

Naphthenate & Emulsion Testing

Scaled Solutions offers a range of flow assurance services which include test protocols to investigate and prevent the formation of organic acid stabilised emulsions, sludges and scale (naphthenates)



How our services can help you



Main Services

Laboratory testing

- Dynamic Naphthenate Flow Rig
- Qualification of Calcium Naphthenate Inhibitors
- Qualification of Demulsifiers
- Naphthenate Bottle Tests
- Field Risk Assessment (Naphthenates and Emulsions)
- Refinery/separation testing for heat exchangers, desalters etc

Supportive Techniques

- Water-in-Oil Analysis
- Oil-in-Water Analysis
- SEM/EDX Analysis

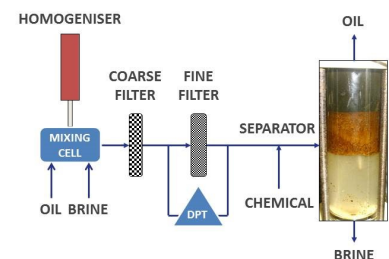
Equipment Design and Build

Consultancy

Flow assurance tests can be tailored to specific client requirements

Dynamic Naphthenate Flow Rig

- Specifically developed test rig; designed and manufactured in-house
- Field representative: shear, temperature, pressure and pH (acid co-injection/ CO₂ addition)
- Investigate formation of calcium naphthenate solids and/or carboxylate-stabilised emulsions
- Qualification of Naphthenate Inhibitors/ Demulsifiers– Including compatibility testing
- Investigate effect of changing field conditions (pH and fluid mixtures)
- Testing under EOR conditions; e.g. ASP, WAG



Naphthenate Flow Rig Schematic

Key Papers

- Dyer, S.J., Williams, H.L. & Graham, G.M. (Scaled Solutions Ltd.), Cummine, C. & Melvin, K.B. (Talisman Energy, UK) Haider, F & Gabb, A.E. (B G Group); 'Simulating Calcium Naphthenate Formation and Mitigation Under Laboratory Conditions'– SPE 100632
- Helen Williams, Sarah Dyer and Gordon Graham (Scaled Solutions Ltd.); 'Understanding the Factors Influencing the Formation and Control of Calcium Naphthenate Solids and Stabilised Emulsions Using a Novel Laboratory Flow Rig'– SPE 106499
- K.B Melvin and C Cummine (Talisman Energy); J Youles (BG Group), H Williams, GM Graham and S Dyer (Scaled Solutions Ltd); Optimising Calcium Naphthenate Control in the Blake Field– SPE 114123
- F.F. Rosário and M.C.M. Bezerra, (Petrobras), D.A. Nichols, S.E. Gorringer, H.L. Williams and G.M. Graham (Scaled Solutions Ltd.); 'Calcium Naphthenates in Complex Production Systems—Evaluation and Chemical Inhibition Challenges'– SPE 169756

Truly Independent Laboratory

At Scaled Solutions, our mission is to be recognised worldwide through our independent specialised laboratories as the leading supplier of bespoke equipment, training, consultancy and provider of solutions to challenges in Production Chemistry, Corrosion and Formation Damage.

We aim to exceed our customers' expectations and improve our service to our customers on a continual basis through our key values: team work & communication, openness & transparency, continual improvement and trust.

Quality, Integrity, Safety and Excellence

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