**Emad Akeer, Ph.D.**

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Visa Status: US Permanent resident

**SUMMARY**

10+ years of proven experience in the oil and gas industry in corrosion mitigation, services, and research. Experienced in all aspects of cathodic protection techniques, including system design, construction, commissioning, installation, upgrading, and trouble-shooting. Strong oil and gas field experience in corrosion inhibitors, risk assessment, inspection techniques and coating evaluation. Proven ability to design new systems as well as identify and drive process improvements. Flexible to work with cross functional teams while managing multiple tasks and monitor timelines.

**WORK EXPERIENCE**

* **Houston Community College HCC, Houston, TX Current**

Project Goals – Teach undergraduate course in General Chemistry at HCC Northline

Key Accomplishments:

* Developed and implemented course curricula, lesson plans, homework assignments, and exams.
* Managed chemistry lab, maintained material equipment, and taught lab course.
* **Research Assistant, Ohio University, Athens, OH Jan 2009 – May 2014**

Project Goals – Five years of experience in applied corrosion research at the Institute for Corrosion and Multiphase Technology (ICMT) for the upstream oil and gas industry.

Key Accomplishments:

* Conducted research on the effect of alloying elements and metallurgy of pipeline steels on CO2 corrosion under flowing conditions focusing on the effect of iron carbonate layer formed on localized corrosion.
* Carried out a two-year testing program to study the effect of monoethylene glycol (MEG) addition on the behavior of CO2 corrosion of carbon steel at a high CO2 partial pressure.
* Prepared test samples, heat treatments, and microstructure examination and analysis according to established code procedures.
* Evaluated corrosion behavior of pipeline steel and estimated corrosion rates using several electrochemical techniques such as EIS, LPR, Potentiodynamic sweeps, ER and WL.
* Experienced in modeling CO2, H2S and top-of-line corrosion using transient mechanistic CO2 corrosion prediction software package MULTICORP.
* Expert in analyzing corrosion coupons and identifying root causes of corrosion problems.
* Used extensively Scanning Electron Microscopy and Energy Dispersive X-Ray Spectroscopy to investigate the cause and effect of corrosion samples.
* Hands-on experience in mechanical testing including tensile tests, compression tests, coating impact flexibility.
* Full compliance with all health, safety, and environmental guidelines as well as work permit policies and procedures.
* **Lecturer, El-Gabel El-Gharby University, Gharyan - Libya Sep 2005 – Apr 2008**

Project Goals – Taught undergraduate courses in Corrosion Principles and Material Science at the Department of Mechanical and Materials Engineering.

Key Accomplishments:

* Developed and implemented course curricula, lesson plans, homework assignments, and exams.
* Managed corrosion labs, maintained material equipment, and taught lab courses.
* **Corrosion Specialist, Waha Oil Company, Tripoli – Libya Jun 1999 – Sep 2005**

Project Goals – Responsible for all corrosion operations and services in the Samah Oil Field, a joint venture with Conoco Phillips.

Key Accomplishments:

* Cathodic Protection for Oil and Gas Facilities:

# Hands on-experience in servicing and operating the cathodic protection systems including Close Interval Surveys (CIS) & Direct Current Voltage Gradient (DCVG) surveys for the Samah oil field.

* Field experience in testing, and collecting field data such as Soil Resistivity Measurements.
* Maintained the buried long pipelines cathodic protection systems and tested cathodic protection solar power systems.
* Conducted regular equipment audits, assessed their integrity, and issued recommendation for replacement or repair.
* Evaluated existing corrosion systems, tested and upgraded corrosion systems, prepared and submitted final technical reports.
* Designed, installed, tested, and commissioned impressed and sacrificial corrosion systems.
* Monitored and evaluated cathodic protection anode systems (Deep & Shallow CP Ground Bed, Horizontal Ground Bed, Galvanic Anodes) for pipelines and underground tanks and facilities.
* Risk Assessment and Inspection for Oil and Gas Facilities:
* Performed risk assessment and inspection procedure for field equipment, including pressure vessels, storage tanks, heat exchanger, boiler, and piping.
* Assessed and approved coatings for pipelines, vessels, ground storage oil and water tanks.
* Assessed and approved recoating of the sand blasting surface profile, measured dew point of the environment, evaluated the paint and coating work and the thickness of wet and dry coating.
* knowledgeable of the inspection methods using Dye Penetrant (PT), Radiography Testing, Ultrasonic Testing, Magnetic Particle Testing (MPT), Adhesion Coating (by Cross-cut Test ), Porosity Coating using spark and Sponge Test, Salt Fog, Taber Abrasion, Pull-Off Adhesion, and Cathodic Disbandment Test.
* Corrosion Inhibitors for Oil and Gas Facilities:
* Evaluated, tested, and monitored the performance of corrosion and scale inhibitors performed in oil and gas wells.
* Evaluated, tested, and monitored corrosion batch treatment projects applied to gas pipelines and oil & water wells.
* Evaluated, tested, and monitored scale inhibitor squeeze treatment projects performed in oil and gas wells.

**EDUCATION**

Ph.D. Dissertation: “Effect of Carbon Steel Composition and Microstructure on CO2 Corrosion”.

M.S. Thesis: "Effect of Cathodic Protection of Mild Steel in the Splash Zone in Sea Water ".

Ohio University, OH Chemical Engineering Ph.D. 2009-2014

University of Manchester, Manchester-UK Corrosion Control M.S. 2002-2003

Bright Star University, Briga-Libya Mechanical Engineering B.S. 1993-1997

**TECHNICAL SKILLS**

Material: Scanning Electron Microscopy (SEM/EDAX), Infinite Focus Microscope (IFM), X-ray Diffraction (XRD), Focused Ion Beam (FIB), Transmission Electron Microscopy (TEM).

Instruments: Gas Chromatograph (GC), Ultraviolet-Vis Spectroscopy (UV-vis), Infrared Spectroscopy (IR).

Software: AutoCAD, Solid Edge, and Sketch Up.

Miscellaneous: Auto maintenance, Small Power Equipment Repair and Maintenance.

**SELECTED PAPERS AND PRESENTATIONS**

* E. Akeer, B. Brown, S. Nesic, “The Influence of Mild Steel Metallurgy on the Initiation of Localized CO2 Corrosion in Flowing Conditions,” NACE Corrosion 2013 Conference, Paper No. 2383*.*
* E. Akeer, “Effect of monoethylene glycol (MEG) addition on the behavior of CO2 corrosion of carbon steel at a high CO2 partial pressure,” Institute for Corrosion and Multiphase Technology, 2012.

**CERTIFICATES**

* Certified Hydrogen Sulfide Safety, Institute for Corrosion and Multiphase Technology, 2010.
* A NACE member.

**REFERENCES**

References Available Upon Request.