

LIVERPOOL UXO SURVEY (2020)

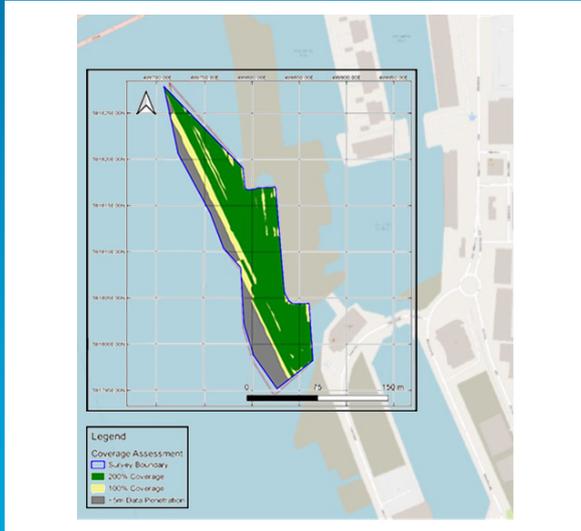


FIGURE 1: Survey Location within Port of Liverpool with PanGeo SBI Data overlaid.

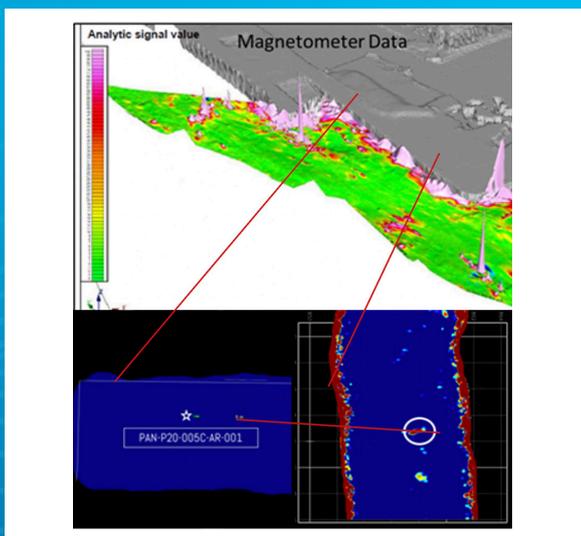


FIGURE 2: Sub-Bottom Imager™ identifying a UXO anomaly within area of poor magnetic data.

PROJECT SCOPE

During the Second World War, Liverpool was heavily targeted by aerial bombing, with an estimated 10% of munitions failing to detonate. With the risk these potential unexploded ordnance (UXO) poses to any development, a marine UXO survey was required prior to the expansion works at the Liverpool Port - Isle of Man Ferry Terminal.

In 2020, PanGeo Subsea carried out a nearshore UXO survey within the Port of Liverpool, UK. The project required a UXO survey adjacent to existing infrastructure and map all potential UXO's within the development zone and to a buried depth of 3m below the seabed.

WHY PANGEO?

A traditional UXO survey using magnetometers had previously been completed; however due to the proximity of existing infrastructure, the results were inconclusive and could not provide the clearance required against the quay wall due to magnetic interference from the infrastructure.

The PanGeo Sub-Bottom Imager™ (SBI) was chosen by leading UXO consultancy Fellows International for its acoustic ability and as such, is not affected by the presence of metallic infrastructure. Using the acoustic technology, PanGeo was able to completely survey the UXO area of the seabed up against the quay walls.

"We have utilised the PanGeo GeoLink SBI on several UXO projects next to existing infrastructure as it provides us with a full sub-seabed image allowing us to analyse for potential UXO whilst also discriminating known magnetic targets", says Lee Wasling, Fellows International, "Furthermore, we were able to reduce time on site enabling rapid issue of ALARP certification to clients"

SUMMARY OF GEOLINK SBI RESULTS & BENEFITS

- The SBI provided UXO survey results throughout the entire survey area including adjacent to the existing infrastructure where the previous magnetometer data was unusable (Figure 2).
- SBI surveyed 55 magnetic anomalies identified during previous survey, providing an acoustic target listing of 15 anomalies with similar dimensions of expected UXO
- Of those 15 anomalies, only 2 were deemed potential UXO providing a reduction in magnetic targets from 55 to 2, a 96% reduction.
- The project able to achieve UXO ALARP by surveying next to existing infrastructure only by utilizing the acoustic SBI sensor that allowed the development project to progress without delay.