

WASC 2247

D. Doe
Letter to Touchpaper

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Early Days of
Plastic Propellant
and Last days
of the mills in
1940.

Early Days of Plastic Propellant

The article by Les Tucker in the March issue was of particular interest to me since I used the Listed Buildings, called Groups A, C, D, F and G, for Plastic Propellant Manufacture and Filling from late 1945 until we moved to the South Site in 1952. During this time the concrete blast walls and railway lines serving Groups C, D F and G were demolished by German prisoner of war labour and the buildings were gradually converted to laboratories and given 'N' or 'L' numbers in about 1947.

This all made life difficult for me since, by then, I had improved the filling process and introduced vacuum pressing, to the extent that I was required to produce 100 5" light alloy rocket motors per week for use by Guided Weapons Group. These were used at Aberporth and Larkhill ranges to power test vehicles for guidance systems. The range at Woomera was under construction and the manager from an Australian ordnance factory joined us for 6 months to learn the process and to recruit a junior to run the Australian plant. Drawings for the layout of the plant were produced and the necessary equipment was specified, ordered and manufactured in this country.

In addition to this, Westcott was opened and they had a filling and pressing section for plastic propellant. The manager and their industrial staff were sent to us for training in the necessary inspection techniques and the manager stayed with us until the Royal Ordnance Factories took over the guided weapons to boost motor manufacture around 1954. Also, important advances were made in the propellant by the introduction of ammonium perchlorate as oxidant instead of sodium nitrate and poly-isoButene as binder in place of a solution of polyStyrene in poly-alphaMethyl Styrene. These compositions required more powerful equipment and, in some areas, the development of remote control procedures.

Planning of the new area allocated on the South Site commenced in 1948 and the writing of specifications and ordering of new and better equipment was another activity and resulted in the purchase of new milling and sawing machines for oxidant preparation, a new more powerful pug mill and a longer horizontal press.

I must point out that the Building L169 mentioned in Les Tucker's article could not be the same one as that mentioned as 'destroyed by explosion in 1861'. L numbers, denoting laboratory area, were not given to buildings until around 1947/8. It must have been rebuilt as a cordite building and was used by myself for oxidant preparation and storage of empty rocket motor cases from 1945 until 1952. It was presumably demolished after this since it no longer appears on the site map.

Also, steam engines were removed from these buildings long before 1945 and were replaced by 30 HP DC electric motors, probably at about the same time as the central Boiler and Power House was built.

Again, the two mills in Group B were in full use until early 1941 when a parachute mine fell on to an empty Reel Store situated between Millhead Stream and the boundary fence (A twin bomb landed in the watercress bed on the Abbey Farm). The two mills and the waterwheel were virtually undamaged but the light roof and wall cladding blown off. The subsequent demolition which took place about 1950 can now, only be regarded as vandalism!

'Dick' Doe

✓ No. 4 Incorporating Mill