

SERVICES:

- **Failure Analysis**
- **Metallurgical Examination**
- **Chemical Analysis**
- **Powder X-ray Diffraction**
- **ASTM Abrasion Testing**
- **Scanning Electron Microscopy**
- **Optical Microscopy**
- **Mechanical Testing**
- **FEA and 3D CAD Modeling**
- **Fitness for Service**
- **Weld Qualification**
- **Corrosion Testing**

Our extensive onsite capabilities allow us to respond promptly, competently, and effectively to even the most complex and pressing engineering problems. We also provide customized test set-ups to meet the needs of all of our clients. We understand that failures and problems arise unrelated to time of day or the season of the year. We pride ourselves in responding promptly to emergency situations and are available 24 hours a day in order to provide our professional assistance.



**Engineering,
Failure Analysis &
Materials Testing**



**Contact:
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www.ethosengineering.com**

**ISO 9001:2015 &
17025:2017 Compliant
#FS617377**

**Ethos Engineering and Testing, Inc.
1271 Rayford Bend
Spring, TX 77386**

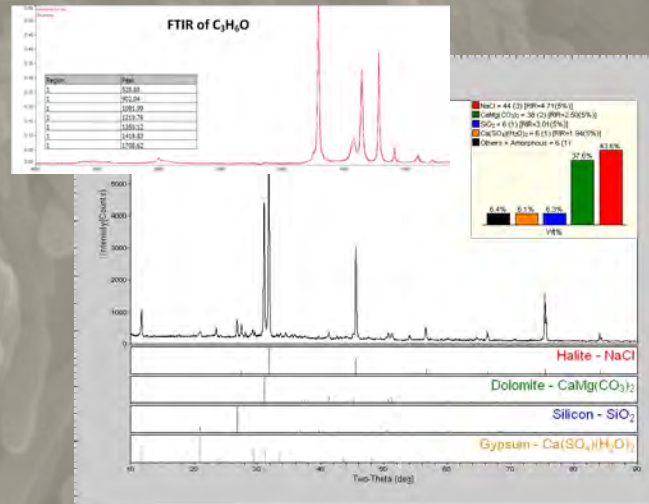
Ethos' Industry Experience

- Oil Country Tubulars (OCTG)
- Drill Bits (Hammer & Rotary)
- Hardfacing & Stainless Coatings
- Thermal Spray
- Oil Rigs- Workover to Offshore
- Poly-Crystalline Diamond (PCD)
- Carburized/Nitrided Surfaces
- Valves & Pipelines
- Cranes
- Compressors
- Tanks
- Fires & Blowouts



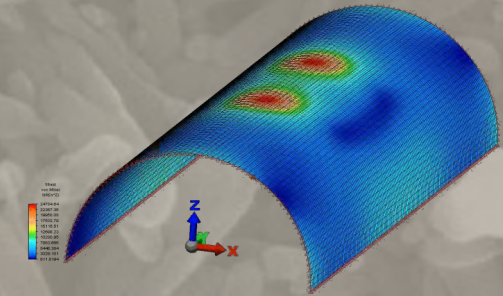
Analytical Testing Services

- Optical Emission Spectroscopy (OES)
- X-ray Diffraction /Phase Identification (XRD)
- Fourier Transform Infrared Spectroscopy (FTIR)
- Energy Dispersive X-ray Spectroscopy (EDS)



Engineering Services

- Weld Evaluation & Qualification
- Failure Analysis
- Fractography
- 3D CAD Modeling & Printing
- Finite Element Analysis (FEA)
- Research & Development
- Materials Selection Consultation
- Litigation Support & Expert Witness Testimony
- Fitness for Service (FFS)



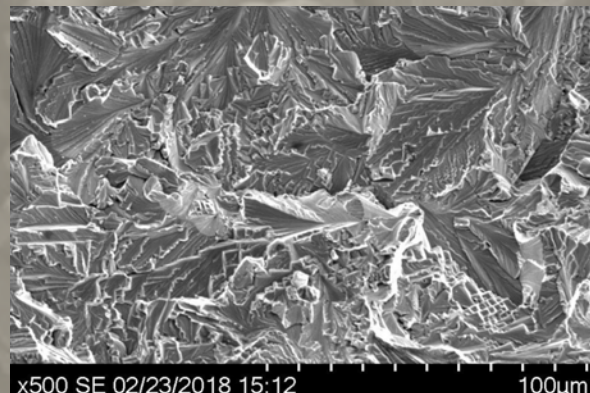
Mechanical Testing Services

- Wear Testing (G65, G105, B611)
- Tribology/Friction
- Adhesion/Tensile
- Bend/Scratch
- Macro & Micro Hardness
- Impact Testing



Microscopy Services

- Scanning Electron Microscopy (SEM)
- Stereo and Microscopic Examination
- Coating Thickness
- Grain Size, Inclusion Rating
- Porosity, Oxide Content



Metallurgical Services

- Macro and Microstructure Exam
- Phase Evaluation of Ferrous & Non-Ferrous Metals, Composites
- Etching, Corrosion Testing
- Non-Destructive Testing

