

Optimization of gas production and storage in relation to salt precipitation

Publieke samenvatting / Public summary

Aanleiding

Salt precipitation during injection or production in geothermal, storage or production wells hampers efficiency and reduces recovery factors. In previous projects we have built our understanding and predictive capabilities of these phenomena.

Doelstelling

In this project we propose to develop workflows for production optimization of production and storage wells and fields in the North Sea suffering from salt precipitation. This requires: - Validation of the model and the history matching workflow for a wider range of gas wells - Scaling up of the near well bore simulator to a (open source and Eclipse compatible) reservoir simulator - Optimization of production on well level, on reservoir level and provide a tool for strategic decisions (i.e. investment in mitigation or preventative measures) - Development of engineering guidelines

Korte omschrijving

In this project we will

- scale up the model to reservoir level to enable optimization based on field models from the operators; o by including the halite precipitation model in an open source reservoir simulator (OPM).
- develop and demonstrate optimization workflows;
- develop engineering guidelines (In close collaboration with OGA/EEGR) o via OGA's best practices guide for mitigation of salt precipitation.

WP1: Scale up to reservoir level a) Scale up to (open source) black-oil reservoir model b) Include gas-condensate WP2: (Integrated)

Projectinformatie / Project information

Projectnummer / Project number
TKITOETKI2019-01-GE

Subsidiebedrag / Grant amount
€ 85.784,00

Algemene informatie / General information

Penvoerder / Secretariat
TNO

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optimization Develop and demonstrate workflow for short term optimization (timing, amount water wash etc.) WP3: Engineering guidelines Contribute to the best practices manual initiative of OGA/EEEEGR

Resultaat

- Availability of predictive capabilities for halite precipitation in an open source, Eclipse compatible reservoir simulator to enable integrated optimization of wells suffering from salt precipitation.
- Demonstration of added value of (integrated) production optimization techniques to minimize production decline due to halite precipitation.
- This project will enable / contribute to the engineering guidelines (best practice) guide for production optimization of salted wells in the Southern North Sea (an initiative of OGA/EEEEGR).

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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