

Title of poster: "External soil corrosion failure analysis of gas condensate steel Pipeline"

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Abstract:

A 16" gas condensate steel pipe line –had several leaks at least three times over period of 7 years in first half of designed pipeline life time. The failed parts were replaced by a new one. Although the internal pipe side was chemically well treated and proved to be protected against corrosion, corrosion failure (leaks) was taken place and repeated. In addition, the pipeline was coated with called PVT coating to protect from high salt soil external corrosion and the coated pipeline is cathodically protected as a complementary part of protection system. A thorough investigation was done at LPI laboratories to know the reason(s) of pipeline failure. A specialized failure analysis of the received failed parts supports that the root cause failure was due to coating desponding or coating defects which was associated with pinhole formation.

Key wards: coatings, cathodic protection, pinhole corrosion, and soil Corrosion

Short Biography:

Mr. Mahfud a Corrosion Engineering Lab Supervisor at Libyan corrosion institute (LPI), did his MSc from university of Manchester(formerly UMIST), UK 2004, B.Sc materials and metallurgy Eng. Dept. Faculty of Engineering at University of Tripoli. He is a coauthor of published scientific articles in international and national conference/Journals such TOG ly, Euro Corr, and NACE MP, ASM journals (6 MP & ASM journal articles and 7 papers conf.). His scientific areas of interest includes, oil and gas failure analysis corrosion, materials reliability, and fitness for service of metallic production systems from the down hole piping, well head, pipe lines, petrochemical metallic equipmentsetc. Beside, conduction lab studies has nature of applied research in the field of CO₂ corrosion inhibition, Pitting of Stainless steel, and Microbial Corrosion using the conventional electrochemical technologies to serve oil and gas operation Libyan companies.