

## CASE STUDY

# OMMICA™ saves money by measuring methanol in crude during permit excursion in the Gulf of Mexico

**BACKGROUND** Producing oil in deep water such as the Gulf of Mexico can be a technically complex process. With deeper wells and longer tiebacks there is an increased risk of hydrate formation, widely mitigated by using methanol as a thermodynamic hydrate inhibitor (THI).

Methanol is used when pipelines are de-pressurised at shut in or mothballed, to prevent hydrates. When a well starts up again, the methanol, water and crude in the line must be produced. This can cause significant problems for the crude oil further downstream at terminal or refinery, where methanol can damage the catalysts or water treatment plant following the de-salter.

**CHALLENGE** Penalties are imposed on operators who export levels of methanol in crude higher than 50ppm, so it's critical for the operator to minimize the extent of contamination, to prevent further costs or denial of product at refinery.

An operator in the Gulf of Mexico pigging a mothballed pipeline containing oil, water and methanol had been given a 4 day permit to manage the methanol levels in the produced oil to below 50ppm. Failure to carry this out within the required timescale would result in penalties, at significant cost.

**ACTION** The operator needed to monitor methanol levels throughout the day, so that informed management decisions could be made. Therefore it was not practical to wait for test results from an onshore lab, and the operator needed a way to test on-site.

The operator chose to use OMMICA™. It is an onsite test, which can be carried out using limited space and skill and allows results to be gained on-site within the hour, allowing the operator to make informed crude management decisions.

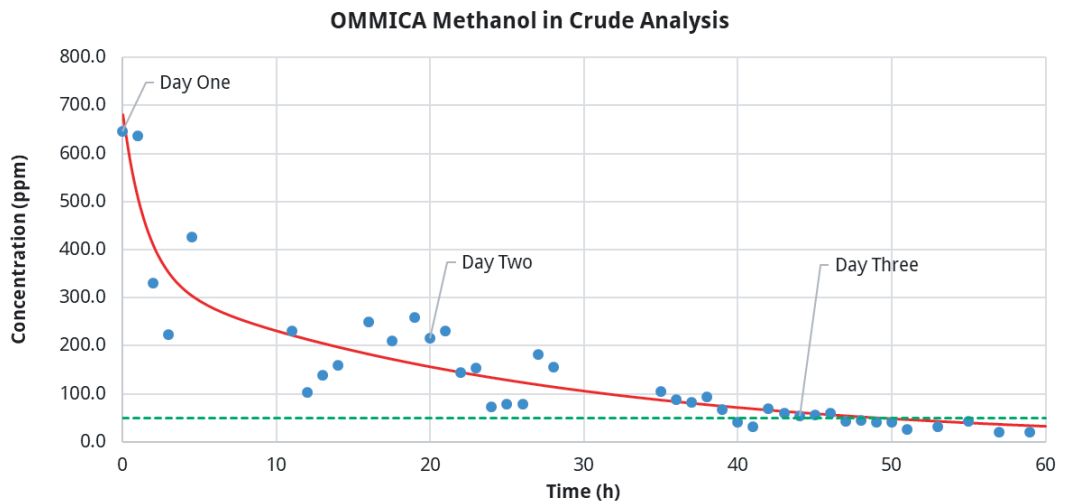
The asset has a production rate of 40,000bbls of oil per day and only 500bbls of water, so there was limited produced water available to wash the methanol from the crude. A limited amount of additional vessel water was added to this, to help bring the levels down quicker, but the operator needed to be sure they were making the most effective use of this capability.



## RESULTS

Testing of samples was carried out at regular intervals and initially showed methanol levels in the crude to be over 1,000 ppm. These were seen to drop over the 4 day period of the permit and a significant number of samples had been confirmed below 50ppm, within the time limit of the permit. For the operator, it was very important that it could be confirmed this quickly that production was back within their permit limits before their time limit ran out to avoid paying additional fines.

The results from testing can be seen below.



## OUTCOME

Using OMMICA™ allowed the operator to monitor the methanol levels at the LACT separator and make decisions before the crude was exported. This meant that they could trend the concentration of the methanol as it decreased over time and confirm the point at which production fell below 50ppm.

This gave the operator confidence in informing the refinery of the amount of methanol in the cargo and could also confirm that the permit had not been exceeded, saving on potential penalties.

## SUMMARY

PROBLEM	SOLUTION	RESULT
When starting up a well, high levels of methanol are commonly produced, which must be managed to avoid costly penalties.	Simple, on-site testing can be used to achieve results within one hour of sampling.	Crude management decisions are informed and operators can report with confidence to ensure they do not receive penalties or unnecessarily discounted price for crude.