

**THE ROYAL GUNPOWDER FACTORY,
WALTHAM ABBEY, ESSEX
AN RCHME SURVEY, 1993**

Area E





THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E1	OLD SERIES	RCHME NUMBER	N.G.R. TL 37488 02176
NAME/FUNCTION Acid house		START DATE 1961-2	END DATE 1981?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION Drwg No.P16;Bldg 5 Acid House (New) c1960 - WASC 900/94 ; E1 c1963 - WASC 900/97 ; E1 1972 - WASC 900/102 ; E1 1972 - WASC 900/104 ; E1 1976 - WASC 900/113 ; E1		DOCUMENTARY REFERENCES Plans: E01 B01 - 22/11/1961 ; New Acid Mixing House B02 - ; New Acid Mixing House (2ft to 1in) B03 - 5/1962 ; New Acid Mixing House B04 - 14/8/1962 ; Steam pipes,Extractor Vents B05 - 14/6/1962 ; Steam Mains B06 - 27/6/1962 ; Electrical Services (4ft & 8ft to 1in) B07 - 3/4/1962 ; New Acid House Base ERDE list 1972 - Acid house 1964 RARDE list 1992 - Acid house	
PHOTOGRAPHY HISTORIC WASC 1054/16 Barrel & Weighing house 1981		PHOTOGRAPHY RCHME 1) 206/L/14 09 Mar 1993 From South standing on E2	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2,47			
CONDITION Demolished			
DESCRIPTION 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 8.3m ii) W 7.2m 5) The building was demolished, probably in 1981 see WASC 1054/16. The concrete floor slab remains with wall foundations indicating three former rooms.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E2	OLD SERIES 43	RCHME NUMBER	N.G.R. TL 37514 02172
NAME/FUNCTION Nitrating House No.3 Nitrating House No.1		START DATE 1895-6 1908	END DATE 1908? 1981?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1897 - WASC 900/53C ; Nitrating House No.3 c1910 - WASC 900/65 ; Nitrating House No.1 c1910 - WASC 900/79 ; Nitrating House No.1 1917 - WASC 900/70 ; Nitrating House No.1 1917 - WASC 900/72 ; Nitrating House No.1 1919 - WASC 900/74 ; Nitrating House No.1 c1920 - WASC 900/80 ; 43 1923 - WASC 900/84 ; 43 Nitrating House No.1 1932 - WASC 900/87 ; 43 Nitrating House No.1 > 1940 - WASC 900/91A ; 43 1954 - A - B.34 ; 43 c1960 - WASC 900/94 ; E2 c1963 - WASC 900/97 ; E2 1972 - WASC 900/102 ; E2 1972 - WASC 900/104 ; E2 1976 - WASC 900/113 ; E2		DOCUMENTARY REFERENCES 1888 Maj Gen W.H.Wardell <u>Handbook of Gunpowder & Guncotton</u> 1888 p.83-89 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Nitrating House & pit built 1895-6 p4 c1925 RGPF Ledger WASC 1680 ; Nitrating House & pit 1938 <u>Textbook of Explosives</u> HMSO 1938 p80-85 Fig 12.1-12.3 c1945 RGPF Ledger WASC 1508 ; Nitrating House & pit Oscar Guttman <u>The Manufacture of Explosives</u> Vol 1 p40-50 Figs 7-8 Plans: E02 B01 - B09 ; Plans and Elevations no date ERDE list 1972 - Nitration plant 1964 RARDE list 1992 - Nitration plant	

PHOTOGRAPHY
HISTORIC

PRO Supply 5/860 90-2 1897
PRO Supply 5/860 93 1897 View north from E2 showing
Guncotton stoves under construction
Engelbach Army and Navy Illustrated 13-Jan-1900 p483
PRO Supply 5/860 95 Nitrating house from north
PRO Supply 5 860 97 Exterior also shows E3 and E5
PRO Supply 5/861 183-97 1903
PRO Supply 5/861 226 Interior feb 1905
PRO Supply 5/861 227 Interior feb 1905
PRO Supply 5/861 228 Interior jan 1905
PRO Supply 5/861 233 Interior mar 1908
PRO Supply 5/861 234 Labrinyth may 1908
PRO Supply 5/861 249 Interior jun 1909

WASC 1024 Old Nitrating house drowning tank during
demolition 2.2.1981

E2 WASC 1054/10 Entrance 1981
E2 WASC 1054/11 Looking N/W 1981
E2 WASC 1054/12-14 Views of roof structure 1981
E2 WASC 1054/15 Exterior 1981
E2 WASC 1054/17 Approach to E2 E3 & E5 1981
PRO Supply 5/861 202 1903? Fume pipe condensor and
after separating gutter.
Supply 5/861 205 1903? Shows now blocked tunnel on
west side and gutters running into it.

PHOTOGRAPHY
RCHME

- 1) 206/L/13 09 Mar 1993 Nitrator from North
206/L/15 09 Mar 1993 Hole for Drowning Tank
206/L/27 09 Mar 1993 From on top of E3
- 2) BB92/26267 E2 Nitrator view from West.
BB92/26268 E2 Nitrator view from North West top of
mound showing entrance, Drowning Tank Pit and
Nitroglycerine exit tunnel.
BB92/26269 E2 Nitrator view from North West, detail
of entrance and Nitroglycerine exit tunnel
BB92/26347 E2 Drawing E.02.B.02 Proposed
Alteration to Nitrating House (MOD Chessington)
- 4) 4786/32 06.05.1993
4786/33 06.05.1993
4788/16 06.05.1993
4788/18 06.05.1993

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: E1, E3, E5, E6, E15, RCHME 273 **47**

CONDITION Good

*c. 1/4 of bank to mound removed down to 200mm - See
ASD9/2/3130 pt 19.*

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick in English bond and earthwork

2) ROOF MATERIALS AND STRUCTURE
-

3) POWER SOURCE
Electricity, steam heat and compressed air

4) DIMENSIONS iii) HT 5.7m iv) DIA 9.47m

5) The Nitrator was housed within a circular revetment wall surrounded by a high earthwork traverse. The 3 storey building in the centre was entered along a brick tunnel from the south closed by a red wooden slatted gate. The tunnel originally joined to the central building by a porch. On the northern side of the mound steps lead upto a platform supported on RSJs that probably formerly carried acid tanks. A series of small bore pipes lagged in cork and a metal gutter (RCHME 273) ran up the western side of the mound carrying control wires from E6, compressed air and possibly other liquids. Also entering from the western side is a cast iron flanged pipe with a bore of 10.6cm. This may connect to one of the two cast iron flanged pipes that emerge at the base of the revetment wall on the west side. Both these pipes are set within earthenware pipes with bores of 7.5cm and 11cm, the latter being lead lined. Above these pipes is a blocked arched brick opening, height 1.55m width 0.79m. Opposite to this tunnel on the eastern side is an arched brick tunnel, height 1.55m width 1.62m. The presence of bolts along either side of the tunnel indicate that gutters ran along both sides carrying nitroglycerine to wash houses E3 and E5. Around the wall are a series of holes that formerly contained small horizontal joists that acted on the exterior of the building. Some pipework and electric pumps relating to the last phase of operation remains attached to the wall.

The building covering the nitrating equipment differed in form to the other roundhouse in that the southern part was curved while the northern part was faceted. The building had a diameter of 7m and was timber framed set on a low sill wall. In the centre of the building is an oval brick lined pit. The pit measures 5.85m in length, 4.35m in width and is 1.15m in depth. On the base of the pit the positions of five beams may be discerned that formerly supported the lead drowning tank. The building has been fired, probably during 1981.

Subject **TEMPORARY PROTECTION TO
PITS IN MOUNDED BUILDINGS**

To **Steve Chaddock**

Date **14th December 1994**

From **Bob Watts**
Ref **E5275/23/1/02**

Steve,

Please submit an SMC for the installation of temporary (but long term) protection to the wells formed by mounded buildings. Two types:-

- a) Buildings E2, E3, E5, S16, S19, ^{S21}~~S21~~³, S30 and S31 >2.0m drop. The erection of a scaffold ring at the top of the mound. Vertical members driven into the mound material. Height above top of mound approximately 1.1metres.
- b) Teteryl stoves (18 No.) ≤2.0m drop. The erection of Chestnut Paling fence 1.0m high. Posts would be driven into the mound material.

Work will not proceed until contamination aspects have been assessed.

Regards

BOB WATTS.

No SMC submitted yet - see letter attached.

Copy:- Graham Vincent

19 December 1994

Dear Deborah,

It is proposed to erect further semi-permanent barriers and fencing around potentially dangerous vertical drops. We already have scheduled monument clearance, granted without conditions, from DNH (letter dated 27th September 1994) for an SMC Adam submitted on 4th May 1994. This SMC covers various areas of the site but not those that are now being considered. I enclose a plan of the north part of the site with the proposed areas highlighted. They are all drops created by mounded buildings. I also enclose details of the safety regulations as requested from B.Watts.

The proposal covers two types of safety fencing:-

- 1) Drops of over 2 meters will have scaffold pole barriers around the tops of the mounds. These will be driven into the mound fill and will stand 1.1m high. Buildings affected are:- E2, E3, E5, S16, S19, S21, S23, S30, S31. (9 in all)
Coloured **pink** on the plan.
- 2) Drops of less than 2 meters will have a Chestnut Paling fence 1.0m high around them which will also be secured in the fill of the mound. Buildings affected are the 18 Tetrayl Stoves.
Coloured **yellow** on the plan. *9.C*

Yours sincerely,

Steve Chaddock.

Subject **E2**To **Graham Vincent**Date **6th December 1994**

From **Bob Watts**
Ref **E5275/19/1/01**

Graham,

1) Further to memo of 29th November 1994, please excavate 2 No. exposed circular pits adjacent E2 entrance.

2) With regard to the asbestos in E2 mound AF has suggested material may have been placed on the mound from local sources (hence asbestos contamination) to compensate for settlement. The original mound material should be silty gravel as per H8. Excavation and removal of some of this material is a possibility. This may put some of the mound mounted artifacts at risk. There is also a safety/access dimension. This work should be addressed before final clearance.

Regards

BOB WATTS.Copy:- **Adam Ford** - Site Archaeologist.

Subject **E2 MOUND**To **Adam Ford**Date **12th December 1994**

From **Bob Watts**
Ref **E5275/23/1/01**

Adam,

1) Northern aspect of E2 mound is heavily contaminated with blue asbestos which is exposed on the surface following the strim and rake exercise. This material has hopefully been applied to fill localised settlement and is not indicative of the whole mound.

2) Please prepare an SMC application to excavate the contaminated material and reinstate with H8 mound material.

Regards

BOB WATTS.

Subject **PONDS E2 etc.**To **Graham Vincent**Date **28th October 1994**From **Bob Watts**
Ref **E5275/19/1/01**

Graham,
Area not yet ready for sampling.

1) Items from memo of 19th September 1994 not complete are:-

4) Clean out of E2, including tunnels.

7) Raking of E2 mound, raking around trees.

3) TNT drain - awaiting results of analysis and Peter Mayell. If result is 1½% explosives sample can be released to LGC with relevant information. LGC have the capability to analyse for TNT themselves.

2) Additional items:-

i) Remove blue asbestos near TNT drain and asbestos caulked drain sleeve in bank of popping pond (flagged).

ii) Rod pipe between pond A and the popping pond, if clear include in grouting contract.

iii) Rod culvert from borrow pit and check route. Prove with fluorescence (expensive to grout, if a simple outfall just plug).

iv) Several pieces of pipe etc. laying around. A scrape around buildings E6, E9 and E15 required.

v) Scrape of loose material along route of steam main adjacent E2 required. Adjacent paths to be cleaned off.

vi) A steel pipe discharges into pond near TNT pipe route, please investigate/trace.

vii) Cut back cable in barge house recess, move timber remains and duct work rear of E2 to one side and scrape loose surface.

viii) Remove cut logs and scrub from area direct to Burning Ground.

ix) Clean under pump in E15.

x) If valve pit adjacent temporary road is no longer live remove and grade bank.

xi) Adam Ford will advise fate of items in vii).

3) The intention is to have a surface cleaned area which will adjoin the adjacent canal works. A comprehensive sampling exercise can then be undertaken and treatment to pond banks can follow without delay.

Regards

BOB WATTS.

Copy:- **Adam Ford**

Adam Ford BA (HONS)
Archaeological Consultant
Former RARDE North Site
Waltham Abbey

MEMORANDUM

To : Bob Watts
From : Adam Ford
Date : 20th September 1994

CLEARANCE OF E2

- 1) All internal and external pipework shall remain in position together with brackets and other fixtures.
- 2) Stairway on outside to remain together with any other external features.
- 3) Timber flooring may be removed from inside the building if necessary.^{*} Do not replace.
- 4) Loose timber outside building including beams located in recess on NW of mound may be removed and relocated not destroyed.
- 5) Fill material around concrete column where blue asbestos located may be removed to extent of fill only.^{*}

^{*} Subject to official advice from English Heritage.

ADAM FORD.

WS Atkins

memorandum

Subject **E2 POND**

To **Graham Vincent**

Date **20th July 1994**

From **Bob Watts**
Ref **E5275/19/1/01**

Graham,,

Adam Ford has received verbal confirmation that the SMC application to remove the timbers to the sump will be granted. I have informed Alan Heath that removal to gravel level can proceed.

Regards

BOB WATTS

Copy:- Adam Ford

Subject **E12**To **Graham Vincent**Date **11th July 1995**

From **Bob Watts**
Ref **E5275/19/1/02**

Graham,

There is persistent asbestos in the ground in this area. Please:-

- 1) Spread recovered gravel from Canal Y over the area, no Terram required, to suppress asbestos fibre release. Same finish to path and road embankments.
- 2) MKS have not completed the survey of this area and sampling is in hand. In the interim stock pile the gravel on E12 surfaces but clear of pegs.
- 3) Review progress when all gravel is recovered. The aim would be to have a level uniform thickness over the whole area. A decision will then be made regarding further treatment, (ie. Terram and imported gravel).

Regards

BOB WATTS.

Copy:- Steve Chaddock

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER E3	OLD SERIES 45	RCHME NUMBER	N.G.R. TL 37568 02162
NAME/FUNCTION Washing House No.3 Washing House No.1	START DATE 1895-6 1908	END DATE 1908? 1981?	
<p style="text-align: center;">NO PHOTOGRAPHY</p> <p style="text-align: center;">AVAILABLE</p>			
CARTOGRAPHIC DEPICTION 1897 - WASC 900/53C ; Washing House No.3 c1910 - WASC 900/65 ; 45 Washing House No.1 c1910 - WASC 900/79 ; 45 Washing House No.1 1917 - WASC 900/70 ; 45 Washing House No.1 1917 - WASC 900/72 ; 45 Washing House No.1 1919 - WASC 900/74 ; 45 Washing House No.1 c1920 - WASC 900/80 ; Washing House No.1 1923 - WASC 900/84 ; 45 Washing House No.1 1932 - WASC 900/87 ; 45 Washing House No.1 > 1940 - WASC 900/91A ; 45 1954 - A - B.34 ; 45 c1960 - WASC 900/94 ; 45 c1963 - WASC 900/97 ; E3 1972 - WASC 900/102 ; E3 1972 - WASC 900/104 ; E3 1976 - WASC 900/113 ; E3		DOCUMENTARY REFERENCES c1945 RGPF Ledger WASC 1508 ; Washing House 1945 Plan and elevation traced 20th december 1945 (no ref No.) Plans; E03 B01 3/6/1940 ; Tunnel to No.2 Pouring on House ERDE list 1972 - NG wash house 1964 RARDE list 1992 - NG wash house	

PHOTOGRAPHY
HISTORIC

PRO Supply 5/860 Washing House No.3 Exterior 1897
PRO Supply 5/861 229 Interior jan 1905
PRO Supply 5/861 250 Interior jul 1909
PRO Supply 5/861 274 No.1 washing house (no date)

- 1888 Maj Gen W.H. Wardell R.A Handbook of
Gunpowder & Guncotton 1888 Chp X11 p.85-87
1908 RGPF Ledger WASC 1509 + WASC 1764 ;
Washing House built 1895-6 p4
c1925 RGPF Ledger WASC 1680 ; Washing House
1938 Textbook of Explosives Used in The Service
HMSO 1938 Chp X11 p80-85 Fig 12.1,13.3

Proc. of Court of Enquirey on explosion at RGPF
20-Apr-1940 figs.17, 18, 19
E3 WASC 1054/5 Interior of roof 1981
E3 WASC 1054/6 Exterior of roof 1981
E3 WASC 1054/7 E3 entrance 1981
E3 WASC 1054/8 Interior with steps 1981

PHOTOGRAPHY
RCHME

- 1) 206/L/16 09 Mar 1993 Washing house from West on
top of E2
206/L/23 09 Mar 1993 Mound from South showing
Exit tunnels
206/L/24 09 Mar 1993 Exit tunnel to South
206/L/25 09 Mar 1993 N/G tunnel to 46R
206/L/26 09 Mar 1993 Interior from South
206/L/28 09 Mar 1993 Interior showing N/G tunnel to
46R
206/L/29 Waste

- 2) BB92/26270 E5 and E3 Nitroglycerine Washing
House view from South West.
BB92/26272 E3 Detail of wooden gully support in
service tunnel.
BB92/26273 E3 Nitroglycerine Washing House view
from South East.
BB92/26276 E3 Interior of Nitroglycerine Washing
House.

- 4) 4786/32 06.05.1993
4786/33 06.05.1993
4788/15 06.05.1993

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: E2, E5, 46, 46a, 52

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in English bond

- 2) ROOF MATERIALS AND STRUCTURE
Probably roofing felt over timber boards

- 3) POWER SOURCE
Electricity

- 4) DIMENSIONS iii) HT 3.75m iv) DIA 9.1m

- 5) The wash house was enclosed within a circular brick revetment wall surrounded by an earthwork traverse. The wash house was entered through a curved brick tunnel from the north side protected by a red wooden slat gate. By this gate a stone plaque records the date '1896-7', also by the entrance are the modern fuse and switch boxes. The original form of the revetment wall consisted a curved brick depression on the eastern side leading towards mixing house 46 and a brick arched service tunnel, height 1.72m width 0.77m, leading to the wash water settling house 52. The wooden gutter support shelf for the gutter remaining insitu along the eastern wall. At the base of the revetment wall on the west side an earthenware pipe enters with a cast iron flanged pipe set within it. The pipe has abore of 11cm and is sealed by a circular plate.

Within the circular brick revetment formerly stood a timber framed round house measuring 7.6m in diameter. This building was set on a low brick sill wall over a slate damp proof course. The upper part of this building was braced against the revetment wall by a number of small horizontal joists the holes for which are visible in the brickwork. Also set on a stone bed in the brick work were two large horizontal timbers that formerly supported a raised platform roughly at head height within the building.

In common with E2 and E5 the wash house has been modified on a number of occasions. The timber round house was extensively damaged when Mixing house 46 blow up on 20th april 1940, although it is unclear whether or not the brick work suffered any damage at this date. Evidence for more substantial modifications to the structure are represented by concrete additions to the late nineteenth century brick structure. Concrete has been added to raise height of the portal. On the western side a concrete channel has been cut through the mound and the revetment wall. On the eastern side the curved depression has been filled with concrete and a rectangular service tunnel, height 1.66m width 0.76m.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER E4	OLD SERIES 52	RCHME NUMBER	N.G.R. TL 37585 02110
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NAME/FUNCTION Wash Water Settling House	START DATE 1895-6	END DATE 1981?
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION

1897 - WASC 900/53C ; Wash water Settling House
c1910 - WASC 900/65 ; 52 Wash Water Settling House
c1910 - WASC 900/79 ; Wash Water Settling House
1917 - WASC 900/70 ; 52 Wash Water Settling House
1917 - WASC 900/72 ; 52 Wash Water Settling House
1919 - WASC 900/74 ; 52 Wash Water Settling House
c1920 - WASC 900/80 ; 52
1923 - WASC 900/84 ; 52 Wash Water Settling House
1932 - WASC 900/87 ; 52 Wash Water Settling House
> 1940 - WASC 900/91A ; 52
1954 - A - B.34 ; 52
c1960 - WASC 900/94 ; E4
c1963 - WASC 900/97 ; E4
1972 - WASC 900/102 ; E4
1972 - WASC 900/104 ; E4
1976 - WASC 900/113 ; E4

DOCUMENTARY REFERENCES

1908 RGPF Ledger WASC 1509 + WASC 1764 ;
Wash Water Settling House built 1895-6 p5
c1925 RGPF Ledger WASC 1680 ; Wash Water
Settling House
c1945 RGPF Ledger WASC 1508 ; Wash Water
Settling House

No Plans

ERDE list 1972 - Wash Water Settling House 1964
RARDE list 1992 - Wash Water Settling House

PHOTOGRAPHY HISTORIC

PRO Supply 5/860 89 Wash Water Settling House 1897
PRO Supply 5/861 198 1903

WASC 499 Explosion damage 18-Jan-1940, photo 7

Proc Court Inquirey explosion 20-Apr-1940, photos 9 and
10

PHOTOGRAPHY RCHME

1) 206/U/13 From south east
206/U/14 From east

Site Photography.

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: E3, E5, RCHME 212

CONDITION	Fair
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DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick foundations formerly with timber superstructure
- 2) ROOF MATERIALS AND STRUCTURE
Formerly angle irons with timber board over
- 3) POWER SOURCE
Steam heating
- 4) DIMENSIONS i) L 13.4m ii) W 9.8m
- 5) The wash water settling house sat within a concrete cellar 1m in depth. The former timber framed building was a free standing building within this cellar placed on brick foundations 11m x 6.1m, depth 1m. A small timber bridge on the north east side bridged the gap between the two constructions. The building formerly housed a large circular stave tank to receive the spent washing water from washing houses E3 and E5. This was brought to the building along lead lined gutters supported on trestles and over the old river lee on bridges RCHME 212 and RCHME.

Cleaned out late 94. No specific finds or structures save vegetation.

E4

This building was cleared of vegetation exposing the footings of the washwater settling tank. An NG gutter fastening strap was found in the building.

Steam Pipe Routes in the area have been scrutinised and capped with hoggin.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER E5	OLD SERIES 49	RCHME NUMBER	N.G.R. TL 37534 02112
NAME/FUNCTION Washing House No.2 Schmidt Plant	START DATE 1895-6 1964	END DATE 1981?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1897 - WASC 900/53C ; Washing House No.2 c1910 - WASC 900/65 ; 49 Washing House No.2 c1910 - WASC 900/79 ; Washing House No.2 1917 - WASC 900/70 ; 49 Washing House No.2 1917 - WASC 900/72 ; 49 Washing House No.2 1919 - WASC 900/74 ; 49 Washing House No.2 c1920 - WASC 900/80 ; 49 1923 - WASC 900/84 ; 49 Washing House No.2 1932 - WASC 900/87 ; 49 Washing House No.2 > 1940 - WASC 900/91A ; 49 1954 - A - B.34 ; 49 c1960 - WASC 900/94 ; 49 c1963 - WASC 900/97 ; E5 1972 - WASC 900/102 ; E5 1972 - WASC 900/104 ; E5 1976 - WASC 900/113 ; E5		DOCUMENTARY REFERENCES 1888 Maj Gen W.H.Wardell R.A. <u>Handbook of Gunpowder & Guncotton</u> 1888 Chp X11 p85-87 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Washing House built 1895-6 p4 c1925 RGPF Ledger WASC 1680 ; Washing House 1938 <u>Textbook of Explosives used in the Service</u> HMSO 1938 Chp X11 p80-85 Fig 12.1,12.3 c1945 RGPF Ledger WASC 1508 ; Washing House 1945 Plan and elevation traced 20th december 1945 (no ref No.) ERDE list 1972 - Schmidt house 1964 RARDE list 1992 - NG Wash house	
PHOTOGRAPHY HISTORIC E5 WASC 1054/9 Entrance wall with date 1896-7 1981 E5 WASC 1054/18 Entrance 1981 E5 WASC 1054/19 Interior of tunnel to E5 1981 E5 WASC 1054/20 Gen view 1981 E5 WASC 1054/21 Old scales found in E5 1981 PRO Supply 5/860 96 1897 PRO Supply 5/860 100 1897		PHOTOGRAPHY RCHME 1) 206/L/17 09 Mar 1993 Washing house from North on top of E2 206/L/18 09 Mar 1993 Interior from South looking towards E2 206/L/19 09 Mar 1993 Interior from West 206/L/20 09 Mar 1993 Entrance from West 206/L/21 09 Mar 1993 Showing N/G service tunnel 2) BB92/26270 E5 and E3 Nitroglycerine Washing House view from South West. BB92/26271 E5 Washing House entrance view from West. BB92/26274 E5 Interior of Nitroglycerine Washing House. BB92/26275 E5 Interior of Nitroglycerine Washing House.	

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: E2, E3, 52

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick in English bond and earthwork
- 2) ROOF MATERIALS AND STRUCTURE
-
- 3) POWER SOURCE
Electricity
- 4) DIMENSIONS iii) HT 3.8m iv) DIA 9.1m

- 5) The remains of the Nitroglycerine wash house consist of an internal circular brick revetment wall in English bond 9.1m in diameter and 3.8m in height. This is surrounded by an earthwork bank. In the centre of this feature stood a timber framed roundhouse, probably fired and demolished in 1981 (WASC 1054/9). The roundhouse was entered from the north through a curving brick tunnel sealed by a red slatted wooden gate. By the gate a stone plaque records the date '1896-7'. The roundhouse was 7.7m in diameter and was separated from the revetting wall by a gulley 0.75m in width and 0.47m in width. The wash house was originally serviced by a brick arched tunnel, height 1.71m width 0.76m leading towards the wash water settling house 52. A curved depression in the southern side of the revetment wall may have carried further pipes away from the building. Set into the base of the revetment wall on the west side is an earthenware pipe with a lead pipe and copper conductor passing through it.

The internal roundhouse was set on a low brick sill wall over a damp proof course of broken slates. Set into the revetment wall on the northern side are two large horizontal timbers that originally supported a raised platform within the building. A similar arrangement was found on the south site in building 483. Other small joist holes in the wall mark the position of bracing timbers originally set against the outside of the building. Around one of the legs of this framework a section of the lead lined floor remained insitu.

The original form of this building has been modified by alterations carried out in the 1960s and perhaps also in the 1940s. Additions to the structure include the heightening of the entrance in concrete and to the service tunnels bringing the nitroglycerine into the building. On the northern side a concrete channel has been cut into the original brickwork, this leads from E2 and was presumably used to channel nitroglycerine into the building for washing. The tall framework of steel girders was also probably introduced during one of these rebuilding phases. The curved depression on the southern wall has also been filled with concrete and replaced by a rectangular service tunnel, height 1.72m width 0.77m. The presence of rusty bolts on the eastern side of the tunnel mark the position of the gutter that formerly carried the nitroglycerine to mixing house 62.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E6	OLD SERIES	RCHME NUMBER	N.G.R. TL 37463 02142
NAME/FUNCTION Remote control room for E2		START DATE 1962	END DATE 1981?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 - WASC 900/94 ; E6 c1963 - WASC 900/97 ; E6 1972 - WASC 900/102 ; E6 1972 - WASC 900/104 ; E6 1976 - WASC 900/113 ; E6		DOCUMENTARY REFERENCES Plans: E06 B01 - 4/8/61 ; Remote Control Room - N.G. Area ERDE list 1972 - Remote control for E2 1962 RARDE list 1992 - Control room	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/C/31 02 Feb 1993 From West 2) BB92/26142 E6 Interior of Central Room for Nitrator E2	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E1, E2, E15, RCHME 273			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Breeze block 2) ROOF MATERIALS AND STRUCTURE Flat concrete slab 3) POWER SOURCE Electricity and steam heat 4) DIMENSIONS i) L 3.43m ii) W 3.43m iii) HT 2.3m 5) The control room is a single storey building with a rectangular plan. The control room is entered through a steel door on its northern side, that is away from the nitrator E2. There is a single armoured window on the north side also. The interior of the building retains many of its control panels. The cables from this building were carried inside a metal gutter along side pipes (RCHME 273) leading to the top of E2. Historic artefacts - <u>All</u> remaining control panels and other material within the building.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E7	OLD SERIES 38A	RCHME NUMBER	N.G.R. TL 37438 02156
NAME/FUNCTION Office and Laboratory Nitric Ester House		START DATE 1908 1961?	END DATE 1961? 1992
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1917 - WASC 900/70 ; Office and Lab. 1917 - WASC 900/72 ; Office and Lab. 1919 - WASC 900/74 ; Office and Lab. c1920 - WASC 900/80 ; 38A 1923 - WASC 900/84 ; 38A Office and Lab. 1932 - WASC 900/87 ; 38A Office and Lab. > 1940 - WASC 900/91A ; 38A 1954 - A - B.34 ; 38A c1960 - WASC 900/94 ; 38A c1963 - WASC 900/97 ; E7 1972 - WASC 900/102 ; E7 1972 - WASC 900/104 ; E7 1976 - WASC 900/113 ; E7		DOCUMENTARY REFERENCES c1925 RGPF Ledger WASC 1680 ; Office,N.G. Area Plans: E07 B01 - B04 ; Plan and Elevations 1908 to 1962 ERDE list 1972 - Laboratory and office 1964 RARDE list 1992 - Portacabin	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH:			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL 2) ROOF MATERIALS AND STRUCTURE 3) POWER SOURCE 4) DIMENSIONS i) L ii) W iii) HT 5) The building has been demolished.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E9/2	OLD SERIES	RCHME NUMBER	N.G.R. TL 37412 02124
NAME/FUNCTION Refrigeration house		START DATE 1969	END DATE 1990?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 - WASC 900/94 ; E9 c1963 - WASC 900/97 ; E9 1972 - WASC 900/102 ; E9 1972 - WASC 900/104 ; E9 1976 - WASC 900/113 ; E9		DOCUMENTARY REFERENCES Plan: E09 B01 - 22/11/68 ; Proposed Refridgerator House ERDE list 1972 - Refrigeration house next to E10 RARDE list 1992 - Refrigeration house next to E10	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/C/32 02 Feb 1993 From West 206/C/34 02 Feb 1993 From South West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE Flat roof covered by roofing felt 3) POWER SOURCE Electricity and steam heat 4) DIMENSIONS i) L 6.6m ii) W 3.5m iii) HT 2.6m 5) This building is a single storey with a rectangular ground plan. It is entered through double doors on the north side, it was lit by a single window on the west side.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E12	OLD SERIES	RCHME NUMBER	N.G.R. TL 37470 02058
NAME/FUNCTION Shift house and office		START DATE 1960?	END DATE 1985?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 - WASC 900/94 c1963 - WASC 900/97 ; E12 1972 - WASC 900/102 ; E12 1972 - WASC 900/104 ; E12 1976 - WASC 900/113 ; E12		DOCUMENTARY REFERENCES Plans: E12 B01 - B08 ; Plans and Elevations 1961 to 1982 ERDE list 1972 - Shift house and office 1964 RARDE list 1992 - Derelict shift house	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/C/28 02 Feb 1993 From South East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E13			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE Flat concrete slab with raised roof lights. 3) POWER SOURCE Electricity and steam heat 4) DIMENSIONS i) L 10.4m ii) W 7.3m iii) HT 2.8m 5) The building is single storeyed with arectangular ground plan. The building has been partly fired. To the east is a locker room entered from a door on the south wall, with a shower cubicle and urinal lit by two double metal windows and a roof light. In the centre is a large room entered through another door on the south wall, this is lit by a metal framed window on the south wall and windows along the west wall. To the west of the building are two small rooms. The northern portion of the building has been demolished and remains only as concrete floor slab measuring 12.2m x 7.2m. The positions of three rooms may be discerned.			

E12 North Area

Extensive asbestos contamination discovered in the area immediately surrounding E12 led to the reduction of the ground level by c 0.5 m. most of the fill was made up ground containing rubble, slate and asbestos (fibrous).

This decontamination exercise also brought to light the foundations of five structures previously buried (WALD008).

The group centred around a hexagonal water tower (61). It is supposed that the tower provided a head of water not only for the ablutions in E12 to the south, but also for the Acid Factory to the west and south west.

The tower drew its water by means of a pumping house (60) and this was supplied with water from one of two wells (60A, 61A). 60A was filled by an extended leg from the Waste NG drowning pond to the south of E2. (It seems unlikely that contaminated waters would have pumped up a storage tower.) 61A was fed by way of a pipe, whose easternmost end was fed by the high level canal RCHME 291.

The Dirty Store (54) and its Earth Closet (55) were only exposed and not excavated.

A more detailed drawing of 61 can be found at WALD007, showing pipes and construction details.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER E13	OLD SERIES	RCHME NUMBER	N.G.R. TL 37485 02030
NAME/FUNCTION Sewer pump house and filter beds		START DATE 1962	END DATE 198?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 - WASC 900/94 ; E13 c1963 - WASC 900/97 ; E13 1972 - WASC 900/102 ; E13 1972 - WASC 900/104 ; E13 1976 - WASC 900/113 ; E13		DOCUMENTARY EVIDENCE Plan: E13 B01 - 8/8/1962 ; Detail of Sewage Disposal Works (2ft to 1in) ERDE list 1972 - Sewer pump house and filter beds 1964 RARDE list 1992 - Sewer pump house and filter beds	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/C/27 02 Feb 1993 From South West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E12, RCHME 185			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE Roofing felt over fibre board 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 2.4m ii) W 1.7m iii) HT 2.1m 5) The pump house is a small single storey building with a rectangular ground plan. It houses a Bronson plunger pump by Tuke and Bell Lichfield Staffordshire. Historic artefacts - Instruction notice and makers plate on pump			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER E14	OLD SERIES	RCHME NUMBER	N.G.R. TL 37522 01946
NAME/FUNCTION Mixing House No.4 Nitric Ester Store Magazine		START DATE 1940 1964?	END DATE 1964?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION > 1940 - WASC 900/91A 1954 - A - B.34 c1960 - WASC 900/94 c1963 - WASC 900/97 ; E14 1972 - WASC 900/102 ; E14 1972 - WASC 900/104 ; E14 1976 - WASC 900/113 ; E14		DOCUMENTARY REFERENCES ERDE list 1972 - Magazine 1964 RARDE list 1992 - Mixing house/nitric ester store Plans Drg 01 Mixing House No.4 5-apr-1940	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/I/15 From South West 206/T/10 From South 2)BB92/26164 View from North West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHME 107			
CONDITION Fair			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Timber frame with sheet asbestos over
- 2) ROOF MATERIALS AND STRUCTURE
Corrugated asbestos
- 3) POWER SOURCE
Electricity
- 4) DIMENSIONS i) L 10.35 ii) W 6.5m iii) HT gable 4.75m
- 5) The building is enclosed on three sides by an earthen traverse, this is revetted on the southeast and north east sides by a breeze block wall. The building is a single storey with a rectangular ground plan, it has gabled ends to the north west and south east. It has a single window on the south east elevation and two windows on the south west elevation. The building could be ventilated by the use of removable boards at the top and bottom of the walls, each of the boards has two copper knobs. On the north eastern side is a breeze block lobby and loading area. Within in the lobby is a shoe box, the door fittings are brass. The building was formerly served by canal RCHME 107.

This building replaced the earlier Mixing House No.4 when it was badly damaged in the accidental explosion of Mixing House 63 in 1940.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E15	OLD SERIES	RCHME NUMBER	N.G.R. TL 37410 02116
NAME/FUNCTION Compressor house Genarator room		START DATE 1964	END DATE 1981?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 WASC 900/94 ; E15 c1963 WASC 900/97 ; E15 1972 WASC 900/102 ; E15 1972 WASC 900/104 ; E15 1976 WASC 900/113 ; E15		DOCUMENTARY REFERENCES Plan; E15 B01 8/6/1964 ; Nitric Ester Group New Compressor House 1972 ERDE List ; Generator Room 1991 Mott McDonald survey (All.2) 1992 RARDE List ; Generator Room	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/C/30 02 Feb 1993 From West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2, E6			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE Roofing felt over flat fibre board 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 2.08m ii) W 2.18m iii) HT 2.2m 5) The building is single storeyed and is almost square in plan. It is entered through a door on the west side. It houses a four stroke pump by Broom and Wade Ltd. Historic artefacts - pump? any makers plates			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER E16	OLD SERIES	RCHME NUMBER	N.G.R. TL 37592 02088
NAME/FUNCTION Tool shed and mud hut		START DATE 196?	END DATE 1992?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION c1960 WASC 900/94 ; E16 c1963 WASC 900/97 ; E16 1972 WASC 900/102 ; E16 1972 WASC 900/104 ; E16 1976 WASC 900/113 ; E16		DOCUMENTARY REFERENCES 1972 ERDE List ; Tool Shed and Mud Hut 1991 Mott McDonald survey (All.2) 1992 RARDE List ; Remains of Brick Shelter	
PHOTOGRAPHY HISTORIC Supply 5/861 200-1 1903		PHOTOGRAPHY RCHME 1) 206/M/30 4 Mar 1993 From West <i>Site Photog</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHME 211			
CONDITION Demolished			

Foundation cleaned out. Low cross walls supported raised loaded floor? Low walls show foundation for inatchboard walls. Finished in a row of engineering brick splay stretchers.

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick sill wall with timber superstructure
- 2) ROOF MATERIALS AND STRUCTURE
Roofing felt
- 3) POWER SOURCE
Electricity and steam heat
- 4) DIMENSIONS i) L 4.7m ii) W 4.7m
- 5) The superstructure of this building has been demolished leaving a low brick sill wall 0.4m in height. A timber frame was formerly bolted to this sill wall by means of vertical bolts set into the brick work. Internally the positions of two floor joists may be recovered. The building was formerly connected to steam heating pipe RCHME 211.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER 44	OLD SERIES	RCHME NUMBER	N.G.R. TL 37547 02182
NAME/FUNCTION Boat house		START DATE 1857-8	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; Boat House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Boat House built 1857-8 p4 c1925 RGPF Ledger WASC 1680 ; Boat House c1945 RGPF Ledger WASC 1508 ; Boat House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/R/16 18 Mar 1993 Site of Boat House from East <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHME 287			
CONDITION Buried			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 4) DIMENSIONS' i) L 8.1m ii) W 4.3m 5) The remains of the demolished boat house may be traced as two low brick foundation walls. The inner bay may be traced where the infilling material has settled			

Excavated pre Oct 94 c.6ft

*Brick revetted boat house walls survive/above concrete base.
Some damage to north and south long walls as a result of later
electric cables /pipes being laid through.*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER 46	OLD SERIES	RCHME NUMBER	N.G.R. TL 37625 02155
NAME/FUNCTION Mixing House No.2		START DATE 1904	END DATE 20-Apr-1940
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 46 Mixing House No.2 1940 Proc Court Inquirey on explosion RGPF 20th April 1940 - Appendix II Plan of crater and building		DOCUMENTARY REFERENCES Proc Court Inquirey on explosion RGPF 20th April 1940 1894 WASC 901/154A 30 Nov 1894 No2 Mixing House includes construcyion table Plan; 46 B01 ; Site plan of New Mixing House 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Mixing House built 1904 p4 c1925 RGPF Ledger WASC 1680 ; Mixing House c1945 RGPF Ledger WASC 1508 ; Mixing House (demol by explosion)	
PHOTOGRAPHY HISTORIC 1940 Proc Court Inquirey on explosion RGPF 20th April 1940 - Appendix I Photographs 1-4		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E3			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Earthwork 5) The mixing house was totally destroyed in an explosion on 20th april 1940. A slight scarp marks the position of the northern side of the traverse.			

No investigative excavation. Gravel capping introduced.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 46A	OLD SERIES	RCHME NUMBER	N.G.R. TL 37620 02130
NAME/FUNCTION Mixing house		START DATE 1940?	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1954 A - B.34 c1960 WASC 900/94 c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113		DOCUMENTARY REFERENCES c1945 RGPF Ledger WASC 1508 ; Replace 46 to new 1941 design 1972 ERDE List ; Mixing House with Landing Stage 1992 RARDE List ; Mixing House with Landing Stage	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/O/17 08 Mar 1993 steam pipe entering 206/O/18 08 Mar 1993 steam pipe, N/G gully tunnel 206/O/19 08 Mar 1993 interior from South 206/O/20 08 Mar 1993 detail of area where N/G tank stood 206/O/21 08 Mar 1993 holes for N/G mixing tables 206/O/22 08 Mar 1993 tunnel through which the N/G was channelled 2) BB92/26292 Mixing House 46A from South West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E3, 46R <i>Partly overlies 46 (Mixing House No.2)</i>			
CONDITION Good			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Breeze block and earthwork

- 2) ROOF MATERIALS AND STRUCTURE
-

- 3) POWER SOURCE
Electricity and ?steam heating

- 4) DIMENSIONS iv) DIA 10.6m

- 5) This mixing house replaced mixing house no 2 (46) which was destroyed in an explosion on 20th april 1940. The mixing house sat within a circular breeze block revetment wall surrounded by an earthen traverse. The mixing house was a timber framed roundhouse 9m in diameter that sat on a low brick sill wall. It was secured to the floor by vertical mounting bolts and was separated from the revetment wall by a gully. In the centre of the building is a post hole 16cm x 16cm. The mixing house was entered from a landing stage through a covered porch from the south. The porch was timber framed and covered by asbestos sheeting. To the west of the porch was a small asphalt covered building base 2.6m x 1.7m. The arm of the canal was specially constructed to serve this building.

The nitroglycerine entered the mixing house from the washing house E3 along a lead lined gutter formerly supported on timber trestles. The nitroglycerine was then channelled along the western side of a breeze block lined tunnel to the north of the roundhouse. The nitroglycerine was then stored in a tank within the building before being measured into burettes. To the north of the roundhouse are the cut off steel bolts that secured this tank and an L shaped trough in front, 220cm x 142cm, into which the bags of guncotton were placed. In the floor of the building are three groups of four post holes 26cm x 22cm, depth 7cm to which the mixing tables were fixed.

The building was heated by a warm air pipe entering from the west that unusually entered the base of the building. The pipe was constructed from sections of rolled galvanised sheeting and connected together by bolted flanged ends. The pipe was lagged by fibrous asbestos secured in place by chicken wire and protected by a jacket of galvanised metal.

Historic salvage - heating pipe, 'Maxlume' danger building lights, any other metal fittings

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER 46R	OLD SERIES	RCHME NUMBER	N.G.R. TL 37658 02184
NAME/FUNCTION Replacement for Mixing House No.2		START DATE 1941	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1954 A - B.34 c1960 WASC 900/94 c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113		DOCUMENTARY REFERENCES 1972 ERDE List ; Replacement for Mixing House No.2 1991 Mott McDonald survey 1992 RARDE List ; Replacement for Mixing House No.2	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/O/26 08 Mar 1993 from South 206/O/27 08 Mar 1993 pipe detail 206/T/23 17 Mar 1993 Detail lead pipe North side 2) BB92/26293 Mixing House 46R from South	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2, U2 OVERLIES: RCHME 358?			
CONDITION Good			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Breeze block and earthwork

- 2) ROOF MATERIALS AND STRUCTURE
Galvanised metal sheeting

- 3) POWER SOURCE
Electricity and steam heating

- 4) DIMENSIONS iv) DIA 11.4m

- 5) The mixing house along with 46A was built probably in late 1940 as replacement for mixing house 46 destroyed in an explosion on 20th april 1940. The mixing house was set within a circular breeze block revetting wall retaining an external earthen traverse. The traverse was revetted along its northern side by a breeze block wall against Newtons Pool. The mixing house was entered from the east through a tunnel. Within the tunnel the narrow guage rails that served the house remained, as the metal rails approached the entrance porch they were replaced by wooden rails. At the ~~end~~^{neck} of the tunnel an old crack sealed by cement has the date 1-1-44.

The timber roundhouse that formerly stood in the centre of the traverse was separated from the revetting wall by a gully 0.7m in width. The timber wall frames sat on a brick retaining wall around the concrete floor, 9.3m in diameter, secured to the floor by vertical mounting bolts. The roundhouse was entered along through a covered porch constructed from a timber frame with asbestos sheet fixed to it. Only part of the floor was exposed, the remainder covered by humic deposits. Where the floor was exposed were four square post holes each 10cm x 10cm forming a feature 82cm x 82cm. To the north of the building in the gully are two rectangular concrete holes, form the larger a lead pipe with a bore of 39mm entered the building. This pipe was probably associated with the movement of nitroglycerine into the house.

The building was heated by a single pipe from fanhouse U2 that formerly connected to an octagonal roofplate, 91cm x 91cm, at the apex of the roof. The pipe consisted of segments formed from rolled sheets with flanged ends bolted together. The pipe was lagged by fibrous asbestos, held in place by chicken wire and protected by a galvanised metal jacket. The building was lit by electric light protected in enamelled 'Maxlume' boxes.

Historic artefacts: Heating pipes, Maxlume danger buildings lights, other metal fittings

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 47	RCHME NUMBER	N.G.R. TL 37502 02155
NAME/FUNCTION Egg House		START DATE 1904	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84;47 Egg House		DOCUMENTARY REFERENCES 1908 RFPF Ledger WASC 1509; 47 Egg House built 1904 p4 Plan 0.47.B 01 Proposed Egg House N G Factory Edmonsey	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E1, E2			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Timber frame 2) ROOF MATERIALS AND STRUCTURE Zinc covered 3) POWER SOURCE 4) DIMENSIONS i) L 4.85 ii) W 3.3 iii) HT 1.3 (Low wall to North) 5)			

Floor level uncovered Nov 94.

Acid resistant bricks. Two circular holes for 'eggs'. Low wall exists to north as support for concrete curb of path around southern side of E2. Holes filled with concrete.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 50	RCHME NUMBER	N.G.R. TL 37495 02115
NAME/FUNCTION No1 Granulating House Magazine Dirty Store Magazine		START DATE 1857-8	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1871 PRO Supp/682 1886 WASC 900/38 Magazine No1 Granulating House 1897 OS 2nd Ed Essex XL1X.10 c1960 P16 50 Dirty Store		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 Dirty Store built 1857-8 p4	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: No1 Granulating House S34, 54			
CONDITION Buried			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 4) DIMENSIONS i) L 6.75m ii) W 4.85m 5) The remains of the demolished magazine may be traced as brick foundations. The remains indicate a porch on the canal side and buttresses on the west side.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 54	RCHME NUMBER	N.G.R. TL 37486 02090
NAME/FUNCTION Receiving Magazine No1 Press House Magazine Dirty Store	START DATE 1801-06 1857? 1898	END DATE 1857 1898	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1806 WO78/1352 1827 WASC 900/04 1830 WO55 2694 1830 WASC 900/06 c1835 WASC 900/07 1865 WASC 900/38 + SUPP5 975 1865 WASC 900/41A 1871 PRO SUPP5/682 Magazine 1886 WASC 900/42 ; No.1 Press House Magazine 1897 WASC 900/53C c1910 WASC 900/65 c1910 WASC 900/79		DOCUMENTARY REFERENCES 1807 Statement of Property WO55 2694 ; Receiving Magazine 1830 Statement of Property WO55 2351 ; 151 Receiving Magazine 1841 Statement of Property WO55 28 ; 151 Receiving Magazine 1851 Statement of Property WO55 3027 ; Receiving Magazine 1908 RGPf Ledger WASC 1509 Dirty store built about 1857-8 p4	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 50,76			
CONDITION Demolished			
DESCRIPTION 5) No surface remains of the Magazine were seen. The area has been dumped over and the foundations may remain buried. <i>Foundations uncovered April 95. Similar to 50 with porch and buttress. Possible EC?</i>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 61	RCHME NUMBER	N.G.R. TL 3748 0208
NAME/FUNCTION Water Tower		START DATE 1896	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84; 61 Water Tower Drwg No P16 61 Water Tower		DOCUMENTARY REFERENCES 1905 WASC 1509 RGPF Ledger p5 Water Tower built 1896	
PHOTOGRAPHY HISTORIC Supply 5/860 86 Water Tower 1897		PHOTOGRAPHY RCHME <i>Site Photog.</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: Nitroglycerine & Acid Factories			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE 3) POWER SOURCE 4) DIMENSIONS 5) Octagonal brick Water tower. No surface remains. Sections of the tower when the Canal RCHME 287 was re-excavated in 1993 during the decontamination programme.			

Octagonal foundations and sandstone step uncovered May 95. Sections of tower also found in two wells located nearby. Severe asbestos contamination.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 62	RCHME NUMBER	N.G.R. TL 37523 02062
NAME/FUNCTION Mixing House No.3		START DATE 1904	END DATE 1945?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 62 Mixing House No.3		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Mixing House built 1904 p4 c1925 RGPF Ledger WASC 1680 ; Mixing House c1945 RGPF Ledger WASC 1508 ; Mixing House No.3 1972 ERDE List ; Mixing House No.3/Burnt out 1992 RARDE List ; Mixing House No.3/Burnt out	
PHOTOGRAPHY HISTORIC RCHME NEG No. BB92/16737 (also PRO Suppl't 5/861 photo. No. 251) Mixing House Edmonsey (c1909) Proc Court of Inquirey Explosion at RGPF 20-Apr-1940 10 photographs		PHOTOGRAPHY RCHME 1) 206/U/7 From West 206/U/8 Nitroglycerine tunnel from West 206/U/8 Steam heating pipes and central hole 206/U/10 From West	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E5, RCHM 186, RCHM 188, RCHM 189			
CONDITION Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Cast concrete and earthwork

2) ROOF MATERIALS AND STRUCTURE
Galvanised metal

3) POWER SOURCE
Electricity and steam heating

4) DIMENSIONS iv) DIA 10.62m

5) The mixing house, formerly a timber round house with a low conical roof supported by a central pillar, was housed within a cast concrete revetment wall 2.1m in height. This in turn was surrounded by an earth traverse. The roundhouse was separated from the revetment wall by a gully 68.5cm wide and 25cm in depth. The roundhouse was 9.3m in diameter and was bolted directly to the concrete floor slab. At the centre of the building is a post hole 17cm x 17cm. A thin groove around the edge of the concrete floor may indicate that the walls were covered by asbestos sheets. Guncotton was brought into the mixing house from the adjacent canal through a covered entrance porch sloping gently down into the building. The superstructure to the porch was supported on a low concrete wall that overlaid the inner revetment wall.

Nitroglycerine was run into the building along a lead lined gutter from washing house E5. The nitroglycerine gutter entered the building along a tunnel through the eastern side of the traverse. The remains of the bolts that supported the gutter are visible along the southern side of the tunnel. Once inside the building the nitroglycerine was temporarily stored within a lead tank, the metal fixing bolts remain in the floor. In front of this tank is a J shaped concrete hole 158cm x 135cm and 45cm deep, this was formerly lead lined. Although the floor was partly obscured by debris four square holes 26cm x 26cm were visible. Into these holes were formerly fixed wooden blocks to secure the mixing tables.

The building was heated by steam heating that was brought to the building through lagged pipes supported by concrete stanchions. Within the building were two flanged and curved cast iron steam pipes. Also within the building was a cast iron steam chest with the following lettering "The Lancaster" Patent Lancaster and Tonge Pendleton'.

Historic artefacts - steam heating pipes?, steam chest, any other metal fitting

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 63	RCHME NUMBER	N.G.R. TL 37625 02071
NAME/FUNCTION Mixing House No.5		START DATE 1904	END DATE 18-Jan-1940
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 63 Mixing House No.5		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Mixing House No.5 built 1904 p1 c1925 RGPF Ledger WASC 1680 ; Mixing House No.5 c1945 RGPF Ledger WASC 1508 ; Mixing House No.5(demolished by explosion) 1972 ERDE List ? 1992 RARDE List ? WASC 498 Proc Court Inquiry at Waltham Abbey re explosion on 18 January 1940	
PHOTOGRAPHY HISTORIC 1) WASC 499 Photographs of explosion 18-january-1940, photographs 1-3 WASC 1333 Cordite Blending House No.5 Bomb damage (craters) 5-Oct-1940 {is this correctly identified?, this building had been destroyed in january}		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E5, 53			
CONDITION Destroyed			
DESCRIPTION 5) Mixing house no 5 was destroyed in a an accidental explosion on the 18th january 1940. The site of the building may be discerned as an area of rubble strewn on slightly elevated broken ground.			

Explosion site investigated July/August 95. Majority of asbestos boarding removed from rubble. Capped and sealed with Terram. Concrete revetment wall to mound had been blown backwards and rough outline of interior could

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 73	RCHME NUMBER	N.G.R. TL 37524 02018
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NAME/FUNCTION Earth closet	START DATE 1904	END DATE
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION

DOCUMENTARY REFERENCES
1908 RGPF Ledger WASC 1509 + WASC 1764 ;
Earth Closet built 1904 p7

PHOTOGRAPHY
HISTORIC

PHOTOGRAPHY
RCHME
1) 206/U/12 From North

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH:

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Brick
- 2) ROOF MATERIALS AND STRUCTURE
Roofing felt over timber boards
- 3) POWER SOURCE
None
- 4) DIMENSIONS i) L 3.3m ii) W 2.7m iii) HT gable 2.9m
- 5) The earth closet consists of a covered elsan bucket to the south and an open urinal to the north. A painted sign on the wall reads 'clean'.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 76	RCHME NUMBER	N.G.R. TL 37532 01952
NAME/FUNCTION Traverse (part of former Corning House No.3) Press House and Pump House Mixing House No.4	START DATE 1806-1818 c1850 1898?	END DATE 1819 1898? 1940?	
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1827 WASC 900/04 + MPH 271 ; Traverse site of Former Corning House worked by Horses. 1830 WASC 900/05 ; site of No.3 Corning House c1835 WASC 900/07 ; site of Corning House 1865 WASC 900/38 + SUPP5 975 ; Press House, Wheel, Pump, Washing up Houses and Traverse. 1865 WASC 900/42 ; Press House, Wheel, Pump, Washing up Houses and Traverse. 1871 SUPP5/682 ; Washing up House/Press House 1897 WASC 900/53C c1910 WASC 900/65 ; 76 c1910 WASC 900/79 ; 76 1917 WASC 900/70 ; 76 1917 WASC 900/72 ; 76 1919 WASC 900/74 ; 76 c1920 WASC 900/80 ; 76 1923 WASC 900/84 ; 76 1932 WASC 900/87 ; 76 > 1940 WASC 900/91A ; 76 1954 A - B.34 ; 76 c1960 WASC 900/94 ; 76 c1963 WASC 900/97 ; 76 1972 WASC 900/102 ; 76 1972 WASC 900/104 ; 76 1976 WASC 900/113 ; 76		DOCUMENTARY REFERENCES 1830 Statement of Property WO55 2351 1819 'Mr Philpot, of Stanford Street purchased at the late sale of Ordnance property all the Corning Houses, Press Houses etc.....Mr Philpot offers £50 for the machinery of Nos 2 and 3 Corning Houses, which cost the Board £9000. In good state of preservation' Winters 1887 p86 1841 Statement of Property WO55 2856 1851 Statement of Property WO55 3027 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Mixing House, Shoe Porch built 1860(about)p7 c1925 RGPF Ledger WASC 1680 ; Mixing House, Shoe Porch c1945 RGPF Ledger WASC 1508 ; Mixing House, Shoe Porch (demolished) 1972 ERDE list ; Former Mixing House No.4 1992 RARDE list ; Former Mixing House No.4	
PHOTOGRAPHY HISTORIC 1) WASC 499 Photograph No.6 - Damage to building in january 1940 when Mixing House 63 blew up.		PHOTOGRAPHY RCHME 1) 206/I/16 01 Feb 1993 Traverse from South West 206/I/18 01 Feb 1993 Dock near 76 from South 206/I/19 01 Feb 1993 Traverse from South 206/T/7 17 Mar 1993 Brick traverse	

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: RCHME 288

CUT BY: RCHM 107

CONDITION GOOD: Fair

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL
Brick

2) ROOF MATERIALS AND STRUCTURE
-

3) POWER SOURCE
1) Horse 2) Water powering a hydraulic pump 3) Electric lighting?

4) DIMENSIONS i) L 14.94m ii) W 5.45m iii) HT estimate 6m

5) The monument lies at the head of a higher level leat RCHME 288 fed from Millhead stream. The core of this monument is an oval, battered brick traverse dating from the early nineteenth century and associated with a corning mill worked by horses. In the middle of the century the building was converted to a water powered gunpowder press house, analogous to 103/4. The mill was powered by the head of water from the leat falling into the old river Lee at a lower level. This wheel powered an hydraulic pump which in turn powered the press on the north east side of the building. At the end of the century the press house was converted to a cordite mixing house. The mixing house was badly damaged in an explosion in 1940 and may have gone out of use at this time. The site of the wheel house to the south west of the traverse was lost in 1940 when a new canal arm was pushed through RCHM 107.

The remains consist of the brick traverse, to the southwest a short length of a brick foundation in the canal bank marks one wall of the wheel house, the remainder has been lost to the canal. To the north east of the traverse the brick foundations of the press house, length 8.65m width 7.23m and part of a broken concrete floor. The western wall also forming a wharf edge to the canal basin. Along the front of the wharf is some metal piping that may either relate to the hydraulic gunpowder press or the cordite mixing house. To the southwest of the traverse the foundations of the northern wall of the pump house survive in the canal bank as a single row of bricks.

Historic artefacts - Metal pipes along the front of the press house.

Scrape of canal banks during decontamination works Nov-Dec 94 uncovered the limits of the pump house North eastern wall and the remains of the north western wall remains in the base of the canal. These were covered with clean clay to avoid excessive frost damage. Trees on top of mound need attention before damage occurs.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 88a	RCHME NUMBER	N.G.R. TL 37594 01900
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NAME/FUNCTION No.6 Mixing House C.E. Magazine	START DATE 1914-20? 1940?	END DATE
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION

1923 WASC 900/84 ; 88a
 > 1940 WASC 900/91A ; 88a
 1954 A - B.34 ; 88a
 c1960 WASC 900/94 ; 88a
 c1963 WASC 900/97
 1972 WASC 900/102
 1972 WASC 900/104
 1976 WASC 900/113

DOCUMENTARY REFERENCES

Plans;
 88a B01 - B04 ; Plans and Elevations
 c1925 RGPF Ledger WASC 1680 ; CE Magazine
 1991 Mott McDonald survey
 1992 RARDE List ; Derelict Tetryl Magazine and
 Mixing House

PHOTOGRAPHY HISTORIC

PHOTOGRAPHY RCHME

206/D/24
 206/I/22-23
 206/T/13-14

Site Photog.

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 88b

CONDITION Fair

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER 88b	OLD SERIES	RCHME NUMBER	N.G.R.
NAME/FUNCTION Fanhouse?		START DATE 1940	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/I/21 From south 206/T/12 From south	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 88a			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 2) ROOF MATERIALS AND STRUCTURE Flat concrete slab 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 3.25m ii) W 3.25m iii) HT 3.26m 5) The building is a small brick shed with a single door on the west side and a small window on the northern side. The door furniture is brass. A small circular hole on the south side presumably housed a pipe leading to 88a. With the building is an electric ?pump, for pushing warm air into 88a?. A small plate on the machine records the date of manufacture as 16 12 40. Historic artefacts - pump and makers plate (it is the only surviving ?warm air pump/fan on site), brass door furniture.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER ARS2	OLD SERIES	RCHME NUMBER	N.G.R. TL 37474 01890
NAME/FUNCTION Air Raid Shelter 2		START DATE 1940	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION > 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		DOCUMENTARY REFERENCES 	
PHOTOGRAPHY HISTORIC 		PHOTOGRAPHY RCHME 1) 206/B/4 Interior Elsan Bucket 206/B/5 Interior seating 206/C/22 From southwest 2) BB92/26141 From northwest	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: Acid Factory			
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 ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER U3	OLD SERIES	RCHME NUMBER	N.G.R. TL 37520 02088
NAME/FUNCTION Shelter		START DATE 1940?	END DATE 1954?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/L/22 From North East	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 62			
CONDITION: Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick in English Bond 2) ROOF MATERIALS AND STRUCTURE Flat Concrete slab 4) DIMENSIONS i) L 3.1 ii) W 2.05 iii) HT 2.2 5) The building has a single door to the East and a single window to the West with a concrete lintel and removable concrete blocks. The North and South elevations are blank. Traces of wavy camouflage paint are discernible on the exteriors.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 108	N.G.R. TL37520 01815
NAME/FUNCTION Watch house		START DATE 1806-27	END DATE 1899?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION 1827 MPH 271; 146 Watch house		DOCUMENTARY REFERENCES 1830 WO55/2694; 146 Watch house 1841 WO55/2856; 146 Watch house 1851 WO55/3027; 19 Watch house	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Site Photog</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH:			
CONDITION Demolished			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick 4) DIMENSIONS i) L 9m ii) W 6m 5) The watch house was demolished between 1897 and 1900. Odd sections of brick foundations and a sandstone door slab mark its site.			

*Extent uncovered Dec 94. Low foundations, much tree damage, pits associated nearby.
Pathway along Old River Lea or Lee found.*

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 109	N.G.R. TL37476 01854 TL37455 02045
NAME/FUNCTION Pipeline		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: ARS2, RCHME 111			
CONDITION Poor			
DESCRIPTION 5) Row of concrete stanchions that formerly supported a steam pipeline. The posts are cast concrete with iron hoops at the top, 1.9m in height. Steam main along South side of North to South track.-			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 111	N.G.R. TL 37462 01916 37502 01939
NAME/FUNCTION Pipeline		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME <i>Stephotos</i>	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHME 109, E14			
CONDITION: Poor			
DESCRIPTION 5) Row of concrete stanchions, 45m in length, that formerly supported a steam pipeline. The posts are cast concrete with iron hoops at the top, 1.5m in height. Joins main feeder pipeline RCHME 109 to E14.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 185	N.G.R. TL37498 02035
NAME/FUNCTION Blast wall		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 62, E13			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Breeze block 4) DIMENSIONS i) L 19.15m ii) W 1.2m iii) HT 3.5m 5) Breeze block blast wall east of E13.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 186	N.G.R. TL37497 02075
NAME/FUNCTION Blast wall		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 62			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Breeze block 4) DIMENSIONS i) L 8m ii) W 1.15m iii) HT 3.4m 5) Breeze block blast wall.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 188	N.G.R. TL 37542 02065
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NAME/FUNCTION Blast wall	START DATE 1940?	END DATE
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NO PHOTOGRAPHY
AVAILABLE

CARTOGRAPHIC DEPICTION

DOCUMENTARY REFERENCES

PHOTOGRAPHY
HISTORIC

PHOTOGRAPHY
RCHME

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 62

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL
Breeze block
- 4) DIMENSIONS i) L 8.45m ii) W 0.7m iii) HT 3.5m
- 5) Straight breeze block blast wall east of Mixing house 62.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 189	N.G.R. TL37530 02055 TL37545 02085
NAME/FUNCTION Steam pipe		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 62			
CONDITION Poor			
DESCRIPTION 5) Line of concrete stanchions with iron hoops. Formerly carried a steam pipe, bore 27mm, lagged by asbestos covered by bitumen sheeting.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 195	N.G.R. TL 37488 01967 TL 37460 01966
NAME/FUNCTION Pipeline		START DATE 1940	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E14?			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Earthenware pipe 5) Earthen ware pipes external diameter set in concrete on an earth bank 0.6m in height.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 196	N.G.R. TL 37475 01880 37475 02047
NAME/FUNCTION Telegraph/Electric line		START DATE 1940s	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS Associated with E12, ARS2			
CONDITION Poor			
DESCRIPTION 5) Row of telegraph poles, one post branded inscription 'GPO 24L 47', insulators dated 1940 and 1941.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
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NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
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		198	TL37531 01932
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			TL37629 01920
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NAME/FUNCTION	START DATE	END DATE
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NO PHOTOGRAPHY AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E14, RCHME 115

CONDITION	Poor
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DESCRIPTION

- | |
|--|
| 5) Row of poles supporting overhead lines, some late nineteenth/early twentieth century insulators and later 1940s types. The run may have been used to carry either/or electricity lines and telephone lines. |
|--|

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 200	N.G.R. TL37630 01935
NAME/FUNCTION Steam pipe		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: RCHM 103, RCHM 115, S90			
CONDITION Poor			
DESCRIPTION 3) POWER SOURCE Steam 5) Row of concrete stanchions with iron hoops to carry a steam pipe, the pipe was carried over bridge RCHM 103 and along traverse RCHM 115 before crossing the canal to S90.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES	RCHME NUMBER 203	N.G.R. TL 37615 02085
NAME/FUNCTION Telegraph/Electric Line		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: S27?			
CONDITION: Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL 2) ROOF MATERIALS AND STRUCTURE 3) POWER SOURCE 4) DIMENSIONS i) L ii) W iii) HT 5)			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
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NUMBER	OLD SERIES	RCHME NUMBER	N.G.R.
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213

TL 37590 02114

NAME/FUNCTION	START DATE	END DATE
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Blast wall

1940?

NO PHOTOGRAPHY AVAILABLE			
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CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 52, E4, E16

CONDITION	Good
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DESCRIPTION

- | | |
|----|---|
| 1) | CONSTRUCTIONAL MATERIAL
Breeze blockINE |
| 4) | DIMENSIONS i) L 9.3m ii) W 1.4m iii) HT 3.2m |
| 5) | Breeze block blast wall to te east of wash water settling house E4. |

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 215	N.G.R. TL 37616 02112
NAME/FUNCTION Shelter		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/M/27 From South	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 46A			
CONDITION Fair			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Brick in English bond 2) ROOF MATERIALS AND STRUCTURE Flat concrete slab 3) POWER SOURCE None 4) DIMENSIONS i) L 3.1m ii) W 2.05m iii) HT 2.05m 5) The shelter is a small single storey building. It has an entrance on the south side, and a window filled by segmental breeze blocks. Traces of wavy camouflage paint remain on the exterior of the building. The building has partly subsided into a filled canal formerly leading to aqueduct RCHME 214.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 216	N.G.R. TL 37633 02120
NAME/FUNCTION Blast Wall		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1)206/M/28 From West 206/M/29 From West	
RELATIONSHIPS WITH OTHER MONUMENTS PART OF: 46A			
CONDITION Good			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Breeze block and earthwork 4) DIMENSIONS i) L 11.58m ii) W 3.8m iii) HT 3.9m 5) Breeze block blast wall screening entrance to mixing house 46A.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 251	N.G.R. TL37597 02126 TL37606 01245
NAME/FUNCTION Pipeline		START DATE 1941?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E3, E4, RCHME 253			
CONDITION Poor			
DESCRIPTION <p>Pipeline carried on reinforced concrete posts the pipe supported by an iron hoop suspended from a bracket. The pipe is straight and is joined by screw and flanged joints, the bore is 4cm.</p> <p>The pipe appears to have carried waste water from the nitroglycerine wash house E3 over the Old River Lee across bridge RCHME 253 to the wash water house E4.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 252	N.G.R. TL37606 02150 TL37625 02137
NAME/FUNCTION Pipeline		START DATE 1941?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2, RCHME 253, 46a			
CONDITION Poor			
DESCRIPTION <p>Pipeline carried on reinforced concrete posts, the pipe is supported by an iron hoop suspended from a bracket. The pipe is straight and is joined by screw and flanged joints, the bore is 24mm.</p> <p>The pipe appears to have come from E3 across RCHME 253 it then mounts the traverse of 46a and continued around the eastern side of the structure. It is unclear whether the pipe carried liquids or whether it was used to enclose cabling.</p>			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 253	N.G.R. TL37600 02150
NAME/FUNCTION Bridge		START DATE 1940?	END DATE
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E3, RCHME 252, RCHME 253			
CONDITION Poor			
DESCRIPTION Two brick piers remain on either side of the Old River Lee, capped by concrete slabs with vertical mounting bolts. Within the reiver are the sawn off remains of bridge supports. The bridge served to carry a nitroglycerine gutter and other services from the Wash house E3 to the mixing house 46a. Additionally it carried pipeline RCHME 251 towards E4.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES	RCHME NUMBER 273	N.G.R. TL 37435 02149 37517 02170
NAME/FUNCTION Pipeline		START DATE 1962?	END DATE 1981?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: E2, E6			
CONDITION Poor			
DESCRIPTION Line of concrete base that formerly carried a steam pipe?. The pipeline was also used to carry control cabling in a metal gutter from E6 to the Nitrator E2.			

Subject

EDMONDSEY SLUICE EXCAVATION^{To}**Graham Vincent**

Date

6th September 1994

From

Bob Watts

Ref

E5275/01/1/03

Graham,

Following our inspection 9th September 1994 please:-

- a) Take samples in 8 locations pegged 2 x 1kg LGC, 1 x 1kg R.O. (open space analysis).
- b) Apply Terram from excavated face on boundary across to tree clump on eastern side of road. Backfill removing ash ramp on northern end of excavation. Apply Terram to southern end of excavation after stripping back approximately 300mm ash.
- c) Apply top soil to one remaining tree root system.
- d) Excavate canal, remove one possibly two trees in mound, use Kubota and hand dig to remove material from under culvert. Take down two fence posts and chain link.
- e) Excavate silt from waterway parallel with road.
- f) MKS will survey when complete.
- g) Extend wind break to cover two remaining trees.

Regards

BOB WATTS.

Copy:- Adam Ford

RCHME 275

The removal of fills from Canal RCHME 293, which fed the waterwheel of RCHME 275 uncovered a sandstone slab which may mark a previous sluice point.

The concrete slab overlying the wheel pit of was noted as cracked and recorded. No steps were taken to investigate this building further.