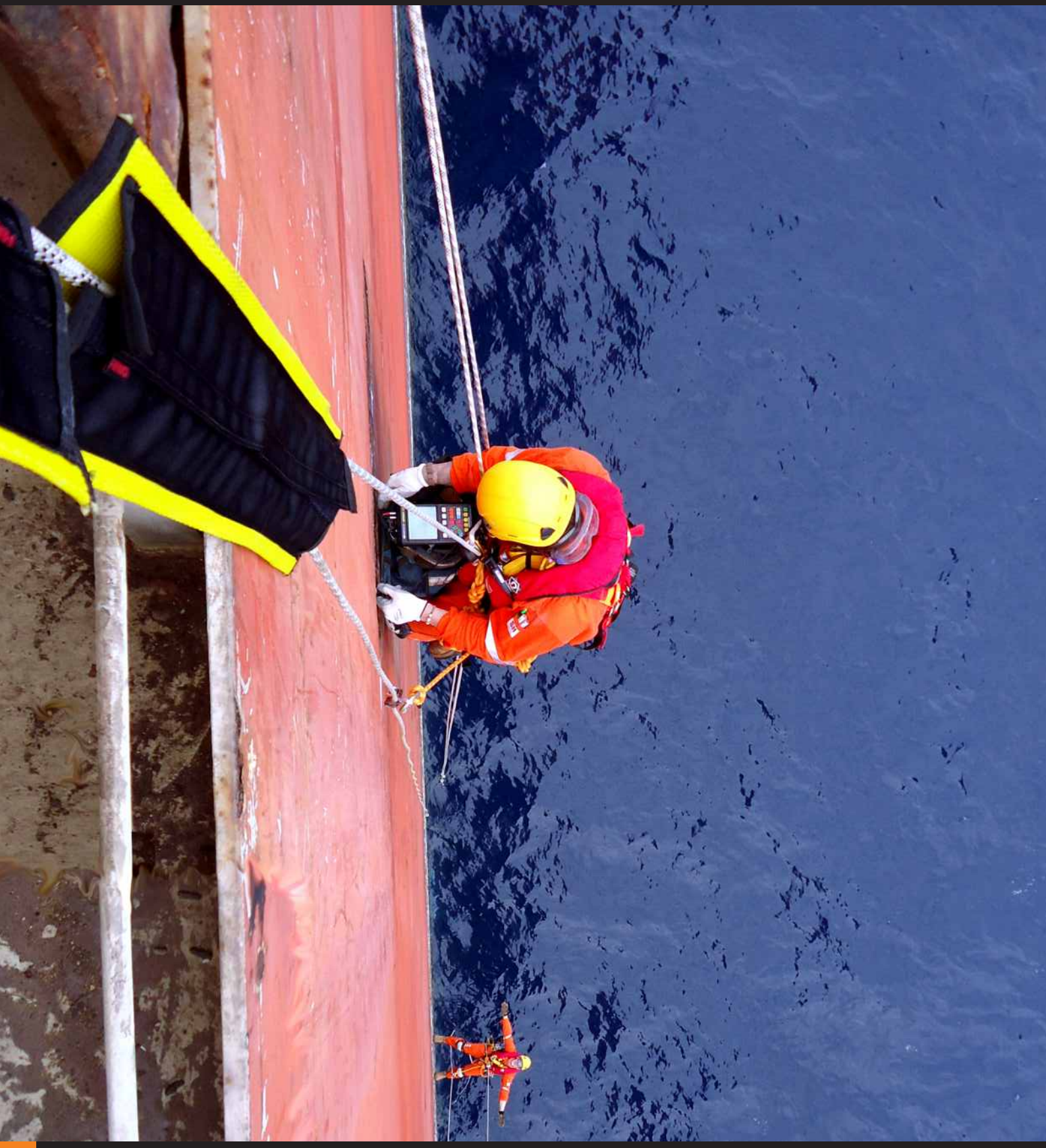
GEOVERT

ASSET INTEGRITY
MAINTENANCE
PROJECT

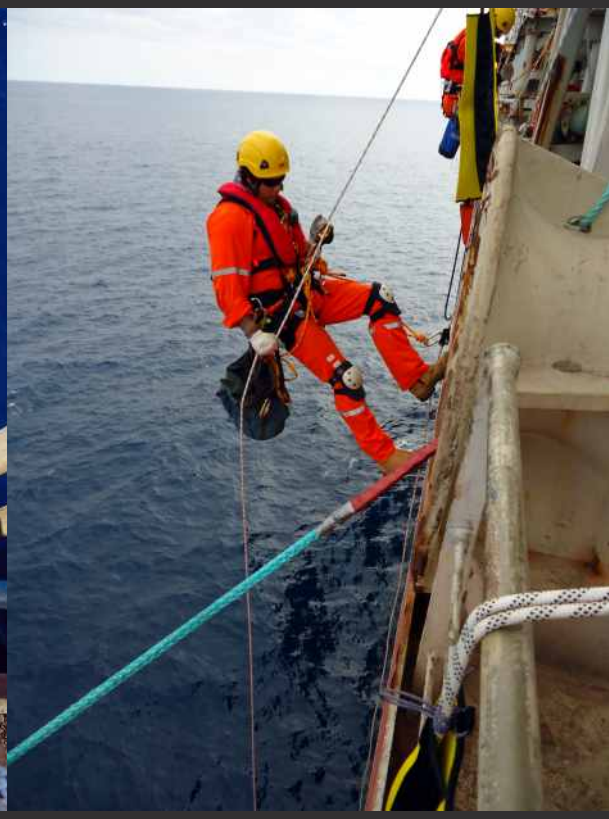
AIM



BAYU UNDAN - LIBERDADE FSO
ROPE ACCESS NDT INSPECTION AND CORROSION MANAGEMENT

TIMOR SEA

GEOVERT



OFFSHORE NDT AND VISUAL INSPECTIONS USING ROPE ACCESS

PROJECT OVERVIEW:
The Bayu-Undan field is located at the Timor Sea in 80m deep water about 500km northwest of Darwin and about 350km southeast of Dili (East Timor) as shown in Fig.1. The field contains estimated 400 million barrels of gas condensates and LPG as well as 3~4 trillion cubic feet of natural gas.
Liberdade was the world's first constructed dual FSO (Floating, Storage and Offloading) ship for Bayu-Undan field for Conoco Phillips, and delivered in September 2003. This dual FSO is an integrated model for the technologies known for cargo handling, tank insulation, two-body motion & offloading and safety facility for the cargo loading conditions of two materials (LPG/condensate) having different hazardous characteristics.
Tasks include providing the Hydroblasting, UT thickness, UT Weld Scanning, Magnetic Particle Dye Penetrant and Visual NDT Methods to the FSO Hull by Rope Access

SOLUTION:
Access is carried out by using double rope method.
The primary scope of works includes the full visual inspection of the areas of the hull as detailed and defined by Conoco Philips.
After an initial visual inspection the areas requiring closer inspection are determined and then hydroblasted to identify the level of corrosion after the removal of the damaged coating.
On inspection if the damage to the area is not severe or is only localised corrosion, further inspection is not needed. However if in this area it is deemed necessary to carry out UT thickness Inspection, it is actioned. In this way, only the areas requiring closer inspection are being worked on.
Once this Inspection has taken place readings are recorded that have a 25% loss or more of the nominal thickness of the plate in question. If the threshold is met, the location is noted and images recorded and filed.
All raw data is documented for the purpose of archives and the Inspection report is conformed for the given location (as detailed in the scope).
One report per section of the hull is split up by the vertical welds running the full height of the vessel. Thus proving easier for the secondary/tertiary elements of the project (in this case abrasive blasting/painting and possible weld repairs) to find the locations.
Other inspections carried out:

- The weld scanning inspection of the deck fairleads
- Magnetic particle Inspection of bevel edges on flanges for refridge maintenance work
- Magnetic particle Inspection of Lifting lugs
- UT thickness Inspection of the deck (areas of visible severe corrosion)
- Dye penetrant Inspection

Services related to this project
Rope Access
Inspection NDT
Corrosion Management

More information is available online at **www.geovert.com**

AUSTRALIA MAIN OFFICE
FREECALL 1300 011 352
Email info@geovert.com

NEW ZEALAND MAIN OFFICE
FREECALL 0800 88 88 38
Email info@geovert.com

INDONESIA MAIN OFFICE
Phone +62 21 736 2639
Email info@geovert.com

SINGAPORE MAIN OFFICE
Phone +65 9729 8476
Email info@geovert.com