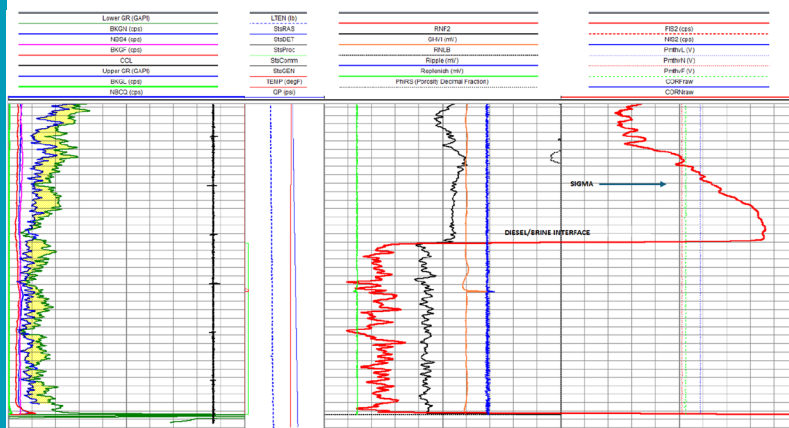


Expro Excellence

Reservoir saturation logging optimizes the development of salt production wells

Well Intervention & Integrity



Objectives and background

- Our customer in Colombia operates strategic energy storage reserves in natural salt formations
- Salt is produced through solution mining, by injecting fresh water into a salt formation to generate brine. A diesel column in the annulus acts as a hydraulic barrier, preventing undesired dissolution and allowing control of the dissolution zone and cavern geometry by vertically adjusting the position of this column
- During operations, information on the salt formation, fluid interfaces and cavern growth were required
- The key objectives of this project were:
 - Monitor salt production wells
 - Measure development of cavities and ensure brine production
 - Check diesel-brine interface
 - Adjust diesel level according to cavity growth
 - Detect diesel trapped in 10 ¾" open hole section

Expro Excellence

- Expro mobilized the reservoir analysis sonde (RAS) wireline intervention tool - a multi-detector pulsed-neutron system for measuring reservoir saturation. The tool was run in three wells in sigma mode across two separate intervention campaigns in 2025
- The RAS tool was run on E-line and provided real-time data from which operations could be monitored and optimized based on the results
- A complete set of logged data from all runs was processed and interpreted by Expro's petrophysicists offline in our dedicated Data Analysis Centre

Value to the client

- The data from the RAS tool enabled our customer to achieve their monitoring objectives and:
 - Verify and adjust the diesel column height in response to the salt cavity growth
 - Adjust the leaching interval within the cavity
 - Determine the top of the cavity through interface logging between diesel and brine
- We responded rapidly to a short mobilization period, allowing our customer to complete the work within a planned intervention window
- Real-time data was interpreted within two hours, which enabled data-driven insights and opportunities to optimize the operational program
- Expro's Data Analysis Centre processed and analyzed the logs, providing insight into the salt cavern formation and operational performance

“This project demonstrates our ability to deploy oilfield technologies beyond hydrocarbons, applying our domain expertise to de-risk and optimize operations in adjacent industries

James Yard
Sustainable Energy
Solutions Manager

Insight



Fast track

