

REVIEW OF CORROSION THREATS IN OIL & GAS

Oil Field Environments

Internal corrosion of equipment is primarily due to the presence of carbon dioxide (CO₂-sweet corrosion) and/or hydrogen sulfide (H₂S-sour corrosion). At low temperatures, below ~150°C, the corrosion reactions require the presence of water to form an electrolyte (dry gases are non-corrosive).

At the higher temperatures, as found in refinery processing and the flame side of boilers, the corrosion reactions involve gas phase reactions, molten salts and diffusion of metallic and sulfur/oxygen ionic species through the corrosion product scales (oxidation processes).

The course will cover:

- Corrosion resulting from dissolution of corrosive gases in brines
- Hydrogen sulfide (H₂S sour)
- Carbon Dioxide (CO₂ sweet)
- Sulfate reducing bacteria (SRB) / microbiologically induced corrosion (MIC)

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