

- ✓ Corrosion Testing (Inhibitors and Alloys)
- ✓ Production Chemicals Advice & Selection
- ✓ Drilling Corrosion Ring Analysis
- ✓ ASTM G205 Crude Corrosivity Testing
- ✓ Pipeline Failure & Corrosion Assessment

Specializing in corrosion testing, analyses and technical reporting, Cormetrics provides sound advice and resolution for our clients within the petroleum industry.

Corrosion Testing (inhibitors and alloys)

Specialized corrosion testing equipment with the ability to perform tests to meet a wide range of field conditions inclusive of sour and high pressure/temperature. Gamry potentiostat's are used to perform electrochemical immersion tests. Our tests are designed from ASTM and NACE standard methods and accommodate customized test procedures. We are committed to working with our clients, developing the best protocol for their specific needs. Our open door policy allows our clients to be as involved in the testing as required.

Production Chemicals

Selecting, implementing and monitoring cost effective chemical programs to resolve production problems caused by corrosion, scale, bacteria, emulsion, or wax and asphaltene. Field investigations provide hands on data collection, carry out sampling requirements and facilitate discussions with operating personnel. Our goal is to provide quality service and products to our customers utilizing our specialized testing capabilities and industry experience.

Drilling Corrosion Ring Analysis

Water based drill muds have the potential for significant corrosion activity to well tubulars. The use of corrosion rings during drilling provides a record of corrosion activity. Received rings are cleaned to determine a mass loss corrosion rate with observations regarding corrosion attack. A customizable report detailing well parameters with ring photographs is issued within two weeks of receipt.

Crude Corrosivity Testing – ASTM G205

The ASTM G205 guide describes test methods used to determine the propensity of crude oil streams for internal corrosion by a combination of three properties:

1. The emulsion inversion point of the crude with brine
2. Brine wettability of a steel surface after crude contact
3. Resultant corrosivity of a water phase after contact with the crude

We have specialized experience and equipment for completion of this test method.



Pipeline - Failure Analysis, Corrosion Assessments, ILI Data Verification

Failure Analysis considers the conditions that the corrosion activity occurred and mitigation practices employed. Clients receive a comprehensive, in-depth report that includes the following information:

- 1. System Description:** Overview of operating conditions, flow characteristics, line history and corrosion mitigation programs.
- 2. Water Chemistry:** Brine characteristics inclusive of scaling and corrosion tendencies.
- 3. Sample Examination:** Description of analysis performed with observations during and after inhibited acid cleaning of wall scale.
- 4. X-ray Diffraction Analysis:** Significant/relevant scale will be sampled and analysed by on-site XRD.
- 5. Degradation Mechanism:** A detailed discussion on the failure mechanism will be presented. The role played by system parameters, operating methods and mitigation practices is commented on.
- 6. Conclusions:** Summary of findings.

Pipeline Corrosion Assessments provide a record of inspection activities as a component of the overall integrity management system. This activity often follows system modifications where segments of pipe are already being removed.

Pipeline ILI Data Verification compares the actual defect depths from a cut out to information obtained from an in line inspection tool run. This information is used to verify the ILI tool sizing algorithms and to improve defect sizing capabilities.