

REALology HTHP Static Sag Monitoring System

The REALology HTHP Static Sag Monitoring System, innovatively developed by Vertechs, is high-precision professional testing equipment for the oil and natural gas industry. It addresses the critical challenge of evaluating the settlement stability of drilling and completion fluids in complex downhole environments.

By accurately simulating conditions – such as high temperature, high pressure, and variable inclination angles – and integrating a proprietary center-of-gravity and moment calculation model with real-time data acquisition technology, this system enables precise, quantitative assessment of fluid settlement stability under demanding conditions, effectively solving long-standing technical challenges in the industry.



FEATURES

- **Accurate Downhole Simulation:** Supports testing at temperatures up to 200°C (392°F) and

multiple inclination angles (0 – 90° adjustable), faithfully replicating downhole conditions

- **Real-Time Monitoring and Feedback:** Continuously collects data throughout the settlement process, ensuring full traceability and significantly improving testing efficiency
- **Research on the Boycott Effect:** Pioneering research into the impact of inclination angle on settlement stability, filling a technical gap in the field
- **Center-of-Gravity Moment Calculation Model:** Quantifies settlement stability based on changes in the fluid's center of gravity
- **Intelligent Prediction and Decision-Making:** Integrates AI deep learning algorithms and a big data analytics platform to generate real-time visual settlement trend reports, supporting scientific operational decision-making
- **Big Data-Driven Optimization:** Cloud-based data sharing enables automatic iterative updates of model parameters, ensuring continuous technological advancement
- **Portable Design:** Compact structure suitable for both laboratory and field operations. Deployable within 5 minutes, it overcomes the limitations of traditional bulky test equipment and enables easy on-site installation and use

TEST DATA

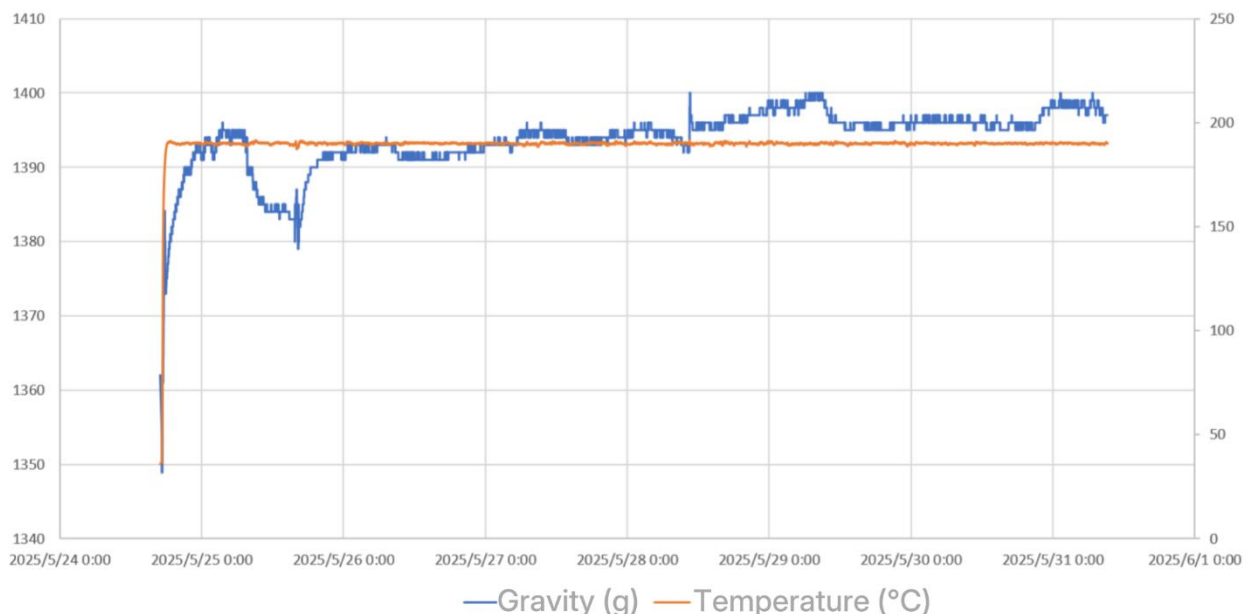


Fig. Variation of Gravity with Temperature

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