

## ABSTRACT

### UTILIZATION OF COMPOUNDS MANGOOSTEEN PEEL FRUIT'S EXTRACT (*G. mangostana* L) AS INHIBITOR OF CALCIUM CARBONATE (CaCO<sub>3</sub>) WITH *SEEDED METHOD EXPERIMENT*

By

**Mely Antika**

In this research, it has been conducted the addition of inhibitor compounds mangosteen peel extract on the calcium carbonate (CaCO<sub>3</sub>) scale using the addition of crystals seed (*seeded experiment*) at various concentrations of CaCO<sub>3</sub> growth solutions from 0,075; 0,100 and 0,125 M and at various concentrations of inhibitors added were around 50, 150, and 250 ppm.

The results based on a qualitative analysis using optical microscopy and *scanning electron microscopy* (SEM) showed that the morphology of the surface of CaCO<sub>3</sub> scale without inhibitor is bigger than the addition of inhibitors whereas quantitative analysis using a *particle size analyzer* (PSA) showed that the particle size distribution of CaCO<sub>3</sub> scale becomes smaller with the addition of inhibitor which have different number based on mean is 0,958 μm and median is 0,331 μm. Based on a percentage (%) of inhibitor ability, the optimum concentration of inhibitor in inhibiting of scale formation CaCO<sub>3</sub> in the growth solution of 0,100 M is 150 ppm with the effectiveness of 30.78%.

**Keywords:** *CaCO<sub>3</sub>, inhibitors, mangosteen peel extract, scale.*