead such a group, not least because of my lack of local knowledge! Of course I am prepared to help with techniques and with the actual work where I have the necessary expertise.

It was suggested that we might begin by extending Chesterfield Borough Council's listed properties register to include more buildings of industrial archaeological interest. This might mean for instance that the group would descend on an area and make a note of any such buildings worthy of mention in the register. It might not be immediately obvious from the evidence on the ground that a particular site should be noted but it might indicate where some documentary research was required before a decision could be made.

I am proposing that the inaugural meeting should be at my house on Wednesday 12th December at 7.30. If you would like to attend please contact me on 07813 0790 38 and leave a message and a contact number.

Ed: Following considerable discussion of, and interest in this subject over the last few months, we now have an opportunity to support by our own survey and field work a really much needed project. NEDIAS members now have something PRACTICAL they can really get their teeth into! Given sufficient interested parties, it is a project that need not take up too much valuable time, and it deserves all our support. Our thanks to David for his initial guidance.

I. A. News and Notes

Ashover Light Railway

The newly formed Ashover Light Railway Society report that the "Rainbow's End" café has been secured for return to the Butts, and that the old coach (see Pat Pick's photo) went in October to the Golden Valley Railway at Butterley, following the announcement of redevelopment of the bowling green and sports field where it had been sited previously.

It's good to know that both have satisfactory homes.

It is hoped that we can secure a speaker from the ALR for a future NEDIAS meeting.

Photo: Pat Pick



In *Industrial Archaeology News*, No. 142 (Autumn 2007) there was a plea for help in identifying the origins of some cast iron water pipes found at the Sutton Poyntz water pumping station at Weymouth. As the pumping station is, very appropriately, the home of Wessex Water's Water Supply Museum, the discovery of pipes with their markings has inevitably aroused much interest.

The Museum believes the pipes were laid by the contractor, John Towlerton Leather, in 1856 under Thomas Hawksley's scheme. Three markings have been found on pipes so far – the initials "R B", "C & C" and "W W". I contacted the Museum's curator to suggest that, from the 1856 date, the first initials might be those from Richard Barrow's works at Barrow Hill. I also asked whether the C & C marking might actually be "C X C" but got the reply that the middle mark was definitely an ampersand. The Leather name occurs quite often in connection with the early railway developments around West Yorkshire and northern Derbyshire, giving the opportunity to become familiar with iron pipe casting capabilities in these parts.

John Towlerton Leather was in fact appointed as Resident Engineer to the Sheffield Water Company in 1831. He had served his apprenticeship with his uncle, George Leather, famous for his work on early railway projects, including the North Midland Railway. John Towlerton maintained his connection with Sheffield Water Works through the construction of reservoirs at Crook's Moor and Redmires. He was also consulting engineer to the ill-fated Dale Dyke Dam, authorized in 1853 and bursting when nearing completion in March 1864 with the consequent loss of about 250 lives in Sheffield.

Leaving aside that background detail, the question now is whether anyone out there has information on the size, style and shape of markings used in this area and whether from the three sets of initials, any suggestions of manufacturers' names can be drawn? Offers and suggestions please to david.wilmot@lycos.co.uk

Robert Stephenson's Conwy Bridge

In 1848, Robert Stephenson completed a tubular box girder railway bridge across the river Conwy, linking Llandudno with the magnificent walled city and castle of Conwy. This railway bridge still carries the North Wales coastal line, and November's *Current Archaeology* magazine contains an article describing a recent survey using a remotely operated wheeled robot camera to check the condition and extent of corrosion inside each of the 150 metre long box sections: 21st century technology to check out this mid-19th century wonder.

The survey showed the internal to be still in very good condition.

This bridge is now (following the destruction by fire some years ago of the Britannia Bridge across the Menai Straights,) the ONLY surviving example of a wrought iron bridge formed of rigid box-girder sections, and it is still carrying rail traffic, with stresses way above those for which it was originally intended.

The Menai tubular bridge burned in the early 1970s when two boys were bird-nesting inside. The bridge was rebuilt as a double-deck, road and rail, girder bridge using the original Stephenson piers. The top deck now carries the A5 across to Anglesey for Holyhead, relieving Telford's Menai suspension bridge of much of its traffic.

If it is some years since you've been to Conwy it's worth a visit; surviving structures of the industrial revolution are few-and-far-between, but quite apart from the bridge, Conwy is a magnificent walled city, largely by-passed by the tourist who make for the more well-known York, Chester or Durham.

Ref: Current Archaeology, No 212, Nov 2007, p. 32-34.

Chesterfield Archaeology Day, Sat 12 January 2008

The Editor has attended Chesterfield Archaeology Day almost every year for the last decade, and what a wealth of information is available at this well attended annual event. It is now so popular, that it almost fills the Pomegranate, with delegates travelling from the neighbouring counties and even further afield, to hear latest news of archaeological studies in our county.

The day consists of a series of fast-moving half hour lectures/ presentations on a host of subjects, covering all periods of history and types of site, and invariably there is some industrial element. This year the subjects include Darley Abbey, Creswell Crags, particularly covering the Palaeolithic cave art, a survey of the NT South Peak Estate, Time Team work at Codnor, and a presentation on colliery housing in the East Derbyshire Coalfield post 1870. A pretty varied programme to interest a wide variety of professionals, amateur enthusiasts and interested locals.

One of the presentations is entitled "Past, present and future: the role of the Derbyshire Archaeological Society" which is sure to raise a few questions.

Registration forms are available at the Chesterfield Museum, Information Centre and Pomegranate Theatre, cost is £8, and £4 for unwaged. Great value, the editor looks forward each year to the event.

..... and Finally ...

... Industrial Heritage at risk !

In November 2007's Heritage magazine, the English Heritage monthly, the EH identifies the most problematic Grade 1 and 11* listed buildings and scheduled ancient monuments which are on their "At Risk Register", and they indicate the cost of stabilising and restoring each.

It is significant that many of these are monuments to previous industrial or transport endeavours, and include:

- **Ditherington Flax Mill**, Shropshire, of 1797, said to be the first iron-frame building, ancestor of later skyscrapers. £5M needed.
 - **Crossness Pumping Station**, Kent, built for Bazalgette, 1865. £3M needed.
 - **Soho Foundry, Birmingham**. The pioneer "manufactory" of Boulton, Watt and Murdoch. £5M.
 - **Abbey Mills Pumping Station**, London. Another Bazalgette structure. £2M
 - **Chatterley Whitfield Colliery**, £25M
- ... and finally..

Wicker Arches, a snip at £1M. Built incidentally in 1848 by Fowler, the designer of the Forth Bridge.

Maybe there is some way that NEDIAS can add our voices to help and push forward the stabilisation or restoration of these major structures.

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Chairman – David Wilmot; *Secretary* – Patricia Pick; *Treasurer* – Pamela Alton; *Membership Secretary/Assistant Treasurer* – Jean Heathcote; *Publicity/Publications* – Cliff Lea; *Lecture Meetings* – David Rance; *Visits Co-ordinator* – Brian Dick; *Archivist* – Pete Wilson; *Committee Members* – Roger Evans; Derek Grindell; David Hart.

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Editor: Cliff Lea, 15 Kelburn Avenue, Walton, Chesterfield, S40 3DG
☎ 01246 234 212
or e-mail cliff@nedias.org.uk.

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