WHO IS NETL?

THE U.S. DEPARTMENT OF ENERGY’S NATIONAL ENERGY TECHNOLOGY LABORATORY

HOW NETL IS ENABLING CRUDE OIL EXTRACTION

SAFELY & EFFICIENTLY

FIRST, HERE’S WHAT INDUSTRY & GOVERNMENT NEED TO KNOW

INDUSTRY

HOW MUCH OIL can be obtained from a specific well? Should we drill here?

GOVERNMENT

HOW MUCH OIL does the U.S. have in reserve across the country? How effectively and safely can we produce oil?

DRILLING

Without a reliable model, drilling can become VERY EXPENSIVE, lead to SAFETY ISSUES, and U.S. oil reserves cannot be EFFECTIVELY PRODUCED

MODELS

NETL’s developed world-class densimeter & viscometer generated density and viscosity data in simulated extreme drilling conditions.

These data led to the development of a new Equation of State predictive model validated with experimental data.

This new model now has about only 1% deviation between experimental and predicted density. An error of 10% in viscosity may trigger an error of up to 10% of the estimated oil/gas production. Future work on viscosity will address the error viscosity production.

TO ENSURE SAFETY, PROFITABILITY, & GOOD RESERVE MANAGEMENT, NETL is developing better fluid properties models

WHICH MEANS

INDUSTRY

CAN MAKE BETTER DECISIONS WHEN:

- Deciding where to place wells based on the oil recovery rate
- Putting measures in place to ensure drilling safety

GOVERNMENT

CAN MAKE BETTER DECISIONS WHEN:

- Accurately estimating and managing U.S. oil reserves.
- Issuing penalties and fines for oil spills.
- Issuing offshore oil drilling leases

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