

Metal Failures and Corrosion

Case Study 1

Identifying Root Cause of Pipe Rupture Provides Safer Work Environment

Optical and scanning electron microscopic examination of a section of pipe that ruptured during a routine hydrostatic pressurization test indicated that the rupture initiated at a plunge mark attributed to the jaws of a tightening tool. Personnel were retrained to adequately tighten sections of pipe without damaging the exterior of the pipe.



Figure: Photo of ruptured drill pipe (Insert: Magnified image of tool marks that initiated the rupture.) (RJLG image)

CONNECT WITH AN EXPERT

800.860.1775 | WWW.RJLEEGROUP.COM

Contact Us

 **RJ LEE GROUP**
DELIVERING SCIENTIFIC RESOLUTION

Metal Failures and Corrosion

Case Study 2

Chloride Corrosion of Pipe Causes Loss of Wall Thickness



Figure: External pipe corrosion (RJLG photo)

Rapid loss of pipe wall thickness caused a drilling company to remove it from service sooner than expected. Scanning electron microscope images and energy dispersive spectroscopic provided evidence that the loss of wall thickness was caused by chloride corrosion of the exterior surface of the pipe.

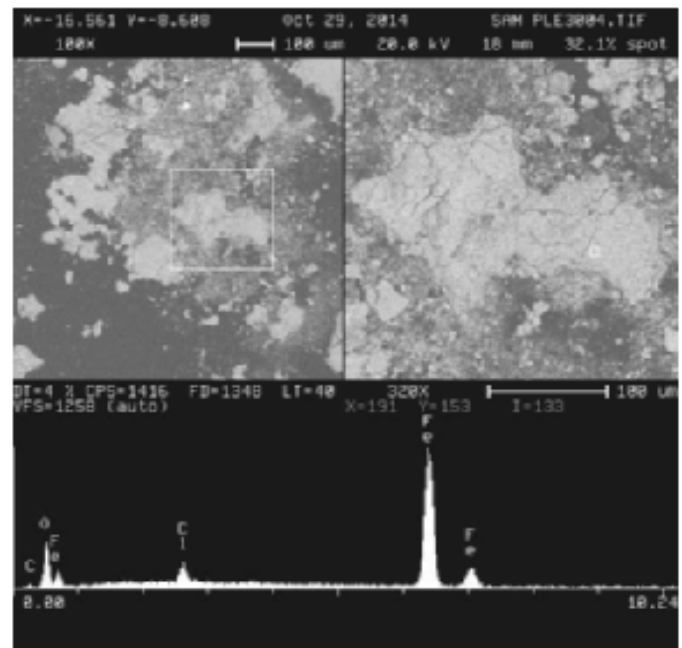


Figure:

Scanning electron microscope image and energy dispersive x-ray spectrum of the of pipe corrosion products (RJLG image)