

TMS Maritime is a leading UK specialist in marine civil engineering, ancillary floating plant and diving services

Client: Dimco for Nustar Oil Project: UXO Underwater Investigation

Duration: 6 Weeks
Project Value: £245,000

Requirement:

Dimco a subsidiary of DEME, were instructed by their client NuStar Oil to demolish and re-build sections of the exiting shipping terminal jetties at the NuStar terminal at Grays, Gravesend on the River Thames. Prior to any new construction, the construction areas and berthing areas required a full UXO survey, with ALARP mitigation. TMS were appointed to carry out the underwater investigation works based on the ALARP Master Target List provided by UXO specialists Ordtek. TMS utilised the UXO Marine expertise of Dynasafe BACTEC who assisted the TMS dive team.



Solution:

The diving operations were carried out from a multi-cat using a 3 point anchoring system, which allowed the vessel to be positioned within 10-15m of the pUXO (potential unexploded ordnance) target. Once in position, and the tidal flow had eased off just prior to the slack low water diving window, an offset shotline was deployed based on GPS co-ordinates provided on the master target list. This allowed a centre point for a traditional circular search pattern which was adopted to locate and identify the pUXO target. The Diver carried out full circular search patterns around the offset shotline at 1m increments. The in water visibility was no more than 300mm at best, so underwater metal detection equipment was utilised (MagneX 130B & UWEX 725K). The diver continually reported back to the TMS dive supervisor and BACTEC UXO Supervisor, to enable a full diagnostic of the objects found, and a running comparison made against the size and shape according to the UXO master target list to allow positive identification of the pUXO target. A Total of 22 targets were investigated and identified over 28 tidal shifts (1 slack low water per day) Four of the targets were buried to depths of up to 2m. In order to safely locate and identify the buried targets, manual excavation was carried out using a low pressure air-lift. This allowed the diver to safely remove layers of silt, whilst carrying out the investigation safely. TMS completed the works to programme and cost.



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