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Study of corrosion resistance of carbon steel in albian water solution in the presence of Chimec as corrosion inhibitor

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Abstract : The N80 steel has been generally used as the main construction material for down hole tubular, flow lines and transmission pipelines in petroleum industry. Electrochemical polarization and electrochemical impedance spectroscopy measurements were performed in order to obtain information on the corrosion behaviour of steel N 80 in the presence of a penetrating Chimec corrosion inhibitor. The investigation was performed in albian water from a well in the Hassi-Messaoud region, in the presence and absence of inhibitor and the effect of temperature on the corrosion was investigated. The electrochemical results indicate that the inhibitor is able to penetrate through the reinforcing steel, minimising steel corrosion.

Keywords : Corrosion inhibitors, N80 Steel, Albian water, electrochemical impedance spectroscopy.