

The effect of pressure change on the internal corrosion rate of oil pipelines^{*}

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Abstract

Corrosion is the most important problem in the process of oil production, Its results are: sudden fracture, high economic cost and great loss in oil equipment. Appropriate solutions have been suggested to extend the life of facilities, and to avoid corrosion phenomenon which may get the facility out of service, But, finding the main reasons causing this phenomenon, and studying the factors that contribute to increase or reduce the spread of corrosion requires more urgent attention.

In this paper, the data of the pressure has been analyzed in three crude oil pipelines and focus was on the values during the days where changes were irregular. In the same period, the study of internal corrosion rate was being done, using weight loss method. It has been noticed that when the value of pressure is greater than 2 Mpa, the internal corrosion rate will be above the maximum allowable limit which is 4 mil per year (MPY), while the internal corrosion rate will be within the acceptable range when the pressure is not greater than 1 Mpa.

Keywords: Oil pipelines - Internal corrosion rate - Pressure - Lost weight method.

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