

newsletter

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proanalysis

Efficient Produced Water Management at Snorre B through online OiW monitoring

At StatoilHydro's Snorre B platform, an Argus® inline Oil in Water monitor has been in operation since early 2006, contributing to a 40% reduction in OiW concentrations in 2007.

Argus at Snorre B

The oil producing Snorre B platform, located in the Tampen area of the Norwegian North Sea, had an average water production of 26.600 m³ per day in 2006. Water is processed through hydrocyclones downstream the inlet and test separators, followed by a degassing drum. In February 2006, following offshore testing of different OiW monitors, an Argus Environment OiW monitor was installed at outlet to sea downstream the degassing drum, at temperature 65°C and pressure 1 bar g.

Snorre B has actively used the Argus instrument for monitoring and management of the produced water treatment process. The following cases describe typical situations where the operator has taken advantage of the online OiW monitor.

Case 1: Optimisation of the use of flocculants

A sudden significant increase in produced water oil concentration was observed with the Argus OiW monitor. Spot samples were taken to confirm, showing 24-27 mg/l OiW at a sample point where the concentrations were close to 5 mg/l some days earlier. Different solutions were tested without any effect, as verified by Argus as well as spot samples. Eventually, the injection of flocculants showed results and the most effective concentration was found to be 4 ppm. The Argus OiW monitor was actively used during testing to verify effects on the process. [\[cont. on back\]](#)

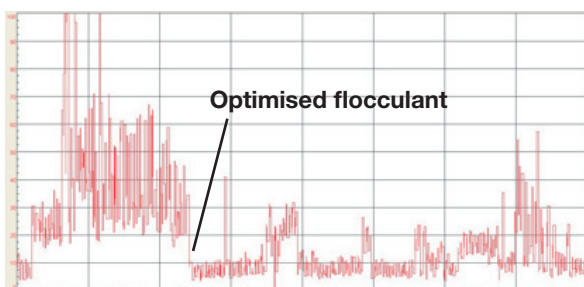


Figure: Online OiW monitor output (mg/l) during and after optimisation of flocculant.

ProAnalysis establishes international presence

Following a successful introduction of the Argus® Oil in Water monitors in the Norwegian market, ProAnalysis responds to the worldwide demand for reliable OiW monitors by establishing an international sales team responsible for worldwide sales of ProAnalysis' products.

The international sales team is led by Gert Folmer, with 27 years of experience in the process analyser market. Furthermore, the international sales team comprises area managers for the North Sea, the Gulf of Mexico/North America and the Middle East.

Gunnar Alfheim, Managing Director of ProAnalysis, says: "There is an enormous interest in reliable technology for Oil in Water measurements as water production globally rises to new levels. Our new international sales team is a major step forward in the process of making our Argus technology available for operators worldwide."

ProAnalysis gets first order in Gulf of Mexico

Shell Exploration & Production US have placed an order with ProAnalysis for an Argus Oil in Water monitor to be installed at the Bullwinkle platform south of Louisiana, USA. The order represents the first installation of ProAnalysis' Argus technology in the Gulf of Mexico.

Gunnar Alfheim, Managing Director of ProAnalysis, says: "We are very pleased with the trust that Shell has placed in us with this order. Our Argus technology is developed specifically to handle challenging process conditions in the offshore O&G market, and with our experience from the deepwater platforms in the North Sea we are confident that we will meet Shell's demands."

Case 2: Optimisation of Emulsion Breaker

Due to one new oil-rich production well recently on stream, increased water in oil concentrations were observed. Emulsion breaker was used, but experience showed that overdosing (>1 ppm) could give pronounced separation problems. Hence, emphasis was put on identifying the optimal concentration of the emulsion breaker – both to improve separation (water and oil quality) and to minimize deterioration of water quality (environmental impact). The challenge was met by active use of the Argus OiW monitor, and optimisation of the separation system was completed within a few days resulting in excellent water quality.

Conclusion

Accumulated data and experience from 20 months of operation clearly document the online OiW monitor as an efficient tool in produced water management at Snorre B, as exemplified by these cases. At Snorre B, the daily use of Argus has contributed to a 40% reduction in oil in water concentrations over the last 12 months (6.3 vs. 10.5 mg/l).

This abstract is based on the paper "Efficient Produced Water Management through Online Oil-in-Water Monitoring. Case Study: StatoilHydro's Snorre B" written by representatives from StatoilHydro and ProAnalysis, and presented by ProAnalysis' Technology Director Jarle Skeidsvoll at the Produced Water – Best Management Practices seminar in Abu Dhabi, November 2007. The complete paper is available on request (contact@proanalysis.no).

ProAnalysis AS

ProAnalysis AS delivers technology and associated services for Oil in Water monitoring for process and environmental control, combining technological insight with an understanding of user needs.

Our vision is to be a leading international supplier of technology and decision support for Produced Water Management.

ProAnalysis is located in Bergen, on the west coast of Norway. Our offices are in the High-Technology Centre, in close proximity to the University of Bergen.

Key contact persons

Gunnar Alfheim

MANAGING DIRECTOR
Telephone: (+47) 55 21 00 70
E-mail: alfheim@proanalysis.no

Gert Folmer

INTERNATIONAL SALES MANAGER
Telephone: (+31) 6511 92474
E-mail: folmer@proanalysis.no

Jarle Skeidsvoll

TECHNOLOGY MANAGER
Telephone: (+47) 55 21 00 62
E-mail: skeidsvoll@proanalysis.no

Niels Timmer

AREA MANAGER - MIDDLE EAST
Telephone: (+31) 6461 60788
E-mail: timmer@proanalysis.no

Sigurd Bekkevold

SALES MANAGER
Telephone: (+47) 55 21 00 63
E-mail: bekkevold@proanalysis.no

Contact information

ProAnalysis AS
Thormøhlensgate 49 C
N-5006 Bergen
Norway

Telephone: (+47) 55 21 00 60
Fax: (+47) 55 21 00 61
Web: www.proanalysis.no
E-mail: contact@proanalysis.no
sales@proanalysis.no
support@proanalysis.no