

Autumn 2018

TOUCHPAPER

The Newsletter of the Royal Gunpowder Mills Friends Association

Beaverworld Ponders End

**Extract from Jim Burgess's book:
Fun with a Fuel Fire**

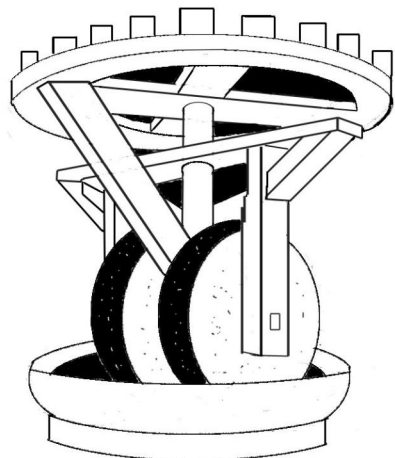
North Korea

WARGM Narrow Gauge News

Julie's Nature Column

Obituaries:

**Vic Clifford
Tony Burton**



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Deadline for the next issue is 23rd November 2018

Chairman's Chat

I was elected Chairman of the Friends on 6 Oct 2001. Now is a good time to pass the Chair over to Dave Sims who was also a committee member in 2001.

As then we need more volunteers on site to assist with explaining exhibits when we are open to the public and participating in repair work on buildings and exhibits. I hope Dave will be able to persuade more people to volunteer. The permanent staff need more help.

Congratulations to Grahame Browne, John Wilson and the railway volunteers for getting the two lines working and giving rides to visitors in the summer To all readers, do encourage more visitors to the Mills.

I will stay on the committee to provide what assistance I can to Dave up to the AGM in May and hopefully long beyond. Thanks to everyone who has helped at the Mills in my chairmanship. I am only retiring from the Chair not from the Mills altogether.

My very best wishes to Dave in his Chairmanship.

John Wright

Editorial

Once more many thanks to our contributors without whom we would not have a newsletter. In this issue we have a short article on North Korea by Nila Monckton, I hope to include further episodes in later issues.

For the readers who ignore the Chairman's chat the big news in this issue is that John Wright has stood down as chairman after nearly 17 years service, we are very grateful for his efforts over this time. Of course those readers who also ignore the editorial will still be in ignorance (and I do have reasons to believe that such folk do exist!)

The Friends have recently started to restore (cosmetic only I'm afraid) an 18" gauge railway carriage, one of several purchased some years ago from Bicton Gardens Railway. This, and one other, are parked at the North end of John Wilson's 7 ¼" railway opposite the Main Lab. It is intended that this can be used as a 'waiting room' for passengers using the 2' 6" railway which will take them up to 83B. Some photographs of this work are on the back page.

Finally I need contributions for the next issue which we hope to produce in early December to avoid the Christmas rush, it's nearly the end of another year already.

Brian Clements

Beaverworld Ponders End - Brave New World?

Over the last few years the rise of craft brewers, particularly in the London area, has been a beer market phenomenon. In a predictable reaction the big brewers have begun to buy stakes in the more successful craft firms.

Beavertown Brewery

One of the latest is the purchase by Heineken for \$40 million of a minority stake in the Beavertown Brewery.

The founder and owner of Beavertown is Logan Plant, son of Robert, front man in Led Zeppelin.

Beavertown was regarded as one of the leading lights of the craft beer movement and in spite of the protestations of Logan that there was no viable alternative if he was to fulfill his vision and that he would retain lead position and full control of policy etc. the announcement caused much weeping and wailing in the craft community who regarded it as a sell out to the big guys. Craft beer seems to have become a kind of Arts and Crafts movement with a philosophy of reverting to the old virtues of craft and Beavertown has attracted a lot of criticism for allegedly moving in with the big battalions with their mass produced product.



Logan Plant - high priest of craft beer, or fallen idol ?

Prior to brewing Logan had been travelling with his father on his tours. The story goes that after a drinking session in New York Logan experienced a damascene conversion telling him to give up rock go back to London and dedicate the rest of his life to craft brewing, which he proceeded to do with almost evangelical zeal, founding in 2011 the Beavertown Brewery in the kitchen of a restaurant.

It was the right choice at the right time and the brewery's rise was meteoric, moving to Hackney Wick in 2013 and Tottenham Hale in 2014.



Beavertown beer cans

Beaverworld

In spite of the family rock connection Logan has turned out to be a hard nosed business man and when other means of obtaining investment were found to be wanting has not hesitated to take the money from Big Beer. Ominously the Heineken money is to be used to fund Logan's vision of a brewery and 'visitor experience' to be built on land bought at Duck Lees Lane Ponders End (1), with the Tottenham Hale facility being retained.

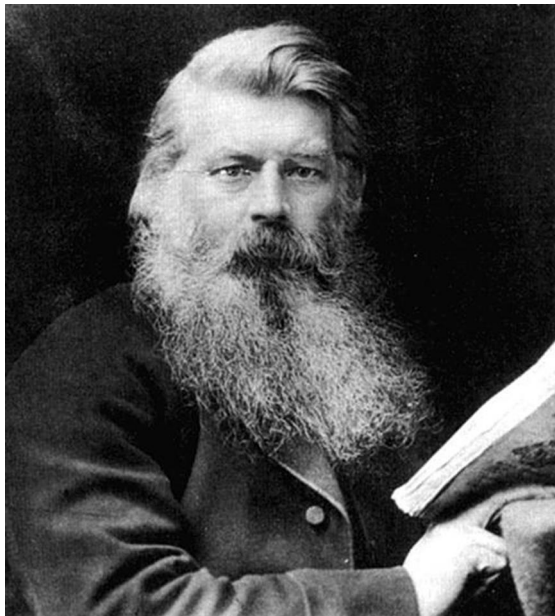
Ominously because these days in the leisure industry when the word World appears it usually means a theme park and this appears to be what is planned for Ponders End, along with the new brewery, to open in 2019.

The visitor centre will be devoted to beer in all its ramifications and the development will be named Beaverworld.

Beaverworld and Electronics Industrial Heritage

What makes the Ponders End site of special industrial heritage interest is that Logan happens to have bought a site which was the location of inventions which changed the world. It contained the factory for making the first incandescent electric light bulbs invented by Sir Joseph Swan (and Edison). The factory, the firm finally named Ediswan after Edison and Swan had settled their differences, attracted some of the most influential scientists of the time – including Sir James Dewar, best known as inventor of the jacketed vacuum flask, originally intended for storage of liquefied gases, and Sir Ambrose Fleming who invented the thermionic radio valve also known as vacuum tube or diode valve, with enormous implications – ultimately the electronics revolution, which will change the face of society.

Following the lamp factory a valve factory was built at Ponders End in 1916.



Sir Joseph Swan

The pace of discovery was hectic and amongst many other electrical devices led to the development of the cathode ray tube, for which a factory was built in 1936.



**The Ponders End Ediswan lamp / valve making
complex
Duck Lees Lane late 1920's**

Unfortunately there is little trace of this cradle of the electronics revolution. As far as I am aware all has been demolished apart from a late Victorian office block with a 1930's Art Deco façade tacked on the front.



Surviving office block

So sadly, unless they are told, the happy beer visitors will be tramping around oblivious to the fact they are on hallowed ground, the foundation of a revolution, affecting every aspect of their lives.

One cannot imagine Logan and his cohorts, preoccupied with spending their \$40 million, will have much interest. But it would be nice to think there will be some recognition somewhere.

Beaverworld and the Mills

But what can any of this have to do with the Mills?

Heritage Alliance

The Mills are associated with the Lea Valley section of the Heritage Alliance which promotes the interests of the independent heritage sector and any industrial heritage development in the area is of interest to the Mills as an Alliance associate.

Abel / Dewar

Dewar was a member of the Committee on Explosives along with Sir Frederick Abel, Government expert on explosives. They created cordite which became the core propellant explosive for the British Forces for around 50 years and a cordite factory was set up at the Mills.

Sir Frederick must have needed his people skills – Sir James was notoriously irascible and a terror to work with or for.

Nitrocellulose and the Carbon Filament

Explosive links crop up in unexpected places. Sir Joseph Swan devised a method of producing fine fibre thread filaments for his electric bulbs by extruding nitrocellulose through holes. Nitrocellulose (Guncotton) along with nitroglycerine was the key ingredient of the Abel cordite for which a factory had been set up at the Mills. All well and good but nitrocellulose was of course highly explosive and nobody wanted exploding light bulbs. Swan applied the new organic chemistry to remove the explosive element, leaving the safe cellulose – the carbon filament.

Impact of Beaverworld

Last but not least, what commercial impact would Beaverworld have on the Mills. Is the scale of the visitor side of the operation known?

What is immediately obvious is that the Mills might no longer be able to claim to be the only major visitor attraction of this type in the area.

At first sight Beaverworld would draw visitors away, but it is more complex - is the potential make up of the visitor pattern of the two

different? – CAMRA types and the craft set including young couples to Beaverworld, families to the Mills.

Beavers?

The name of Logan's enterprise could cause some problems. Perhaps Beerworld would have been better. One can imagine child nature enthusiasts with an imperfect knowledge of craft beers visualizing a recreated beaver colony with the animals beavering away chopping down trees (this is compounded by the existence at one time of a kind of mini zoo in the area with Beavertown in its name).

The background is more prosaic. The original brewery set up in the restaurant kitchen was a derivation of the name of the sub district of Hackney in which it was situated – De Beauvoir Town.

Beer and beavers seem to be fertile ground for excruciating puns – hopping mad etc. etc.

One could start with – Beerworld – now there's a sobering thought.

Anyway whatever happens it will be an interesting site to watch.

Les Tucker

(1) During WW1 a shell factory run by an armaments firm was built at Ponders End, employing 6000 working round the clock, like the Mills many of them female. It is often assumed that the factory was on the Ediswan Duck Lees Lane site, but in fact it was built at Wharf Road and was demolished after the War.

Chapter 6: Fun with a Fuel Fire

The effects of a fuel fire on ammunition inadvertently immersed in it was brought into bold relief by the disastrous accident which occurred on the American aircraft carrier, USS Forrestal, in July 1967, during the Vietnam War.

On that occasion a fire was started when a missile (5 inch rocket) was accidentally fired from an aircraft on the carrier's deck. It struck and ruptured a fuel tank spilling aviation spirit on to the flight deck and igniting it. Some old WWII bombs were also dislodged and were enveloped in flame. Before the emergency damage-control team could take action the bombs 'cooked off' and detonated setting off others in sympathy. It was a horrendous incident, some pilots being trapped and burned in their planes and members of the damage-control team killed. The total casualties were 134 dead and 161 injured. The damage amounted to more than \$72M not including damage to aircraft.

This shocking event caused the effects of fuel fire to be reviewed very seriously and the standard fuel fire test assumed a greater prominence thereafter with an emphasis on the time available for fire-fighters to act before a violent reaction took place.

The fuel fire test facility used by the Ordnance Board is located at Shoeburyness. It consists of a hearth sunk into the ground by a few centimetres and lined with polythene sheeting. The hearth is filled with water which is covered with a layer of kerosene. The warhead weapon under test is mounted on a steel support in the middle of the hearth and above the kerosene. It is instrumented with thermometers (thermocouples) at various points on the surface and within the fuse pocket. The whole of the hearth is surrounded by a wall of concrete (Pendine) blocks arranged so as to minimise any flame-fanning draught being directed on to the hearth.

The Waltham Abbey warhead was second on the list for the day. The warhead had been subjected to three months of diurnal temperature cycling and subsequent X-ray examination had shown the explosive filling to have survived very well with little evidence of cracking.

The first candidate for testing that day was a standard torpedo warhead which had been subject to hot storage. As I recall the warhead survived about ten minutes in the fire before it detonated and that was as a result of the fuse 'cooking-off' and initiating the main charge. It made a hell of a bang!

The Waltham Abbey warhead contained no fuse. After about five minutes a faint 'whoosh' was heard and then nothing more although some fierce flames could be seen for a while within the enclosure.

After about twenty minutes (a standard waiting time following such an event or a misfire) and when the flames had died down the Range Officer (a Major) and I ventured into the enclosure. There were a few bits and pieces of explosive material gently smouldering away on the grass outside the hearth but nothing else at all. We looked at each other. Where was the warhead case or at least the remains of it?

The Major climbed up the concrete blocks surrounding the hearth and looked towards the sea. Shielding his eyes with his hand like Nelson looking for a hostile fleet! Nothing at all - not a sign of the case anywhere!

We prepared to depart. The test had been recorded on film and, as a concluding act, one of the Major's team was detailed to retrieve the film from the camera mounted on a pole outside the enclosure. "Sir!" shouted the young Lieutenant, "the case is up here...!" And indeed it was! The warhead case, pretty well intact, was hanging off the protective housing of the camera. A hole must have been burnt in it by the fire after which it had become propulsive and 'taken off' with the burn-hole acting as a nozzle. "There you are." I

said to the Major. “I told you that the explosive had a strong propellant strain amongst its antecedents”!

This is not quite the end of the story and, even now, I relate the concluding chapter of this trial with some embarrassment as well as wry amusement

Whilst peering into the hearth, I noticed that some unconsumed explosive had fallen into the water.

With some assistance from the Lieutenant I recovered most of the unconsumed material from the hearth and sealed it into a large polythene bag. The explosive contained nitroglycerine as a significant component and the composition included a stabiliser, as do all propellants containing that material, to inhibit cracks appearing in the charge and hence to prolong Service life. It was of some interest to me, therefore, to ascertain how much of the original stabiliser remained after the temperature cycling treatment the explosive had received prior to the fuel fire. As a matter of principle, it was important to glean as much information as possible from all experimental work and from a source, such as the analytical team at Waltham Abbey, which was truly expert in the required field.

I'd been chauffeured to Shoeburyness in one of the Establishment cars and was faced with the problem of how to get the bag of explosive back to base. The saloon car was for passengers only and was not licensed to carry explosives. In any case, the very notion of such a cargo would have scared the living daylights out of the lady driver.

As luck would have it, a couple of my colleagues from Waltham Abbey were also at Shoeburyness that day and were engaged in conducting trials elsewhere on the site. They had travelled from Waltham Abbey in the Departmental Land Rover in which they carried their kit and some explosive bits and pieces to be expended in their trials. The Departmental Land Rover was certified to carry a limited quantity of explosive.

With some difficulty, I managed to get in touch with my mates — this was well before the day of the Mobile Phone. On explaining my problem and applying a measure of persuasion (including the promise of a voluminous libation on their return), it was agreed that they should pick up the bag of explosives from the Major ‘on their way out’.

Alas and alack. we were, at that time, comparatively innocent of the bureaucratic niceties of removing materiel stores from one site to another. When my colleague sought to leave Shoeburyness, after he’d eventually tracked down the good Major and taken charge of the polythene bag of explosives (contained in a standard leather bag), the Ministry of Defence Police (MDP) at the Gate asked for a ‘Property Pass’ to cover the removal of the bag of explosives. So my colleague had, once again, to go in search of the gallant Major and persuade him to issue the required piece of paper. In summary, it took the best part of an hour before my colleague could leave the Shoeburyness site.

My colleague’s companion was an active member of the Waltham Abbey Historical Society and his interest in History was as wide as it was broad. When travelling, he would seize any opportunity that presented itself to visit historical monuments (and follies!) on the way.

I had expected my colleague and his partner to arrive back at Waltham Abbey in the Departmental Land Rover about an hour after my return. Having enjoyed the luxury of my chauffeured drive back to Waltham Abbey, I set about waiting for them. After all, it would be stretching the bounds of camaraderie to expect them to spend time and effort to put my ‘stuff’ away in a magazine.

After an hour had passed and there was no sign of them. I started to feel a bit anxious. After two hours. I was becoming alarmed! My mind started to dwell on all the worst possibilities and upon my folly in pursuing the idea of bringing the stuff back in the first place.

Perhaps they'd had an accident?! Perhaps my bag of explosive had spontaneously ignited?! After all, I'd no idea what condition it was in. The warhead had been subject to an artificial ageing process by having been temperature cycled for three months and the remnant being carried in the Land Rover had just escaped from a fuel fire! The longer I thought about it, the more anxious I became with visions of disaster growing ever more clearly in my mind - death, bodies strewn about, wrecked vehicles!

A further half-an-hour had passed. It was getting late, early evening!

I decided that I had no alternative but to inform the Superintendent! I had to hand certain key telephone numbers and I paused nervously before I dialled his. Yes! I had to do it! The Superintendent maintained a total silence whilst I explained the position. He sought no more details from me when I'd finished but simply said, "I'm coming in".

It took the Superintendent about half-an-hour to arrive but after about twenty minutes. I spotted the Land Rover approaching the Main Gate. My relief was, as they say, palpable!

"Where the bloody hell have you been?" I demanded of my colleague "sorry we're a bit late", he replied, nonchalantly. "We made a detour to look for some 'folly' or other which our mate here thought was nearby. We didn't find it. In fact we got rather lost I'm afraid!" I muttered to myself that the only 'folly' was mine for entrusting my bag of explosives to their care!

When the Superintendent arrived a few minutes later, he wasn't in the best of moods having been dragged from his home with a tale of calamitous woe and having had to spend his journey-time thinking about what disaster might greet him and what action he might have to take!

In retrospect, the Superintendent's response to it all was really quite mild. After having expressed what he thought of us (me in particular) in ripe quarter-deck language and having explained in lurid detail what the consequences would have been had there indeed been 'an accident' and after delivering a severe 'warning' against any repeat performance, he was content to let the matter drop. We all knew that, in his youth, he himself had committed some hair-raising acts....!

After everything had been stowed away safely, the three of us repaired to our local hostelry and refreshed ourselves liberally with several pints of ale! No mention was made of follies!

As it turned out, the explosive in question had survived its rough treatment quite well and there was, in fact, no danger of it doing anything nasty of its own volition.

I didn't know that at the time, though!

Tut, tut tut!

Jim Burgess

North Korea

My daughter has always been keen to visit as many totalitarian regimes as she can before they change. She had visited Cuba with a schoolfriend, and we had been to Burma. After a late evening with my husband and a couple of bottles of red wine she came into the kitchen and said “What about North Korea?” Having managed Burma without incident, and having complete faith in my husband I said “Yeah, OK”, knowing absolutely nothing about North Korea. This trip included the Trans Siberian Railway so she managed to tick off Bellarus, Russia ,Mongolia and China as well. So on Sunday the 19th September, 2010 we boarded the sleeper train at Montrose with our one way tickets to Beijing.

On the 9th October we finally boarded our flight to Pyongyang, we had been delayed by an hour as our flight had been filled up with the press flying out to film the Massed Games. The plane was a Tubalov TU154-B-2 a three engined jet similar to the old Trident. No life jackets, no covers for the overhead bins - back to the 70s!

We were met by our three ‘Guides’ at the airport and taken to our hotel, very new, and were told in no uncertain terms that we were not allowed out of the grounds on our own.

On our first morning we were taken to the Pyongyang Underground, reputedly one of the deepest in the world. Compare the tube map with that of London. The stations were very ornate with lots of marble and granite, large colourful mosaics on the walls of typically communist design. The light fittings represented grapes and flowers, and were different at each station.



Pyongyang Underground Map



Pyongyang Underground
Lights



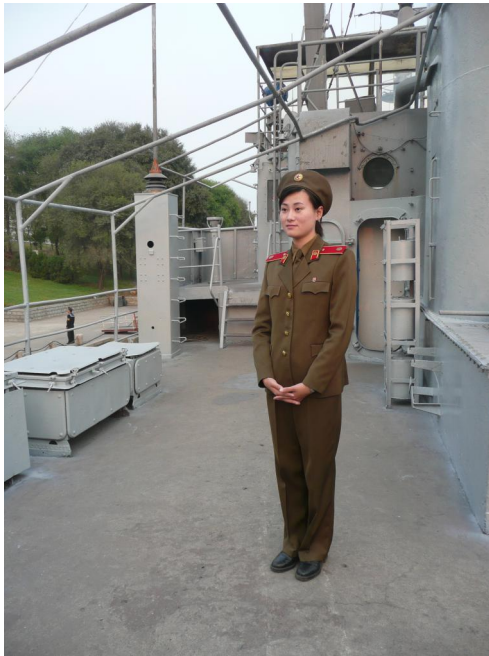
Pyongyang Mosaic

We were taken to see the house of Kim Il Sung's grandparents, now set in a beautiful park. This is where he was born in a very simple house. Very clean and tidy, pretty clearly rebuilt, but it still showed what a humble village property would have looked like. After lunch we were taken to a square with very impressive fountains and statuary where we were expected to buy flowers to lay in front of the huge bronze statue of the Great Leader.

When we arrived at the statue, which was monumental, we were told that we were not allowed to take photographs unless we included the whole of the figure. The statue was flanked by some very impressive bronze reliefs. It was fascinating to see schoolchildren and the local people in their best clothes laying flowers, and there were large baskets of flowers placed at the sides.

Our last stop of the day was visiting the spy ship USS Pueblo which was captured in 1968. Needless to say, all the boys in the party were up at the prow playing WWII with the gun mounted there. I took some photos of the equipment in the ship and a friend, who worked on this sort of stuff, said that it was far superior to what we had at the time.





End of day one and I have used up my allotted words, so it looks as though this is going to be a series. That's if anyone wants to hear any more.

Nila Monckton

WARGM Narrow Gauge News

The railway group has much to report, having completed the Southern run round loop they were at long last able to run a passenger service for visitors. This was run on Wednesdays throughout the Summer opening. Visitor feed back was positive, those who chose to could “inspect” the locomotive and operate the hooter! At the Northern platform they could alight and observe the locomotive being run round (or moved to the other end of the train) It is hoped to run trains in the upcoming half term (weather and crew availability notwithstanding)

Thanks to Rye House power station and several railway volunteers, the replacement portacabin has arrived. The roof and interior have been repaired/decorated. The railway team now have an office/locker room and kitchen complete with hot water (the water tank complete with dog kennel installed on a specially built tower to the rear.)



Area south of 83B in 2008



New portacabin south of 83B

Volunteer day in May saw a group from Rye House power station pay the railway a visit, they took part in several tasks including painting, electrical work and trackwork at the Southern end of the line. This was followed by a sumptuous barbeque, a trip on the narrow gauge railway then a trip on the land train. A good time was had by all and it is believed they wish to return next year.

An open day in July hoping to recruit prospective volunteers mainly for train crews had little response with only two possible attending, further volunteers have since enrolled and have become fully integrated tea drinkers. The railway still requires drivers, guards and stationmasters so if you would like to join come and see the railway or contact Liz Went.

On hearing the sad news regarding the death of John Bowles who was a trustee, railway stalwart and a true gentleman a decision was made to remember him in a lasting way, this will take the form of naming the Baguly Drewry locomotive 'John H Bowles'. Funds for the brass nameplates were raised by collections from both railways on site. The naming ceremony will take place on the 6th October, his family will carry out the unveiling ceremony then refreshments will be served.

The railway will now look to jobs for the Winter months (we never close) these will include, improvements to stations, improving site signage to the railway, signage on the railway, maintenance etc.

Chris Humphrey

Julie's Nature Column

Well what a long hot summer we had, great for birds that want to produce more than one clutch of eggs. Our resident Robins had three broods, Coots and Moorhens had at least two. Nearby Buzzards have successfully raised a chick which spends most of it's time at New Hill constantly calling for the parents to bring it some food. I never seem to be in the right place at the right time to get a good photo! Our Barn Owls were successful this year too. Around the Lee Valley quite a few owl boxes were found without chicks possibly due to the weather conditions, but our box had two chicks in it which were later ringed by an expert handler and hopefully have fledged now.



We participated in the Big Butterfly Count this year. We did two surveys within the given time and submitted our results. We surveyed the East flank and New Hill. Both areas had a high count of the Common Blue butterfly, it outnumbered all others by a big margin. Another recent survey that took place was the Lee Valley Otter survey and the Mills had two areas which were included in the survey last done about 10 years ago. The good news is that Otters are doing really well within the Lee Valley and one area at the Mills had fresh signs that Otters have been visiting regularly. I have set up a camera over the water in the hope that I might get some photos. Otters are mostly nocturnal, but the camera has infrared which will produce a black and white photo at night. So far the camera has taken a photo of a swan! Fingers crossed for Otters before the year is over.

All other wildlife seems to be doing well at the Mills. I've seen lots of Toads this year, Fox cubs, higher numbers of Green Woodpeckers and plenty of Herons. The fabulous Kingfisher has been up and down most of the waterways all summer too, no doubt that they are doing well as our waters are thriving with plenty of small fish. Recently we had a young fox visit us during the afternoon, it seemed very playful and unafraid of people. It made me wonder whether it's mum didn't return and it's just discovering all about life.





The deer have been quiet this summer, keeping out of the heat in the much cooler woodland. I have seen a few fawns...very cute and I have managed to get the odd photo. They seem to go from young and cute to older and daft!

That's all for now and I'm looking forward to some good Autumn wildlife opportunities to share with you all in the next edition

Julie Matthews

Mills nature conservationist

Obituaries

David Victor Clifford



Vic passed away peacefully on 21st July 2018 at the age of 98!

He came to Waltham Abbey from Woolwich in the late 1950's as part of the W G Williams group. Vic and his wife Dorothy were accommodated in Sandhurst flats until the houses were built in Monkswood Avenue.

A keen sportsman, his main interests were rugby and sailing.

His son Ray said that father had to stop playing rugby as Dorothy got 'fed up' with her husband coming home covered in blood!

At work Eric Baker tells of the time that a minor accident had filled the bay in N562 with fumes, Vic who was in charge, assured Eric that everything was under control as he'd arranged for the staff to take tea in P704 (Vic always got his priorities right!)

Vic had a long and happy retirement playing bowls, learning to play a keyboard, keeping the garden immaculate and for a while an allotment. There was even time for canal holidays.

With the losses of Eric Speller Ron Treadgold and now Vic Clifford it's the end of an era for ex P2 staff!

Bryan Howard

A Personal Recollection of Tony Burton

by Geoff Hooper



Sadly, Tony Burton died in July aged 98.

I first met Tony Burton well before I joined ERDE; the establishment having funded some work that I was doing at University. Indeed it was meeting him, and also John Hicks, Jim Hawkins and Gordon Adams, which persuaded me to come and work at Waltham Abbey. In the early seventies I worked with Tony up at New Hill; he was a great mentor and did some outstanding experimental work which has stood

the test of time. Indeed as recently as 2012 I was asked by scientists at Aldermaston to explain some of the intricacies of what Tony had done. We travelled together quite a bit, and he loved to use quirky and decaying railway lines such as that from Broad Street to Richmond, or out to Kensington Olympia. Whilst he was always the perfect gentleman he was not averse to the occasional tippie, and there were a number of occasions when our journeys were punctuated by a most refreshing interlude.

I fear that in the current days of rush and expediency we'll never see his like again – and be the worse off because of it!



**Railway
carriage being
restored**

