ABSTRACT

EFFECT THE ADDITION OF A FUSION EXTRACT GAMBIER WITH BENZOIC ACID AS INHIBITOR THE FORMATION OF A SCALE CALCIUM CARBONATE (CaCO₃) WITH THE METHOD SEEDED EXPERIMENT

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Scale has become quite serious problems in industries, especially in oil and gas industry. Therefore, in this research it has been conducted addition of inhibitor compound from gambier ekstrack mixed with benzoic acid to reduce negative impact caused by scale formation. In this research it has been carried out the addition of inhibitor to calcium carbonate scale (CaCO₃) by using seeded experiment method in CaCO₃ concentrations of 0.05, 0.075, and 0.1 M as well as variation inhibitors of 25, 75, and 125 ppm. Based on qualitative analysis using Scanning Electron Microscopy (SEM), it was showed that CaCO₃ crystal size without addition of inhibitor is bigger than with addition of inhibitor, while quantitative analysis using Particle Size Analyzer (PSA) shows that CaCO₃ particle size distribution is smaller. Based on the percentage of inhibiting, the optimum concentration of gambier extract combination with benzoic acid is at ratio 1 : 1 at 125 ppm of gambier ekstrack and benzoic acid with % ability of 24.9 %.

Keywords : Gambier, Benzoat Acid, Scale CaCO₃