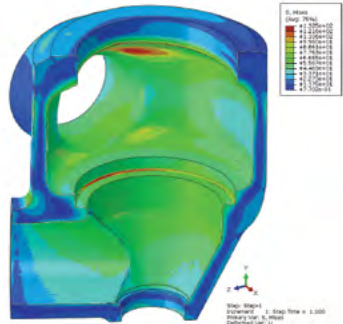
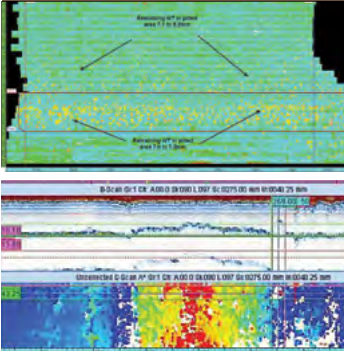


Corrosion Mapping

- High speed corrosion mapping systems using
 - Phased Array technology
 - Rapid Motion Scanning (RMS)
- Provision of effective solution to finding and measuring corrosion, erosion, pitting or mapping wall thickness.
- Technique can be applied to storage tanks, pipes including elbows and T-pieces, effective on any materials suitable for ultrasonic sound waves.



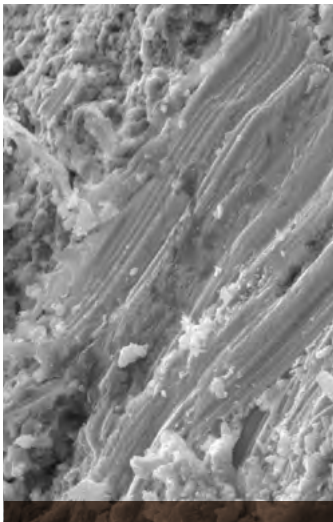
Defect Assessment

When defects are found, decisions on whether to run, repair or replace have to be made. ALS can provide defect assessment services including Finite Element Modelling, Fracture Mechanics Calculations and more to aid in the decision process.

Metallurgical Services

Small samples can be removed from components to allow for testing of creep and mechanical properties. ALS can provide an extensive range of metallurgical services including:

- Failure Analysis
- Plant Condition Assessment
- Remaining Life Assessment
- Welding Procedures
- Material Specification
- Chain Drilling



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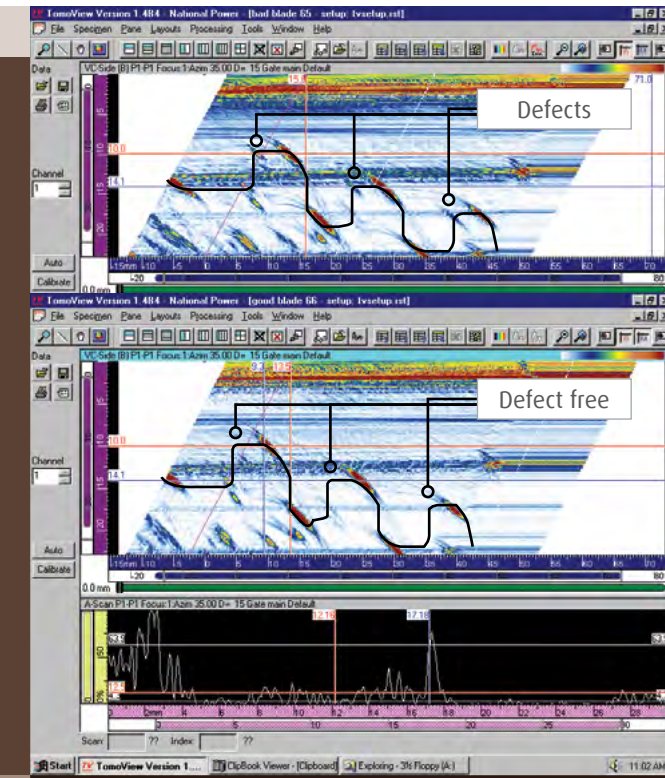
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Advanced Inspection

Capabilities and profile



Phased Array Inspection of Blade Fixings Disc Heads

RIGHT SOLUTIONS
RIGHT PARTNER



Saturated Low Frequency Eddy Current (SLOFEC™)

- World leading technology for fast and accurate corrosion screening
- Very high POD (probability of detection)
- Exceptional capabilities to deliver unmatched high quality defect reports.
- Applications of this technique are the inspection of
 - Storage tank floor plates
 - Pipelines and plant piping
 - Pressure vessels
- Important inspection tool supporting Risk Based and non-intrusive inspection strategies.



Guided Wave Testing

- Screening tool for the inspection of inaccessible areas of piping.
- Under insulation to detect corrosion
- Under pipe supports for touch point corrosion
- In buried piping.
- Minimal insulation removal
- Reduced scaffolding
- Ability to screen large volumes of piping rapidly.



Acoustic Emissions Testing

Acoustic emissions are stress waves generated by sudden movement in stressed materials. The classic sources of acoustic emissions are defect-related deformation processes such as crack growth and plastic deformation, other sources can be corrosion product spalling, leakage, matrix cracking, delamination, disbonding or fibre breakage, creep damage and partial discharge.

- Suitable for both metallic and fibreglass tanks, vessels and pipelines.
- Able to detect flaw indications and quantitatively assess them.
- Totally non-intrusive test

Traditionally Acoustic Emission testing has been conducted on assets while they were isolated from process and had to go through a controlled pressurisation scheme. Our system has ability to conduct testing while the assets is in-operation, thus causing little to no disturbance to production.



Rope Access

- SLOFEC™ and Rope Access combine to provide quick cost effective inspection
- Experience shows scaffold cost savings of significant scaffolding cost reductions on pipeline projects.



ADVANCED ULTRASONIC TESTING

Phased Array and Time of Flight Diffraction (TOFD)

Advanced ultrasonic technique with a number of benefits over traditional ultrasonic techniques:

- Accurate defect sizing
- Inspection of components with complex geometry
- Allows permanent records and ease of review
- Efficient and safer process than radiography
- Complex evaluation and modelling of turbine blades, roots and discs
- Small bore pipe and tube weld evaluation
- Evaluation of complex castings for defect assessment.



Heat Exchanger Tube Inspection

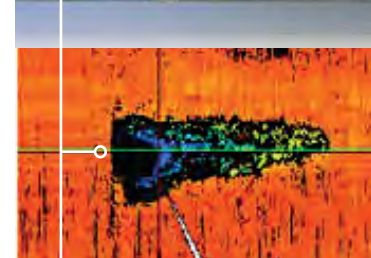
Eddy Current, IRIS and RFT capabilities. Tube inspection techniques can be used for:

Breakdown Maintenance

Identify tube condition affecting short term reliability and immediate remedial maintenance needs.

Predictive Maintenance

Identify trends for medium to long-term reliability and maintenance planning needs.



IRIS on damaged tube and IRIS scan below matches.