

WASC 2150  
PRESS

WALTHAM ABBEY  
ACADEMIC ADVISORY  
BOARD MANUAL

### III. RDX building

#### Brief History

- 1) The buildings in the RDX section were erected during the late 1930s to manufacture the experimental high explosive RDX. The research Department, Woolwich and Waltham Abbey were instrumental in developing the manufacturing process. This process was later given to the Americans by the Tizzard mission in 1940.

#### Practicalities

- 1) We propose that one building and all the small equipment (1 or 2 remote electric motors) in this area are kept.
- 2) The buildings are of a light steel frame construction covered by asbestos sheeting.
- 3) We advise that the asbestos sheeting should be disposed of by the South Site decontamination project and that only the steel frame (?and wooden fittings?) should be moved to north site. This could be lifted whole, or preferably numbered and dismantled.

#### Importance to the project

- 1) We believe the RDX used in the bouncing bombs was produced at Waltham Abbey in these buildings.
- 2) The building could be used as a centre piece to develop the theme of Anglo/American defence co-operation during and after the war.
- 3) The building could be used as a centre piece in an exhibition to examine the relationship between the Research Department Woolwich and Waltham Abbey, generally and particularly during the inter-war years.
- 4) It illustrates a type of explosives building not represented in the North Site assemblage.
- 5) We believe the precision high explosives used in the post-war British and American nuclear programme were produced in these buildings.

## B. ARTEFACTS

### (i) Larger artefacts

#### (a) Horizontal Press

##### Manufactured by Greenwood and Batley

The Greenwood and Batley Horizontal Press is of a type manufactured in the late 1930s to extrude large diameter cordite charges. Machines of this type were first installed at the Royal Naval Cordite Factory Holton Heath, Dorset about 1936.

There they were used to extrude large diameter charges, used to catapult aircraft off the sides of ships.

Later, presses of this type were used to extrude solid propellant rocket charges. It was for this purpose that this machine was installed on South Site in the early 1950s.

### Technological importance

The horizontal presses of this type were the largest type (\*) of explosive extrusion presses used in Britain. Beyond c.10 inches extrusion becomes impractical for a number of reasons and manufacture by casting is normally preferred.

Machines of this type were also widely exported to British Commonwealth factories. For example a machine of this type was recorded during the historic survey of the Second World War explosives factory at Melbourne Australia.

### Importance for the project

- 1) It is a big impressive and historically important press.
- 2) We believe it is the last press of its type left in England.
- 3) It is clearly associated with activities carried out at Waltham Abbey during the post-war period.
- 4) It represents the ultimate in British 1930s explosive extrusion technology.
- 5) It can be used to illustrate the diffusion of British inspired technology in the ROFs to Commonwealth factories, emphasising the international links of the industry.
- 6) It could be used as a centre piece in a display interpreting the development of rocket technology at Waltham Abbey in the early 1950s.
- 7) It could be used in a display showing how such a machine functioned.

\* Excluding a captured German 14 inch press, ? used at Caerwent.

## **(b) Vertical Presses**

### Brief History

In [P718 and P706] vertical solvent cordite presses remain in situ. [P718] example has better survival of the fume extractor hoods and other service pipes.

Vertical presses of the type surviving on South Site were introduced into the British explosives industry in the early 1890s to extrude cordite.

### Importance for the project

- 1) They are impressive machines.
- 2) We believe they are the last presses of their type left in England.
- 3) They represent a very typical type of press used in the manufacture of cordite.
- 4) Both presses should be acquired. One to form a centre piece in the interpretation centre explaining the manufacture of cordite. One to re-erect in an appropriate

building, to show how the space was organised and controlled within an explosives danger building.

### **(c) Dilly carts**

In [P712] the Dilly Carts for truck drying solventless cordite paste exist complete with the hoods for blowing hot air through the racks of dough. They would help to tell the cordite story.

### **(ii) Smaller artefacts**

- 1) At least one of every type of safety light used on site.
- 2) Rope mantelets (blast curtains) from around presses.
- 3) Wagons and drying equipment for drying explosives.
- 4) Selection of safety telephones.
- 5) Ephemera - posters, fire and safety instructions from walls.
- 6) LC19th hot air drier blower near guncotton stove.
- 7) Examples of non-sparking fixtures and fittings (ie window furniture)
- 8) All fittings from LC19th guncotton stove.
- 9) All fittings from LC19th Cordite Mixing House.
- 10) Copper barbed wire from near NG Washing House
- 11) All Powfoot material collected in P708
- 12) All other materials useful to the project and not earmarked by RO for removal off site(ammo boxes etc)

## **C. DOCUMENTATION**

Held in the **Fire Station** [P745], a vast archive of paper based records is being looked after, heating being provided during the winter months. Despite the care it is afforded, damage from fire or theft is still a possibility and RO have indicated that they would consider relocation to the WARGM site or to another suitable repository.

## **D. BUILDING MATERIALS**

- 1) The demolition of South Site will provide the project with a unique opportunity to acquire suitable building materials for use in repair and reconstruction work.
- 2) The attraction of using South Site materials is that they are probably identical to materials on North Site and may be closely dated.

### Material to be acquired

- 1) **Corrugated iron** - LC19th and Great War in bulk for use in reconstruction work (eg porches to H7), a small sample to be kept as a reference collection. To aid dating the number of the building from which each sheet was removed from should be sprayed on the individual sheets.