ForScent

Sulfur removal from crude oil

UNIVERSITY OF CALGARY

Highly efficient novel desulfurization technology to produce sweet crude oil

The Technology

ForScent has developed a novel approach to convert sour crude to sweet crude (S<0.5%). The patent-pending technology does not use hydrogen or high thermal energy for the desulfurization process.

This new technology is advantageous compared to current industry methods given its low energy consumption, zero hydrogen, and catalyst requirement. The sour crude flows through a cartridge filled with ForScent sorbents at room temperature to remove the majority of sulfur without any loss of low boiling point crude oil fractions.

In addition to sulfur removal, crude decolorizes to pale yellow to colorless and thereby increases the quality of the crude. This technology can be applied to light crude oil, heavy crude oil, diluent and sulfur rich wastewater.

Services

ForScent provides laboratory testing of oil and water samples. Our team is specialized in:

Petroleum analysis

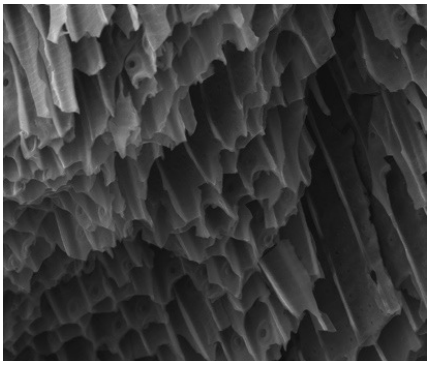
- Viscosity, density, sulphur compound characterization (GC-SCD)
- Boiling point distribution (GC-SimDis)
- Identifying hydrocarbon compounds (GC-MS)
- Total acid number (TAN)
- Asphaltenes content

Gas analysis

- Identifying and quantifying primary gases and up to C7 hydrocarbons (micro-GC)

Materials analysis

- Elemental analysis (X-ray fluorescence)
- BET surface area, pore size distribution, metal dispersion (physisorption and chemisorption)



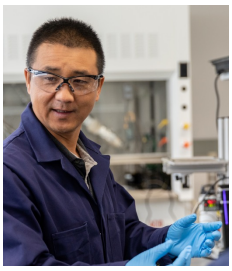
ForScent sorbent structure

Original 33 API oil – ~1 wt.% sulphur

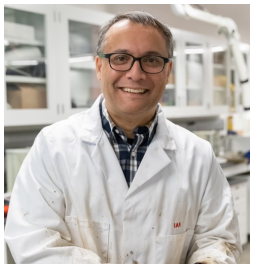
Treated 33 API oil - <0.5 wt.% sulphur

Our Team

Ranjani Kannaiyan



Jingyi (Jacky) Wang



Ian Gates

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