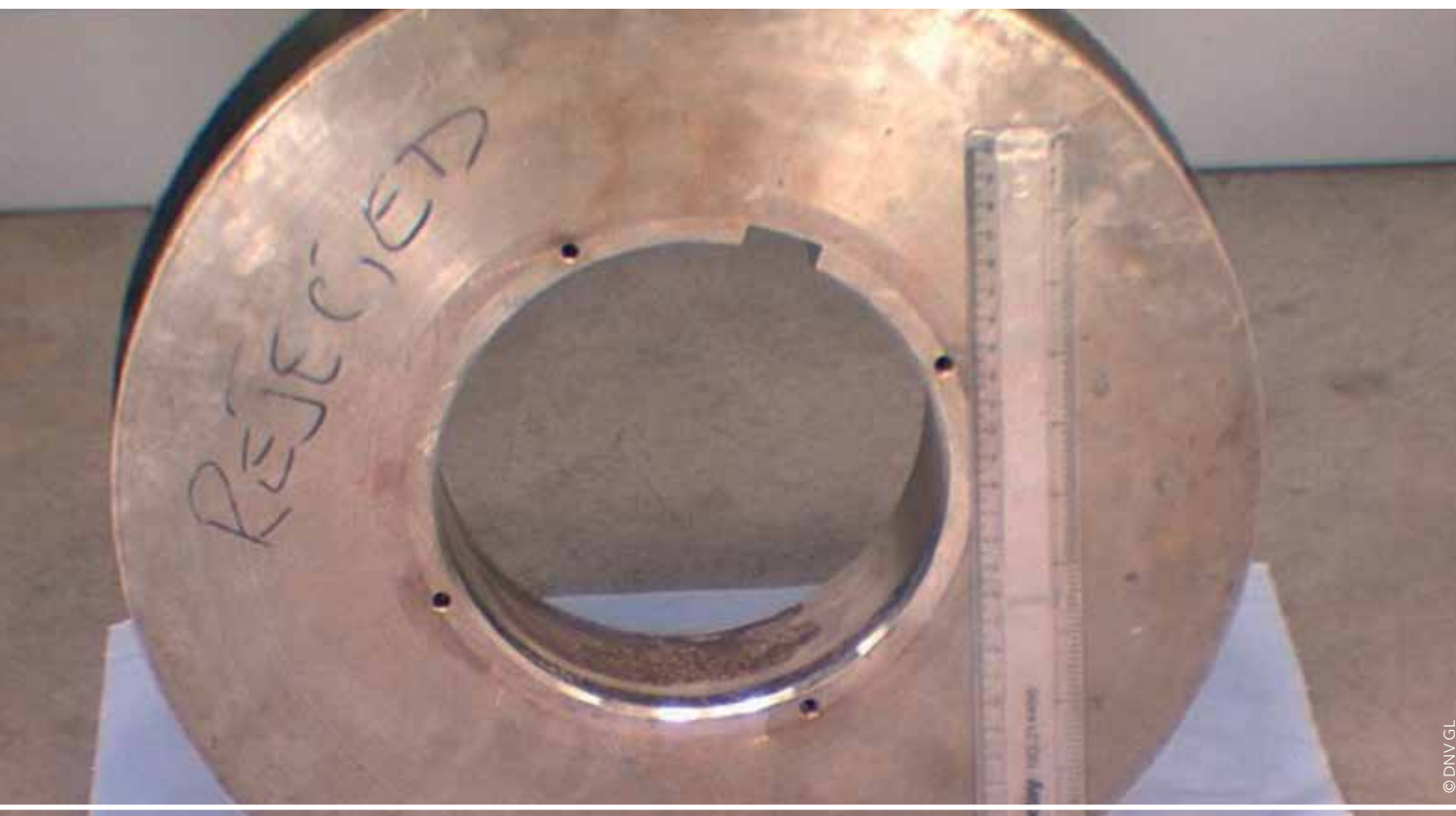




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OIL & GAS

MATERIALS CONSULTANCY

DNV GL's materials consultancy services include desk, site and laboratory studies, on metallic and non-metallic materials.

Capabilities

DNV GL has the capability to provide specialist advice and bespoke training on many aspects of materials science and engineering. We routinely provide support to clients' during the complete lifecycle of an asset from concept, through detailed design to decommissioning. In addition to our team of materials engineers, we have in-house specialists in corrosion, non-destructive testing, welding and mechanical engineering to solve multidisciplinary problems.

DNV GL has specialist knowledge across the entire gas chain from well to burner tip and is able to perform a wide range of analyses and prepare technical reports on the findings, as well as reviewing third-party reports and providing expert witness statements for litigation.

Areas of investigation include, but are not limited to:

- Materials selection studies
- Corrosion and corrosion protection testing and consultancy
- Failure investigations and incidents
 - Fracture behaviour
 - Materials defect analysis
 - Surface degradation - corrosion, wear and deposit analysis
 - Forensic metallurgy
- Materials characterisation
 - Identification - material, manufacturing method and mechanical properties
 - Compliance with codes and standards.

- On site metallurgy and chemical analysis
- Support to R&D projects
 - New high strength steels for pipelines
 - Alternatives to cadmium coatings
 - Understanding elemental sulfur deposition from natural gas
 - Assessing new materials for pipeline repairs
 - Determining the effect on assets of changes in operating conditions
 - Independent assessment of novel condition based monitoring solutions
 - Technology for reducing corrosion at pipe supports.

Tools include:

- Metallography
- Fractography – optical microscopy and scanning electron microscopy
- Non-destructive testing
- Mechanical testing
- Chemical analysis – alloy composition and material/contaminant identification
- Finite element analysis modelling and analysis
- Advanced fracture mechanics
- Corrosion protection evaluation
- Fitness for purpose assessments.

