

1ST LINE DEFENCE

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Tel: +44 (0)1992 245 020

Client: Rydon

Project: Gospel Oak Site

Ref: OPN2585

Source: Landmark Maps

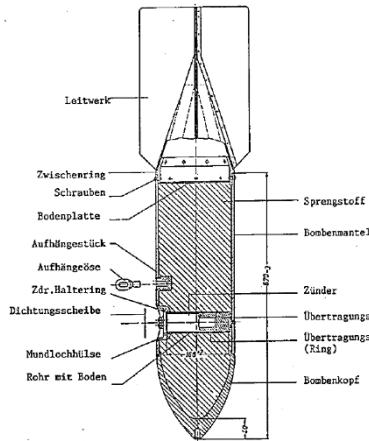
Approximate site boundary



Common Types of German HE Air-Delivered Ordnance

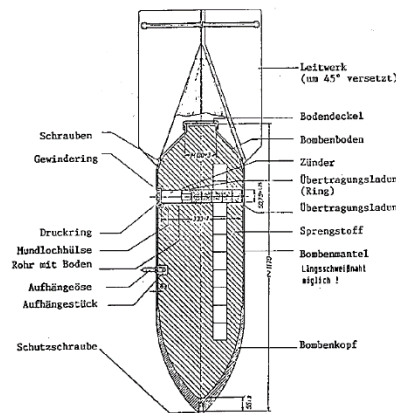
SC 50kg

Bomb Weight	40-54kg (110-119lb)
Explosive Weight	c25kg (55lb)
Fuze Type	Impact fuze/electro-mechanical time delay fuze
Bomb Dimensions	1,090 x 280mm (42.9 x 11.0in)
Body Diameter	200mm (7.87in)
Use	Against lightly damageable materials, hangars, railway rolling stock, ammunition depots, light bridges and buildings up to three stories.
Remarks	The smallest and most common conventional German bomb. Nearly 70% of bombs dropped on the UK were 50kg.



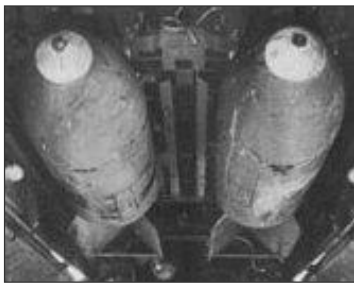
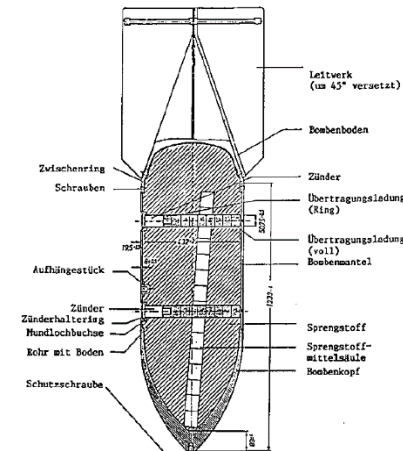
SC 250kg

Bomb Weight	245-256kg (540-564lb)
Explosive Weight	125-130kg (276-287lb)
Fuze Type	Electrical impact/mechanical time delay fuze.
Bomb Dimensions	1640 x 512mm (64.57 x 20.16in)
Body Diameter	368mm (14.5in)
Use	Against railway installations, embankments, flyovers, underpasses, large buildings and below-ground installations.
Remarks	It could be carried by almost all German bomber aircraft, and was used to notable effect by the Junkers Ju-87 Stuka (Sturzkampfflugzeug or dive-bomber).



SC 500kg

Bomb Weight	480-520kg (1,058-1,146lb)
Explosive Weight	250-260kg (551-573lb)
Fuze Type	Electrical impact/mechanical time delay fuze.
Bomb Dimensions	1957 x 640mm (77 x 25.2in)
Body Diameter	470mm (18.5in)
Use	Against fixed airfield installations, hangars, assembly halls, flyovers, underpasses, high-rise buildings and below-ground installations.
Remarks	40/60 or 50/50 Amatol TNT, trialene. Bombs recovered with Trialene filling have cylindrical paper wrapped pellets 1-15/16 in. in length and diameter forming



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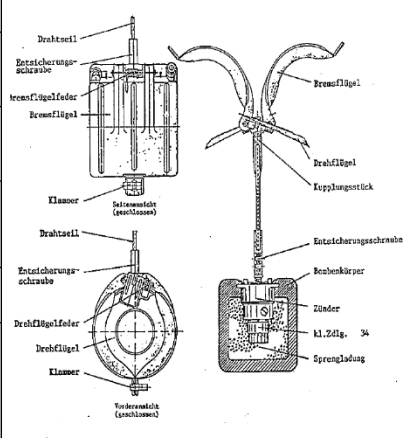

Project: Gospel Oak Site

Ref: OPN2585

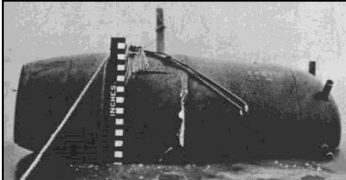


Source: Various sources

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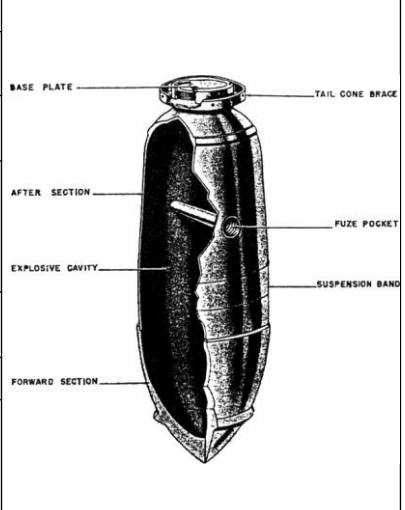
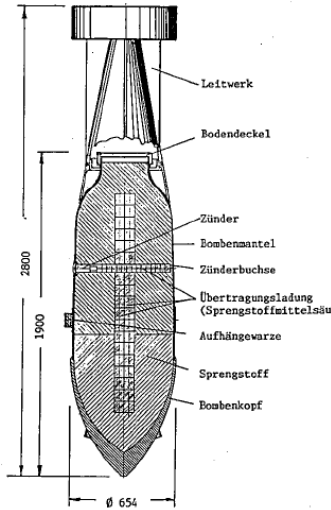
SD2 Butterfly Bomb

Bomb Weight	2kg (4.41lb)			
Explosive Weight	7.5oz (212.6 grams) of TNT surrounded by a layer of bituminous composition.			
Fuze Type	41 fuze (time) , 67 fuze (clockwork time delay) or 70 fuze (anti-handling device)			
Bomb Dimensions	Length 240 mm Width 140 mm Height 310 mm			
Body Diameter	3in (7.62 cm) diameter, 3.1in (7.874) long			
Use	It was designed as an anti-personnel/fragmentation weapon. They were delivered by air, being dropped in containers that opened at a predetermined height, thus scattering the bombs.			
Remarks	The smallest and most common conventional German bomb. Nearly 70% of bombs dropped on the UK were 50kg.			

Parachute Mine (Luftmine B / LMB)

Bomb Weight	987.017kg (2176lb)			
Explosive Weight	125-130kg (276-287lb)			
Fuze Type	Impact/ Time delay / hydrostatic pressure fuze			
Bomb Dimensions	1640 x 512mm (64.57 x 20.16in)			
Body Diameter	368mm (14.5in)			
Use	Against civilian, military and industrial targets. Designed to detonate above ground level to maximise damage to a wider area.	SC		
Remarks	Parachute Mines were normally carried by HE 115 (Naval operations), HE 111 and JU 88 aircraft types. Deployed a parachute when dropped in order to control its descent.			

SC 1000kg

Bomb Weight	996-1061kg (1,058-1,146lb)			
Explosive Weight	530-620kg (551-573lb)			
Fuze Type	Electrical impact/mechanical time delay fuze.			
Filling	Mixture of 40% amatol and 60% TNT, but when used as an anti-shipping bomb it was filled with Trialen 105, a mixture of 15% RDX, 70% TNT and 15% aluminium powder.			
Bomb Dimensions	2800 x 654mm (77 x 25.2in)			
Body Diameter	654mm (18.5in)			
Use	SC type bombs are General Purpose Bombs used primarily for general demolition work. Constructed of parallel walls with comparatively heavy noses. They are usually of three piece welded construction			



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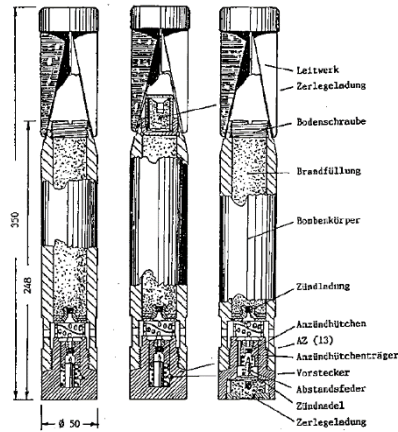
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German Incendiary Bombs

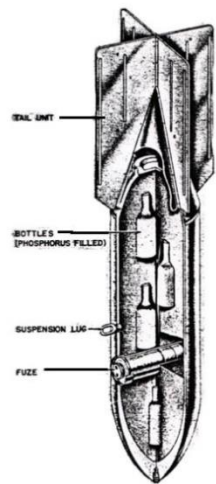
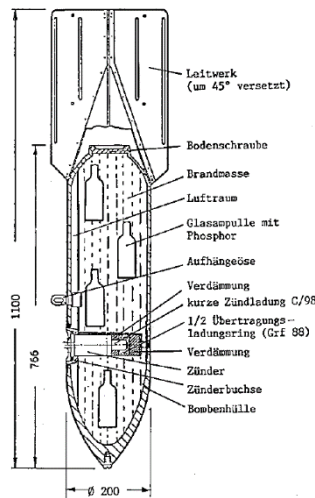
1kg Incendiary Bomb

Bomb Weight	1.0 and 1.3kg (2.2 and 2.87lb)
Explosive Weight	680gm (1.3lb) Thermite
Fuze Type	Impact fuze
Bomb Dimensions	350 x 50mm (13.8 x 1.97in)
Body Diameter	50mm (1.97in)
Use	As incendiary – dropped in clusters against towns and industrial complexes
Remarks	Magnesium alloy case. Sometimes fitted with high explosive charge. The body is a cylindrical alloy casting threaded internally at the nose to receive the fuze holder and fuze.



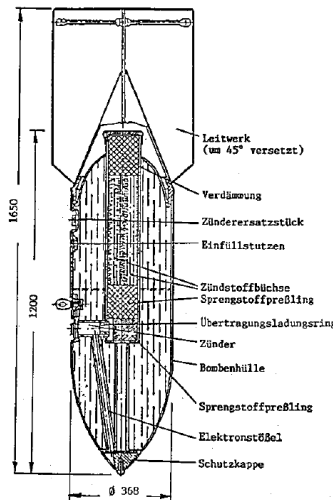
C50 A Incendiary Bomb

Bomb Weight	c41kg (90.4lb)
Explosive Weight	0.03kg (0.066lb)
Incendiary Filling	12kg (25.5lb) liquid filling with phosphor igniters in glass phials. Benzine 85%; Phosphorus 4%; Pure Rubber 10%
Fuze Type	Electrical impact fuze
Bomb Dimensions	1,100 x 280mm (43.2 x 8in)
Use	Against all targets where an incendiary effect is to be expected
Remarks	Early fill was a phosphorous/carbon disulphide incendiary mixture



Flam C-250 Oil Bomb

Bomb Weight	125kg (276lb)
Explosive Weight	1kg (2.2lb)
Fuze Type	Super-fast electrical impact fuze
Filling	Mixture of 30% petrol and 70% crude oil
Bomb Dimensions	1,650 x 512.2mm (65 x 20.2in)
Body Diameter	368mm (14.5in)
Use	Often used for surprise attacks on living targets, against troop barracks and industrial installations. Thin casing – not designed for ground penetration



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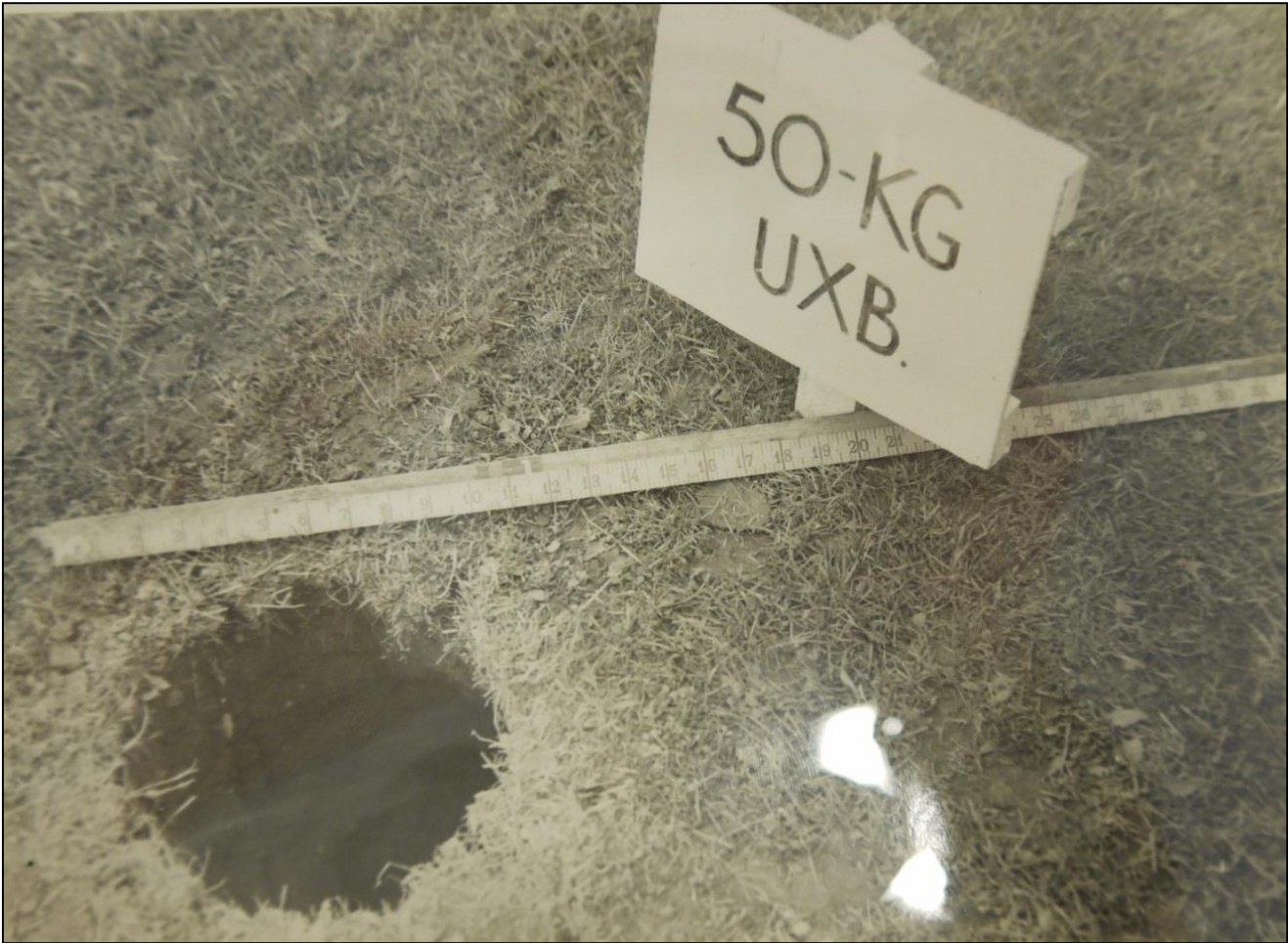
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German 50kg HE Bomb Entry Hole

Examples of UXO incidents in the UK

 **LIVE** BBC NEWS CHANNEL

Page last updated at 14:45 GMT, Friday, 22 May 2009 15:45 UK

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Building site WWII bomb exploded

A controlled explosion has been carried out on a World War II bomb found on a building site in East Sussex.

The 110lb (50kg) SC50 bomb, thought to have been dropped from a German aircraft in 1940 or 1941, was found at the Hollenden House site in Bexhill.

Children at St Peter and St Paul Primary School next door in Buckhurst Road were sent home early after the discovery on Thursday.

Police said a 160ft (50m) cordon was put round the site during the blast.






Breaking News: UXB in Beckton - controlled explosion ends the drama

Colin Grainger , Editor

Sunday, December 19, 2010

9:32 AM

 Recommend this on Google

Bomb disposal experts carried out a controlled explosion last night on a 250kg World War II shell discovered at Britain's largest sewage works.

Bomb disposal experts carried out a controlled explosion last night on a 250kg World War II shell discovered at Britain's largest sewage works.

The bomb was found at Beckton sewage works off Jenkins Lane after surveyors preparing the site for a £200m expansion detected an unusual magnetic force underground on Saturday morning.

The Thames Water workers immediately alerted police and army ordnance experts, who attended the site and confirmed it was an unexploded German warhead.

A 400-metre exclusion zone was set up before the bomb was destroyed at the works under controlled conditions at 9pm on Saturday.



The World War Two bomb that was found on the 2012 Olympic site in Stratford back in 2009. Picture: Steve Poston

Second World War bomb which caused commuter chaos has been diffused

By DAILY MAIL REPORTER

Last updated at 4:42 PM on 06th June 2008

 Comments (0)  Share  Tweet  Like 3

An unexploded Second World War bomb which forced the closure of a number of transport routes in the capital was defused today.

Army experts worked to disarm the 2,000lb UXB faced delays after discovering metal used to make the Second World War device was thicker than expected.

This morning, however, military engineers managed to cut through the casing of the bomb, which measures 5ft by 2ft, enabling them to begin 'steaming' the explosive inside to make it safe.



Effort: Army experts' machines and the unexploded bomb in East London

Commuters faced the prospect of more Tube chaos, however, as lines near the danger area were closed.

The bomb, which is lying on a gas main just 50 yards from the main sewage pump for east London, was unearthed by a mechanical digger on Monday in the banks of the Lea in Bromley-by-Bow near the Olympic site.

Construction workers made the discovery while widening the bank to take barges for the 2012 Games village construction.

It had lain dormant there for more than 60 years.

Holiday beach cordoned off after landslide sends more than a THOUSAND Second World War bombs and rockets tumbling onto the sands

- Bad weather led to ground movement which exposed the huge arsenal at Mappleton, East Riding
- A dog walker stumbled across the deadly find on Saturday and 15 controlled explosions were carried out
- Rockets, mortar bombs and 25-pounder bombs were recovered after they were fired into the cliffs by RAF aircraft during the war
- Most of the devices were dummy rounds used for bombing practice but contain enough explosives to cause terrible injuries

By EMILY ALLEN and MARK BRANAGAN

PUBLISHED: 08:11, 23 July 2012 | UPDATED: 02:42, 24 July 2012

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Project: **Gospel Oak Site**

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Source: Various news sources

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Examples of Unexpected Detonation of WWII Bombs

BASF has confirmed that an explosive device, most likely a World War II-era bomb, caused the blast that left one person injured Tuesday at a plant construction site in Germany.

The explosion was reported at BASF's Ludwigshafen toluene diisocyanate (TDI) plant, which recently broke ground for a 300,000 metric tons per year TDI production plant and other construction to expand its facilities.



BASF is expanding their its Ludwigshafen location by expanding several plants and building a TDI plant, which was the site of an explosion on Tuesday (Feb. 26). One person was injured in the blast, which BASF believes was caused when excavation work detonated a bomb.

Early reports had speculated that excavation work had detonated a bomb from World War II. While the age of the bomb has not been confirmed, BASF has said that an explosive device was detonated.

BASF Provides Some Details

Responding to a request from *PaintSquare News* for more information on Wednesday (Feb. 27), BASF's manager of media relations and corporate communications Europe, Ursula von Stetten, wrote in an email, "So here [are] the facts: The detonation took place at 10:00 a.m. One person was injured; the injury is not serious. He will be kept in the hospital for some days.

"Cause of the detonation was an explosive device, presumably a bomb deriving from the Second World War. The device detonated when grounding work was done. No details on [a] delay [are] available. At the moment, the exact circumstances of the incident are [being] evaluated."

World War II Bomb Explodes on German Motorway

A highway construction worker in Germany accidentally struck an unexploded World War II bomb, causing an explosion which killed him and wrecked several passing cars.

Tweet 0

Recommend 1



A cutting machine lies wrecked by the side of the A3 motorway next to a small crater left by the explosion.

A World War II bomb has exploded during construction work on a German highway, killing one worker and injuring several motorists who were driving past, police said.

The worker had been cutting through the road surface near the south-western town of Aschaffenburg when his machine struck the bomb and triggered it. Police said they weren't sure yet what type of bomb it was. "The explosion seems to have been too small for it to have been an aircraft bomb," a police spokesman said.

The A3 Autobahn linking the cities of Frankfurt and Würzburg has been blocked in both directions.

More than 60 years since the end of World War II, construction workers still frequently unearth unexploded bombs and it is not uncommon for whole city districts to be cordoned off and even evacuated while bomb disposal experts defuse them.

Indeed, just last week, some 22,000 people were evacuated from their homes in Hanover when three World War II bombs were discovered.

Allied pilots rained nearly 2 million tons of explosives on Germany during the war. Landmines, hand grenades, mortar bombs and anti-tank devices from the fighting on German soil at the end of the war are also found, and authorities say it will take decades before the country is cleared of duds.

Between 400 and 600 bombs are discovered a year in the state of North Rhine-Westphalia alone, where the heavily industrialized Ruhr region was a major target for Allied bombers.



WWII bomb injures 17 at Hattingen construction site

Published: 19 Sep 08 16:53 CET

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Seventeen people were injured on Friday when a construction crew unwittingly detonated a buried World War II-era bomb in Hattingen.

- [Liberals grit teeth ahead of May state election](#) (17 Mar 12)
- [Nazi death camp guard Demjanjuk dies](#) (17 Mar 12)
- [Stupid stunt causes bomb scare chaos](#) (16 Mar 12)

An excavator apparently drove over a 250-kilogramme (550 pound) American bomb, damaging surrounding buildings. Most of the injured suffered auditory trauma from the blast, and the excavator operator suffered injuries to his hands, police in the German state of North Rhine-Westphalia said.

"The hole was astoundingly small for such a large bomb full of so many explosives," Armin Gebhard, head of the Arnsberg department for military ordnance removal, told The Local. "But of course it damaged all the surrounding buildings too. We are really happy it wasn't worse."



World War II bomb kills three in Germany

Three people have been killed and six injured trying to defuse a World War II bomb in central Germany.

Workers building a sports stadium had earlier unearthed the bomb in the town of Goettingen.

It was not immediately clear why the bomb, reportedly weighing 500kg (1,100lb), had detonated.

Unexploded WWII bombs dropped by Allied planes are frequently found in Germany, though it is unusual for them to explode unexpectedly.

A special commission is investigating the causes of the explosion, while prosecutors are considering whether the team leader should face charges of manslaughter through culpable negligence, the BBC's Oana Lungescu reports from Berlin.

The blast happened an hour before the defusing operation was due to start.

Officials said the three men who died were experienced sappers, or combat engineers, who over 20 years had defused up to 700 bombs.

More than 7,000 people were immediately evacuated when the 500kg bomb was found. Several schools, a kindergarten and local companies remain closed.



All the victims were involved in an operation to defuse the bomb



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Bermondsey bomb: World War Two device safely removed

🕒 24 March 2015


📍 London



An unexploded World War Two bomb found in south London has been driven away safely under police and Army escort. The 500lb (250kg) device was found on a building site in Grange Walk, Bermondsey on Monday. Two primary schools were closed and hundreds of homes were evacuated as a precaution. A cordon and 656ft (200m) exclusion zone was lifted at about 18.15 GMT as the bomb was removed to a quarry in Kent to be detonated, police said.

The Metropolitan Police force said the device was a “SA” 250kg WWII German air-dropped bomb, known to the Army’s Royal Logistic Corps bomb disposal experts.

London Fire Brigade said that between 2009 and 2014 it was called to seven unexploded Second World War bombs and five unexploded hand grenades.



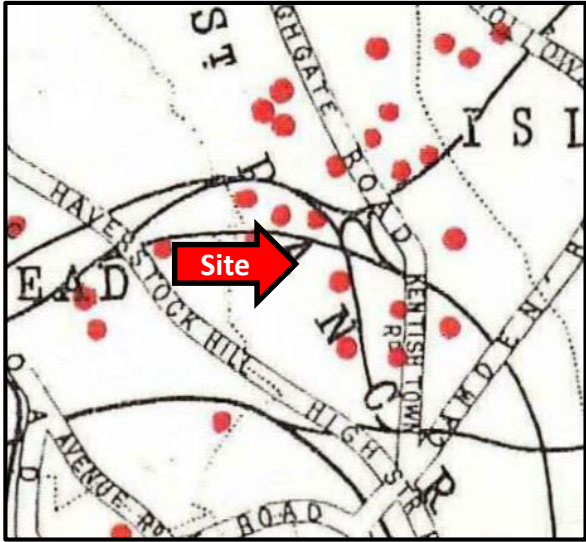
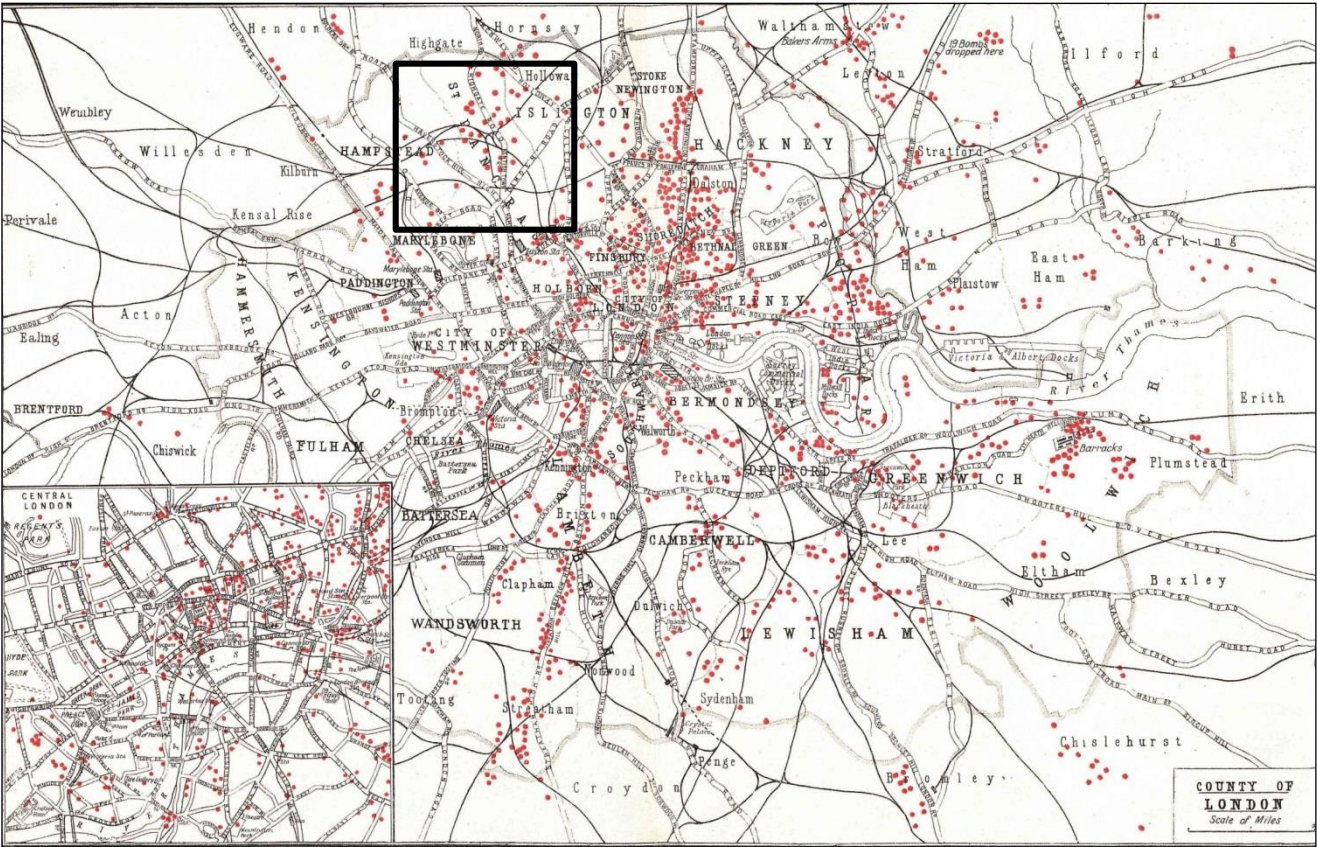


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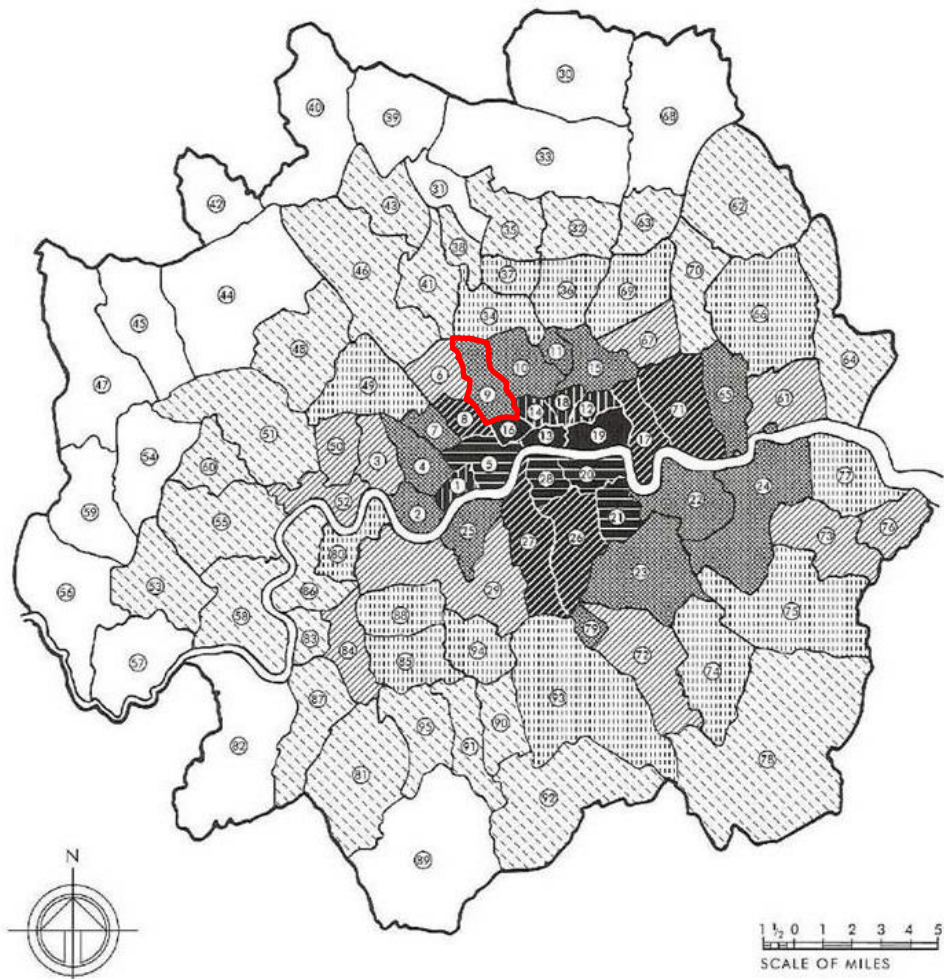
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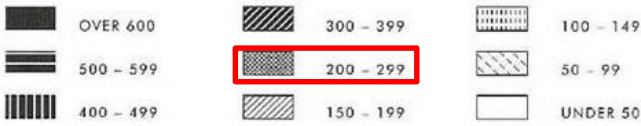
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Examples of 50 and 100kg German WWI bombs



No. OF BOMBS PER 1,000 ACRES



- | | | | |
|----------------------|--------------------------|------------------------------|------------------------------|
| 1 Chelsea | 25 Battersea | 49 Willesden | 72 Beckenham |
| 2 Fulham | 26 Camberwell | 50 Acton | 73 Bexley |
| 3 Hammersmith | 27 Lambeth | 51 Ealing | 74 Bromley |
| 4 Kensington | 28 Southwark | 52 Brentford and Chiswick | 75 Chislehurst and Sidcup |
| 5 Westminster | 29 Wandsworth | 53 Feltham | 76 Crayford |
| 6 Hampstead | 30 Cheshunt | 54 Hayes and Harlington | 77 Erith |
| 7 Paddington | 31 East Barnet | 55 Heston and Isleworth | 78 Orpington |
| 8 St. Marylebone | 32 Edmonton | 56 Staines | 79 Penge |
| 9 St. Pancras | 33 Enfield | 57 Sunbury | 80 Barnes |
| 10 Islington | 34 Hornsey | 58 Twickenham | 81 Epsom and Ewell |
| 11 Stoke Newington | 35 Southgate | 59 Yiewsley and West Drayton | 82 Esher |
| 12 Bethnal Green | 36 Tottenham | 60 Southall and Norwood | 83 Kingston on Thames |
| 13 City of London | 37 Wood Green | 61 Barking | 84 Malden and Coombe |
| 14 Finsbury | 38 Friern Barnet | 62 Chigwell | 85 Merton and Morden |
| 15 Hackney | 39 Potters Bar | 63 Chingford | 86 Richmond |
| 16 Holborn | 40 Elstree | 64 Dagenham | 87 Surbiton |
| 17 Poplar | 41 Finchley | 65 East Ham | 88 Wimbledon |
| 18 Shoreditch | 42 Bushey | 66 Ilford | 89 Banstead |
| 19 Stepney | 43 Barnet U.D. | 67 Leyton | 90 Baddington and Wallington |
| 20 Barmadsey | 44 Harrow | 68 Waltham Holy Cross | 91 Carshalton |
| 21 Deptford | 45 Ruislip and Northwood | 69 Walthamstow | 92 Coulsdon and Purley |
| 22 Greenwich | 46 Hendon | 70 Wanstead and Woodford | 93 Croydon |
| 23 Lewisham | 47 Uxbridge | 71 West Ham | 94 Mitcham |
| 24 Woolwich | 48 Wembley | | 95 Sutton and Cheam |



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Source: The London Metropolitan Archives





Bomb landing at Fleet School (currently Gospel Oak Primary School) in 1941



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Night Bombing up to 7th October 1940



Night Bombing - 7th October 1940 to 28th July 1941



Recorded bomb strike



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Source: The National Archives, Kew

Approximate site boundary

