Winter 2018

TOUCHPAPER

The Newsletter of the Royal Gunpowder Mills Friends Association

Nationalisation or Privatisation?

John Bowles

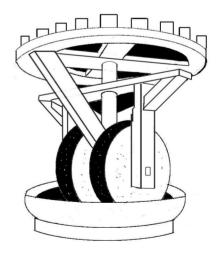
The Thirtieth Anniversary

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Ponder End Shell Factory

Allen Clarke and his Daughter Ann



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Officers of the Friends Association

Chairman

Dave Sims 8 Norman Close Waltham Abbey Essex EN9 1PY

Treasurer

Ron McEvoy 6 Lea View Waltham Abbey Essex EN9 1BJ

ronaldmcevoy@btinternet.com

Secretary

Len Stuart 13 Romeland Waltham Abbey Essex EN9 1QZ

Membership

Friends Association Royal Gunpowder Mills Beaulieu Drive Waltham Abbey EN9 1JY

All enquiries relating to this newsletter and articles should be addressed to:

Brian Clements 56 Park Road Enfield EN3 6SR

wargmfa@btinternet.com

Deadline for the next issue is 22nd February 2019

Chairman's Chat

How did I get this job?, I must have been asleep when volunteers were required. Anyway as your new Chairman I will fill you in about the latest happenings on site. Because of the uncertainty earlier in the year the site closed rather early this year rather than continuing until the end of September. Summer holiday attendance was considerably down on previous years possibly because it was so hot, remember? We did manage some rocket Wednesdays which were well received, admittedly with a few minor mishaps. John's miniature railway did well and the first fare paying passengers were carried on the big railway. Guy Fawkes celebration went well , the target attendance was 4000 and we managed 3500. The education section are now starting the last activity of the year, Victorian Christmas for schoolchildren.

The friends on site have been busy removing the felt covering from the panels on L157 to make it look a bit more presentable. Latest news is that at last funds have been provided to re-roof all the remaining mills buildings on the Mead and work should proceed shortly. At least this will make the place look less dilapidated. BC and DS have been busy starting to cosmetically restore one of two old railway carriages now parked opposite the Main Lab. These are to act as pedestrian shelters whilst people are awaiting the trains.

Your committee have recently purchased a new chopsaw for the workshop and gifted it to the Mills. The old saw no longer met H&S requirements. It is certainly an improvement over the old saw.

Since this is the last issue this year may I wish you all a Merry Xmas and a Happy new year.

Dave Sims

Editorial

Another year is nearly over so enclosed with this issue you should have a renewal form. Please fill in the form, especially remember to sign the GDPR declaration which we need in order to store your details without which we cannot contact you!

When you get your new diary for next year make a note of the date for the AGM/Social event, May 10th. Further details will appear in the spring issue, this is just an advance warning so that you can keep the day free, we look forward to seeing as many of you as possible.

The good news in this issue is that we have no obituaries; the bad news is that once more we have no letters. There is a group photo with a request for names. Please if you do have any ideas do take a little time to contact us, if you use email the cost should not be a problem although I agree the cost of a stamp does make one think twice before writing letters.

This time we have no Nature Column or extract from Jim Burgess's book, hopefully these will return for the spring issue. Please consider writing something yourself while relaxing over the Christmas break.

We wish you a Merry Christmas and a Happy New year.

Brian Clements

Nationalisation or Privatisation?

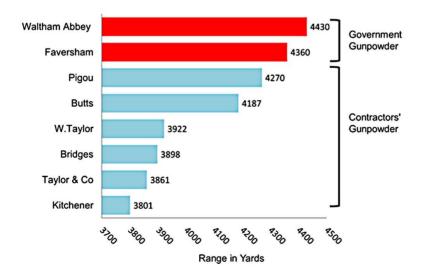
During the 1980's and twenty years thereafter privatisation was very much in vogue in the Ministry of Defence and elsewhere. The Dockyards, the Royal Ordnance Factories, the Atomic Weapons Establishment and latterly the Research and Development Establishments all succumbed in the belief that the private sector offered better value for money and efficiency than Government ownership. Well maybe in some instances it did, but not always. Turning the clock back over two hundred years, the converse turned out to be true.

Back in the 1700's, the government of the day was determined to privatise one of its manufacturing plants for explosives; the Faversham Powder Mills, but the move was blocked by William Congreve, later to become the Comptroller of the Woolwich Royal Laboratory. He argued that the privately owned concerns "have had such a prodigious profit allowed them, and yet the merchants left the job in the hands of artful but ignorant foremen, who probably made a very considerable profit by their masters' inattention". Harsh words! Faversham remained in government hands, and as we all know, Waltham Abbey was nationalised in 1787.

Congreve spent £50,096. 13s. 5d. in repairs and improvements to the Mills at Waltham Abbey and production rapidly rose from 15,063 to 20,401 barrels a year, but he remained under political pressure to return the mills to private hands. In 1811 he produced what would now be called a cost-benefit analysis, titled "Statement of facts relative to the savings which have arisen from manufacturing gunpowder at the Royal Powder Mills [Faversham and Waltham] and the improvements made since 1783". In this paper he presented a table showing how his investment in the two mills had resulted in a huge long term saving of over a million pounds to the government of the day. A précis of this table is shown on page 4.

Item	Number of Barrels (100 lb)	Saving		
		£	S	d
Difference in cost between manufacture at Waltham Abbey and Faversham and price charged by contractors	407,408	288, 357	6	0¼
Recovering the strength of gunpowder at Waltham Abbey and Faversham	127,419¾	53,091	11	3
The improved strength of the gunpowder and the consequent reduction in the amount needed to achieve a given effect	371,880	619,800	0	0
Extracting saltpetre from unserviceable gunpowder	173,993	31,048	10	9
The issuing of refined sattpetre to the merchants instead of giving it to them in an impure state as formerty	241,980	27,222	15	0
TOTAL		1,019,520	3	0¼

He went on to demonstrate the improvement that he had achieved in the performance of gunpowder from the Government mills by arranging a competitive shoot-out at Marlborough Downs whereby he took a 10 inch shell fired in a mortar with a 9lb gunpowder charge and compared the distance that the shell travelled using gunpowder from differing manufacturing sources. The results are shown below:



The figures spoke for themselves. He went on to say that "....and this has been the great object of the Comptroller not to deprive the contractors of their employment or of their profits, but to make them do their duty – to improve as much as possible the powder made at the King's Mills – and to compel the merchants to imitate these improvements, for which purpose they have access to the King's works whenever they please". In other words that he was more interested in technology transfer than in any dogma about nationalisation or privatisation.

He did not try to nationalise any more of the numerous mills that were in private hands at the time, arguing that "....It is only necessary further to state, that in consequence of the powerful condition of the King's Mills, so great a quantity of powder is manufactured by the Ordnance themselves, that they are enabled to keep the contractors in order, both as to price and to the quality of the powder received from them". In summary he wanted to exert just enough leverage over the private mill-owners to make them toe the line, but no more. The rest, as they say, is history; Waltham Abbey thrived.

Back in 1993 I gave a talk to the Defence Scientific Advisory Council and told them this story. The Chief Executive of the Defence Research Agency, recently imported from the private sector, was not best pleased. We did not get on in any case and I was fairly quickly moved to another post in MOD. I was unrepentant and to this day I believe that in many instances our forefathers were a bit more far-sighted than we are!

Geoff Hooper

John Bowles

On a very wet afternoon on Saturday 6th October last, a large group of volunteers, Operating Board Members and most important of all, Rachel Bowles and her family attended the unveiling of the Baguley locomotive in honour of John H. Bowles, a long serving member and Chairman of the Operating Company and a staunch supporter of both the 7 ¼" gauge and 2' 6" gauge railways at the Royal Gunpowder Mills.

The proceedings started off with Grahame Browne welcoming our visitors and talking a little about John Bowles' input into the railway. This was followed by Jenny Freeman our Operating company Chairman, who reminisced about her work with John both at the Mills and in other charities with which they were involved.

Finally Rachel came forward and unveiled the new nameplate to much applause.

It had been planned to give rides on the train, but sadly this had to be cancelled as the weather was so bad.

Many thanks to Grahame and his team, for all their hard work in planning the event, and a special thanks to Laurence Burnett and Paul Goldsworthy, who toiled away over hot barbecues to keep us all fed.

John Wilson



Grahame Brown Welcomes Guests



Jenny Freeman



Rachel Bowles Unveils the nameplate



Paul Goldsworthy & Laurence Burnett cooking the barbeque

The Thirtieth Anniversary

This year marks the thirtieth anniversary of the start of the process to close down what was then RARDE Waltham Abbev and move the work and the people to Fort Halstead in Kent. At that time I had an office in both Waltham Abbey and Fort Halstead, so I had a perspective on what was going on in both camps. Much has been written about what events looked like from the Waltham Abbey viewpoint, so I thought that it might be instructive to look back and see how things looked at that time from the Kent eyes. It should be remembered that whilst the folks at Waltham Abbey were for the most part not "totally spiritually committed" to the wisdom of uprooting and moving to Kent, similarly the folks at the Fort were not best pleased with the dust in the summer, mud in the winter, noise and disruption caused by the huge building programme needed to accommodate the Waltham Abbey tribe, so a bit of PR was needed to placate both sides. Therefore in Spring 1991 I wrote an article for "RARDE News"; the house journal of the day, to set out my thoughts on what the move was all about, and why. This was in order to try to placate both sides - probably in hindsight none too successfully! The following is an edited extract from that article, written shortly before site closure and looking optimistically to the future.

A New Chapter in the History of RARDE Waltham Abbey (RARDE News - Spring Issue 1991)

The key event which cast the die for the future of Waltham Abbey was the decision by the government in 1983 to privatise the Royal Ordnance Factories, and as part of that privatisation to give them a research and development capability in propellants and rocketry. Thus in 1984 the assets of Waltham Abbey, the staff, the equipment and the real estate were divided between the Ministry of Defence and what was to become Royal Ordnance (RO) plc. Two thirds of the staff, for the most part those engaged in process development, went to the embryo company, which acquired the South Site of the establishment. The remainder, principally undertaking the fundamental research, became part of RARDE, as did the North Site of the establishment, the original home of the gunpowder mills. Following the privatisation of the factories in January 1985, RO became part of British Aerospace, and the company undertook a process of site rationalisation, with the Royal Ordnance Research and Development Centre at Waltham Abbey being dispersed to the company's various production facilities at Bishopton, Bridgewater, Glascoed and Chorley.

At that time most of the RARDE scientists were working in the MOD-owned North Site, however some of the key facilities lay on the South Site, on RO-owned real estate which RARDE leased from the company. In 1987 we were served with notice to quit the South Site in preparation for its sale by the company as part of its site rationalisation programme, which also included the closure of the adjacent Royal Small Arms Factory and its relocation to Nottingham. The issue was simple; should we abandon the work being done at Waltham Abbey (this was seriously considered), or move?

Essentially it was a "no-brainer". Synthetic chemistry was going through a significant renaissance, and as so often in the past the pioneering work came from Waltham Abbey. A whole new branch of chemistry was opening up which could offer the Armed Services weapons which were more effective when called into action, but safe at all other times. Along with this the Waltham Abbey scientists were making breakthroughs in understanding, and more importantly controlling, the ageing process in weapon systems, thus extending their safe serviceable life with huge attendant savings in costs for the customer. The breakthroughs were the most significant that had been achieved for decades, so it was essential that the work should carry on. Therefore, investment appraisals, surveys and studies were carried out to determine the best way forward. The solution endorsed by the then Under Secretary of State for Defence Procurement (Timothy Sainsbury) in March 1988 was the relocation of RARDE Waltham Abbey to Fort Halstead.

Recognising the critical importance of the Waltham Abbey work to the needs of the Armed Forces, the Chief of Defence Procurement (Peter Levene), with Treasury (Nigel Lawson) blessing, approved the plan and with it the £25M necessary to implement it. That plan included the construction at Fort Halstead of building A28 (on the site of the Gardening Club hut which had succumbed to the Great Storm of 1987), where new and exotic chemicals will be produced, hence the positive profusion of chimneys. Building X48 is the largest of the new buildings and is scheduled to contain the majority of the Energetic Materials Chemistry Division from Waltham Abbey. It is concerned with the utility of new materials and understanding the principles of how they behave. Other smaller new buildings have been constructed and many existing buildings refurbished not just for the Waltham Abbey staff, but also for the current Fort Halstead staff, since the influx of three Divisions from Waltham Abbey has presented the opportunity to rationalise and improve the efficiency of other buildings on the site. Indeed a number of the refurbished buildings are now housing staff already transferred from Waltham Abbey and Westcott to enable our equally important programmes on rocketry and materials science to be continued and strengthened.

How will Waltham Abbey staff fit in? In a sense this is a poor question since they have been part of RARDE for the past seven years. Perhaps a better question would be how will the expected improvements in operation and interaction manifest themselves? The main advantage is that the vital flow of ideas will be greatly improved from collocation. If the various research groups are colocated rather than 40 miles apart then effective feedback is facilitated. Getting the organisation right is a fundamental part of the exercise of accruing the most benefit from the new facilities and their close proximity to the users and their products. Advantage was taken in the October 1990 reorganisation of RARDE to structure the Explosives Engineering and Terminal Effects (ET) Group so that from a technology viewpoint there was a coherent and efficient pathway down which ideas related to new energetic materials could flow.

So in summary there are several far-reaching consequences of the relocation of RARDE Waltham Abbey to Fort Halstead. Foremost amongst these has to be the increased efficiency in the generation and application of new energetic materials. Waltham Abbey staff



Dr. Geoff Hooper and Dr. Steve Pike in front of one of ET's new buildings.

will bring to bear their impressive pedigree of ability and expertise in some of the finest facilities of their kind in the world. Fort Halstead staff with their equally impressive but more diverse skills will get better things to work with, and hence be able to realise more ambitious goals technically. Finally RARDE will benefit from a coherent integrated operation which will be uniquely well placed to take on the challenges of the Defence Research Agency and to provide the customer with what he wants. From a Package Management point of view the clean organisation should go a long way towards straightening and shortening the communications trees, with a welcome reduction in the associated paperwork mountain.

Post-script (looking back 27 years)

In hindsight, were these lofty aspirations achieved? Well probably not. The Nineties saw a period of yet more change, with the Defence Research Agency (DRA) becoming the Defence Evaluation and Research Agency (DERA) and then very shortly thereafter the organisation being split to form on the one hand the Government-owned Defence Science and Technology laboratory (DSTL – a quarter of the staff) and on the other hand the private company – QinetiQ (three quarters of the staff). Government work on energetic materials was greatly reduced in scale, but then the threat was changing and with it the military requirements. Most of the staff at the Fort are now probably (but not definitely) on the move again, to Porton Down and elsewhere. Watch this space for further updates.

Geoff Hooper

Memories of Christmas past

Christmas was a time for converting the tea club profits into alcohol and the fisheries lab in Lowerstoft was no exception. One year, in the 1950s, one group bought a bottle of whisky and a bottle of ginger wine and put them in a wooden cupboard. A six inch nail was used to seal the front door of the cupboard (to prevent any early sampling). Unknown to one member the back of the cupboard was removed and the whisky replaced by a refill of ginger wine. On the opening of the cupboard by removing the nail everyone agreed that it was a fine drink apart from the one who was unaware of the substitution and was convinced he'd lost his sense of taste!

After leaving the Fisheries lab and before I arrived at Waltham Abbey I worked in the Lowerstoft Post Office to earn some money as a student sorting Christmas mail. One fellow worker promised us all a sausage roll on the last night of our employment. To our surprise she presented each of us with two rolls. One was genuine but the other was filled with string!

The following year the gift was two mince pies so I treated these with much suspicion, and lifting the lids of the pies showed one was ok but the other was filled with cotton wool!

For Christmas 1962 when I lived in the Lock House with Dave Parker and Tony Barratt we had running water supplied through an unlagged iron pipe. The water froze and eventually thawed on March 25th; that was a cold winter!

At another Christmas one scientist (who shall remain nameless) renowned for his unruly hairstyle, attended the Christmas party with immaculate hair that remained so all night. On the following Monday his PA had to ask how this was achieved. The answer was 'Polycel'! The most alcoholic pre-Christmas celebration was either 1966 or 67 when the combustion group were driven from P742 to the Wellington pub by Margaret Williams. Obviously Geoff Williams was with us and Bill Mackinson. I forget how many of us climbed into the van but it was quite crowded.

On arrival at the Wellington we had a sherry before the meal, wine with the meal and several rounds of liqueurs after because Bill Mac kept shouting 'another round of liqueurs'!

Back at P742 we consumed the tea fund whisky and sherry. Finally one or two stalwarts boarded a bus to get to the north site Christmas party where one person (anonymous) was told that he really enjoyed himself – but he couldn't remember a thing!

Now you know why I always refer to the run down to Christmas!

Bryan Howard

Congratulations to fellow retirees Bob Brown, Chris Evans and Kim Henshaw who completed 29 years of retirement on November 30th 2018.

Bryan Howard

Please make a note of the date for next year's AGM/Social Event to be held on site on

10th May 2018

Industrial Archaeology / Heritage – 'Dip into' Miscellany

Bearing in mind the time of year, this is intended as a 'dip into as and when' rather than a read through article. Perhaps it will provide a break from writing Christmas cards.

Inventions

Victorian Britain was awash with industrial inventions:

Some were crazy. Some failed and disappeared without trace.

Some were sound but through circumstance, lack of finance, lack of business sense, wrong timing or sheer bad luck etc. did not succeed as they might have or at least had their beneficial development badly delayed.

However many were glittering successes, with their effects lasting and growing to the present day.

Richard Trevithick - High Pressure Steam

One outstanding example of bad luck is Richard Trevithick, inventor in 1803 of the world's first steam locomotive.



Richard Trevithick



Replica Trevithick steam locomotive of 1804

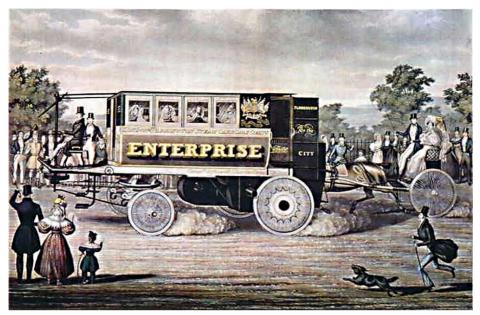
Crucially he determined that the future of steam as a motive force lay in harnessing it at high pressure and amongst his other ventures he produced a viable high pressure steam engine with reasonable portability which was on its way to commercial success. Unfortunately the boiler in one of Trevithick's engines which was being employed in draining the foundations of a tidal mill being built at Greenwich exploded. The cause was gross negligence not an engine defect but the fact of the explosion was enough to sour sentiment at a time when financial backing was vital to future development – it is estimated setting back the development of high pressure steam by in the region of ten years.

Walter Hancock - Steam Buses

One example of the knock on effect of the delay was the later arrival of the Walter Hancock steam buses which took until the 1830's to establish public services in London with the potential for development of a public road transport system.



Walter Hancock



Hancock steam bus Enterprise 1833

However by then the Turnpike Acts with their heavy tolls were taking effect and Hancock gave up, leaving the way clear for the rival horse bus and rail interests.

Nevertheless he continued working in steam, including making the best of a bad job, supplying a steam engine to the Eastern Counties Railway etc.

Edward Butler - Petrol driven First British Car

In 1884 Edward Butler exhibited plans for a three wheeled rear driven internal combustion petrol vehicle – the 'Butler Petrol Cycle'- crucially two years before Benz.

In 1888 it was built by the Merryweather Fire Engine Company of Greenwich (probable supplier of uniforms to Mills firemen).





Edward Butler

Edward Butler on his Cycle We might smile now at the appearance of the Cycle but at the time it was state of the art incorporating a range of innovative features – flat twin 4 stroke water cooled engine, coil / battery ignition, rotary valves, float carburetor, and undoubtedly could have been significantly developed.

Instead of the intense interest which the invention should have generated, entrenched interests pushed through the so called Red Flag Acts, which made road demonstration and further development impossible. In 1890 Edward gave up in disgust, broke up the Cycle and sold it for scrap, concentrating thereafter on the manufacture of stationary and marine engines.

Butler's ideas, design and execution were sound and his Cycle could be regarded as the first British motor car. Beyond this, were it not for the repressive legislation it is possible we would be remembering the name of Butler, not Benz.

Thomas Clarkson - Chelmsford Man of Steam on the road

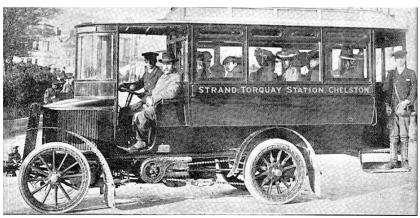
In a quirk of history the demise of the Hancock steam buses was not the last time entrenched interest brought the end of steam buses in London.

In the late Victorian and Edwardian era steam propulsion was still a serious rival to internal combustion as the motive power for road vehicles.

A leading exponent of steam on the road was Thomas Clarkson operating from the Moulsham Works in Queen Street in Chelmsford. In 1903 he was able to offer a steam car in three variants, named the Chelmsford (the advertisement for one of these proudly announced 'No Petrol'!) with the slogan - 'Safe Strong Speedy Simple'. He was also offering steam chassis for buses incorporating elements of his own invention and building his own buses operating in Chelmsford and beyond and commercial vans. In 1909 he commenced services in London in competition with the steam buses of the powerful London General Omnibus Company. The latter withdrew from steam to concentrate on petrol driven internal combustion. However competition from the LGOC was ultimately too strong for Clarkson and in1919 the last Clarkson steam bus was withdrawn from London.



Thomas Clarkson



14 seater Clarkson Chelmsford steam bus in Torquay 1907

This by no means ended Clarkson's activity at the Moulsham Works and he continued with his steam buses in other areas of Britain. His efforts in automobile engineering were recognized by election to the Presidency of the Institute of Automobile Engineering for the 1920 – 1921 year and he continued his faith in steam, offering in 1926 a steam commercial vehicle.

Clarkson is remembered by a blue plaque on one of the houses built on the Moulsham Works site.

This has been a catalogue of brave tries. But there were many successes as well and I hope to write about one in the next Touchpaper, together with a long forgotten industrial heritage Chelmsford coincidence connected to one of the above.

In the meantime to anyone who has dipped in and everyone else, reader or not, - Happy Christmas and a Good New Year.

Les Tucker

Ponder End Shell Factory

Les Tucker's excellent article in the Autumn edition of Touchpaper on "Beaverworld" mentioned the Munitions Factory at Ponders End. This struck a chord with me as many years ago I had been given a photograph of the factory workforce (or a small part of it) taken in 1918. It is titled "Gun Depts Shift No 1, Ponders End Shell Works". The photograph is in fact a "panorama" picture taken by Panora Ltd, 60 Doughty St, London WC1, of which the central part is illustrated below. It shows Les's point that, like the Gunpowder Mills, this factory had a significant number of female employees.



We often think of Waltham Abbey as being the principal ordnance factory in the Lea Valley, but by all accounts the Ponder End plant was slightly larger, having some 6000 employees working 24/7 shifts. The principal output was large calibre shells, indeed in the first half of 1916, 600,000 8-inch shells were produced. In addition work on guns was undertaken. The Works were closed in 1919 and most of the buildings were demolished. There is no trace of it today.



Geoff Hooper

Allen Clarke and his Daughter Ann



Colleagues will remember Allen Clarke: he worked at ERDE/PERME as a draughtsman and, on retirement he emigrated to Australia. He sadly passed away in May 2012. His daughter Ann visited the Royal Gunpowder Mills on Sunday 21st October and by her own account thoroughly enjoyed the visit. It was, she said, a rather emotional visit as the last time she had been in Waltham Abbey was a very long time ago. She had a chat with "A helpful chap in the Rocket Vault" – actually that was Derek Back!

Ann used to live at 3 Quendon

Drive and 1 The Cobbins as a child and teenager. In the mid-1970s the Clarke's neighbour had been Ray East who lived at 1 Quendon Drive, who recalls Ann's father Allen as a skilled engineer who provided support for many projects where necessary, always looking for a successful outcome rather than being pessimistic. One such project was the suspension rig that ran across Newton's Pool to lower explosive charges into the water before blowing them up.

Anyway, Ann kindly provided us with a group photograph dating probably from the 1970s.



She asked if we can identify the folk in the picture, also when it was taken. It looks like a get-together of civil and mechanical engineers, and some of the individuals are instantly recognisable, others less so. Allen is third from the right. Below is who we think are in the picture, but we may be wrong.

Peter Topley
Bob Wright
John Davies
?
Dennis Wren
?
Dennis Wren
8. Harry Turner
Pete Peterson
10. ?

11. ?

- 12. Joan Titus (or Hills?)
- 13. Siriol (Cyril) Evans
- 14. ?
- 15. Allen Clarke
- 16. John Bird
- 17.?

Can you fill in any of the blanks or offer any corrections?

Ann went on to recall two memories of her father about the time that he worked at ERDE, which she described to us:

"The first is what I think was an open day on South Site and going into a room where there was a big vat with this stuff in it. The label said it was called 'Whiskers'. I have no idea what this actually was but it has stuck in my mind ever since that day.

The other memory is that of going down to ERDE on Sundays, with my dad and my sister, whilst my dad and some colleagues worked on fitting out a canal barge. Brenda and I used to go and play in some of the old abandoned huts. I know it was near water and I do have photo of us on the barge once it was finished. We travelled up the river Lea to Bishops Stortford and back. I was horrified at the size of the slugs at the river's edge at Broxbourne, I seem to remember! It's very strange that there some things you never forget! I wonder if there is someone out there that worked on the boat with him?"



Finally, Les Tucker reminded me that Allen had written a short article for Touchpaper back in September 2001 in a "Letter from Australia". In it he commented that locally he was often reminded of an old colleague Dr Sims as he passed some holiday units called 'The Simbo Flats'. It is good to know that our illustrious Chairman is venerated the world over!.

So the question is:

• When was the group picture taken?

• Can you name any of the people that we have failed to identify or have got wrong?

• Can you remember the Open Day (1968) and the Whiskers demonstration?

• Do you know anything about the canal barge restoration?

Any thoughts, please send to the editor please..

Geoff Hooper

And finally...

Lawrence Livermore Laboratories has discovered the heaviest element yet known to science.

The new element, Governmentium (Gv) , has one neutron, 25 assistant neutrons, 88 deputy neutrons, and 198 assistant deputy neutrons, giving it an atomic mass of 312.

These 312 particles are held together by forces called morons, which are surrounded by vast quantities of lepton-like particles called peons.

Since Governmentium has no electrons, it is inert; however, it can be detected, because it impedes every reaction with which it comes into contact. A tiny amount of Governmentium can cause a reaction that would normally take less than a second, to take from 4 days to 4 years to complete.

Governmentium has a normal half-life of 2 - 6 years. It does not decay, but instead undergoes a reorganization in which a portion of the assistant neutrons and deputy neutrons exchange places.

In fact, Governmentium's mass will actually increase over time, since each reorganization will cause more morons to become neutrons, forming isodopes.

This characteristic of morons promotion leads some scientists to believe that Governmentium is formed whenever morons reach a critical concentration. This hypothetical quantity is referred to as critical morass.

When catalyzed with money, Governmentium becomes Administratium, an element that radiates just as much energy as Governmentium since it has half as many peons but twice as many morons.