

**THE ROYAL GUNPOWDER FACTORY,
WALTHAM ABBEY, ESSEX**

Buildings 001-040





ROYAL
COMMISSION
ON THE HISTORICAL
MONUMENTS
OF ENGLAND

Subject QUINAN STOVE (22a)

To **Graham Vincent**

Date 19th July 1995

From **Bob Watts**
Ref E5275/01/1/03

Graham,

Please:-

- i) Remove 2 No. small stock piles of ash and associated trees.
- ii) Remove tree stumps (1 No. with asbestos).
- iii) Scrape more out of canal at northern end.
- iv) Clean off tarmac path adjacent corrugated steel blast wall - asbestos present.
- v) On completion yellow ballast to be applied to steam main routes.
- vi) When canal sampled move loose duct work into canal to gain access to 22a surrounds. Clean out pits.

Regards

BOB WATTS.

Copy:- Steve Chaddock

Subject **BUILDING 29**

To **Graham Vincent**

Date **19th July 1995**

From **Bob Watts**
Ref **E5275/52/1/01**

Graham,

Please apply latex emulsion to seal edges of remaining asbestos board (in poor condition) trapped under collapsed concrete revetment wall.

Regards

BOB WATTS.

Copy:- **Steve Chaddock**

MEMO



SC

BRITISH AEROSPACE
DEFENCE
ROYAL ORDNANCE
ENVIRONMENTAL SERVICES GROUP

To: R. Watts
From: G.G. Vincent
Date: 5 July 1995
Subject: VARIOUS

1. **NEWTON'S POOL:**

We have carried out a metal detection exercise around Newton's Pool, nothing to report. However the scan would have been more effective if undergrowth were to be trimmed down and cleaned first.

2. **QUEENS MEAD STOCKPILES:**

There are two particular stockpiles here, the origin being dredged material from canal immediately north of building L134, one is grossly contaminated with cordite and should be treated by firing and the other likewise contaminated but to a lesser degree (asbestos is also present) we should separate this and dispose of as special waste.

3. **BUILDING No. 29:**

This building requires cleaning out again, but another problem exists in the form of asbestos insulation board trapped below fallen entrance retaining wall. Where exposed the asbestos is fragmenting and should be removed, please authorise the removal of fallen walling by breaking up insitu.

7.7.95. Removal authorised pending sealant treatment.

4. **MUCK DISPOSAL:**

Please see attached sketches (2) of material stockpiled at Bridge 8 and H67 zones with disposal sites marked.

5. **RESOURCES:**

We have hired in a 5 tonne x 360° excavator and two additional 6 tonne dumpers, currently seeking for a further 6.8 tonne (EX 60) x 360° excavator.

6. **NEW HILL:**

Scrutiny work etc. will commence Thursday this week. The gang(s) will be resident there during daytime.

Regards,

Graham Vincent
Site Project Manager
Environmental Services Group

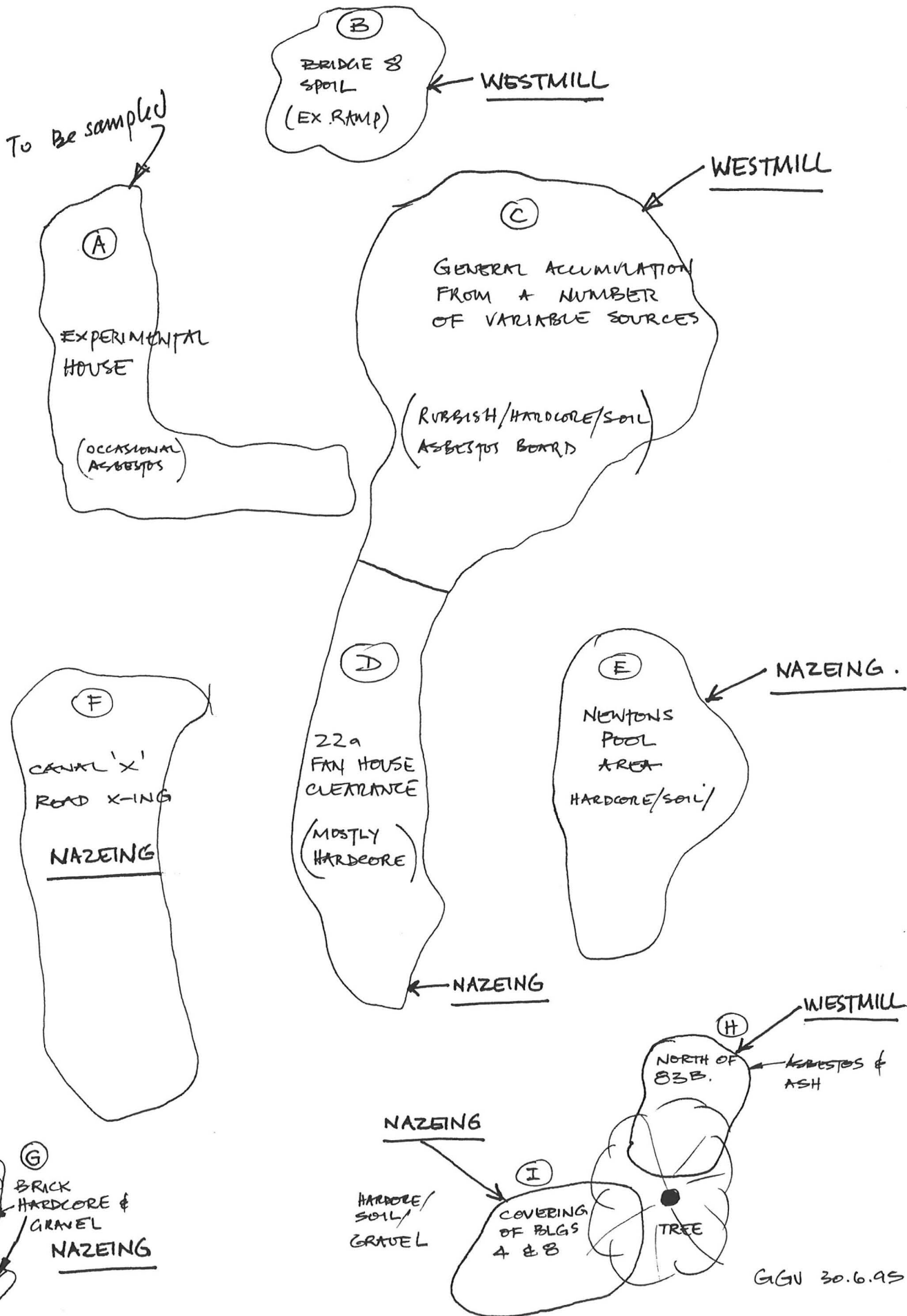
CC: P. Mayell + sketches (2)

S. Chaddock + sketches (2)

file - Action file + sketches (2)

- WSA + sketches (2)

MUCK STOCKPILES @ BRIDGE 8



L137

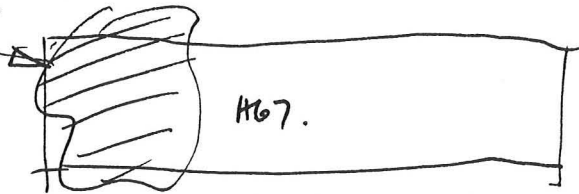
GAGN 30.6.95.



Sp. waste

Dredged material
containing blue+white
asbestos/cerite
+ mixed with
foul odour ex. H26

sp. waste ex fan pit
Cerite/Asb. Wks.



canal

canal.

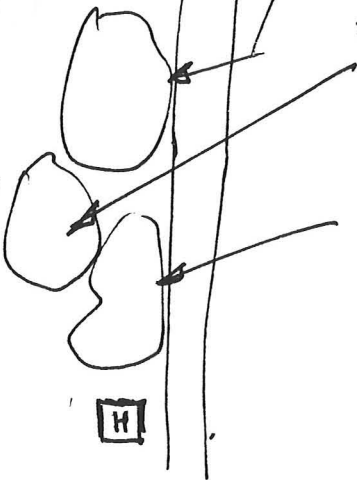
TRACK.

handcare?

bridge 11 ex Mabeey

TO NAREING.

Fan house 229.



1

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
1	98 (1807), 159 (1830)		TL 37636 02580
NAME/FUNCTION Grand Magazine		START DATE 1804 by 1830(rebuilt) 1867-8(rebuilt)	END DATE by 1830 1867
Wet Guncotton Magazine		c1900	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1806	WASC 900/58 + MR 580 (1)	1804	'Authority to provide a magazine capable of containing 1500 barrels, with watch house and extensive walls' Winters 1887 p62
1827	WASC 900/04 + MPH 271 ; Grand Magazine and Barge House	1807	Statement of Property WO55 2351 ; 98 Grand Magazine Brick foundations and boarded 68'x35'
1830	WO55 2694 ; Grand Magazine	1830	Statement of Property WO55 2694 ; 159 Grand Magazine Wood and slated 80'x20'
1830	WASC 900/05	1830	Drayson.F. p25
c1830	WASC 900/06	1841	Statement of Property WO55 2856 ; 159 Grand Magazine Brick wood and slated 80'x20'
c1835	WASC 900/07	1851	Statement of Property WO55 3027 ; 1 Grand Magazine Brick, wood and slated 80'x20'
1861-186	WASC 900/10A	1867	WASC 901/125 Plan of present (Grand) Magazine and Boat House 10/12/1867
1865	WASC 900/13	1886	WASC 901/142 Plans and Sections 24/4/1886
1865	WASC 900/14	Plans;	
1871	SUPP5 682	01	B01 - B07 ; Plans and Elevations 1860 to 1886
1865	WASC 900/38 + SUPP5 975 ; Grand Magazine	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Wet Guncotton Magazine built 18/7-8 p1
1865	WASC 900/42	c1925	RGPF Ledger WASC 1680 ; Wet Guncotton Magazine
1897	WASC 900/53C	c1945	RGPF Ledger WASC 1508 ; Wet Guncotton Magazine (Disused)
c1900	PRO SUPP5/361	1992	RARDE List ; Grand Magazine
c1910	WASC 900/65	1993	RCHME NBR No.91447
c1910	WASC 900/79		
1917	WASC 900/70		
1917	WASC 900/72 ; 1		
1919	WASC 900/74 ; 1		
c1920	WASC 900/80 ; 1		
1923	WASC 900/84 ; 1		
1932	WASC 900/87 ; 1		
> 1940	WASC 900/91A ; 1		
1954	A - B.34 ; 1		
c1960	WASC 900/94 ; 1		
c1963	WASC 900/97 ; 1		
1972	WASC 900/102		
1972	WASC 900/104		
1976	WASC 900/113		

2

<p>PHOTOGRAPHY HISTORIC</p> <p>WASC 1039 Wet guncotton magazine (The Grand Magazine) WASC 1543/36-43 Grand Magazine int & ext</p>	<p>PHOTOGRAPHY RCHME</p> <p>1) 206/O/2 08 Mar 1993 Grand Magazine from North West 206/O/3 08 Mar 1993 Grand Magazine from North West 206/O/4 08 Mar 1993 Grand Magazine from South East</p> <p>2) BB92/26223 1 Grand Magazine view from South West. BB92/26224 1 Grand Magazine view from South East. BB92/26225 1 Grand Magazine view from North East. BB92/26226 1 Interior Grand Magazine view from South East. BB92/26227 1 Interior Grand Magazine view from North East. BB92/26365 1 Drawing Grand Magazine 23.July.1885 901/5 (MOD Chessington) BB92/26372 1 Drawing 0.01.B.07 Grand Magazine 10.Dec.1887 (MOD Chessington) 901/8 ← 6 mitred as 8</p>
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 2, 2a

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in English bond
- 2) ROOF MATERIALS AND STRUCTURE
Slate over brick vault
- 3) POWER SOURCE
-
- 4) DIMENSIONS i) L 20m ii) W 14m iii) HT eave 3.6
- 5) See Attached Threatened Buildings Record report

The evidence from the ledgers suggests that three Grand Magazines have stood on this site. An early brick and wood structure replaced before 1830, this structure then lasted until 1867 when the present all brick structure was built.

5

Some clearance around Building 1 to assess spread of asbestos from demolition of 2.

finds states from roof.

Canals around Paynes' Island remain unexcavated save the interface between RCHME 281 Canal and Committ Stream where sluice and footbridge abutments were found as expected.

ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND

MOD Building No. 1
The Grand Magazine
The Royal Gunpowder Factory
Waltham Abbey
Essex

NBR No: 91447
NGR: TL 37636 02580

The Grand Magazine is a single-storey brick building of nineteenth-century date. Relatively isolated at the northernmost end of the Royal Gunpowder site, and surrounded by a canal system, the building functioned as a factory magazine for the last stage of storage of gunpowder, in barrels, before shipment from the site.

-ooOoo-

The Grand Magazine is situated at the northernmost end of the site on Payne's Island, an area of land which was originally surrounded by a canal system.

The original magazine appears to have been built as a rectangular structure in c1805-6.¹ By 1821² it is shown as having a cross-shaped plan and a rectangular "barge shed" over the canal on the west side.³ Although the latter form was that of the present building, it is possible that the magazine shown in the early nineteenth century maps was replaced in the second half of the nineteenth century. In 1867 a drawing was made for "... a New Magazine Proposed to be erected on the site of Present Magazine".⁴ Although this drawing has "cancelled" written in pencil on it, most of the design features in that proposal were those of the present Grand Magazine. Minor alterations were carried out to the building in 1875.⁵ A group of signatures with accompanying dates ranging from 1885 to 1894 on most of the drawings of the Grand Magazine suggests that further work was carried out on the structure in the late nineteenth century.⁶

The building is of one storey. It comprised a main rectangular range of 64'6" x 27'⁷ (19.35 x 8.1 m), aligned north to south⁸, which was the magazine store itself. A projection, of 9' x 9.6"⁹ (2.7 x 2.88 m), on the eastern side of the range, off-centre to

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- 1 Appendix C "Historical Survey" by Purcell Miller Tritton & Partners, 64 Bury Walk, London SW3 6QA, produced in 1985, pp10-12. A rectangular structure is shown on the site in a map of 1806 (PRO MR580).
 - 2 Map of "A Survey of the Lands and Buildings, the Property of the Ordnance, at the Royal Powder Works, Waltham Abbey, made in compliance with the Master General and Boards Order 6th June 1821" [updated in c1850s-60s] (PRO, Hayes Repository).
 - 3 The barge shed is also represented in a plan "shewing the Buildings and Land attached to the Gunpowder Factory at Waltham Abbey", tracing by Thomas Moody, 2 June 1830 (PRO W055/2694).
 - 4 The range is aligned north-north-east to south-south-west but for clarity in this report, it is described as if it was aligned north to south.
 - 5 Drawing by the clerk of works I Randall 7/12/1867, cat. 0.01.B.07 (MOD Central Disposals Unit, Chessington).
 - 6 Plan and section of "four extra bays" [partitions] and traveller at Grand Magazine, dated 20/8/1875, cat. 0.01.B.05 (MOD Central Disposals Unit, Chessington).
 - 7 For example, cat. 0.01.B.01 and 0.01.B.04. The proposal drawing of 1867 has further signatures with a date of 1887, cat. 0.01.B.07. (MOD Central Disposals Unit, Chessington).
 - 8 Ledger c1908, cat. WASC 1509 (PRO, Hayes Repository).
 - 9 The range is aligned north-north-east to south-south-west but for clarity in this report, it is described as if it was aligned north to south.
 - 10 Ledger c1908, cat. WASC 1509 (PRO Hayes Repository).

B07
10-12-1867
Neg 26372 1887
②
B01
23-7-85
Neg 26365
②

the south, was a lobby and a shifting room.¹⁰ Centrally placed on the western side of the range is a square projection, with an exterior width of 21'3" (6.4 m), which was the cooperage.¹¹ A rectangular wall of 105'3" x 64'6" (31.5 x 19.3 m) which enclosed the building may have been an existing boundary wall from the earlier building.¹² The west side of this wall was flush with the west side of the cooperage, and against it, covering the canal on the west side, was a barge house.

The building is constructed of yellow brick and the floor was originally of leather-covered boards.¹³ The interior was matchboarded throughout¹⁴, employing deal with copper fastenings.¹⁵ The roof covering is slate. The barge house was iron-built.¹⁶

The walls of the building are laid in English bond and range from 0.71 to 0.83 metre wide. Both the main magazine range and the cooperage have barrel vaulted roofs, in stretcher bond brick, approximately 0.35 metre wide. Brick buttresses on the east and west sides of the main range and one buttress on each of the north and south sides of the cooperage supported the weight of the roof structure against the walls. Relying on natural lighting in the building, there was a window at both the north and south ends of the main range, a pair of windows on the south side of the cooperage, as well as a pair of windows on the east side of the shifting room and lobby. The windows, which appear to have been glazed, had segmental heads and timber shutters.¹⁷ Above the windows of the main range are openings which employ perforated bricks on the exterior, for ventilation.

The exterior height of the roof of the main range is 18'9" (5.62 m), while that of the cooperage is 15'6" (4.65 m) and the barge house was 19'6" (5.85 m).¹⁸ The shifting room and lobby had a lean-to roof.

In c1875 the main rectangular range had partitions inserted and a traveller was attached to the barrel vaulted ceiling.¹⁹ The partitions divided the magazine into four main bays and a central through-passage from the lobby on the east side to the cooperage on the west side. The positions of former joists are indicated by six empty mortices (approximately 0.30 x 0.35 m)

Cat. 0.01.B.01 (MOD Central Disposals Unit, Chessington).

C 11
B07 Cat. 0.01.B.01. Rather than being for the actual construction of barrels, the cooperage may have been used only for checking them since, in the 1867 proposal drawing it is labelled as room for examining and tightening of hoops to barrels, cat. 0.01.B.07. (MOD Central Disposals Unit, Chessington).

B07 12 In the proposal drawing of 1867 the wall is labelled as existing, cat. 0.01.B.07. However, since a later design drawing, dated 1885, specifies that the enclosure and sleeper walls are to be in stone lime mortar, it is possible that the enclosure walls were rebuilt when the new Grand Magazine was constructed, cat. 0.01.B.01. (MOD Central Disposals Unit, Chessington).

13 As outlined in construction details in a drawing dated 30.iv.1894, the second of two drawings catalogued 0.01.B.01 (MOD Central Disposals Unit, Chessington).

14 As outlined in construction details of 30.iv.1894, the second of two drawings catalogued 0.01.B.01 (MOD Central Disposals Unit, Chessington). The matchlining does not survive but small timber pieces projecting from the brickwork on the interior remain.

B04 15 Drawing of Grand Magazine details, dated 28/8/1885, cat. 0.01.B.04 (MOD Central Disposals Unit, Chessington).

16 Ledger c1908, WASC 1509 (PRO, Hayes Repository).

17 Drawing of plans and sections 23/7/1885, Cat. 0.01.B.01 (MOD Central Disposals Unit, Chessington).

18 Ledger c1908, cat. WASC 1509 (PRO, Hayes Repository).

19 Plan and section of "four extra bays" [partitions] and traveller at Grand Magazine, dated 20/8/1875, cat. 0.01.B.05 (MOD Central Disposals Unit, Chessington).

on the east and west sides of the interior walls in the range, approximately two metres from the ground.²⁰

20
D Later minor alterations include reflooring of the building in asphalt on concrete²¹. More extensive destruction was carried out later this century, and at the time of this survey the shifting room and lobby, the enclosure walls, the barge house and part of the cooperage had been demolished. The matchboarded panelling, partitions and traveller had been removed.

The secondary design of the Grand Magazine was copied for at least one other magazine on the southern site of the Royal Gunpowder Works at Waltham Abbey.²²

Surveyed March 1993
Report by R L Burgess

S The proposal drawing of 1867 shows bay divisions in approximately the positions of the empty mortices and states that the four bays had a capacity for storing 2000 barrels, cat. 0.01.B.07 (MOD Central Disposals Unit, Chessington).

Ledger of c1908, cat. WASC 1509, (PRO, Hayes Repository).

As seen, for example, in uncatalogued and undated drawing of Red Magazine, Quinton Hill, now demolished) (PRO, Hayes Repository).

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 2	RCHME NUMBER	N.G.R. TL 37635 02575
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NAME/FUNCTION Porch	START DATE 1865-6	END DATE 1940?
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NO PHOTOGRAPHY
AVAILABLE

<p>CARTOGRAPHIC DEPICTION</p> <p>1865 WASC 900/13 1865 WASC 900/14 1871 SUPP5 682 1865 WASC 900/38 + SUPP5 975 ; Porch 1865 WASC 900/42 ; Porch 1897 WASC 900/53C c1910 WASC 900/65 c1910 WASC 900/79 1917 WASC 900/70 ; 2 1917 WASC 900/72 ; 2 1919 WASC 900/74 ; 2 c1920 WASC 900/80 ; 2 1923 WASC 900/84 ; 2 1932 WASC 900/87 ; 2 > 1940 WASC 900/91A 1954 A - B.34 ; 2 c1960 WASC 900/94 c1963 WASC 900/97</p>	<p>DOCUMENTARY REFERENCES</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Porch built 1867-8 p1 c1925 RGPF Ledger WASC 1680 ; Porch c1945 RGPF Ledger WASC 1508 ; Porch (Disuse)</p>
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 1) 206/P/18 10 Mar 1993 From South
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 1, 2a

CONDITION Poor

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in Flemish bond
- 2) ROOF MATERIALS AND STRUCTURE
Flat tiles and cement in layers
- 3) POWER SOURCE
-
- 4) DIMENSIONS i) L - ii) W - iii) HT 2m
- 5) The building has largely been demolished, however the south west corner does survive to its full height with the remains of a window opening on the south wall.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 2a	RCHME NUMBER	N.G.R. TL 37624 02567
NAME/FUNCTION Wet Guncotton Magazine		START DATE 1915?	END DATE 1955?
NO PHOTOGRAPHY AVAILABLE			
<p>CARTOGRAPHIC DEPICTION</p> <p>1917 WASC 900/70 1917 WASC 900/72 1919 WASC 900/74 ; 2a c1920 WASC 900/80 ; 2a 1923 WASC 900/84 ; 2a 1932 WASC 900/87 ; 2a > 1940 WASC 900/91A ; 2a 1954 A - B.34 ; 2a c1960 WASC 900/94 ; 2a c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113</p>		<p>DOCUMENTARY REFERENCES</p> <p>Plan; 02a B01 - 1915 ; Site plan and Details of Roof etc. c1925 RGPF Ledger WASC 1680 ; Wet Guncotton Magazine</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
<p>RELATIONSHIPS WITH OTHER MONUMENTS</p> <p>ASSOCIATED WITH: 1, 2</p>			
CONDITION Fair			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Formerly timber framed on a low brick sill wall
- 2) ROOF MATERIALS AND STRUCTURE
-
- 3) POWER SOURCE
-
- 4) DIMENSIONS i) L 22.3m ii) W 10.9m
- 5) The building has been demolished, an asphalt covered concrete floor slab remains. The timber framed walls were formerly attached to vertical mounting bolts set into low brick sill walls.

Asbestos boarding found all around demolished building's outline. Evidence of steel guide line bases were discovered along the southern edge of the building - suggesting that support was needed for this matchboard structure.

Investigation of North and North West of SAM

Due to increasing pressures, an attempt was made to limit the movement of the huge quantities of gravel which, it has been suggested before, derive from the construction of the Horsemill Stream Flood Relief Channel or dredging of the same.

With reference to the RCHME Survey and its recognition of the buried features in this area, and also in reference to the design drawings for the Flood Relief Channel Construction, which are held in the site archive, it was thought most economical to pinpoint potentially hazardous buried remains and excavate these individually. Similarly the Grand Magazine Complex, originally positioned on Payne's (or Paine's) Island and now attached by land to the rest of North Site, was to be investigated carefully and no attempt was made to remove the fills of the old canal system.

Grand Magazine

A general light scrape around the remains of the two buildings showed Building 1 as having a low wall existing to the north east, forming a small yard in this direction. As little more than vegetation removal was completed, it is difficult to say more about Building 1.

Building 2A, known to be asbestos boarded, proved to be an asphalt floored structure with steps up to it from the western end, also covered in asphalt. To the eastern side, evidence of a narrow gauge railway entering the building from the south was noted.

Foundations for a small hut (3a, 5) were also uncovered but not excavated.

The inlet beside 3a from Cornmill Stream was also investigated as a large amount of concrete hard-core could be seen in the interface. The fill proved to be generally hard-core and, as expected, the remains of a sluice gate and foundation for a footbridge were also found on either side of the intersection. Removal of the intersection ceased after c. 4m when the Hard-core gave way to a more soil and gravel based fill.

The canals surrounding Payne's Island represent a unique archaeological resource that has yet to be tapped and this should be considered when plans are made to develop this area.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 3a	RCHME NUMBER	N.G.R. TL 37623 02536
NAME/FUNCTION Earth Closet	START DATE 192?	END DATE 1945	

NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 3a 1932 WASC 900/87 > 1940 WASC 900/91A	DOCUMENTARY REFERENCES c1925 RGPF Ledger WASC 1680 ; E.C.
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 1,2,2a,5

CONDITION Demolished

DESCRIPTION No Surface Remains

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 4	RCHME NUMBER	N.G.R. TL 37557 02546
NAME/FUNCTION Guncotton Stove No.6 Rebuilt?	START DATE 1903 1916?	END DATE 1916	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 4 GC Stove No.6		DOCUMENTARY REFERENCES Plan; 04 B01 - 10/5/1916 ; Details of New GC Drying Stove 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stoves built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stoves c1945 RGPF Ledger WASC 1508 ; Guncotton Stoves 1991 Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 7, 10			
CONDITION ?Buried			
DESCRIPTION 5) No surface remains of this stove were discovered. The site of the guncotton stove lies beneath a deposit of river gravel, estimated depth 1m, dumped during the widening of the River Lee <i>Millhead Stream (Hood relief channel)</i> in the 1970s. Remains of this stove may survive buried beneath this deposit.			

Outline of Stove 4 uncovered during July / August 1995 -
 Porch leading out to HMS also found. Gutter found to
 contain asbestos deposits.

Evidence of molten ~~tin~~ suggests building was
 burnt out before demolition

Guncotton Drying Stoves [4, 8, 10, 11, 17]

Immediately outside the Grand Magazine compound, the remains of Guncotton Drying Store No.8 were investigated. The general layout of the Guncotton Drying Stores is well understood and the recessed channel running around a concrete pedestal, on which the timber building once stood, proved to be contaminated with asbestos lagging originating from the lagged hot air pipes (site photograph). This slab has been left open.

Similarly the floor slabs of Guncotton Drying Stores Nos. 4, 10, 11 and 17 were also exposed and remediated. In the case of these stoves, the road has been reinstated over their remains but the general outline can be seen.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 5	RCHME NUMBER	N.G.R. TL 37620 02528
NAME/FUNCTION Water Warden & Police Hut		START DATE pre 1821, post 1801	END DATE 1945? 1958? (demolished)
NO PHOTOGRAPHY AVAILABLE			
<p>CARTOGRAPHIC DEPICTION</p> <p>1827 WASC 900/04 + MPHH 271 ; Watch House 1830 WO55 2694 1830 WASC 900/05 c1830 WASC 900/06 c1835 WASC 900/07 1861-1868 WASC 900/10A 1865 WASC 900/13 1865 WASC 900/14 1871 SUPP5 682 1865 WASC 900/41A 1865 WASC 900/42 1897 WASC 900/53C c1910 WASC 900/65 c1910 WASC 900/79 1917 WASC 900/70 1917 WASC 900/72 1919 WASC 900/74 c1920 WASC 900/80 1923 WASC 900/84 ; 5 1932 WASC 900/87 ; 5 > 1940 WASC 900/91A ; 5 1954 A - B.34 ; 5</p>		<p>DOCUMENTARY REFERENCES</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Water Warden & Police Watch House Built 1866-7 p1 c1925 RGPF Ledger WASC 1680 ; Water Warden & Police Watch House c1945 RGPF Ledger WASC 1508 ; Water Warden & Police Watch House (disuse)</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
<p>RELATIONSHIPS WITH OTHER MONUMENTS</p> <p>ASSOCIATED WITH: 3a,1,2</p>			
CONDITION Demolished			
<p>DESCRIPTION</p> <p>No Surface Remains</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 7	RCHME NUMBER	N.G.R. TL 37535 02513
NAME/FUNCTION Engine/Fan House		START DATE 1903	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 7 Engine House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/1 10 Mar 1993 Machine mounting block from South East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 4, 10			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Concrete 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 0.99m ii) W 0.92m iii) HT 0.62m 5) All that remains of this structure is the cast concrete base partly buried by river gravel deposited during the 1970s. On the top of the block is a sandstone block into which are set four vertical mounting bolts. This feature is associated with two smaller concrete blocks 7m to the south and 7.4m to the north.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	8		TL 37600 02506
NAME/FUNCTION		START DATE	END DATE
Guncotton Stove No.7		1903	1945

NO PHOTOGRAPHY AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
1923 WASC 900/84 ; 8 GC Stove No.8	1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1991 Mott McDonald survey ; Burnt out 1968 (All.1)

PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME <i>Site Photog.</i>
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RELATIONSHIPS WITH OTHER MONUMENTS
ASSOCIATED WITH: 9, 14

CONDITION ?Buried

DESCRIPTION
5) The internal revetment wall of this stove and its earthen traverse has been demolished. Its position may be marked by a slight scarp on its southern side. The floor of this stove may remain buried.

*Outline excavated during July/August 1995.
Gutter found to contain asbestos deposits.
Evidence of tin deposits on concrete base suggests building
was burnt out prior to demolition.*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	9		TL 37582 02488
NAME/FUNCTION		START DATE	END DATE
Engine/Fan House		1903	1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923	WASC 900/84 ; 9 Engine House	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1903 p1
		c1925	RGPF Ledger WASC 1680 ; Engine House
		c1945	RGPF Ledger WASC 1508 ; Engine House
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
		1) 206/N/2 10 Mar 1993 From North West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 8,14			
CONDITION Demolished			
DESCRIPTION			
No Surface Remains			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 10	RCHME NUMBER	N.G.R. TL 37495 02505
NAME/FUNCTION Guncotton Stove No.5		START DATE 1903	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 10 Guncotton Stove No.5		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1991 Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 4, 7			
CONDITION ?Buried			
DESCRIPTION 5) No surface remains of this stove were discovered. The site of the guncotton stove lies beneath a deposit of river gravel, estimated depth 1m, dumped during the widening of the River Lee <i>Horsemill Stream</i> in the 1970s. Remains of this stove may survive buried beneath this deposit. <i>(Baerkeha flood relief channel)</i>			

Outline uncovered . July/August 1995 .
(see 4)

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 11	RCHME NUMBER	N.G.R. TL 37455 02473
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NAME/FUNCTION Guncotton Stove No.6 Guncotton Stove No.4	START DATE c1898 by 1914?	END DATE 1945
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION 1900 PRO SUPP5/361 ; Guncotton Stove No.6 1923 WASC 900/84 ; 11 Guncotton Stove No.4	DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1894-5 p2 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1991 Mott McDonald survey ; Burnt out 1968 (All.1)
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 1) 206/N/3 10 Mar 1993 From West pole marks edge of slab <i>Site Photog.</i>
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 16, 17

CONDITION Poor

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
-
- 2) ROOF MATERIALS AND STRUCTURE
-
- 3) POWER SOURCE
- COMBUSTION ENGINE
- 4) DIMENSIONS i) L 6.3 ii) W -
- 5) This stove was formerly rectangular in shape surrounded by an earthen traverse. The stove has been demolished, the concrete floor slab remains edged by grey engineering bricks remains although partly buried beneath the modern track.

Remains cleaned up Sept. 1995. Evidence of path and possible blast wall to Southeast.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 14	RCHME NUMBER	N.G.R. TL 37575 02462
NAME/FUNCTION Guncotton Stove No.8		START DATE 1903	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 14 Guncotton Stove No.8		DOCUMENTARY REFERENCES Plan; 14 B01 ; No.14 Guncotton Stove 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1972 ERDE List ; Guncotton Stove / Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove / Burnt out	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/P/19 10 Mar 1993 Detail of inlet pipe 206/P/20 10 Mar 1993 Detail of flanged elbow 206/P/21 10 Mar 1993 Pipe along Northern side 206/P/22 10 Mar 1993 Steps on West side 206/P/23 10 Mar 1993 Stove from East 2) BB92/26294 Guncotton Stove 14 with internal Cast Iron pipes	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 8, 9			
CONDITION		Good	

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
Galvanised metal sheet

3) POWER SOURCE
Electricity and steam ?heating

4) DIMENSIONS iv)DIA 10.8m

5) The stove comprises a circular internal brick wall in English bond revetting a earthen traverse. The entrance to the stove was from the eastern side. The lower part of the entrance porch from the canal side is constructed of shuttered concrete and has been added to the original structure. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.15m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The conical roof of the building was supported by a central post. Within the building were numerous copper nails and the remains of removable ventilation panels. The roundhouse was separated from the revetment wall by a gully 0.765m in width and 0.3m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the north connected to engine house 9. The support stanchions of the pipe may be traced from the engine house to the stove. On entering the stove this pipe formerly connected to a flanged cast iron bend, bore 30cm. This in turn connected to a flanged vertical straight cast iron pipe 106.5cm in length. This pipe then joined through a T junction to a series of horizontal cast iron flanged curves, bore 30.7cm, set on bricks within the outer gully described above. To the north of the entry curve are five full curves and one short and to the south five full curves. To the top of each curve is bolted a cast iron flanged elbow, diameter bore 12.5cm, giving a total of twelve entry pipes. A circular plate is bolted to the end sandwiched a galvanised pipe and sheet of gauze between it and the end of the elbow. This galvanised pipe would have formerly entered the side of the stove.

Historic artefacts - Circular steam heating pipe, any other metal fittings

Historic artefacts removed in August 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 16	RCHME NUMBER	N.G.R. TL 37458 02441
NAME/FUNCTION Engine/Fan House		START DATE 1894-5	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 16 Engine House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1894-5 p1 c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 11, 17			
CONDITION Buried			
DESCRIPTION The site of this engine house is covered by river gravel dumped during the widening of the River Lee in the 1970s. A small concrete block 0.71m x 0.58m with four vertical mounting bolts may mark the turn of the heating pipe to stove 17.			

*Horsquill Steam Pipe Channel
River Lee Flood Relief Channel*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 16a	RCHME NUMBER	N.G.R. TL 37500 02445
NAME/FUNCTION Guncotton Stove No. 15		START DATE 1908-14	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 16a Guncotton Stove No.15		DOCUMENTARY REFERENCES c1925 RGPF Ledger WASC 1680 ; Guncotton Stove No.15 c1945 RGPF Ledger WASC 1508 ; Guncotton Stove No.15 1972 ERDE List ; Guncotton Stove/Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove/Burnt out	
PHOTOGRAPHY HISTORIC WASC 1333-/7 No 15 Cordite stove bomb damage 5.10.1940		PHOTOGRAPHY RCHME 1) 206/N/30 12 Mar 1993 Detail of Warm Air Pipe 206/N/31 12 Mar 1993 From East 2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 17a, 18a			
CONDITION Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
-

3) POWER SOURCE
electric lighting and steam ?heating

4) DIMENSION iv)DIA 10.75m

5) The stove comprises a circular internal brick wall in English bond 2.37m in height revetting an earthen traverse. The entrance to the stove was from the western side. The entrance to the stove formerly comprised a timber framework on the opposite side of the canal supporting a corrugated iron roof over the canal. The stove was approached through a covered porch. The brick sill wall of which remains, which supported a timber frame covered by asbestos sheeting. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.35m in diameter, edged by grey engineering bricks. The timber wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof building was supported by a central post 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.66m in width and 0.28m deep. This gully was entered from the east up a flight of timber steps running up the traverse and then over into the gully. Natural lighting within the building was provided by reinforced glass windows. Artificial lighting was provided by 'Maxlume' lighting boxes formerly suspended on the exterior of the building outside the windows. The cabling for these lights was enclosed in metal pipes.

The building was heated by a single pipe entering from the engine house 17a to the south. The pipe was constructed from rolled metal sheets attached to flanged ends. The pipe was attached to the building by a circular roof plate with a diameter of 101cm and bore of 30.5cm. This joined to a flanged curve and then to two flanged straights each 2.45m in length. The pipe was insulated by fibrous abestos secured by chicken wire and protected by an outer galvanised sheet metal coat.

Historic artefacts - Intact window panes, Maxlume light boxes, any other metal fittings, large steam pipe

Historic artefacts removed September 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	17		TL 37421 02430
NAME/FUNCTION		START DATE	END DATE
Guncotton Stove No.3		1904	1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923	WASC 900/84 ; 17 Guncotton Stove No.3	1908	RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1904 p1
		c1925	RGPF Ledger WASC 1680 ; Guncotton Stove
		c1945	RGPF Ledger WASC 1508 ; Guncotton Stove
		1991	Mott McDonald survey ; Burnt out 1968 (All.1)
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 11, 16			
CONDITION ?Buried			
DESCRIPTION			
<p>This guncotton stove was formerly circular in shape and surrounded by an earthen traverse. No surface remains of this stove were located. The are is covered by a deep depsit of river gravel dumped during the widening of the River Lee in the 1970s. <i>lea for flood relief channel.</i></p> <p>This stove may survive as a buried archaeological feature.</p>			

Outline uncovered July/August 1995. (see 4)

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 17a	RCHME NUMBER	N.G.R. TL 37491 02417
NAME/FUNCTION Engine/Fan House		START DATE 1904	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 17a Engine House		DOCUMENTARY REFERENCES Plans 17a B01.B02 ; Plans and Elevations 1904 c1925 RGPF Ledger WASC 1680 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/29 12 Mar 1993 From East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 16a, 18a			
CONDITION Poor			
DESCRIPTION			
1) CONSTRUCTIONAL MATERIAL Concrete			
2) ROOF MATERIALS AND STRUCTURE Asbestos?			
3) POWER SOURCE Electricity			
4) DIMENSIONS i) L 4.05m ii) W 3.35m			
5) The building has been demolished, a concrete floor slab remains with vertical mounting bolts for a timber framed building. There is a concrete mounting block with four bolts set into it in the middle of the building. To the north and south of the engine house are small concrete blocks formerly covered by a timber and asbestos superstructure.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 18	RCHME NUMBER	N.G.R. TL 37545 02413
NAME/FUNCTION Guncotton Stove No.9	START DATE 1903	END DATE 1945	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923 WASC 900/84 ; 18 Guncotton Stove No.9		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1903 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1972 ERDE List ; Guncotton Stove/Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove/Burnt out	
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 1) 206/P/24 10 Mar 1993 Detail of roof fragments 206/P/25 10 Mar 1993 Pipe details 206/P/26 10 Mar 1993 Showing concrete porch abutting 206/P/27 10 Mar 1993 From East pole in centre posthole		
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 13, 22			
CONDITION	Good		

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
Galvanised sheet

3) POWER SOURCE
Electricity and steam heat

4) DIMENSIONS iv) DIA 10.8m

5) The stove comprises a circular internal brick wall in English bond 2.41m in height revetting an earthen traverse. The entrance to the stove was from the eastern side. The lower part of the entrance porch, formerly supporting a timber superstructure, from the canal side is constructed from shuttered concrete and has been added to the original structure. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.25m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The conical roof of the building was supported by a central post. Within the building were numerous copper nails and the remains of removable ventilation panels and fragments of galvanised exterior gutters. The roundhouse was separated from the revetment wall by a gully 0.68m in width and 0.42m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the south connected to engine house 13. The support stanchions from this pipe may be traced from the engine house to the stove. On entering the stove this pipe formerly connected to a flanged cast iron bend, bore 30.4cm. This in turn connected to a flanged vertical straight cast iron pipe 121.5cm in length. This pipe then joined through a T junction to a series of horizontal cast iron flanged curves, bore 30.7cm, set on bricks within the outer gully described above. To the north of the entry curve are five full curves and one short and to the south five full curves. To the top of each curve is bolted a cast iron flanged elbow, diameter bore 12.5cm, giving a total of twelve entry pipes. A circular plate is bolted to the end sandwiched a galvanised pipe and sheet of gauze between it and the end of the elbow. This galvanised pipe would have formerly entered the side of the stove. The pipe work in this stove is partly smashed.

Historic artefacts - Circular steam heating pipe, any other metal fittings

Historic artefacts removed September 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 18a	RCHME NUMBER	N.G.R. TL 37475 02389
NAME/FUNCTION Guncotton Stove No.16	START DATE 1908-14	END DATE 1945	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 18a Guncotton Stove No.16	DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove No.16 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove No.16 c1945 RGPF Ledger WASC 1508 ; Guncotton Stove No.16 1972 ERDE List ; Guncotton Stove/Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove/Burnt out		
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 16a, 17a			
CONDITION	Good		

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
Odd pieces of roofing felt found within the building

3) POWER SOURCE
Electricity and steam heat

4) DIMENSIONS iv)DIA 10.7m

5) The stove comprises a circular internal brick wall in English bond 2.35m in height revetting an earthen traverse. The entrance to the stove was from the western side. The netrance to the stove comprsed a timber framework supporting a corrugated iron roof over the canal. The stove was approached through a covered porch, the brick sill wall of which remains. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.25m in diameter, edged by grey engineering bricks. The timber wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof building was supported by a central post 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.66m in width and 0.28m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully. Natural lighting within the building was provided by reinforced glass windows 40.5cm x 29.5cm. Artificial lighting was provided by 'Maxlume' lighting boxes formerly suspended on the exterior of the building outside the windows. The cabling for these lights was enclosed in metal pipes. Also lying within the building were the remains of removable ventilation boards with copper knobs.

The building was heated by a single pipe entering from the engine house 17a to the north. The pipe was constructed from rolled metal sheets attached to flanged ends. The pipe was attached to the building by a circular roof plate with a diameter of 98cm and bore of 30cm. This joined to a flanged curve and then to two flanged straights each 2.44m in length. The pipe was insulated by fibrous abestos secured by chicken wire and protected by an outer galvanised sheet metal coat.

Historic artefacts - Intact window panes, Maxlume light boxes, Ventilation boards, any other metal fittings, large steam pipe

Historic artefacts removed Septamber 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 19	RCHME NUMBER	N.G.R. TL 37532 02387
NAME/FUNCTION Engine/Fan House		START DATE 1903	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 19 Engine House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1903 p1 c1925 RGPF Ledger. WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/Q/5 12 Mar 1993 From South East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 23, 36			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Formerly timber framed covered by asbestos sheet 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 4.1m ii) W 3.4m 5) The timber framed superstructure covered by asbestos sheet has been fired. The concrete floor slab remains with vertical mounting bolts set into it. In the centre of the building is a concrete mounting block 3.2m x 2.8m with a height of 0.85m. This is surmounted by a sandstone block with four vertical bolts set into it. To the north and south of this base are two further concrete bases each 3.2m x 2.8m each of which was formerly covered by a timber framed and asbestos suoerstructure.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 20	RCHME NUMBER	N.G.R. TL 37420 02365
NAME/FUNCTION Guncotton Stove No.2		START DATE 1894-5	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 20 Guncotton Stove No.2		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1894-5 p2 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1991 Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/4 10 Mar 1993 From West pole marks edge of slab	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 21			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL - 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE - 4) DIMENSIONS i) L 8m ii) W 6.25m 5) This stove was formerly rectangular in shape surrounded by an earthen traverse. A concrete floor slab remains.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 21	RCHME NUMBER	N.G.R. TL 37445 02370
NAME/FUNCTION Engine/Fan House	START DATE 1894-5	END DATE 1945	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923 WASC 900/84 ; 21 Engine House		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1894-5 p1 c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 20			
CONDITION Poor			
DESCRIPTION			
1) CONSTRUCTIONAL MATERIAL Concrete			
2) ROOF MATERIALS AND STRUCTURE -			
3) POWER SOURCE Electricity			
4) DIMENSIONS i) L 0.103m ii) W 0.92m			
5) The building surrounding the engine house has been demolished. A concrete mounting block remains with a sandstone block on the top into which are set four vertical bolts. The feature is partly buried by river gravel dumped during the 1970s.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22	RCHME NUMBER	N.G.R. TL 37525 02357
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NAME/FUNCTION Guncotton Stove No.10	START DATE 1897	END DATE 1945
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION

1923 WASC 900/84 ; 22 Guncotton Stove No.10

DOCUMENTARY REFERENCES

1908 RGPF Ledger WASC 1509 + WASC 1764 ;
Guncotton Stove built 1897 p1
c1925 RGPF Ledger WASC 1680 ; Guncotton Stove
c1945 RGPF Ledger WASC 1508 ; Guncotton Stove

1972 ERDE List ; Guncotton Stove/Burnt out
1991 Mott McDonald survey ; Burnt out 1968 (All.1)
1992 RARDE List ; Guncotton Stove/Burnt out

**PHOTOGRAPHY
HISTORIC**

**PHOTOGRAPHY
RCHME**

1) 206/Q/7 12 Mar 1993 Guncotton stove from East
206/Q/8 12 Mar 1993 Southern side of stove earthen
bank removed

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 13, 18

CONDITION Fair

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
-

3) POWER SOURCE
Electricity and steam heat

4) DIMENSIONS iv)DIA 10.7m

5) The stove comprises a circular internal brick wall in English bond, 2.55m in height, revetting an earthen traverse. The traverse has been partly removed on the southern side. The entrance to the stove was from the eastern side. Any porch arrangements on this stove have been removed and the canal immediately in front of the stove has been filled. On the opposite side of the former canal is a timber frame that originally supported a corrugated iron roof over the canal linking it to the porch. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.15m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roundhouse was braced against the brick wall by a series of horizontal joists, the holes for which are visible in the brick wall. The roof of the building was supported by a central post, 17cm x 17cm. Within the building were numerous copper nails and fragments of reinforced glass. The roundhouse was separated from the revetment wall by a gully 0.6m in width and 0.5m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the north connected to engine house 13. The support stanchions for this pipe may be traced from the engine house to the stove. The roundhouse was heated by cast iron pipes as in stoves 14 and 18. In this stove all but two of the flanged curves have been removed. These curves have a bore of 29.5cm and have flanged elbows bolted to their upper surface with a bore of 13.5cm. A circular plate bolted on the end sandwiched a galvanised metal pipe and sheet of gauze between it and the end of the elbow.

Historic artefacts - Circular steam heating pipe, any other metal fittings.

Historic artefacts removed September 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22a/a	RCHME NUMBER	N.G.R. TL 37460 02320
NAME/FUNCTION Guncotton Stove No.17		START DATE 1908-14	END DATE 1936?

NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
1923 WASC 900/84 ; 22a Guncotton Stove No.17	c1925 RGPF Ledger WASC 1680 ; Guncotton Stove No.17
	1991 Mott McDonald survey (All.1)

PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
	1) 206/N/26 12 Mar 1993 Former Guncotton stove from South
	2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)
	<i>Site Photog.</i>

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 28a, 29 CUT BY: 22a

CONDITION Poor

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in English bond
- 2) ROOF MATERIALS AND STRUCTURE
-
- 3) POWER SOURCE
-
- 4) DIMENSIONS iv)DIA 9.35m
- 5) The circular stove surrounded by an earthen traverse was demolished when the Quinan stove 22a was built. The central concrete floor slab edged by grey engineering bricks survives. To the west of the Quinan stove are the brick foundations of the porch to this stove.

Quinan Stove (22A) Area

During summer 1995 it was planned to excavate the full extent of Canal RCHME 285, from its junction with Canal RCHME 284 in the south and Guncotton Drying Stove No. 169.

Heat transfer pipes were lying across the canal between 22A/3 and 22A; these were carefully lifted and rested on the bank beside 22A.

On excavating the canal it became clear that there was very little originally deposited silt fill and that the canal was actually buried under 3-4 metres of inert river worn gravel. Apart from a few wooden balls found in soils under BR2, nothing of significance was discovered in the base of the canal. In the light of this discovery, it was thought best to discontinue the removal of the canal fill at the northern end of 22A.

The banks of the canal were seen to have intermittent upright timbers. There was no evidence of a planked walkway, although one would be expected.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22a	RCHME NUMBER	N.G.R. TL 37452 02320
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NAME/FUNCTION Quinan Stove	START DATE 1935	END DATE 1945
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NO PHOTOGRAPHY
AVAILABLE

<p>CARTOGRAPHIC DEPICTION</p> <p>> 1940 WASC 900/91A ; 22a 1954 A - B.34 ; 22a c1960 WASC 900/94 ; 22a c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113</p>	<p>DOCUMENTARY REFERENCES</p> <p><u>The Quinan System of drying Guncotton, &c.</u> 1908 Frasers and Chalmers, Ltd (Trade pamphlet) 1941-2 RGPF Quinan Stove Temperature record for Quinan Stove Oct 1941-March 1942 Original leaves from records Plans 22 B01 - B28 ; Plans and Elevations 1034 to 1936 1972 ERDE List ; Quinan Stove (derelict) 1992 RARDE List ; Quinan Stove (derelict)</p>
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<p>PHOTOGRAPHY HISTORIC</p> <p>PRO Supply 5/861 364-67 July 1935 Exteriors showing construction work PRO Supply 5/861 368 July 1935 Interior bays under construction PRO Supply 5/861 369 July 1935 detail of wire mesh wall infill PRO Supply 5/861 370 August 1936 Exterior with piework in place PRO Supply 5/861 372 ?Sept 1936 Interior showing drying basket PRO Supply 5/861 375 12-Aug-1937 West elevation</p>	<p>PHOTOGRAPHY RCHME</p> <p>1) 206/N/25 12 Mar 1993 Quinan stove from South East 206/L/30 09 Mar 1993 Quinan stove from South 206/L/31 09 Mar 1993 Pipework along West side of quinan stove 206/L/32 09 Mar 1993 Pipework along West side of quinan stove 206/R/2 17 Mar 1993 Detail of pipework to West 206/R/3 17 Mar 1993 Showing wireholes to open & close vents 206/R/10 18 Mar 1993 Detail of Northern bay 206/R/11 18 Mar 1993 Detail of Northern bay 206/R/12 18 Mar 1993 Tanks along East side of Building 206/R/13 18 Mar 1993 Shoe Room on North side of building from East</p> <p>2) BB92/26207 22A Quinan Stove view from North East. BB92/26208 22A Quinan Stove view from South West. B92/26209 22A Detail of heating pipes to Quinan Stove view from South West. BB92/26210 22A Quinan Stove view from South East.</p>
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DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Pre-cast concrete
- 2) ROOF MATERIALS AND STRUCTURE
Cast concrete
- 3) POWER SOURCE
?Steam heat and electricity
- 4) DIMENSIONS i) L 40.4m ii) W 9.77m iii) HT 4.45m
- 5) The Quinan stove is named after Kenneth B Quinan, an American citizen, sometime manager of the Cape Explosives factory, South Africa. During the first world war he was employed to design and build explosive factories for the British government. He died in 1948. It is not known if he was directly involved in the design and construction of the stove at Waltham or whether the stove takes its name from his method of drying guncotton.

The stove replaces an earlier circular stove also designated 22a (styled in this report 22a/a). The eastern side of the Quinan stove cuts the earlier stove whose concrete floor remains insitu. To the west of the stove between it and the canal the brick footings of the porch to the earlier stove remain.

A series of photographs on PRO Supply 5/861 show the Quinan stove under construction between July 1935 and completion in June 1937. The framework of the building is built up from H irons interlinked by wire mesh which has subsequently been covered by cement. The iron framed windows were put in place before the cement rendering was applied. By August 1936 the pipe work along the west side was in place, the pipe work exposed to the air. The building was lit by a system of lighting common to danger buildings with the wire encased in small bore tubes and the lights suspended on the exteriors of windows. An interior photograph Supply 5/861 372 shows one of the drying 'baskets' in place. The sheet metal basket is supported on four T iron legs the top or drying rack was covered by a mesh, an adjacent basket may be seen covered by a cloth.

The stove consists of 18 bays with a semicircular cast concrete roof. The end bays are of double width with a double gable. These bays served as loading areas and were served by a double door adjacent to the canal and double doors on each of the gable walls. The gable walls at either end were lit by 5 narrow metal windows, width 0.51m height 1.5m, each with ten lights. The windows along the east wall measure width 1.29m x height 1.5m. Along the eastern wall are three double doors, each door is protected by a toeboard to delineate the dirty and clean area. At the northern end of the building is a small shoe room. It is constructed from a timber frame with a softboard over and is covered by roofing felt. Inside the building is a shoe box with four compartments. Along the west side of the building in the recess created by the projecting end bays the building was lit by thirty two ten light windows. The tangled mass of pipes in this area was probably a light timber superstructure. With the tangled mass were light fitting that may have been set against the outside of the windows.

Against the eastern wall are two concrete tanks, each tank is composed of two compartments. Measuring 0.76m x 0.69m depth 0.62m and a larger asphalt lined tank 3.09m x 1.04m depth 0.495m. The two tanks are served by the internal gully described below and are connected by a metal pipe.

Internally the floor is surfaced in smooth asphalt and the walls are lined with painted calico. Along the west wall are fifteen bays. Each bay is 2.05m in width, each is separated from its neighbour by a concrete partition wall length 1.89m height 2.35m. Each bay was served by a warm air pipe, bore 0.175m from the exterior. A mark on the wall between the two windows probably indicates where the drying pan was attached to the wall. Within each bay are four leg holes indicating a pan base of 0.98m x 0.96m. Along the eastern wall a gully, width 0.18m depth 0.125m runs for the whole length of the building and discharges into two concrete tanks described above. By each of the double doors along the eastern wall was a fire reel.

The heating to the stove was controlled from fanhouse 22a/3 this was protected by a corrugated iron traverse 22a/1. From the fanhouse two pipes crossed over the traverse the upper and larger pipe, bore 0.685m and a lower pipe bore 0.31m. After crossing the canal these pipes formed a T junction with two pipes running parallel to the west side of the stove. The upper pipe bore reduced to 0.435m and the lower reduced to 0.275m. Opposite to each bay an outlet pipe, bore 0.175m left the upper and lower pipe to form a Y junction in order that only one pipe enters each bay. The flow of warm air from each pipe was controlled by a swinging plate within the pipes. These could be controlled through a stainless pipe, bore 10mm, set into the wall of each bay that presumably formerly housed a wire.

Historic artefacts - salvage section of pipe work to show method of working, i.e. section of upper and lower pipes where they join to the Y sections and additional pipe sections with swing plate.

Portable Historic Artefacts collected + archived Nov. 94.

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 22a/1, 22a/2, 22a/3

CUTS: 22a/a OVERLIES: 22a/a

CONDITION Fair

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a CONTINUATION SHEET

Wooden notice found inside the Quinan stove

PAN No	TIME LOADED	TEMP	TIME UNLOADED	TIME LOADED	TEMP	TIME UNLOADED
1						
6						
11						
2						
7						
12						
3						
8						
13						
4						
9						
14						
5						
10						
15						

SHIFT
No OF PANS LOADED UNLOADED

Stored in L168 .

SEBC. 26.9.95

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a/1	OLD SERIES	RCHME NUMBER	N.G.R. TL 37435 02323
NAME/FUNCTION Traverse		START DATE 1936	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
		Plans; 22 B06,B13 - 16 Plans and Details of Traverse	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/L/33 09 Mar 1993 Traverse from South	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 22a, 22a/2			
CONDITION Good			
DESCRIPTION			
1) CONSTRUCTIONAL MATERIAL Corrugated iron			
2) ROOF MATERIALS AND STRUCTURE -			
3) POWER SOURCE None COMBUSTION ENGINE			
4) DIMENSIONS i) L 19.26m ii) W 3.2m iii) HT 3.1m			
5) The traverse is constructed from corrugated iron with battered sides reinforced by flat bottom standard guage rails. The corners are strengthened by angle irons, the ends are vertical. The interior of the traverse is presumed to be packed with earth and gravel. The traverse served to protect the ?fanhouse 22a/3 from the Quinan stove 22a.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a\2	OLD SERIES	RCHME NUMBER	N.G.R. TL 37445 02296
NAME/FUNCTION Traverse		START DATE 1936?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES Plans; 22 B06,B13 - B16 ; Plans and Details of Traverse	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/L/34 09 Mar 1993 Traverse from South West <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 22a, 22a/1, 22a/3			
CONDITION Good			
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Corrugated iron, angle irons, flat bottom rails</p> <p>2) ROOF MATERIALS AND STRUCTURE -</p> <p>3) POWER SOURCE None</p> <p>4) DIMENSIONS i) L 9.3m ii) W 3m iii) HT 3.1m</p> <p>5) The traverse has battered corrugated iron sides with vertical ends. The corners are reinforced by angle irons and the sides strengthened by standard guage flat bottomed rails. The traverse is presumed to be filled with earth and gravel. The traverse served to protect the area to the south of the Quinan stove 22a.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER 22a/3	OLD SERIES	RCHME NUMBER	N.G.R. TL 37428 02324
NAME/FUNCTION Engine/Fan House		START DATE 1936	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES Plan; 22 B08 - 1/5/1936 ; Details of Fan House	
PHOTOGRAPHY HISTORIC PRO Supply 5/861 371 Sept 1936 view of fanhouse from south		PHOTOGRAPHY RCHME 1) Fanhouse 206/L/35 09 Mar 1993 Ruins of fanhouse from West <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 22a, 22a/1, 22a/2			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick in English bond 2) ROOF MATERIALS AND STRUCTURE Slate 3) POWER SOURCE Electricity ?steam heat 4) DIMENSIONS i) L 7.55m ii) W 7.40m 5) The building was constructed on a concrete raft from brick with metal framed windows. A large number of slates lying in the area indicate that it was probably roofed in slate. Set in the base of the wall on the eastern side are two metal pipes each with a bore of 30.5cm. From this building two sheet metal pipes with bores of 31cm and 68.5cm crossed over the top of the traverse 22a/1 to serve the pipes along the west side of the Quinan stove 22a.			

Cleaned off June 1995. Trench c.2m wide excavated around to clear potentially contaminated rubble.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 23	RCHME NUMBER	N.G.R. TL 37542 02302
NAME/FUNCTION Guncotton Stove No.11		START DATE 1904	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 23 Guncotton Stove No.11		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1904 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1972 ERDE List ; Guncotton Stove 1992 RARDE List ; Guncotton Stove	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/L/1 08 Mar 1993 Pipe detail 206/L/2 08 Mar 1993 Pipe detail 206/Q/2 12 Mar 1993 Detail of warm air inlets 206/Q/9 12 Mar 1993 From west porch served by Railway and Canal	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 36, U1, RCHM 263			
CONDITION Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Cast concrete

2) ROOF MATERIALS AND STRUCTURE

3) POWER SOURCE
?steam heating

4) DIMENSIONS iv)DIA 10.6m

5) The stove comprises a circular internal cast concrete wall 2.44m in height, revetting an earthen traverse. The entrance to the stove was from the western side. The stove was served by both a narrow guage railway siding RCHM 263 and from the adjacent canal. As the rails approached the stove they entered into the covered porch and the wagons dropped down onto wooden rails. The stove originally comprised a timber roundhouse in the centre of the traverse. This building sat on a concrete platform 9.2m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof of the building was supported by a central post, 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.65m in width and 0.4m deep. This gully was entered from a flight of timber steps running up the traverse and over into the gully. Within the building are some frafments of reinforced window glass.

The building was heated by a pipe that entered from the south connected to engine house U1 (30). The support stanchions for this pipe may be traced from the engine house to the stove. This roundhouse was unusually heated pipes formed from rivetted sheet metal rather than the more normal cast iron as seen in stoves 14 and 18. The arrangement of the pipes was however similar with the external pipe joining to a flanged curve and then to a straight before connecting to the horizontal circular pipe each with abore of 30cm. This circular pipe was similarly made up from a series of flanged curves. To the top of each curve was bolted a cast iron flanged elbow bore 12.5cm. Many of these elbows retained a length of galvanised metal pipe 30cm in length bolted to the end of the elbow by a circular metal flange plate with a piece of metal gauze screening the hole. This galvanised pipe formerly attached to the side of the roundhouse.

Historic artefacts - At least some sections of the heating pipe ought to be retained as this is the only example of the rivetted form. Also of interest are the cast iron elbows with the sections of galvanised pipe attached, these are the only examples of galvanise side pipes seen on the site. Any other light fittings and metal fittings .

Historic artefacts removed in September 1996 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 24	RCHME NUMBER	N.G.R. TL 37416 02323
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NAME/FUNCTION Earth closet	START DATE 1896-7	END DATE 1957-1960?
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NO PHOTOGRAPHY
AVAILABLE

<p>CARTOGRAPHIC DEPICTION</p> <p>1897 WASC 900/53C c1910 WASC 900/65 ; 24 c1910 WASC 900/79 ; 24 1917 WASC 900/70 ; 24 1917 WASC 900/72 ; 24 1919 WASC 900/74 ; 24 c1920 WASC 900/80 ; 24 1923 WASC 900/84 ; 24 > 1940 WASC 900/91A ; 24 1954 A - B.34 ; 24 c1960 WASC 900/94 c1963 WASC 900/97</p>	<p>DOCUMENTARY REFERENCES</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; EC built 1896-7 p2 c1925 RGPF Ledger WASC 1680 ; EC c1945 RGPF Ledger WASC 1508 ; EC</p>
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 25, 26, 27

CONDITION Demolished

DESCRIPTION

Not Found

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 25	RCHME NUMBER	N.G.R. TL 37414 02308
NAME/FUNCTION Gunpowder drying stove room Clean store		START DATE 1885 189?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1897 WASC 900/53C c1910 WASC 900/65 ; 25 c1910 WASC 900/79 ; 25 1917 WASC 900/70 ; 25 1917 WASC 900/72 ; 25 1919 WASC 900/74 ; 25 c1920 WASC 900/80 ; 25 1923 WASC 900/84 ; 25 > 1940 WASC 900/91A ; 25 1954 A - B.34 ; 25 c1960 WASC 900/94 1895 WALD005		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Clean Store built 1885-6 p2 c1925 RGPF Ledger WASC 1680 ; Clean Store c1945 RGPF Ledger WASC 1508 ; Clean Store WASC 901/108 Upper steam vents project for raising buildings to admit heating apparatus under the floor (additional remark not executed) WASC 901/140 Proposed method of venting new stove construction of racks for drying powder	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 24, 26, 27, 28			
CONDITION Demolished			
DESCRIPTION			
1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE Formerly steam heat 5) Brick foundations north of the steam stove 26 mark the site of this building. At its northern side the line of the former boat house may be discerned as brick foundations.			

Excavated by EX60 in June/July 1995.
See WALD005 notes for description.

Building 25, 26, 27

While building 26 is well documented in the RCHME report, its associated drying stoves are less well understood. The two drying rooms are the best preserved on North Site and were buried underneath 50cm - 1m of river worn gravel.

Removal of gravel allowed a series of brick built supports to be revealed. In both of the buildings these brick supports were surviving in the two bays nearest to the stove (26). There was also evidence of ventilation bricks in the upstanding parts of the walls, as well as a possible entrance in the southern side of Building 25. Remains were drawn and photographed and have been left exposed.

It seems reasonable to assume that these buildings were fired before being backfilled with river gravel. A strange tin-like deposit may be seen on the floor of the drying rooms. There was also evidence of slate damp coursing which has been detailed on the drawings (WALD005 and WALD006).

To the north of 25 an earth closet foundations were uncovered. This seems to be in the usual RGPF style. The whole complex was surrounded by a U-shaped canal which passed underneath the present bridge 22, although no evidence for the canal profile was seen during excavation of Canal RCHME 285. As it is expected with drying stove complexes, there were two boathouses, one to service each of the drying rooms. The northern boathouse was identified as a length of wall during a vegetation scrape, no further excavation was carried out. The southern boathouse was discovered by way of excavation from Intersection 27 eastwards. In the process of removing the fill of Intersection 27, two barges were discovered. Both these were large navigation barges which were too heavy and awkward to lift, but were backfilled in situ, remaining under the water level and therefore well preserved. RCHME 560 barge sits inside the southern boathouse.

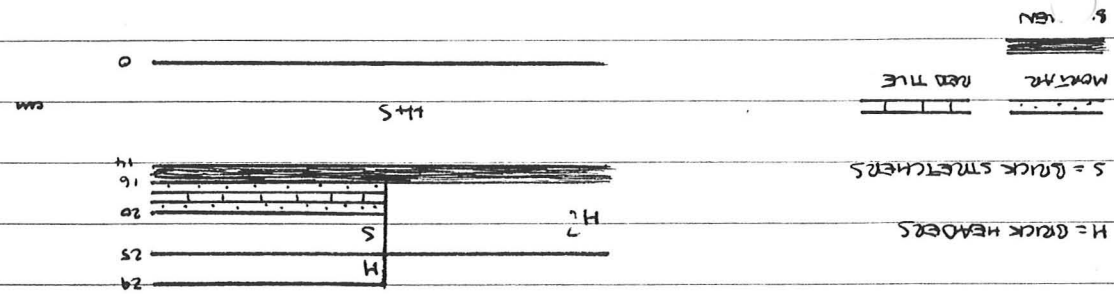
DC 25 (north of 26)
 DC 27 (south of 26)

Details - in conjunction with drawings nos. WAD 005 and WAD 006

Excavation is incomplete in the case of both buildings, so reference walls have not been fully exposed. However, enough is exposed generally, so that the dimensions of external features can be extrapolated. Where this is not the case should be obvious from the plans.

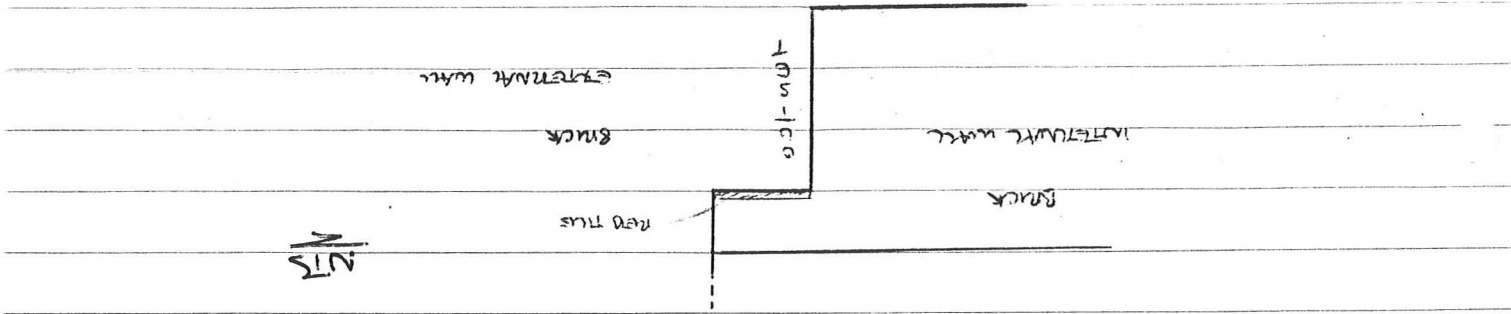
Section through large lateral wall in Bldg 27.

(Looking north of eastern end of central portion)



3 Bldg 27 - The intervals wall to the N. of the large lateral wall is constructed of headers \square in its existing position (i.e. one course); the interval wall to the S. is constructed of headers \square (as before).

4 Bldg 27 - There is a layer of red tile underlying the brick of the interval walls where they go over the street and into the external walls.



○ There are patches of a spongy material occurring on the floor of both
cuticles (Sieve - ?)

⑥ Whether the mineral walls are disaccharides because of their original
construction or later disturbance is uncertain.

⑦ The formation of the roots of both axial and radial vessels is uncertain.
Initial reaction - secondary (wood?) air circulation, maybe? - TS

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 26	OLD SERIES	RCHME NUMBER	N.G.R. TL 37415 02291
NAME/FUNCTION Boiler House No 4 Steam Stove Engine and Fan House Firing Point		START DATE 1885 189? 4 - see 27 194?	END DATE 189? 194?
<p><i>for 27 No 1 GC stove</i></p> <p><i>Blag sheet</i></p> <p><i>Eng & Fan Ho. for Cotte Tray 1898 Stoves 10 in</i></p> <p>NO PHOTOGRAPHY AVAILABLE</p>			
<p>CARTOGRAPHIC DEPICTION</p> <p>1897 WASC 900/53C c1910 WASC 900/65 ; 26 c1910 WASC 900/79 ; 26 1917 WASC 900/70 ; 26 1917 WASC 900/72 ; 26 1919 WASC 900/74 ; 26 c1920 WASC 900/80 ; 26 1923 WASC 900/84 ; 26 > 1940 WASC 900/91A ; 26 1954 A - B.34 ; 26 c1960 WASC 900/94 c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113</p>		<p>DOCUMENTARY REFERENCES</p> <p>1885 WASC 901/141 10 July 1885 Proposed plan for reconstructing Boiler house Steam Stove</p> <p>1886? WASC 901/108 1886? Upper Steam Stoves. Project for raising Building to admit heating apparatus under the floor.(with additional remark not executed)</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine and Fan House built 1885-6 p2</p> <p>c1925 RGPF Ledger WASC 1680 ; Engine and Fan House</p> <p>c1945 RGPF Ledger WASC 1508 ; Engine and Fan House</p> <p>1992 . RARDE list ; Brick Structure</p>	
<p>PHOTOGRAPHY HISTORIC</p>		<p>PHOTOGRAPHY RCHME</p> <p>1) 206/B/34 19 Feb 1993 Stove 27 from East No4 Steam Stove 1885</p> <p>2) BB92/26171 26 Gunpowder Stove No4 Steam Stove 1885 view from South East</p> <p>BB92/26172 26 Interior showing reverse as a Firing Point view from North West</p>	
<p>RELATIONSHIPS WITH OTHER MONUMENTS 27, 24, 25</p>			
<p>CONDITION Fair</p>			

GC Stove

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in English Bond
- 2) ROOF MATERIALS AND STRUCTURE
Brick Vault, originally covered by a slate roof
- 3) POWER SOURCE
Steam
- 4) DIMENSIONS i) L 16.5m ii) W 11m iii) HT estimate 6m
- 5) The stove is oval in shape constructed in buff coloured bricks, with battered walls flattened at either end. The stove was entered through semicircular headed doors at either end, the were arches executed in red brick. Over the eastern door a stone plaque reads 'No 4 Steam Stove 1885'. In the brick vaulted ceiling is the remains of the chimney flue originally surmounted by a tall chimney.

The stove has subsequently been used as a firing point. Inside are the concrete and steel plating remains of this activity. The internal walls are pocked marked as a result of the explosions within stove.

Historic Artefacts removed + archived Nov. 94.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
	27		TL 37415 02291
NAME/FUNCTION		START DATE	END DATE
Guncotton stove No.24		1884-5	189?
Guncotton stove No.1		189?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1885 WALDOOB		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1894-5	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
1897 PRO Supply 5/860 88 Guncotton Stove No.4 Edmonsey 1897			
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 24, 25, 26, 28			
CONDITION Demolished			
DESCRIPTION			
5) The rectangular shaped guncotton stove made use of the old steam stove no 4 as an engine and fanhouse. Its site may lie beneath the modern track along the eastern side of the river Lea.			
The photograph in Supply 5/860 88 shows a rectangular timber shed heated by external pipes at its base as found in the later circular stoves.			

Excavated June/July 1995. WALD 006,
(See 25).

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 28	RCHME NUMBER	N.G.R. TL 37414 02278
NAME/FUNCTION Gunpowder Steam Stove Clean store		START DATE 1885 189?	END DATE 189? 195?-196?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1897 WASC 900/53C c1910 WASC 900/65 ; 28 c1910 WASC 900/79 ; 28 1917 WASC 900/70 ; 28 1917 WASC 900/72 ; 28 1919 WASC 900/74 ; 28 c1920 WASC 900/80 ; 28 1923 WASC 900/84 ; 28 > 1940 WASC 900/91A ; 28 1954 A - B.34 ; 28 c1960 WASC 900/94		DOCUMENTARY REFERENCES WASC 901/108 Upper steam stoves project for raising building to admit heating apparatus under the floor (with additional remark not executed) 1866 WASC 901/124 25 April 1866 Plan Section showing proposed <u>conversion</u> for Shifting room to No 42 Heading up House (Paint Store) 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Boat Cover built 1885-6 p2 c1925 RGPF Ledger WASC 1680 ; Boat Cover c1945 RGPF Ledger WASC 1508 ; Boat Cover	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 24, 25, 26, 27			
CONDITION Demolished			
DESCRIPTION 5) The building lay to the south of steam stove 26, remains of the building may lie beneath a dump of river gravel which overlies its site.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 28a	RCHME NUMBER	N.G.R. TL 37480 02296
NAME/FUNCTION Engine house		START DATE 192?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; Engine/Fan House		DOCUMENTARY REFERENCES c1925 RGPF Ledger WASC 1680 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/N/27 From East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 22a, 29			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Formerly timber framed 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 4m ii) W 3.4m 5) The building has been demolished, a concrete floor slab remains. In the centre of the building is a concrete mounting block 1.0m x 0.89m with a height of 1.25m. To the east and west of the building are concrete slabs 1.88m x 1.25m.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 29	RCHME NUMBER	N.G.R. TL 37502 02271
NAME/FUNCTION Guncotton Stove No.12 Picrite Store ?	START DATE 1897 1925	END DATE 1925 1945?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 29 Guncotton Stove No.11		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1897 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1963 <u>Simmons W M A Short History of the Royal Gunpowder Factory at Waltham Abbey 62</u> manufacture of picrite starts at RGPF in 1925 1972 ERDE List ; Picrite Store/Burnt out 1992 RARDE List ; Picrite Store/Burnt out	
PHOTOGRAPHY 'HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/32 12 Mar 1993 Detail of Drying Rack 206/N/33 12 Mar 1993 Picrite stove from South, pole in central post hole 206/N/34 12 Mar 1993 Stove from South West 206/N/35 12 Mar 1993 Warm Air Pipe and steps from South 206/N/36 12 Mar 1993 Steps on West side of mound 206/N/37 12 Mar 1993 Heating Pipe inlets along North side 206/O/33 08 Mar 1993 showing external steps 206/O/34 08 Mar 1993 showing line of warm air pipe 206/O/35 08 Mar 1993 internal drying racks 206/O/36 08 Mar 1993 warm air pipe entering 206/O/37 08 Mar 1993 detail of entrance from West showing support for cover over entrance 206/Q/1 12 Mar 1993 Wooden Porch support over Canal 2) BB92/26288 Picrite Stove 29 from South with drying racks	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 28a, 22a/a, 33			
CONDITION Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE
-

3) POWER SOURCE
Electricity and steam heating

4) DIMENSIONS iv)DIA 10.7m

5) The stove comprises a circular internal brick wall in English bond 2.45m in height revetting an earthen traverse. Guncotton was transferred to and from the stove beneath a covered corrugated iron porch over the canal, supported by a timber framework on the opposite side of the canal to the stove. The stove was entered along a covered passage the concrete walls, added to the original structure, formerly supported a timber superstructure. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.4m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete, the base of the wall in places retaining fragments of galvanised sheeting. The walls of the building were braced short horizontal joists set into the revetting wall, the holes for which remain. The roof of the building was supported by a central post 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.68m in width and 0.42m deep. This gully was entered from the south west up a flight of timber steps running up the traverse and then over into the gully. Within the building were fragments of reinforced window glass. Also lying within the building were a number of metal roof vents.

Within this stove are sixteen drying racks, arranged in a circular pattern each rack has 5 shelves. The racks are 1.44m high with a width of 0.85 at the front and 1.29m at the rear. The guncotton trays were supported by stout copper wires formerly attached to the shelves.

The building was heated by a pipe that entered from the north west connected to engine house 28a. The support stanchions for this pipe may be traced from the engine house to the stove although the piping has been removed. On entering the stove this pipe formerly connected to a flanged cast iron bend, bore 30cm. This in turn connected to a flanged vertical straight cast iron pipe 168.5cm in length. This pipe then joined through a T junction to a series of horizontal cast iron flanged curves set on bricks within the gully described above. To the north of the entry curve are five full curves and one short and to the south five full curves. To the top of each curve is bolted a cast iron flanged elbow, diameter bore 13.5cm, giving a total of twelve inlet pipes. A circular cast iron flange plate is bolted to the end of the elbow by wing nuts. This securely sandwiched a galvanised pipe and sheet of gauze between it and the end of the elbow. This galvanised pipe would have formerly entered the side of the stove. The pipe was insulated by fibrous asbestos held in place by chicken wire and weather proofed by a coat of galvanised sheet metal.

Historic artifacts - drying racks and circular heating pipe, any other metal fittings, roof vents.

Movable historic artifacts removed and archived September

1996

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER U1	OLD SERIES 30	RCHME NUMBER	N.G.R. TL 37548 02272
NAME/FUNCTION Engine/Fan House		START DATE 1904	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 30 Engine House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House built 1904 p1 c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/Q/10 Concrete block with Abestos shelter North of central Engine house	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 23, 29			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Concrete 2) ROOF MATERIALS AND STRUCTURE Asbestos Sheeting 3) POWER SOURCE Steam/Electricity No Surface Remains			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 28b	RCHME NUMBER	N.G.R. TL 37511 02418
NAME/FUNCTION Earth Closet		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; EC		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH:			
CONDITION Demolished			
DESCRIPTION 5) The earth closet lay between 17a and guncotton stove 18, no surface remains are visible.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 33	RCHME NUMBER	N.G.R. TL 37484 02253
NAME/FUNCTION Engine House	START DATE 1897-8	END DATE by 1923	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84; 33 Engine House (disused)	DOCUMENTARY REFERENCES		
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 29			
CONDITION	Demolished		
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Wood and concrete floor 2) ROOF MATERIALS AND STRUCTURE Canvas 3) POWER SOURCE Steam heat, electricity? 4) DIMENSIONS i) L ii) W iii) HT 5)			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 36	RCHME NUMBER	N.G.R. TL 37550 02235
NAME/FUNCTION Guncotton Stove No.13	START DATE 1904 1940 (rebuilt)	END DATE 1940 1945	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 36 Guncotton Stove No.13		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove built 1904 p1 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove c1945 RGPF Ledger WASC 1508 ; Guncotton Stove 1972 ERDE List ; Guncotton Stove/Burnt out 1992 RARDE List ; Guncotton Stove/Burnt out	
PHOTOGRAPHY HISTORIC 1940 Inquiry into explosion 20.Aug.1940 photograph.16		PHOTOGRAPHY RCHME 1) 206/T/19 17 Mar 1993 From South 206/T/20 17 Mar 1993 Interior from South 206/T/21 17 Mar 1993 Guncotton Stove Radiator 206/T/22 17 Mar 1993 "Maxloom" Danger Building lights	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 23, U1 (30)			
CONDITION Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Cast concrete

2) ROOF MATERIALS AND STRUCTURE
Galvanised metal sheets

3) POWER SOURCE
Electric lighting and steam heating

4) DIMENSIONS iv)DIA 10.6m

5) The stove comprises a circular internal cast concrete wall 2.3m in height, revetting an earthen traverse. The stove was set on a central island separated from the revetment wall by a gully 0.65m in width and 0.4m deep. This stove had a rectangular building 6.32m x 4.84m divided into two rooms. The building had a timber frame covered by sheet asbestos attached to a low brick sill wall by vertical mounting bolts. Fragments of the galvanised sheet metal roof were found in the stove. The stove was entered from the south along a covered porch from the adjacent canal. The door to the stove was protected by a fender, toe board, to prevent the entry of grit into the building. The floor of the building sloped gently southwards. At the south east and south west corners were drain holes lined with lead piping. The building was lit by 'Maxlume' danger building light boxes affixed to its exterior. The cabling for these lights was enclosed in small bore metal pipes.

The Stove was rebuilt on the same site. Its predecessor was damaged in the accidental explosion of Mixing House 46 on 20.April.1940

The building was heated by a steam pipe with a bore of 24mm entering from the engine house U1 (30) to the north. This pipe served two free standing radiators, one in each room. A cast iron steam chest lying in the building was made by 'Hopkinsons Huddersfield'.

Historic salvage - Steam radiator (only remaining example of danger building radiator on the site), 'Maxlume' danger building lights, steam chest, any other metal fittings .

Historic artefacts removed September 1994 and archived.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 41	OLD SERIES	RCHME NUMBER	N.G.R. TL 37595 02189
NAME/FUNCTION Earth Closet		START DATE 1897-8	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84; 41 E.C.		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 1897-8	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: S34, RCHME 254			
CONDITION Fair			
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Brick in flemish bond</p> <p>2) ROOF MATERIALS AND STRUCTURE Corrugated asbestos</p> <p>3) POWER SOURCE Electric light</p> <p>4) DIMENSIONS i) L 2.6m ii) W 2.22m iii) HT gable 2.25m</p> <p>5) The earth closet is a single storey building rectangular in plan. The building is divided into two with a urinal at the east side and a covered bucket to the west. The bucket was emptied by means of a small door at the base of the south wall. Two painted signs attached to the exterior read 'Clean'.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER ARS1	OLD SERIES	RCHME NUMBER	N.G.R.
NAME/FUNCTION Air Raid Shelter 1		START DATE 1940	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
> 1940 WASC 900/91A 1954 A - B.34 c1960 WASC 900/94 c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113			
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/28 12 Mar 1993 Air raid shelter from South West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH:			
CONDITION	Good		

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Concrete

2) ROOF MATERIALS AND STRUCTURE
Concrete

3) POWER SOURCE
Electricity and steam heating

4) DIMENSIONS i) L 9.21m ii) W 5.16m iii) HT 2.55m

5) The shelter was entered from the west through doors at either end of the building, each marked with a painted letter A. At the rear of the each entrance lobby is a small cubicle both of which retain a metal elsan bucket. The cubicle was formerly partitioned by a piece of material hanging from the ceiling. In the main central room the original wooden benches survive along the eastern and western walls with a double, i.e. back to back bench down the centre of the room. The shelter was lit by electric lights and heated by steam pipes that entered from the north east corner.

The exterior of the building retains traces of wavy camouflage paint.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER U2	OLD SERIES	RCHME NUMBER	N.G.R. TL 37669 02204
NAME/FUNCTION Fanhouse		START DATE 1941	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 WASC 900/94 ; U2		DOCUMENTARY REFERENCES 1992 FARDE List ; Small Brick Built Building	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/O/14 From North 206/O/15 From South on top of 46R	
RELATIONSHIPS WITH OTHER MONUMENTS PART OF: 46R			
CONDITION Fair			
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Brick in English bond.</p> <p>2) ROOF MATERIALS AND STRUCTURE Concrete slab</p> <p>3) POWER SOURCE Steam heat and electricity</p> <p>4) DIMENSIONS i) L 2.89 ii) W 2.89 iii) HT 2.4</p> <p>5) The building is square with a flat concrete roof, traces of wavy camouflage paint remain on the exterior. At the base of the southern wall is a small rectangular aperture, Height 55cm width 51cm. This hole formerly allowed the warm air pipe to pass through to 46R. The west wall is blank. At the base of the northern wall is a louvred opening height 89cm width 76cm, this was formerly protected by a hinged canvas shutter. The building is entered through a single wooden door on the eastern side. Internally is a concrete machine base with four mounting bolts. The building has latterly been used as a small office connected with explosive experiments within Newton's Pool RCHME 276.</p> <p><i>Historic Artefacts removed + archived Nov. 94</i></p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 326	N.G.R. TL 37591 02458
NAME/FUNCTION Watch House		START DATE 1860-1873?	END DATE 190?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1886	OS Essex XLIX. 10 ; Watch House		
1897	OS 2nd Ed Essex XLIX. 10 ; Watch House		
c1900	PRO Supp5/361		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 1, RCHM 237			
CONDITION Demolished			
DESCRIPTION			
No Surface Remains			

*Not investigated
as no particular
explosives risk expected*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 327	N.G.R. TL 37585 02444
NAME/FUNCTION Dining Room		START DATE 1886-95	END DATE pre 1908
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1897 OS 2nd Ed Essex XLIX. 10 ; Dining Room 1900 SUPP5/361 ; Dining Room		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 326,1,2			
CONDITION Demolished			
DESCRIPTION No Surface Remains			

Not investigated.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
		328	TL 37531 02529
NAME/FUNCTION		START DATE	END DATE
Magazine? and Boat House		1886-95	
Cordite Blending House		c1898	pre 1908
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1897	OS 2nd Ed Essex XLIX. 10		
c1900	SUPP5/361 ; Cordite Blending House		
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH:			
CONDITION Demolished			
DESCRIPTION			
No Surface Remains			

T-trench dug N/S and Eastwards to determine extent of remains and contamination levels. Concrete, revetment for the blast walls? , found and no asbestos. Backfilled.

RCHME 328

Exploratory trenches were dug to find RCHME 328 and, although the building and its concrete revetment walls were discovered, it was decided to backfill the trenches and leave the remains undisturbed as no contamination was found.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 329	N.G.R. TL 37415 02462
NAME/FUNCTION Barrel House Cordite Box House		START DATE 1860-73? c1898	END DATE c1898 pre 1908
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1886	OS Essex XLIX. 10 ; Barrel House		
1897	OS 2nd Ed Essex XLIX. 10		
1900	PRO Supp5/361 Cordite Box Room		
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: Millhead Stream			
CONDITION Demolished			
DESCRIPTION			
No Surface Remains. The building portrayed in 1886 is considerably smaller than that shown in 1897, which may indicate that the structure was rebuilt in the intervening period.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 173	N.G.R. TL37517 01644 TL37530 01649
NAME/FUNCTION Pipe bridge		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 173, RCHM 174, RCHM 175, RCHM 176, RCHM 177			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Steel 4) DIMENSIONS i) L 8.05m ii) W 0.75m iii) HT 2.4m 5) Pipe bridge carrying two steam pipes over a canal.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 174	N.G.R. TL 37523 01653
NAME/FUNCTION Footbridge	START DATE		END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 173, RCHM 175, RCHM 176, RCHM 177			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Angle iron 4) DIMENSIONS i) L 9.3m ii) W 1.05m iii) HT deck above ground 2.25m 5) Footbridge formed from angle irons with timber deck.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 175	N.G.R. TL 37508 01654 TL 37525 01669
NAME/FUNCTION Pipeline	START DATE		END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 173, RCHM 174, RCHM 176, RCHM 177			
CONDITION	Fair		
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Steel 4) DIMENSIONS i) L 22.5m iii) HT above ground 2.65m 5) Steam pipe over canal, it is supported by a concrete post at either end with a tubular steel support in the middle of the canal. The pipe is supported by a steel tension cable along its top.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 176	N.G.R. TL 37498 01667 TL 37500 01652
NAME/FUNCTION Pipebridge	START DATE		END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 173, RCHM 174, RCHM 175, RCHM 177			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Angle irons 4) DIMENSIONS i) L 15.8m ii) W 0.7m iii) HT pier 3.15m 5) Pipe line over canal			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 177	N.G.R. TL 37501 01661
NAME/FUNCTION Lifting footbridge		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 173, RCHM 174, RCHM 175, RCHM 176			
CONDITION	Poor		
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Timber</p> <p>3) POWER SOURCE Muscle?</p> <p>4) DIMENSIONS i) L 6.9m ii) W 2.5m</p> <p>5) The remaining of the lifting footbridge consist of a timber box on the north bank 2.5m x 2.15m with an iron pivot bar. The bridge spanned the canal 4.25m in width. On the south bank is a concrete landing with two iron catch plates.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 199	N.G.R. TL37475 01880 TL37645 01896
NAME/FUNCTION Overhead line		START DATE L19th/20th	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH:			
CONDITION Poor			
DESCRIPTION 5) Row of poles supporting overhead power lines, insulators late nineteenth/early twentieth century type. Electric or telephone lines.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 256	N.G.R. TL 37605 02264 37563 02482
NAME/FUNCTION Steam pipe stanchions	START DATE 1940?	END DATE	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 7,10 RCHME 259, RCHME 260			
CONDITION Good			
DESCRIPTION 5) Line of tarred posts reinforced concrete posts with loops and pipe suspenders formerly carrying a steam pipe.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 259	N.G.R. TL37570 02476
NAME/FUNCTION Bunker		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/P/28 From south west	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 9, 14			
CONDITION Poor			
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Breeze block</p> <p>2) ROOF MATERIALS AND STRUCTURE Flat concrete slab</p> <p>3) POWER SOURCE None</p> <p>4) DIMENSIONS i) L ii) W iii) HT</p> <p>5) Small rectangular brick building set on a concrete slab with traces of wavy camouflage paint on the exterior. There is a single door on the western side and a window to the east blocked by breeze blocks.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 260	TL 37533 02410 37575 02490
NAME/FUNCTION Pipeline	START DATE 193?-4?		END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES		
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 256			
CONDITION	Poor		
DESCRIPTION Line of reinforced concrete pipeline supports forming a T junction with RCHME 256.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 264	N.G.R. TL37545 02370
NAME/FUNCTION Footbridge		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH:			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Angle irons 4) DIMENSIONS i) L 9.2m ii) W 0.95m iii) HT Deck to canal base 3.7m 5) Footbridge constructed from angle irons with a timber deck, angle irons form span, handrails and stiffeners.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 335	N.G.R. TL 376 026
NAME/FUNCTION Alan-Williams Turret		START DATE	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES Wills H 1985 <u>Pillboxes A study in UK Defences 1940</u> London p85	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHME 345			
CONDITION	Buried		
<p>DESCRIPTION</p> <p>1) CONSTRUCTIONAL MATERIAL Steel</p> <p>2) ROOF MATERIALS AND STRUCTURE Steel Dome</p> <p>3) POWER SOURCE Muscle</p> <p>4) DIMENSIONS v)DIA</p> <p>5) The Allan Williams turret was a pre-fabricated metal turret designed for operation by two men. It was circular in plan with a revolving steel dome capable of carrying a variety of light armaments. The grid reference cited for this example lies on the bank of the canalised Horsemill Stream and may therefore imply it was swept away during the widening of the stream. However the imprecision of the grid reference, only six figures may indicate that the turret survives buried beneath the extensive gravel dump on the East bank of Horsemill Stream. Last seen during the 1970's Fred Nash, Pers Comm.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 337	N.G.R. TL 37667 02223
NAME/FUNCTION Explosive charge support		START DATE 196?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES 1977 'ERDE Waltham Abbey - Monks, Mills and Missiles' <u>The Soldier</u> Feb 1977 p26-8	
PHOTOGRAPHY HISTORIC 1977 'ERDE Waltham Abbey - Monks, Mills and Missiles' <u>The Soldier</u> Feb 1977 p26-7		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: Newton's Pool RCHME 276, S50, S37			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Concrete blocks 5) Three concrete blocks on the east side of Newton's Pool RCHME 276 mark the position of one of the support poles used to suspend explosives in the pool. Historic artefacts: Steel pole adjacent to the track edge - From this pole a wire was slung across the pool.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 346	N.G.R. TL 3764 0262
NAME/FUNCTION Anti-Aircraft emplacement		START DATE 1940	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC RAF,AP 58/735 5008 3.7.1951		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 1, RCHME 335, RCHME 345			
CONDITION Demolished			
DESCRIPTION			
1)	CONSTRUCTIONAL MATERIAL Brick		
2)	ROOF MATERIALS AND STRUCTURE None		
3)	POWER SOURCE		
4)	DIMENSIONS · i) L ii) W iii) HT		
5)	Octagonal anti-aircraft emplacement with central mounting for weapon. The emplacement survived until about 1970 when it was destroyed during the widening of Horsemill Stream. It had disappeared by September 1970 . Hunting Survey Ltd Essex 70 1064 Run 39 frame 0723 20.9.1970.		

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 358	N.G.R. TL 37670 02162
NAME/FUNCTION Stables		START DATE 1801-06	END DATE by 1827
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1806 WO78/1352;5 Stables for Contract horses		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS UNDERLIES: 46R?			
CONDITION Demolished			
DESCRIPTION 4) DIMENSIONS i) L ii) W iii) HT 5) No surface evidence was seen for this building. It may partly underlie [46R].			

Not investigated -