CASE STUDY

SUBSEA CORROSION MAPPING AND WELD INSPECTION THROUGH PIPELINE COATINGS

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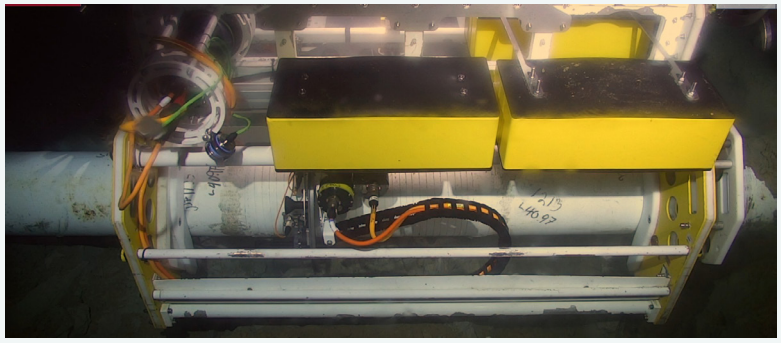
SONOMATIC

INTRODUCTION

Sonomatic was engaged to inspect a subsea water injection riser and associated flowlines in the Gulf of America. The scope required wall thickness measurements and assessment of selected girth welds and adjacent Heat-Affected Zones (HAZ) through existing Fusion Bonded Epoxy (FBE) and Three-Layer Polypropylene (3LPP) protective coatings, while overcoming challenges including marine growth, rough coating surfaces, and restricted access.

PROCESS

Sonomatic deployed its ROV-iT automated subsea ultrasonic scanning system to perform high-resolution corrosion mapping and TOFD inspections. The inspection covered pipelines ranging from 6.625 to 10.75 inches in diameter with wall thicknesses between 18 mm and 25 mm, providing full 360° corrosion mapping, detailed wall thickness measurements, and weld/HAZ assessment without extensive coating removal.

OUTCOME

The campaign successfully completed corrosion mapping at nine locations and weld inspections at six locations. Wall thickness measurements were generally close to nominal values, and no preferential corrosion or erosion was identified in the inspected welds or HAZ regions. The project provided valuable quantitative data to support ongoing integrity management while minimising coating disruption and inspection costs.