

An aerial photograph of an oil drilling operation at sunset. A tall, illuminated drilling rig stands prominently on the right side of the frame. The rig's derrick is lit with warm lights, and its base is surrounded by various support equipment, including blue and white storage containers, trucks, and a large pile of steel pipes. To the left of the rig, there is a row of long, white modular buildings. The background shows a flat, arid landscape under a sky with vibrant orange and yellow hues from the setting sun. A dark blue banner is overlaid on the upper left portion of the image, containing the text "Multiphase RTA Consortium" in white.

Multiphase RTA

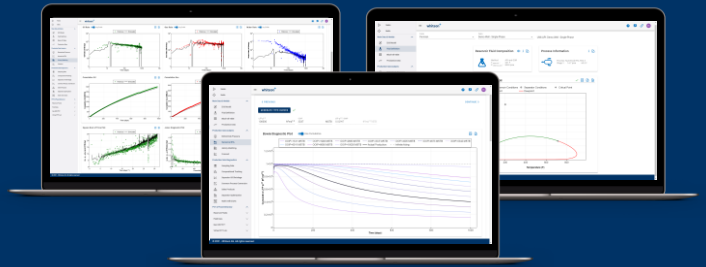
Consortium

whitson

The logo consists of the word "whitson" in a bold, dark blue, sans-serif typeface. The text is centered horizontally and vertically on a white background. Two light gray triangular shapes are positioned in the corners of the page: one in the top-left corner pointing towards the center, and another in the bottom-left corner pointing away from the center.

whitson

Multiphase RTA Consortium



BACKGROUND

This consortium represents a continuation of the 2022 Numerical RTA JIP with more than 35 participating companies.

In this study, the focus will be on improving the workflows and associated software related to three fundamental RTA technologies that have been recently introduced in the industry i) Numerical RTA (Apache, 2018-2020), ii) Multiphase Flowing Material Balance (Cimarex, 2016-2020), iii) and Fractional RTA (Chevron, 2016-2020).

GOALS

1. Develop best practices, guidelines and software related to the three advanced RTA technologies.
2. Use field data to perform several proof-of-concept studies, in different unconventional basins^[1], utilizing the three advanced RTA technologies in **whitson+**.
3. Build out **whitson+** capabilities and workflows to simulate multi-well numerical models (i.e., multiple wells in one numerical grid).
4. Evaluate the applicability of the multiphase flowing material balance method to systems that include multiple wells in a single tank.
5. If possible, generalize the three advanced RTA methods to include completion water, and study impact of including, or ignoring, this water.

In addition to study objectives, this consortium provides a technical arena for discussion, sparring and knowledge sharing related to unconventional well performance analysis. This is manifested through several knowledge sharing sessions and courses in which experiences and challenges are discussed among the participating companies.

WHAT'S IN IT FOR THE PARTICIPANTS?

- **whitson+** access during project period (one seat and no database connection).
- Participation in technical knowledge sharing sessions with the other JIP members.
- On-demand work sessions with **whitson** team for sparring, support and training.
- 4 complementary, half-day **whitson+** software courses
- 1-day course at project end in Houston, or virtual (3 people per company).
- Consortium Documentation & Presentations.
- Preferential pricing on future software subscription.

CONFIDENTIALITY & OTHER REMARKS

- The data provided by one company will not be shared with other companies in the consortium.
- The only information shared with all participating companies will be general conclusions and experiences from the work performed during the consortium.
- No data or results from this study will be published without the written consent of the consortium participants.

TIMELINE & COST

The JIP is planned to operate from Q4 2022 – Q4 2023. Rolling admissions are open until 31 Dec. 2022. The participation fee is 30,000 USD. Additional company-specific services can be provided upon request.

^[1] Permian, Eagle Ford, Austin Chalk, Utica, Bakken, Anadarko Basin, DJ Basin, Powder River Basin, Duvernay, Montney and Vaca Muerta.

^[2] Multiphase Flowing Material Balance without Relative Permeability Curves by Leslie Thompson & Barry Ruddick. URTeC: 3718045.

ABOUT US

We support energy companies, oil services companies, investors and government organizations with expertise and expansive analysis within PVT, well performance, gas condensate reservoirs and gas-based EOR. Our coverage ranges from R&D based industry studies to detailed due diligence, transaction or court case projects.

We help our clients find best possible answers to complex questions and assist them in the successful decision-making on technical challenges. We do this through a continuous, transparent dialog with our clients - before, during and after our engagement.

The company was founded by Dr. Curtis Hays Whitson in 1988 and is a Norwegian corporation located in Trondheim, Norway, with local presence in USA, Middle East, India and Indonesia.

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