



SERVICE PROFILE

Upstream Oil and Gas



- Component design and analysis
- Component testing
- Fatigue and fracture assessments
- Harsh environment designs (arctic and HPHT)
- Material testing and analytical modeling
- Weld design and qualification
- Peer review and third-party verification
- Fitness for service/engineering critical assessments

With nearly a half century of experience in industrial consulting, our team of experts is ready with the breadth and depth of knowledge to work with clients as they develop new energy sources to power the built world. Utilizing our in-house laboratory capabilities and extensive industry expertise, a dedicated team of metallurgy and applied mechanics professionals help companies in upstream oil and gas applications to solve and avoid problems associated with exploration, drilling, and production.

Our principal areas of practice include component design and analysis; component testing; fatigue and fracture assessments; harsh environment designs, including arctic and high-pressure high temperature (HPHT); material testing and analytical modeling; weld design and qualification; independent peer review and third-party verification; fitness for service assessments; and engineering critical assessments (ECA).

Our energy industry expertise is supported by in-house, advanced, state-of-the-art metallurgical and materials laboratories that are equipped to handle a wide variety of materials characterization and testing, including composition and microstructure.

We are committed to utilizing decades of industrial consulting experience to help clients solve, repair, and avoid problems in both the pressurized and built worlds.



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REPRESENTATIVE PROJECTS

- Design verification of standard and non-standard API equipment to evaluate relevant failure modes and ensure compliance with applicable specifications
- Engineering critical assessment (ECA) to develop flaw acceptance criteria and guide nondestructive examination (NDE)
- Subsea wellhead strength and fatigue studies to assess life expectancy under imposed loading
- Evaluation of Corrosion Under Insulation (CUI) and other metal loss damage in offshore processing equipment and piping
- Design and analysis of high-pressure high-temperature (HPHT) oil field equipment and implementation of the related guidance in API Technical Report 17TR8
- Independent third party (I3P) review to ensure compliance with regulatory bodies
- Constitutive ice response modeling to impose global and local ice loading on structures for arctic applications

