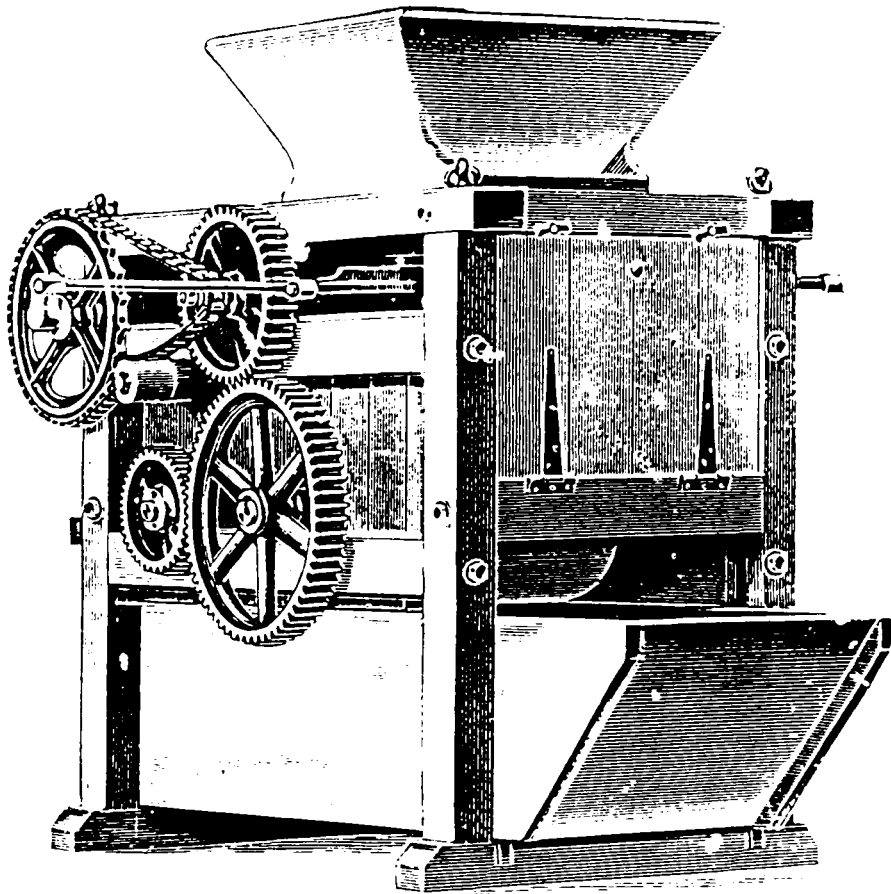


GSIA

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JOURNAL 1995

GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY

JOURNAL FOR 1995

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The aims of the Society: To stimulate interest in, to record, to study, and where appropriate to preserve items of industrial archaeology, especially in the County of Gloucester.

Cover Picture: Power cider mill manufactured by Workman's of Slimbridge.

EDITORIAL

As ever this year's Journal contains a wide variety of papers and my thanks to all of you who make the effort to put pen to paper to provide for others a record of past industrial activities. Without you the Journal could not be produced and it is important that work undertaken is published so that it becomes more widely available. This enables a wider understanding of many subjects to be promoted. So, please keep on sending in articles.

This year's papers include more of Brian Edwards work on the munitions industry. Likewise, Ray Wilson has produced the final part of his work on Stroudwater Canal Cranes. Arthur Price has contributed an important record on Frank Simmonds quarrying and building career. Such recording of oral history is very important. Stephen Mills has contributed an interesting paper on Stroud pin makers. Other local industries are represented by Ray Wilson's work on the early electricity supply at Stroud and Mr Southgate's record on Van Moppes. Partly over the county boundary is the article on the Herefordshire and Gloucestershire Canal and the efforts of the Canal Trust which demonstrates what determination and hard work can achieve.

GSIA continues to thrive and is always aiming to increase its membership. This year a questionnaire was issued to find out what members thought of various matters, including the Journal. The replies have provided useful information and hopefully next year the Journal will reflect this. A new venture this year was the autumn Stroud lecture series which proved very popular and is well reported by Ray Wilson. The visits continue to thrive and Tony Youles has worked hard to provide an interesting series of lectures.

As ever, there are developments in the planning line and one of the big developments is Longford's Mill. GSIA will continue to monitor planning applications and comment as appropriate.

Finally mention must be made of the financial, and result staff, cuts at the Royal Commission on the Historical Monuments of England during the past year. The grant for English Heritage has been reduced too. Such cuts affect all the historical periods of the work undertaken by these two bodies and industrial archaeology will be affected. Time will tell to what extent and how adverse this will prove to be.

Amber Patrick

My thanks to all who have helped with the production and proof reading of the Journal, and in particular to Ray Wilson.

STROUD LECTURE SERIES AUTUMN 1995

Ray Wilson

A steady decline in the number of people attending the winter lectures at Stroud in recent years meant that some action was called for. The Secretary, Ray Wilson, put forward the proposal that for just one year the Society might run its own series of talks on the industrial archaeology of the Stroud

District. It was hoped that this might attract a following due to the local interest. Also, it was hoped that some people might be sufficiently interested to come to a series of five talks after Christmas which followed the usual format.

A programme was arranged which covered a general introduction, the mill buildings, engineering, transport, woollen cloth manufacture, public utilities and other industries. Two case studies were included in the form of the mills in the Eastington area and HJH King the Nailsworth engineering firm.

Attendance far exceeded our expectations with over 50 on the register. The charge was modest at £10 for the six meetings but nevertheless a healthy surplus was realised. This has enabled the Society to buy a laser printer to improve the quality of all our printed output.

By popular request two walks were arranged to show some of the sites discussed in the meetings. Despite a very wet November afternoon and a very cold December afternoon the walks at Chalford and Wallbridge area of Stroud, respectively, drew more than 20 people in each case, plus a trainee guide dog. Several people have now joined the Society as a result of these activities.

The speakers were Stephen Mills, Jim Simmons, Harry Townley, Ray Wilson and Tony Youles from GSIA. They were joined by Jack Marshall who had long associations with Stanley and Ebley Mills. Our thanks to all those who made this a very successful and worthwhile venture.

THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

Amber Patrick

The AIA organised the usual two conferences in 1995. The first was the working week-end at Ironbridge and the theme was Coping with the Closure of Major Industrial sites. The talks included the records of the coal industry, ICI's chemical works at Billingham and the car making industry. This year's annual conference was held at Sheffield. Before the main conference was a most successful seminar on current research and thinking in industrial archaeology. There was the usual variety of visits to museums such as the Sheffield Industrial Museum at Kelham Island and to working sites such as the Asvesta Cyclops Works, a working steelworks. The AIA produces IA News and the Industrial Archaeology Review. If you are interested in joining any of the AIA's activities, please let me know.

SUMMER VISITS 1995

The society's thanks go to Jim Simmons and Ray Wilson who again organised a full programme of visits. They have provided the following reports.

Herefordshire and Gloucestershire Canal Walk

Saturday 11 March

The date said spring, but the weather did not! However lowering skies and continuous drizzle did not succeed in damping the interest of the 31 members who took part in our first outdoor event of 1995.

Mr Nigel Jeffery of the Herefordshire and Gloucestershire Canal Trust met us at Oxenhall and led us along one of the still readily recognisable sections of the Canal.

We first went "downstream" past the sites of two locks as far as the Ell Brook aqueduct, which is still standing despite its apparently crude arch construction and loss of facing stones.

Just upstream from the aqueduct we could see the abutments of the railway which superseded the canal.

Alongside the upper lock is the lock house built later than the canal. This is now badly vandalised, but some members could remember its use as a week-end cottage.

Retracing our steps we then crossed the road and followed a progressively more muddy towpath along a length of canal recently restored by the Trust. At the end of about half a mile we reached the southern end of the Oxenhall Tunnel. The portal is being restored and we saw a restored blind-ended short tunnel, believed to have been a shelter for horses. Mr Jeffery gave us an interesting description of the financial problems of constructing the canal and the particular difficulties of constructing this tunnel. He also read us reports of a "right of way" dispute which resulted in some boatmen spending several days in the tunnel.

We thanked our guide and then returned home to dry out.

ULEY MILLS WALK

Saturday 1 April

Nearly 40 members and friends gathered appropriately enough at the Rack Field car park at Dursley for a walk looking at mill

sites between the town and Uley. Sixteen mills were considered although no traces remain of some of them. Nearly all had some connection with the woollen cloth industry. Our leader was Ken Dunn, a member of GSIA who lives at Rockstowes which was on our route.

The first site where there were significant remains to be seen was at Howards Upper Mill. This was once a pin mill is now unoccupied awaiting conversion into dwellings. Passing the sites of Townsend's Mill, New Mills and Rivers Mill we arrived at Dursley Mill (now Mill Farm). The mill building remains although it is now used as one of the farm buildings.

The next stop was at Wresden Farm (formerly Eyles Mill). This is a very old site and it is reputed that John Eyles was the first in the Uley valley to make Spanish stripe cloth in the seventeenth century. The buildings bear the date 1687.

At Rockstowes mill two cottages and a former wool warehouse survive all now used as dwellings. Here we were greeted by our leaders wife Pat who very kindly provided coffee for the whole party.

Moving on we could note the changes at Marsh Mill since a visit some years ago. The old sluice gate machinery has now gone and a large modern house has been built alongside the mill pond.

The last main stop was at Dauncey's mill. This is another particularly interesting site and the buildings date back to the seventeenth century. A large breast shot wheel remains in situ and the remains of a stone circular wool drying stove lie by the pond.

It was a very pleasant walk along the valley bottom through open countryside to the site of Shepherds Mill. This was once the largest mill in the valley. It is said that 1000 persons were put out of work in 1837 when the owner Edward Shepherd became bankrupt. Today just three of the many buildings survive and these are now all dwellings. The two mill ponds that have been reconstructed in recent years could be seen as we walked up the hill to the Crown Inn. Here we thanked Ken for a most interesting walk. Many of the party took their lunch at the Crown thus rounding off a very pleasant morning.

VISIT TO KIDWELLY AND THE SWANSEA AREA

Sunday 7 May

Our first trip of the season attracted the customary good turn out with 48 on board. We were soon across the Severn Bridge heading for Swansea.

We stopped first at the reserve store of the Swansea Maritime and Industrial Museum. This is housed in a remaining building of the Hafod Copper Works. They were started in 1810 and operated in some form until 1980 when they were the last copper works of the many to operate in this area. Inside the store we found a glorious collection of artefacts stored in three tier racking and had great enjoyment in identifying what we saw. There were also several old vehicles awaiting restoration including a horse bus.

This was followed by a tour of the surviving buildings. These included two engine houses which still retain parts of their engines. These were used to drive the rolling mills and date from 1860-62 and 1910. The tour extended to the Morfa Copperworks site which was combined with Hafod in 1924. These buildings are all that are left of what was the area's largest industry. It was apparent how much of the surrounding area had been cleared.

We then took the coach to Swansea Docks and went our own ways for lunch. Many of us took the opportunity for a brief visit to the excellent Maritime and Industrial Museum. Among the exhibits are galleries devoted to copper and a good working woollen mill. The latter is something we should have in Gloucestershire. The floating exhibits are a steam tug and a light ship. This museum is well worth an extended visit.

We made the 15 mile journey to Kidwelly to visit the museum of the tinsplate industry. Tinsplate manufacture was started here in 1737 and continued until 1941. We could trace the various stages in the production of tinsplate although the pickling and tinning baths have not survived. Very impressive was the large vertical compound Foden steam engine which drove the hot rolls and shears. There is also a fine horizontal steam engine which drove cold rolls. As usual, on such a site, there is a collection of other industrial relics, including a colliery winding engine and several locomotives. A Sisson technical college engine provided local interest for our members.

A short diversion on leaving the museum gave us sight of the very fine Norman Castle at Kidwelly and then we set off for home.

BURLEIGH STROUD, STONE MINE TUNNEL AND MILK BOTTLE COLLECTION

Tuesday 24 May

Both the objects of this visit might be termed unusual and here we had them on the same premises. Michael and Naomi Hull bought their home with a 138 foot stone lined tunnel running into the hillside but the milk bottles are entirely their own doing.

Some 26 members and friends gathered on a perfect May evening and were conducted round by our hosts. The precise history of the tunnel is unclear but it is believed to have been constructed to provide access to a quarry. The stone lining was clearly built in several sections, each a few feet in length. At about midway along its length a small spring runs continuously. The tunnel is blocked by rough walling at the far end and at the top of this wall a distinct current of cold air can be felt. Looking up at the junction of the roof and the end wall a gap is apparent and beyond that a void several feet high can be seen.

The milk bottle collection numbers about 1400 and fills three rooms. There are examples from most parts of the British Isles and many foreign countries. There is a large variety of sizes and shapes. Most bore details of the dairy but some had pictures, advertisements or witty inscriptions or even musical scores. The development of the bottle closure was demonstrated and the improvements in hygiene. We all felt we had learnt a lot about something we normally take for granted.

Ray Wilson gave the vote of thanks and presented the Hulls with a most unusual bottle delivered to his door. This showed an advertisement for the opening ceremony of a new classroom at Overbury School, Worcestershire just three days after our visit. It also bore an attractive picture of a maypole and even the new style telephone code with a "1" inserted.

NORTHCOT BRICKWORKS, BLOCKLEY

Thursday 8 June

Once brickworks were to be found wherever there was suitable clay. This was necessary when transport was limited to the horse and cart. Today there are only a couple of working brickworks in Gloucestershire.

One of these, Northcot Brickworks has operated in basically the same fashion since it was started in 1925 by Lord Northwick. Twenty members were given an excellent tour by the manager Mr Brian Warby who had worked there for thirty years.

First we went to the clay pit where the different strata of brick earth were clearly visible. Standard earthmoving equipment is used to dig and load farm tractor/trailer combinations which bring three to four tons of clay at a time to the plant. The clay is tipped into an input hopper where it is screened to exclude fossils. It then passes through grinding rolls and mixers to the pug mill from which a continuous bar of plastic clay is extruded. Sand or other agents are sprayed on to give the appropriate surface after firing. The bar is cut into lengths and these are divided by

wires to produce brick sizes pieces. These are lifted onto a pallet by an automatic stacker and moved to the drier. Here they remain for seven days at a temperature of about 37°C heated by hot air which has been passed over the bricks cooling in the kiln.

The kiln is a modified Hoffman type now fired mainly by gas but a certain amount of coal is still dropped in through a firing holes in the roof. We were able to look down through one of these holes to the fire below. Also through these holes a measuring stick is lowered onto the bricks before firing. It is also lowered onto the bricks during firing and experience has shown that after four inches of shrinkage of the stack the firing process is complete. After firing at about 1000 °C the bricks cool for about nine days after which they are removed and dipped in water to slake any stray inclusions of quick lime which may have resulted from fossils in the clay.

It is very pleasing that these works can survive today even in a recession because of the distinctive product, which is different from the standard output of the large manufacturers. Northcot brickworks can accommodate special designs relatively easily and we saw two men hand moulding "specials". Today only approximately 3.5 billion bricks are produced a year compared with 7 billion a year in the 1980s. Northcot brickworks produce a mere 11 million of these per year and in the present climate it holds this number in the stockyard.

LOWER BALLS GREEN STONE QUARRY, MINCHINHAMPTON

Sunday 18 June

This was a rare opportunity to explore these old underground stone workings by kind permission of the owner, Mr Claude Hankins. Our committee member Chris Bowen led two groups of twelve during the morning.

There is considerable uncertainty about the early history. The product was a very fine freestone. It is known that just before World War II a considerable amount of waste stone was removed for use in the construction of Aston Down Airfield.

To enter the quarry, we had to squeeze through the small gate in the grille, erected across the entrance by the bat preservationists.

We worked our way along the roadway having to negotiate some falls of rock. We found a few rails and a couple of trucks in the roadway which are believed to date from when waste material was taken for Aston Down. The passages that led off on each side showed how the stone had been won using the pillar and stall technique. Some of the passages had been partly filled

with huge stacks of unsuitable stone. At the end of the roadway there was plenty of evidence of partly worked stone slabs and lintels. This quarry unlike Upper Balls Green does not have a crane in-situ at the end, although a small winch was seen.

There was plenty of evidence of the method of working like Lewis Holes, drill holes and powder marks. Some graffiti was seen, mainly calculations.

We were very grateful to Chris for arranging and leading a most interesting visit.

VISIT TO SHEFFIELD

Sunday 2 July

Our midsummer coach trip is the one where we go furthest and this year we got to Sheffield.

An excellent run up the motorways brought us to Kelham Island Industrial Museum by 11 o'clock. We knew we had arrived when we saw the massive steam hammer and Bessemer converter at the entrance gates. We then enjoyed the extensive collections and displays which cover the iron and steel and cutlery trades. Other facets of the City's industries are also on display including transport.

The dominant exhibit is the River Don rolling engine. This was developed for rolling armour for battleships. In contrast to this many of us will also remember the penknife with 365 blades. This is certainly a venue that merits a return visit before too long.

After lunch we were joined by Derek Bayliss and his colleague from the Sheffield Trades Historical Society who led a walk starting from the museum. Our impression of the industrial area was that most of it had been re-developed. However, our guides were able to show us how many factories had in fact survived and are still in use albeit for different purposes. We also saw a small preserved cementation furnace which produced blister steel from wrought iron.

Our second visit was to the Abbeydale Industrial Hamlet on the south west outskirts of the City. This is a preserved edge tool works specialising in scythes. The complex is set in an attractive wooded valley with a very large mill pond which powered several water wheels. The crucible furnace where hardened steel for the blades was produced is preserved. A strip of crucible steel was sandwiched between two similar strips of wrought iron to form the starting point for a blade. This was forged into the appropriate shape by water powered trip hammers. The tool was then sharpened on a water powered

grindstone and a handle fitted. Various buildings on site housed displays of living conditions in the hamlet and exhibitions of Sheffield trades.

From here it was a short journey to the M1 and our way home.

DAY WALK IN SOUTH WALES

Sunday 16 July

Only four people took up John Foley's invitation or was it a challenge to a full day's walk over Mynydd Llangynidr. After a rendez-vous at Ross-on-Wye the small group of John Foley, John Berry, Frank Colls, Ian Pimlott and Ray Wilson travelled on via Abergavenny to Talybont-on-Usk. Here we took a quick look at features on the Brecon and Abergavenny Canal before setting off up the track bed of the Brecon and Merthyr Tydfil Junction Railway (1863-1964).

It was a glorious day for such a walk and the steady climb soon revealed views of the Talybont reservoir to the west which was built in the 1930s. Two miles above the site of Pentir Rhiw station and by now beyond the head of the reservoir we veered across the open moor. Our route was south west in the direction of Trefil quarries some four miles distant. These had supplied limestone as a flux for the Ebbw Vale steelworks. Even more of a target was the Tafarn-Ty-Uchaf (The Top House) pub just beyond the quarries. Here we took suitable refreshment to fortify us for the long, albeit mainly down hill return journey.

First of all we looked at the remains of Trefil and Cwar-yr-Hendre quarries and debated the precise highest point on what is now a tarmac road as this was the highest point achieved by standard gauge railways in Great Britain. Very soon we had picked up the line of the Brynoer tram road (1815-65) which we followed as it hugs the hillside back down to Talybont-on-Usk. We were surprised that even today some half buried remnants of broken rail could be spotted. All safely back we thanked John for what had been a most interesting and enjoyable 18 mile tramp.

VISIT TO RENISHAWS, NEW MILLS, KINGSWOOD

Thursday 25 July

So popular was the first visit that a second had to be arranged so that a total of 24 were able to visit Renishaws. Our host on each occasion was Michael Sykes, Renishaw's Group Public Relations Officer.

The site was once a cloth mill and the main building dates from 1810. Later it was used by Tubbs Lewis for narrow fabric weaving and for the production of elastic. Today it is the home of one of the most successful small companies in the country. The firm specialises in the development and manufacture of the most up to date and advanced metrology equipment. Their products are used in manufacturing plant throughout the world wherever machining to fine tolerances is required.

The company have restored the 1810 building about ten years ago to a very high standard. New research and manufacturing centres have been unobtrusively built on the site and provide state of the art facilities. Our tour round this part of the site revealed the enormous changes in engineering production in recent years.

SOCIAL EVENING - A WALK ROUND GLOUCESTER

Thursday 10 August

About 30 members and friends met our guide Philip Moss at the Cross. We then had a most interesting walk which started with a look at the court yard of the New Inn and then took in Westgate Street and the Cathedral precincts.

We learnt how many of the present buildings were much older than their present facades suggest. From the alleyway down the side of The Bookshop we could look up at the jettying of this medieval building.

In recent years Westgate Street has been pedestrianised and this has enabled the City Council to mark the outlines of the two medieval churches and other buildings that were formerly in the roadway. In addition attractive mosaics have been placed in the pavement at the entrances to the various alleyways. These depict the crafts and industries carried on in each alley.

We thanked Mr Moss for an excellent tour and in the usual tradition of the social evening adjourned to a nearby pub.

VISIT TO STANLEY MILL

Sunday 3 September

A visit to this very important mill is always interesting and this was particularly true in the light of the recent building works. Our leader was Ken Southgate who has been researching the history of the site. Also, we were very fortunate that Mr Mark Griffith whose family own the mill came along to act as our guide. Over the years we have made several visits to

Stanley Mill and in fact it was the venue for the first ever GSIA visit in 1963.

English Heritage have provided half a million pounds and part of the mill has been re-roofed including some very fine leadwork. The five tailraces which pass under the "pillar" building have been cleared out and are structurally sound.

Outside we walked round the extensive mill pond and then examined the water courses and the now blocked wheel intakes.

We thanked our leader and host and speculated on what the future might hold for the site.

VISIT TO SHREWSBURY

Sunday 1 October

Our final coach trip of the season attracted a good number of members and friends. Our outward route was the M5 to Worcester and then the A449 to Kidderminster and on to Shrewsbury via Bridgnorth.

The first stop was at Coleham Pumping Station which for many years transferred sewage from central Shrewsbury to the treatment works further down the valley. The station opened in 1901 and the Trust now renovating the buildings and plant was formed in the 1980s. The two pumps were driven by Renishaw compound rotative beam engines. At present the main effort is concentrated on just one of these. It is hoped that it will be in steam again in the near future as it is believed that one of the boilers is suitable for further duty. The Trust has also gathered an interesting collection of artefacts mainly relating to the water and sewage industry. Trust members gave us a warm welcome and entertained us to coffee.

We left the works on foot and crossed the river Severn by the nearby footbridge. The towpath was followed downstream under English Bridge. This is an elegant stone bridge designed by Sir John Gynne about 1768. Continuing along the towpath we passed under three distinct bridges which now carry part of the Shrewsbury Railway Station above the river. Climbing up the steps from the towpath we came to Telford's County Gaol which is still in use. We looked over the railway station and down onto its fine facade. Here by the site of the old castle we dispersed for lunch.

Re-assembling we took the coach to the north of the town to Ditherington and visited the celebrated Flax Mill latterly used as a maltings. Here we were met by Dr Barrie Trinder who explained the history of the site and then took us on a comprehensive tour. The mill dating from 1796 was the first

"fire proof" mill, using cast iron columns and beams with brick jack arched floors. The building is due to be converted into mainly residential use, but many of the historical features will be preserved.

Dr Trinder then took us on a short walk partly along the line of the Shrewsbury Canal. We saw the site of another large maltings, the only remaining portion is now a terrace of houses. One of these sports an original cast iron column in its living room.

The next stop was at Atcham where we walked on the old bridge. This is a late 18th century seven arched humped backed stone structure also designed by John Gynne. The brief final stop was at an even more famous bridge that at Ironbridge. From here we crossed the Severn yet again on the new Jackfield Bridge and proceeded to Bridgnorth and home.

VISIT TO FROMEBRIDGE MILL

Saturday 14 October

Very little has happened to the mill since planning permission was granted a few years ago to convert it to leisure use. Most of the cottages nearby have now be renovated and it was considered an opportune time to re-visit this exceptionally interesting site before the inevitable changes come.

To avoid disrupting the new residents we met at the layby near M5 Junction 13 and walked over to the mill. Our guide was Stephen Mills and the party of 24 made a thorough exploration of the various parts of the building. As ever, the milling and mixing machinery attracted particular interest. Every effort must be made to safeguard this whatever developments occur.

Clearance work on the mill race has made the turbine and old water wheel more visible. Recent information suggests that the wheel, now semi-derelict was used to drive a saw bench within living memory. The turbine is still operable and drove the milling equipment.

GSIA have been involved in the rather slow negotiations regarding the future of the site and will continue to take an active interest in any proposals. We are currently represented by Stephen Mills who was thanked for showing us round.