## Spring 2023



The Newsletter of the Royal Gunpowder Mills Friends Association Registered Charity No. 1115237

Sad News

AGM / Reunion

Tales of the South Site Fire Station

**South Site Evolution** 

Memorial for John Wilson

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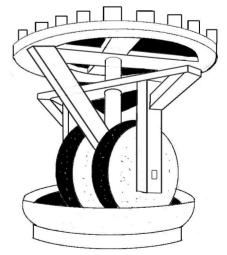
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Spring 2023

## **Officers of the Friends Association**

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Deadline for the next issue is

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## **Chairman's Chat**

Although we are still closed to the public we are open for group tours and already have ten booked so far. One recent visit was from the Explosives Industry Group of the CBI. This comprised a diverse group of people ranging from firework manufacturers to MBDA and AWE – some 45 in all.

Work continues on the John Wilson Railway in preparation for an Easter opening.

Unlike last year when we were open to the public every Sunday, this year we will be open for pre-booked events from April to December. These include walking tours, talks, historic reenactments and children's activities during school holidays. Keep an eye on our web site for full details.

https://www.royalgunpowdermills.com/openingtimes

Len Stuart

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# Editorial

I have in the past, more than once, suggested that we should have someone to replace me as Editor. This has not resulted in any changes.

I have now decided that a more positive statement is required so this is a declaration that 2023 will be the last year I shall be producing Touchpaper. I hope to complete this issue and the next three to take us up to December 2023.

Les Tucker has been contributing to every issue since 2001. When I agreed to attempt to rescue an incomplete issue of Touchpaper in 2011 Les undertook to provide an article for every issue that I produced. Neither of us expected our partnership to last so long. Les has now decided that he will not be producing regular articles but will do an occasional archive summary. I have always been very grateful to Les for his continued support and wish him a happy 'retirement'.

I apologise for long blocks of text again. It has been suggested that I remind authors that there are many images in the online WAI collection (<u>https://www.wargm.org/archive\_viewer/wai-index.php</u>) which may be of interest. In this issue there is a photograph contributed by Grant Privett who was recruited to PERME with a degree in astrophysics and was put to work on propellants.

Richard Hooker has posed some questions and answers would be very welcome, some should be easy but I am sure that more detail could be provided.

In this issue there is notice of the Friends AGM and Social Event; a booking form is enclosed/attached. Also enclosed/attached is a renewal form for those members who have not yet renewed.

Brian Clements

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# Sad News

## **Nigel Thomas**

I am sad to report that Nigel Thomas, our very respected Armoury volunteer passed away on 23rd February.

He had spent some time in a care home and then passed away in Stoke Mandeville hospital.

He will be very fondly remembered by us and his knowledge, skills and dedication were extremely appreciated.

Liz Went

#### Volunteer Resources Manager

## **Steve Clements**

We are very sad to report that long term volunteer Steve Clements passed away on the morning of Thursday 12th January.

Steve was a dedicated Conservation Volunteer, a Tour Driver, a member of the H&S Committee and helped where he could including completing the security checks through lock down. He had been volunteering here since 2006.

He is sadly missed and our thoughts are with his family.

#### Liz Went

## Volunteer Resources Manager

# **AGM/Reunion Friday June 16th 2023**

This year we are splitting the AGM and Reunion events over two venues. The AGM will be held in the Mixing House/Women at War Room, next to the Control Room and opposite Walton House. The Reunion social event will take place in the café which has better facilities for the lunch.

For several years we have kept the cost of the lunch at £10 but sadly this year we have had to increase it to £14. As we all know inflation has risen greatly in the past twelve months, Marks and Spencer no longer offer their food to order service so we have no option but to use caterers.

Enclosed/attached to this edition of Touchpaper you will find a booking form, please use it to book your place. I need to advise the caterers by May 31st of our actual numbers.

Looking forward to seeing you all in June.

## **Daphne Clements**

## WARGM Friends Association

# **Tales of the South Site Fire Station**

As told by Roy Carter and recounted by Martin Gough

It was a convention, at the time, that MOD explosives establishments had their own fire brigade. Waltham Abbey South Site was no exception to this rule and there was a small fire station located close to the main gate, on Sewardstone Road in Building P754. The station was equipped with a small-scale fire engine and other vehicles including ambulances. It was felt that it was not necessary to equip the station with full-size fire engines as the local civilian fire station was less than a mile away in Waltham Abbey. The establishment fire engine is seen in the photograph, overleaf.

The chief fire officer was George Douglas who hailed from Shepherdswell/Betteshanger area in the East Kent coalfields. Many coal miners had moved from Scotland to work in the East Kent Coalfields and he was of Scottish decent. He told me he was trained at the Ministry of Defence Fire Training Centre at Manston Airfield and he is pictured, in a white shirt, on the far right in photograph, below. I found George to be a most helpful and knowledgeable man, a decent person who helped me greatly to understand the importance of fire safety when working with explosives, and he helped me understand explosives buildings fire regulations.

George's team were helpful and decent people too. I recall one particular fireman, a real larger than life mischievous character, who was a giant of a man and who had the nickname of Houdi. He was known for keeping tarantula spiders in a spider terrarium within the fire station; it was not something that appealed to arachnophobes. His other claim to fame was, when he undertook lung function monitoring tests, in the site surgery, because of his huge lung capacity, he blew the test equipment's pen off the scale on the chart. Nobody else could match that feat.



Figure 1 Photograph of South Site Fire Station (<u>Building P754</u>) and station crew with ambulances and fire engine. Station Officer George Douglas wearing the white shirt, on the far right.

This account was given by Roy Carter PSO of P1 Branch. When I joined Royal Ordnance, I recalled seeing the site firemen grass cutting and this struck me as being rather curious I could understand that long grass, close to buildings containing explosives, was a fire risk and that the height of grass needed to be controlled, but why were the fire brigade cutting the grass? I asked Roy Carter, who was then my boss, why the fire brigade was involved with site grass cutting. Roy told me that the head of site, Dr David G Davies was a stickler for balancing the books and won the praise of Royal Ordnance's Director of research. Dr Davies, who was probably a natural accountant, was always keen to reduce overheads, what he himself described as indirect costs: and, that he deemed contractors employed to cut the grass to be too expensive. The need to cut costs resulted in him having a lightbulb moment with the thought that as the site fire brigade was not always fully employed, they should cut the grass. It thus came about that Dr Davies instructed that the site fire brigade take over grass cutting duties.

Roy Carter explained that our firemen were somewhat miffed at having to cut the grass and it was a task that they took to without great enthusiasm. As a consequence, they were none too conscientious as to how they cut the grass. There was debris, masked by long grass, inviting contact and it was therefore unsurprising that grass cutting equipment frequently encountered these objects. The result was a recurrent need for spare parts and there soon became a flow of parts from the equipment manufacturers to our site.

In much the same was as military equipment manufacturers attempt to make equipment squaddie proof, our mowing equipment suppliers found a civilian equivalent, in us, at Waltham Abbey. Our site was an ideal testbed for design modifications. The theory was: If parts could be made Waltham Abbey proof then they could survive being used anywhere. Thereafter, we were sent specially modified parts and if we couldn't break the part then the modification was a success. This worked out well for the manufacturers and this is how South Site played its part in advancements in grass mowing technology. We had chalked up yet another achievement.

## Martin Gough

## South Site Evolution by Peter Stone

I have access to three partial maps of the South Site. These are dated 1894, 1923 and 1972. From these I have tried to glean some of the history of the buildings that were present when I worked there. I have to say that my copies of the maps are rather indistinct. Any errors in that which follows are mainly due to this and to my failing memory.

I was unaware at the time I worked at Waltham that some of the buildings used by my Section (P1) may well have been the core of the first Cordite Factory. It seems to me, comparing the 1894 and 1972 maps, that some of the original Victorian Cordite factory buildings were still in use in 1972. The buildings used as laboratories and main offices by the Cast Double Base (CDB) Section for instance. The photograph of Ron Ayhurst's retirement (page 17) shows what looks to me like Victorian windows in N562/3. There is evidence of bricked up of holes high in this wall. Might it be that pipework had been removed from when the building was used for Cordite manufacture? Some of the buildings, in the cluster south and west of N562 in the 1972 map (page 16), appear to correspond to those in the 1894 and 1923 maps. These buildings are those, designated with "N" numbers in 1972, shown in the table on page 13.

On the 1894 map (page 14) a "Proof Range" is shown. This had been repurposed by 1972, the Butts becoming the mounding for M350. There was a building that we called the Box and Tray store, this is possibly M349? It maybe the Acetone Store marked on the 1894 map. When I visited it with the Foreman, Len Health, it was full of 2 inch aircraft rocket bodies of WWII vintage plus a large quantity of beeswax. This was presumably for adding to High Explosives for shell filling in WWII. I commented to Len that my mother in law had an original Mrs Beaton's, which had a recipe for furniture polish made of beeswax. Len was very keen to get a copy and I obliged. Thereafter I got preferential treatment when I needed his assistance!

I have written before about derelict buildings from the original Cordite Factory (Touchpaper Autmun 2022). There were the two light weight sunken round buildings designed by Col Majendie after the explosion in 1894 (483 and 484 in 1923). Also, an old two storey double building marked "N Ho No1" and "N Ho No2" in 1894, which must have been the original nitrating buildings for making Nitroglycerine. These could have been the buildings used later by ICI and seem to have developed into a larger group by 1923; but only N Ho No1 survived to 1923 and this was derelict by 1972. Adjacent to them to the north east Building N542 (1972) was 476? in 1923. The Glycerine Store was 572? in 1923 and N540 in 1923. The three Acetone Stores were 480, 481 and 482 in 1923 but possibly only one N550 was left in 1972.

The Water Tower (1894 map and 478 in 1923), now dismantled and rotting on the North Site, which supplied the original Cordite Factory survived until the closure of the site. The Guncotton Stove G.C. 2 from 1894 Map still had tram lines going into the entrance in 1984. Note the tram lines shown over the whole site on the 1894 plan. These were derelict, but still present in 1972.

There was an Explosives Storehouse (N547) used by CDB shown on the 1923 Map. I remember that the Gritless asphalt floor was particularly plastic. Heavy boxes would sink into it and leave an imprint; however, unlike some of the later gritless asphalt floors there was no cracking. It is present on the 1923 map as 491. Although not used by P1, N545 (474 1923 map) was the feature marked "Magazine" on the 1894 map. I believe that this may have been the building that had an elephant hide covered floor. Also, M348 (492 in 1923) was probably the blending house from 1894. The two gaps north and south in the mound, where the tram line came through, are shown on the 1972 map. There is a "Dining and Shifting House" (1894) shown in approximately the position as the building used for the same purpose (P701) in 1972. Although my recollection is that it did not look Victorian.

Ponds are marked on the 1894 plan. We had a settling pond as the last trap to collect any Nitroglycerine from the process of mixing it with Nitrocellulose. It was blown with a small charge periodically to ensure explosives did not build up in it. It was in a slightly different location I think, possibly where N580 is shown.

The River Stoves are shown on the 1923 map. I had no idea that they dated from as early as that. They were numbered from R601 to R607 when I used them. We used them as Explosives Storehouses. We always had trouble with keeping the temperature down because, as Stoves, they were designed to run at 60 degrees Centigrade. Each building had a wood shelf with a cover (these had been painted red at some time in the past) near to the door. We often debated what they were for. One theory was they were for recording the building temperature, in the book provided for that purpose, when it was raining! It was only when I joined Safety Services that I saw my first copy of the MoD(PE) Explosives Safety Regulations and I discovered that they were Unheading Shelves. According to these Regulations it was not permitted to open boxes of explosives inside Storehouses. It had clearly been intended that they should be taken outside and put on the shelf prior to removing the lid. This had been completely forgotten by the P1 group and so we happily opened boxes inside the buildings. And since the only copy of the Regulations was held by the Safety officer we never knew.

In our defence we did have some buildings where we kept unboxed explosives (strictly speaking called Magazines), and this is an unusual occurrence. Some, such as dry Nitrocellulose (this is particularly sensitive to friction), were kept in bags and we wore socks rather than shoes in this building. We did in fact have an ignition of a small quantity of dry NC on one occasion. A bag of it was being moved across the floor when there was a small bang. It was decided that there must have been a small pocket of it in an indent on the floor. Fortunately, it did not communicate to the bag!

I was given to understand that the River Stoves were constructed so that the relatively weak board and felt roof would fail so as to relieve the pressure should there be an accidental ignition of the contents. After I left Waltham there was indeed an initiation in R607 and an eye witness (an MoD Police officer) confirmed that there was a jet of flame of over 100 foot height. I wonder if it was a sample of propellant that I had made that had ignited? Cordite needs to be tested regularly for stability. When I joined Safety Services I discovered that most of the MoD had forgotten this fact. I spent a good deal of my time educating people in the MoD about this. Regular testing had even been abolished by the Army, as they thought proof firing (a check on performance in the gun) was all that was needed.

We have, in previous copies of Touchpaper discussed the possibility of Gun Powder having been made on the South site. Apart from the small scale manufacture carried out in the recent past (Mike Evans The Last of the Powdermen - Summer and Autumn 2019), I believe that it was manufactured on a large scale somewhere in the north west of the site around 1894. There is a feature described as a "Powder Wharf" on the 1894 map. Also, I recall one, or possibly two, Gunpowder accidents in facilities close to that feature being mentioned in old Board of Inquiry reports. The elephant hide floor of N545 might indicate that this building was used for handling Gun Powder.

My copy of the 1923 map only shows three buildings, 608, 609 and 610 south of the Black Ditch and in to the east. I was fascinated to see these as they correspond to the positions of P703, P704 and P705. I worked in all these three.

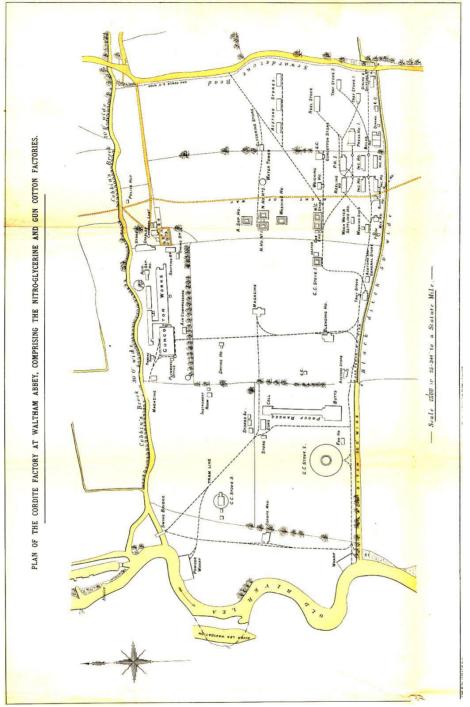
P703, a mounded building, was the Cordite Stove for drying solvents from gun propellants and casting powder. P704 was Combustible Cartridge cases research and laboratories. P705 was Cordite Rolling, where mixed Cordite ingredients were passed between heated rolls to gelatinise them. I had always assumed that these buildings were constructed in WWII or shortly afterwards when the Research group were moved to Waltham from Woolwich.

It is interesting to note that there are some stables marked on the north east of the site in 1894. Also of note is the empty mound between R608 and R610. Clearly there had been a previous incident in the River Stoves. I have not commented in detail on the area north of the South Site. This is partly because I was never involved with this area. It was the domain of the Chemical Engineers and other strange groups and I rarely visited it. Also, the Stores were there and the Site Maintenance and General Engineering. In 1894 there was the very large Guncotton Works. These buildings seem to have survived and been added to by 1923; they seem to have been completely rebuilt by 1972.

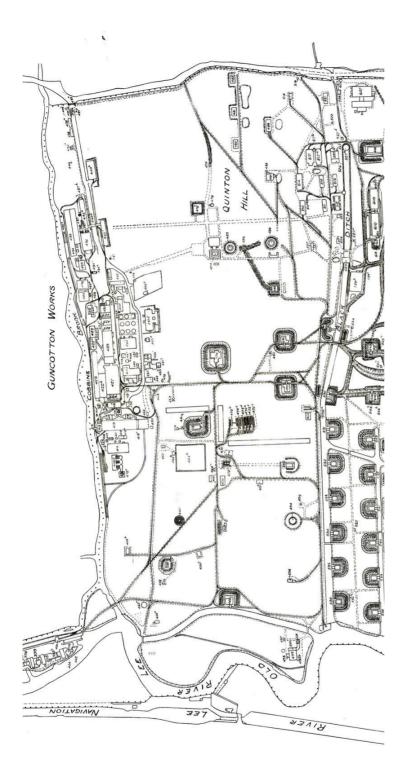
Waltham was a Research Establishment when I worked there, and in my mind, I had always regarded it as just that. But of course, it had been the main supplier of Cordite for the UK land forces from 1894 until around the start of WWII. Hence the large number of buildings present in 1923. The Bishopton Factory, together with ROFs Wrexham and Ranskill, were constructed as an emergency measure for WWII production. Being further from the Continent they were considered to be more difficult for the Luftwaffe to reach. Dr Colin Lawson, the onetime Superintendent of P1, used to say that we were an insurance policy. If there was another European war, he thought that we would form a core of staff who could open new Ordnance Factories. There is another European war but where are the Ordnance Factories let alone the people to open new ones?

1894	1923	1972
Press Ho 1	S17	N562/3
Reel Stove	483?	Not Present
Boiler Ho	S27	N564
Inc Ho	515	N567
Inc Ho (Adjacent		
Black Ditch)	512	N572
Ditto	516	N568
PH2	S14	Not Present
Reeling Ho	S10	Not Present
Not present	462	M326/7
GC Stove 3	Feature East of 462	2Not Present
Cordite Magazine	465	M342
Glycerine Store	572?	N540
Not Present	476	N542
Acetone Store East		
of Water Tower	480	Possibly N550
Ditto	481	Not Present
Ditto	482	Not Present
Proof Range	493	M350
Acetone Store	502?	M349
Washing Ho	483	No number
NG Store	484	Unmapped
N Ho 1	476?	No number
N Ho 2	No Number	No Number
Water Tower	478	Small Circle
GC2	494	M351
Not Present	491	N547
Magazine	474	M545
Blending Ho	492	M348
Dining Shifting	605?	P701
Room		

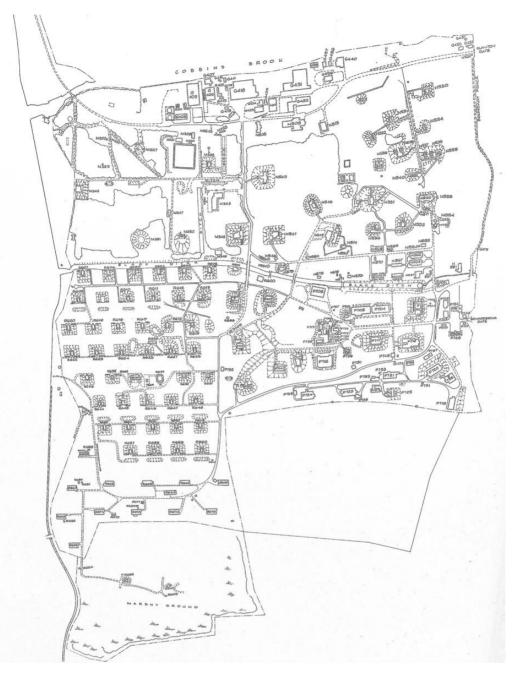
Inc Ho is Incorporator House. GC is Gun Cotton. N is Nitrating. NG is Nitroglycerine. PH Press House perhaps



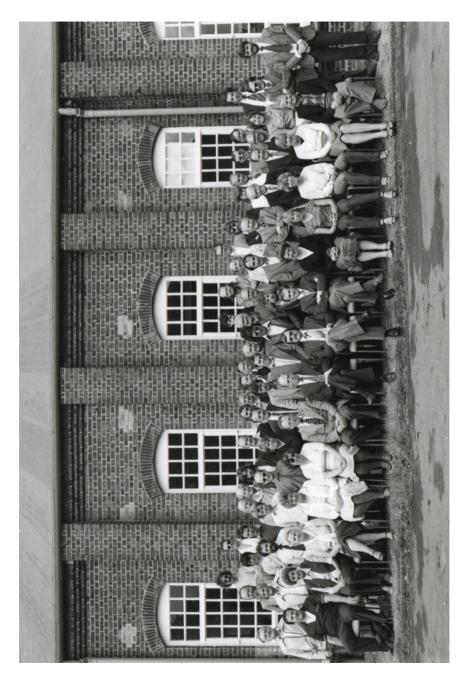




South Site Plan 1923 WAMP 85a



South Site Plan 1972



# Ron Ayerst Retirement Group WAI 244-01

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## Memorial for John Wilson January 26th 2023

Members of John's family and his many friends from the RGM gathered to pay their respects to him. He had requested no funeral but a simple scattering of his ashes and a bench in his memory. His nephew Paul and his wife Vicky arranged this. Paul said a few words about John's life, followed by a moving eulogy by Luke Saville. See below.

Some of the ashes were scattered at the south station, then Luke and Harry took just the family up to the north station for a private scattering.

On their return we all went into the café for a slide show and eulogies from Dr Geoff Hooper, Grahame Browne and Ray, representing the RGM, the Friends and the Gunpowder Railway. A delicious lunch was provided by John's family in the café.

#### **Daphne Clements**

For anyone who doesn't know me my name is Luke and I head up the mini railway. I had the pleasure of working with John on the mini railway for about eight years. I came to the Mills with no knowledge or experience of this stuff but John welcomed me in. He was a good teacher to me and when I inevitably made a mistake with something I would be really annoyed with myself and expect to be shouted at. But John would calmly say "don't worry about it, we all make mistakes" and then he would help me to fix the problem. He was a good friend to me and he was always nice to my children, they used to love coming down to get a ride on the train and to see John. The mini railway was John's creation; he built it up piece by piece over the years. He was always working on something, extending the track, building a new loco or doing odd jobs around the site.

Everyone would go to him for help because he was so capable. Not that he always enjoyed being pulled away from his own projects to do theirs. John is thoroughly missed and it now takes a team to do what he did, but we have a good team and we are dedicated to keeping the railway running in his honour. Since closing for the end of the 2022 season we have done quite a bit of track work and we've been fixing up the tram which is getting a new coat of paint ready for Easter. But most important thing we've done is renaming the mini railway in memory of John.

## Luke saville





**South Station** 



John's Bench "The Chief Engine Driver"

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*Letters* 

I was very interested to read the report of the large scale propellant trial at Shoeburyness by both Dave and Peter (Touchpaper Winter 2022 ). I was also there as an observer from the Ordnance Board, along with Roy Stenson, who I suspect had requested the trial. I think this must have been around 1983 as I had not been working up in town that long.

Dave had lead us to believe we would see a very large fireball as that was how the previous trials had gone, and had even set out a couple of stripy poles in the ground to gauge the diameter. Imagine the expressions of the group gathered around the viewing monitor when instead there was a very large bang as described, followed a short while later by the thumping on the roof by falling clods of earth. I too was under the impression that we were in a bomb-proof bunker... Roy was particularly concerned by the flying debris as he had borrowed his wife's (possible new) Mini Metro and parked it outside with the rest of the cars. I seem to remember being told later that one possible cause of this extreme reaction was that it had rained during the night, leading to a heavy layer of wet sand on the steel roof, causing extra confinement of the propellant. Well it sounded plausible to me.

After duly inspecting the crater we drove off home, leaving the range officer with the not inconsiderable problem of how to fill it back up.

Thanks for the stories, I hope they keep coming.

Bernard Garaty P1 Small Scale 1979-82

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# **Questions Posed by Richard Hooker**

I have a few points and questions which I hope will be interesting, and to which I hope someone can provide answers .

## (a)

I found the articles on the Large Sealed Vessel tests in the Winter issue very interesting. I have had conversations with Geoff Hooper (amongst others) about this, and as these are published NATO standards, I doubt that any restricted information is being discussed here.

The dimensions given for this are clearly closely derived from imperial measurements, but I think that "543mm" given as the vessel height should be 534mm - almost exactly 21 inches. Maybe this was done deliberately in the article to see if anyone checked that closely. I will try to get out more often.

In building S16 at New Hill (the most obvious large concrete cube), there are still some connectors mounted on one leg of the central metal gantry, labelled: "Heater", "Igniter", "Release", "TC/1", "TC/2", and "Ripple Flash" - with "Heater" being positioned away from the other group. I can guess at the meaning of some of these, but have no idea about the others.

Len Stuart tells me that these are standard Plessey or Marconi connectors (I cannot now remember which one he said), but the notable thing is that they are all different connectors, or oriented differently so that the relating trigger switches cannot be wrongly connected. I am sure that the switches were also correspondingly labelled - overall, a simple and clever safety arrangement.

I have also been told that only simulations up to the equivalent of a 105mm artillery shell were tested at New Hill. Anything larger than this was tested at Shoeburyness / Foulness, due to a much larger available safety area.

(b)

Does anyone know exactly why flint and steel (and only this combination) struck together produce sparks?

Flint is a form of micro-crystalline quartz and Chalcedony (another form of quartz), both Silicon Dioxide (SiO2). Steel is of course Iron with a small percentage of Carbon (typically between 1 and 2%). My chemistry is not up to it, so could someone explain how this spark production works from a chemical point of view? Unless this is some form of piezo-electric effect?

#### (c)

Please could someone explain the "S" building designation. I think that I understand the other letters used, but "S" seems to have been applied to many different uses of buildings, e.g. S16 and S19 (Firing Points), S8 (Process building), S10 (Darkroom), and S25 (Charge Assembly building) at New Hill alone. I think that all of these mentioned were related in some way to the test firing at New Hill, but there seems to be no direct connection between the activities themselves. I am aware that the numbers were probably chosen in c. 1945, then later some of the building uses will have changed, but I do not think that this explains the diversity of activities carried on under this one designation. Some of our buildings were constructed well after 1945, and we have twenty-six letters.

It has just occurred to me that some bright spark could have decided on S for "Sundry", but what is the difference between this and "A" or "U" ?

Just to provoke possible discussion, the other letters which I \*think\* I understand (North Site only) are:

A: Auxiliary or Ancillary E: Explosives production L: Laboratory (& related buildings) U: Utility X: Extraction (Fan House) Some of these others have also been used for related buildings, but I can see the relevance of the designation.

"H" is one where the meaning not currently known to me. We only appear to have H7 left, plus a concrete slab somewhere. I think that some other "H" buildings (magazines) were demolished for the housing development on Beaulieu Drive.

As we have at least three different naming / numbering systems over the years (Georgian / Victorian: no building numbers as such, just descriptive names e.g. "Steam Stove No. 4"; 1923 numbering: e.g. "26" [this is the same building - nearly behind the Quinan Stove, and helpfully listed on our main map as "Brick Structure" !]; then 1945 numbering: e.g. L157). I have assumed that the only buildings to get new numbers in 1945 were the ones intended for continued use in the site's research phase.

(and finally... !) (d)

It may be of interest to some members that a new file has has fairly recently appeared for download on the Historic England website - "Science Labs to 1900":

https://historicengland.org.uk/images-books/publications/ihascience-labs-1900/

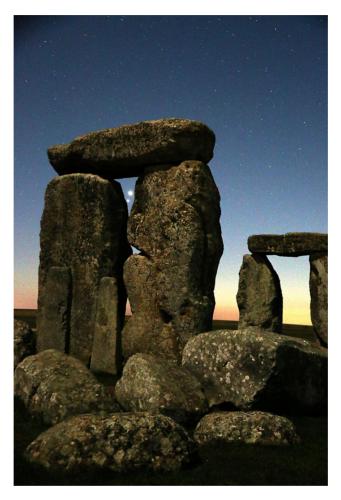
Sorry for the half-a-novel above. I didn't intend to write this much, but once I get going...

As I said above, I will try to get out more often.

## Richard Hooker

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## **Venus and Jupiter at Stonehenge**



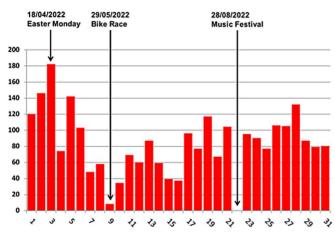
A picture I took of Venus and Jupiter close together last night. And the way I got permission to take the picture: I asked nicely.

## **Grant Privett**

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# Visitors in 2022 and Plans for 2023

During 2022 the Royal Gunpowder Mills were open every Sunday from 10th April to 30th October. This was very popular amongst those visitors that came to the site, but their numbers were relatively low and the staff and volunteers available for this operation stretched resources.



On two weekends we had to close because of local road closures, once for a bike race and then for a music festival. For 2023, therefore, the visitor attraction has been "tuned" to activities which are both manageable and profitable. These include walking tours every second Saturday, hiring out rooms for events, laying on reenactments and encouraging group visits. Details of the programme are being worked on right now, so keep an eye on the Royal Gunpowder Mills website -

<u>https://www.royalgunpowdermills.com/openingtimes</u> for details.

## **Geoff Hooper**

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# **Restoration of Building L157**





In the Winter 2022 edition of Touchpaper we acquainted you of where we stood with regard to repair works to our Grade One listed building – L157. Since then there has been significant progress. Having secured the go-ahead for the repair programme from the National Heritage Memorial Fund, the first task has been the appointment of a Project Manager for the task of overseeing the process. Two excellent companies, Artelia and Greenwood Projects, were identified and they submitted competitive tenders. Both were compliant with the project requirements, but Artelia won the day.

The first step is for Artelia to appoint a Conservation-accredited Architect, this being a requirement of Historic England. It is planned to complete the selection process by the end of March 2023.

As L157 is Grade One listed, any work requires the go-ahead from the Epping Forest District Council conservation staff, also from Historic England. Both organisations visited the site in January to acquaint themselves with the detail of the planned repair work and have been very supportive to us.

## **Geoff Hooper**

## Julie's Nature Column

I love the spring with everything bursting into life. You can hear the change in the birds singing, woodpeckers drumming, catkins opening on the trees and flowers popping up. I've noticed a few clumps of snowdrops which I haven't seen before; perhaps squirrels are responsible for relocating these bulbs! Squirrels aren't the only animals that dig the ground. Badgers, Foxes, Rabbits and Moles all leave their mark. On top of that we have the deer scraping the ground during the rut and also when arguments break out they scuff the turf quite a lot. These two were disputing over the pecking order for food, but while they were using up their energy the other deer around them were getting a bigger share of the food.



I mentioned the Otters in my last edition and that it would be interesting to see if the visits taper off, but they are still visiting. One particular otter rested under the bridge for almost an hour. After studying the photos it appears that otters fidget a lot. I have selected a few so that you can see what I mean; perhaps otters just rest more than they sleep. We are taking part in the Lee Valley Otter camera survey which is to try and understand better how otters use the Lee Valley. I'm hoping for some good results to pass on to them.



Our new Tawny owl box has finally gone up on a tree. Two volunteers did a great job of installing it and now it's just a waiting game to see whether it gets used. Here's an older photo of a Tawny owl at the Mills caught in the headlights which it didn't seem to mind as it sat there for a few minutes. I have also been looking out for a Red Kite nest and I might possibly have found it. If I am correct I will monitor it for nesting activity and then let the experts at Lee Valley know about it if it's active.



I recently mentioned not seeing many foxes which is a bit unusual at the Mills, but since mentioning it I've been spoilt for choice... foxes everywhere I go. I watched one particularly bold fox not bothered that I was watching it close by. It pounced on a pile of dead leaves and caught what looked like a mouse. Foxes have excellent hearing and can apparently hear a watch ticking from 36 metres away. This fox in the photo was having a cosy rest in the deer haylage.



We have recently had the female deer (Doe) joining the males on the Mead. I think they have caught on to my feeding patterns although I do put feed out at both ends of the site. Here's a pair enjoying a nibble on the food. A few of last year's fawns also come to the Mead with their mums. The Does are much more nervous than the males as they have less interaction with people, but it's still nice to see them when they turn up.

Well that's all for now.

#### Julie Matthews Mills Nature Conservationist

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