

Title: The Eficiency of Hydrotest Tank on Oil & Gas Industry by Using Sweet Potato (*Ipomoea Batatas*) Waste as Organic Corrosion Inhibitor

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Based on the pareto diagram that has been compiled, one of the dominant cause of high cost of Construction of an Oil Tank is the Cost of Hydrotest due to the difficulty of finding fresh water in the work area in Oil & Gas Industry. To overcome this problem, there are several alternative solution has been determined with Hydrotest Using sea water and Organic Corrosion Inhibitors. The pilot project was implemented in the Oil Tank hydrostatic test process located in Atapupu. In order to observe the actual corrosion rate of the steelplate of tank surface, several test was conducted in order to calculate the corrosion rate in mm/year by immersion test and polarization test. The result of the test and measurement is shown in Table bellow.

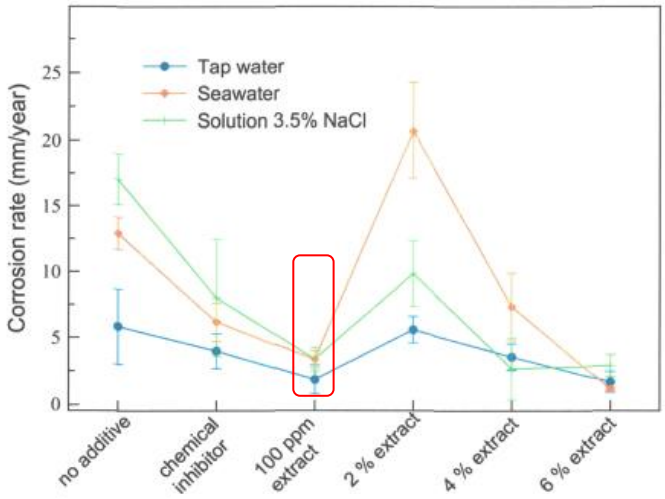


Table 1. Immersion Test

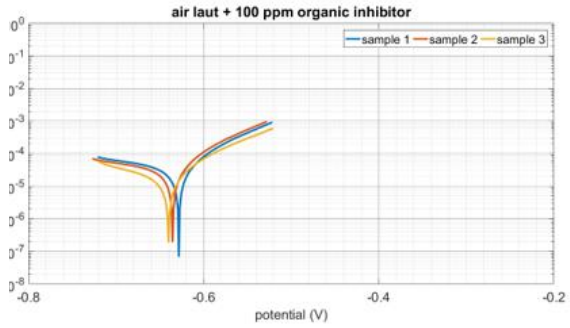


Table 2. Polarization Test

The behavior of steel during corrosion test showed different behaviors in two different methods because the behavior of inhibitation is differetn for short term and the long term test. The most effective corrosion inhibitation are 100 ppm and 6% extract which can be seen from immersion test result. According to the results, the corrosion rate of material ASTM A 283 Grade C was optimally work at 100 ppm extract which decreased from 6.21 mm/year to 3.35 mm/year. However the explanation of above behavior requires detail analysis on the reactivity and decomposition of inhibitor which require further analytival technique.

Biography

Gede Marta Wahana has completed his Bachelor Degree of Civil Engineering at the age of 21 years from Institut Technology Bandung. He is the Engineer of Fuel & Other Facilities in Pertamina Ltd, an State Owned Enterprise Oil & Gas Company in Indoenesia. During his career he always doing research related to company goals to cost eficiency in any sector. His last achievment is on International Convention in Quality Control Circle in singapore 2018.

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