

**This Issue: PDSAs, military souvenirs, aerial photography, and ROFs**

**How Zetica can help: Pre-Desk Study Assessments**

Need a preliminary UXO assessment? Request a Pre-Desk Study Assessment (PDSA), and we'll provide you with a brief summary of what sources of UXO (if any) may be present on your Site, free of charge.

In line with CIRIA guidance, we consult readily available records including regional bombing statistics, bombing decoy lists, and historical maps

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Pre-Desk Study Assessment	
Date:	Solihull, West Midlands
Date:	1st November 2018
Pre-WW1 Military Activity on or Affecting the Site:	None identified.
WW1 Military Activity on or Affecting the Site:	None identified.
WW1 Strategic Targets (within 5km of Site):	The following strategic targets were located in the vicinity of the Site: <ul style="list-style-type: none"> <li>Public address.</li> <li>Transport infrastructure, including a mainline railway adjacent to the Site.</li> <li>Industry important to the war effort, including aircraft manufacturing and engineering works.</li> <li>Royal Air Force (RAF) Eindhoven.</li> <li>Air-transport and air-repair facilities.</li> </ul>
WW1 Bombing:	None identified on the Site.
Interwar Military Activity on or Affecting the Site:	None identified.
WW2 Military Activity on or Affecting the Site:	None identified.
WW2 Strategic Targets (within 5km of Site):	The following strategic targets were located in the vicinity of the Site: <ul style="list-style-type: none"> <li>Transport infrastructure, including a mainline railway adjacent to the Site.</li> <li>Public address.</li> <li>Industry important to the war effort, including aircraft manufacturing and engineering works.</li> <li>Royal Air Force (RAF) Eindhoven.</li> <li>Air-transport and air-repair facilities.</li> </ul>
WW2 Bombing Decoys (within 5km of Site):	(No) Located approximately 4km east-northeast of the Site.
WW2 Bombing:	During WW2 the Site was located in the Urban District (UD) of Solihull, which officially recorded 44260 High Explosive (HE) bombs with a regional bombing density of 2.0 bombs per 100 hectares (ha). No readily available records have been found to indicate that the Site was bombed. No aerial photographs or maps have been found to indicate that at least 300 HE bombs fell within approximately 2.5km of the Site.
Post-WW2 Military Activity on or Affecting the Site:	None identified.
Recommendation:	A detailed desk study, whilst always prudent, is not considered essential in this instance.
<small>This summary is based on a cursory review of readily available records. Caution is advised if you plan to follow work based on this summary.                  It should be noted that where a potentially significant source of UXO has been identified on the Site, the requirement for a detailed desk study and/or ground penetrating radar and metal detector surveys will be dependent on the scope, size, complexity and location of the Site.</small>	

An example PDSA, viewable at [zeticauxo.com/risk-assessment/preliminary-risk-assessment](http://zeticauxo.com/risk-assessment/preliminary-risk-assessment)

with the aim not to conclude a risk level, but to advise if further detailed research is required. This is particularly valuable for areas where some sources of UXO may not be so obvious, such as some rural areas or towns and cities which sustained comparatively fewer Luftwaffe bombing raids.

To order a free PDSA, email [uxo@zetica.com](mailto:uxo@zetica.com) with a site boundary.

**Recent UXO finds**

- 03/01/2020: An expended mortar shell was found by near the former Royal Ordnance Factory (ROF) at Roth-erwas, Hereford, on New Year's Day. An Explosive Ordnance Disposal (EOD) team was called in and the shell was removed for safe disposal. More information on ROFs can be found overleaf.



- 03/01/2020: A World War One (WWI) hand grenade was found in an outhouse of a property in Alcester, Warwickshire. It was removed to a nearby field and destroyed in a controlled explosion by an EOD team.



- 02/01/2020: Suspected chemical-filled mortar rounds were discovered by metal detector in Farlington Marshes. They were safely removed and sent to Porton Down for analysis and disposal.



**Military Souvenirs and UXO Collectors**

Ordnance of all kinds, once suitably disarmed, is frequently sought after by militaria collectors and sold by antique dealers across the country. While such objects will typically have been rendered harmless, they can still appear dangerous and cause a great deal of disturbance if improperly kept or poorly documented.

Objects may have been kept by returning servicemen as souvenirs, remaining undiscovered in family homes for decades. In one instance in 2018, a live German 1kg Incendiary Bomb (IB) had

been kept as a family heirloom for over 70 years!



A cache of Small Arms Ammunition—including some live rounds!

While the unexpected discovery of UXO almost always causes significant disruption, deactivated firearms and inert ordnance are typically legal to own once they have been suitably assessed.

It is very important that the owners of such objects ensure they have properly documented the object's history, had it certified as safe, and store them in locations where they will not cause undue panic.

Souvenirs or otherwise, wherever UXO is discovered it is crucial to determine where the object came from and if there are likely to be more remaining undiscovered. Unless an object has been assessed by an Explosive Ordnance Disposal (EOD) Expert, it should always be considered as live until proven otherwise.

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## Desk study focus: detailed aerial photography

One of the key features that should be included in every detailed UXO desk study and risk assessment is a selection of historical aerial photography. When sought from specialist suppliers it can be an invaluable tool in identifying areas which were damaged or destroyed by Luftwaffe bombing, helping to corroborate air raid information gained from local



A street in Liverpool before and after a bombing raid in 1941.

incident reports or bomb maps. It can also reveal military activity on sites which may not be evident from written records or historical maps. Freely available sources of historical aerial imagery may also include errors or omissions resulting from wartime censorship, obscuring the history of a site, so using a range of multiple dates and scales is key to getting the whole picture.

## This issue's spotlight: Royal Ordnance Factories

Ordnance manufacture in Britain dates back to the sixteenth century, when the first gunpowder plant was established in Faversham, Kent. The First World War brought a huge increase in demand for munitions for the front line, and the same need arose in 1939 with the outbreak of the Second World War.

Prior to this, munitions factories had often been built in the centre of populous cities, surrounded by the houses of those who worked in them. However, due to the looming threat of aerial bombardment from the Luftwaffe, as well as the possibility of accidental explosions occurring in densely populated urban areas, many of the new Royal Ordnance Factories (ROF) were placed outside of the city centres, often in more remote, rural locations. This dramatically changed the landscape of some rural settlements such as the town of Swynnerton in Staffordshire, which hosted 21,450 factory workers at the peak of wartime production, having had a population of just 900 before the war.

The types of ordnance factories varied, with many factories constructed for the production of different materials and objects. Some new factories were constructed for the manufacture

of propellants such as cordite, with others built for the production of high explosive materials including TNT and tetryl. Other factories across the country were converted for the purpose of war production, some metal works producing casings for bullets and shells but avoiding the handling of the volatile materials which would fill them.



ROF Chorley, Lancashire.

The process of adding the explosive or propellant material to the casings was in fact done in separate 'filling factories'. These factories operated all hours of the day and night, and the slim margin for error while filling the casings meant accidental detonations were not an uncommon occurrence. Wartime censorship largely prevented the reporting of major incidents, but in many cases workers lost fingers, limbs, and, in one case, both hands

and the use of her sight. To counter this, workers in some explosives factories were banned from wearing metal hair clips, or fabrics like nylon and silk, for fear of creating a spark.

The buildings comprising these factories were separated by earth banks to contain accidental blasts, ensuring that production could continue unaffected even if one or two buildings were destroyed. A common feature of all filling factories was a burning ground, usually no more than a single piece of land in which everything from unsalvageable paper and packing crates to waste explosives could be burnt and disposed of.

Many ROFs remained operational after the end of the Second World War, with some producing armaments in the 1950s for the Korean War. Some were requisitioned for training land by the British Army, and continue to operate as military facilities today, while others were abandoned, and remain derelict and unused today.

A Detailed Desk Study undertaken on the site of a former ROF would seek to identify the parts of a Site with the highest risk of hazardous contamination, both from items of UXO and from the explosive or corrosive substances which may still be present in surrounding soils.