



Case Study

Shoeburyness, Southend-on-Sea

Challenge

In June 2020, 1st Line Defence were commissioned by Jackson Civils to undertake a Non-Intrusive UXO Survey as part of a project in Shoeburyness, Southend-on-Sea.

The site was located close to a former military Gunnery School, which was used as a WWII-era weapon testing and gun battery site – and the location of the main works area had a long military history dating back to the early 19th Century.

RML (Rifled Muzzle-Loading) artillery was utilised at the adjacent Gunnery School, and its function became increasingly experimental. Major developments in Arms soon followed at the military facility, it was originally focused on armoured ships – but the site began to expand as the need for more advanced weaponry arose.

Its remote location made it a desirable area for weapons testing, which resulted in the development of more complicated munitions towards the end of WWII.

Process

Stage 1 – Risk Mitigation Strategy

Due to the sites military history a UXO Risk Assessment was not required, and the project was assessed to be at a 'High-Risk' of UXO contamination being present.

The site was located on undeveloped 'Greenfield' land, and we advised that a Non-intrusive UXO Survey of the site should be undertaken – and to investigate any ferrous anomalies discovered before starting any ground works.



190mm x 60mm with tracer pocket discovered at a former military Gunnery School in Shoeburyness, Southend-on-Sea.

Case Study Overview

Client

Jackson Civils

Location

Shoeburyness, Southend-on-Sea

Industry

Construction

Project Duration

December 2013 – January 2014

Services

Non-intrusive UXO Survey

UXO Support

Target Investigation

500 Meters

Length of seawall surveyed & investigated

60+

Items of UXO discovered

Process (cont.)

Stage 2 – Non-intrusive UXO Survey

A walkover Non-intrusive UXO Survey was completed and the results of the survey were sent back to our in-house Geophysical team for processing and interpretation. A large number of targets were modelled and a selection were recommended for further inspection.

Stage 3 – UXO Support

A two-man Target Investigation team was dispatched to relocate the anomalies found during the survey using GPS, and all of the anomalies were found to be ordnance or ordnance-related – all understood to be related to the nearby historic firing range.

Due to the high amount of UXO recovered from the first target investigation phase, the target list was increased to inspect 100% of all anomalies to make sure that the UXO risk was reduced to as low as reasonably practicable (ALARP).

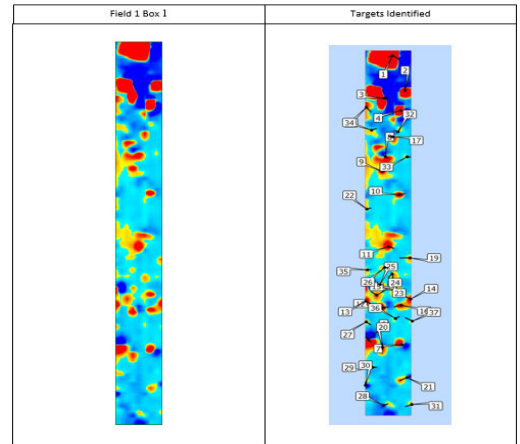
At the end of the operation, approximately 67 items of UXO was recovered, including many live items of explosive ordnance. All 'live' items of UXO were destroyed on-site by local EOD/MoD teams and the 'inert' items were safely disposed of by 1st Line Defence.

Summary of UXO-related items recovered by the Target Investigation team:

- 25lb High Explosive Projectile (Live)
- 175 x 60mm Solid Shot (Inert)
- 190 x 60mm with tracer pocket (Inert)
- 240 x 90mm Projectile (Inert)

Outcome

Following the survey and target investigation, the client completed the project without any additional items of UXO being discovered.



Example of data collected from the Non-intrusive Survey completed at Shoeburyness, Southend-on-Sea.



240mm x 90mm Projectile discovered at a former military Gunnery School in Shoeburyness, Southend-on-Sea.



Image showing the scale of UXO discovered at the former military Gunnery School in Shoeburyness, Southend-on-Sea.