

EXPLOSIVES TRAIL (AT WAT TYLER COUNTRY PARK) – EXTRACT

In 1863 Alfred Nobel patented an invention called Dynamite. He had developed a safe way to handle the dangerous explosive Nitro-Glycerine and wanted to sell to the huge markets of the British Empire.

In 1891 the British Explosives Syndicate built a Factory in Pitsea in which he was a secret or silent partner, but eventually was able to trade under his own name. Around this time The Pitsea Explosives Factory mostly made explosives for mining. Workers were searched on arrival for metal objects that could cause a spark – matches, coins, watches, jewellery. It was feared a spark could ignite volatile fumes and blow up the factory, as had happened in a number of factories around Europe. Wooden walkways around the factory stopped your shoes picking up stones which might have caused a spark.

Staff were kept on site to guard against accidents or sabotage by enemy agents during wartime. Explosives were a very profitable business, and the company had to keep its guard up.

In 1902, with tensions building between the British and the Dutch over South Africa, the Pitsea factory added buildings for the manufacture of Cordite. Cordite had been used since 1889, when it replaced black gunpowder. It consisted of the high-explosives nitro-glycerine and nitro-cellulose (gun-cotton), with acetone playing the key role of solvent.

Prior to WWI, acetone used in British munitions was made almost entirely from the dry distillation (pyrolysis) of wood. It required a hundred tonnes to produce a tonne of acetone. This became even more pressing during the spring of 1915 when an acute shortage of shells – the so-called ‘shell crisis’ – reduced some British guns to firing just four times a day. The British government’s response was to create a dedicated Ministry of Munitions, run by David Lloyd George.

Conkers for Cordite ... In May 1915, Chaim Weizmann demonstrated that he could convert 100 tonnes of grain to 12 tonnes of acetone, the government commandeered brewing and distillery equipment. They produced 90,000 gallons of acetone a year, to feed the war’s insatiable demand for cordite. The British army and Royal Navy, alone, fired 248 million shells from 1914 to 1918.

An accident occurred in May 1916 when a Chemist and his assistant were killed when he dropped a small bottle of nitro-glycerine! Fumes in the factory buildings could also be so overpowering that workers would frequently pass out. Fellow workers would then pull their unconscious workmate out of the building and leave them in the fresh air until they recovered.

The angular earthworks you see all around the park are called blast mounds. They were built around and between the buildings of the factory to contain accidental explosions and stop them spreading from building to building. Blast mounds were designed to deflect explosions in case of an accident.

Around this perimeter track there were five magazines, each holding about 1.5 tons of nitroglycerin-based explosives. The nitro-glycerine produced here at the highest point of the factory site was piped by gravity to other buildings at lower positions around the site.

Dynamite sticks would be wrapped in greaseproof paper and packed into crates at the packing house, ready for use in mining.

The Wat Tyler Centre building could also have been where guncotton was ‘washed’ in nitroglycerin in huge open tanks to stabilise the explosive. The floors of all buildings on the site which dealt directly with explosives were covered in sheets of lead to avoid causing sparks and igniting the explosives.

Explosives were loaded onto barges from the wharfs and shipped to a special explosives mooring at Hole Haven (where the creek meets the Thames) and then onto larger ships.

The tramline still leads to the third of three wharfs (the other two were on the landfill site). This wharf, positioned close to a number of buildings, would have been used as a goods inwards wharf, for off-loading safe incoming materials.

End.