

Success Story: Failure Analysis

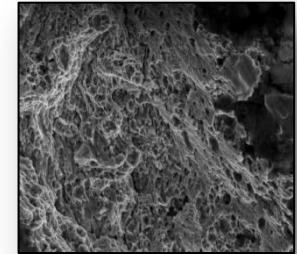
Requirements:

- Perform metallurgical analysis and fractographic examination to assist in root cause analysis
- Assess material composition and heat treatment
- Closely examine fracture surface to assess failure mode
- Perform radiographic inspection to assess integrity of castings
- Perform stress analysis to verify loading



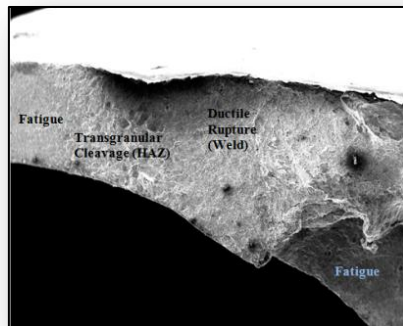
Processes:

- Fractography
- Scanning Electron Microscopy
- Optical Emission Spectroscopy
- Energy-Dispersive Spectroscopy
- Radiography
- Microhardness testing
- Finite-Element Analysis



Timing:

- Typical turnaround time for metallurgical analysis and fractographic examination is 1 week
- Stress/finite-element analysis timing is more highly project dependant



Results:

- Failure mode **identified**
- Stress/loading **verified**
- Program critical timing **met**

