

CERTIFICATION OF APPROVAL

Enhancement of Silica Sand by Resin Coating for Sand Control Application

by

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible to the works submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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ABSTRACT

This paper presents the literature and experimental works on enhancement of Terengganu silica sand by resin coating and investigates its potential to be used as commercial propping agent for sand control application. The purpose of this study is to measure porosity, permeability, strength behavior of resin coated silica sand and examine the solid production when use in gravel packing application. Four different machines were used: Uniaxial Compressive Strength Triaxial Compression Test, Mercury Pressure Porosimetry, PoroPerm, and High Pressure High Temperature Test. Results from resin coated silica sand samples were compared with Ottawa Frac sand 20/40 and selected commercial proppants. The study found that permeability and porosity of Terengganu resin coated silica sand showed acceptable range of values. Moreover, Terengganu resin coated silica sand met the requirement of solid/particle production and had significantly higher compressive strength.

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