

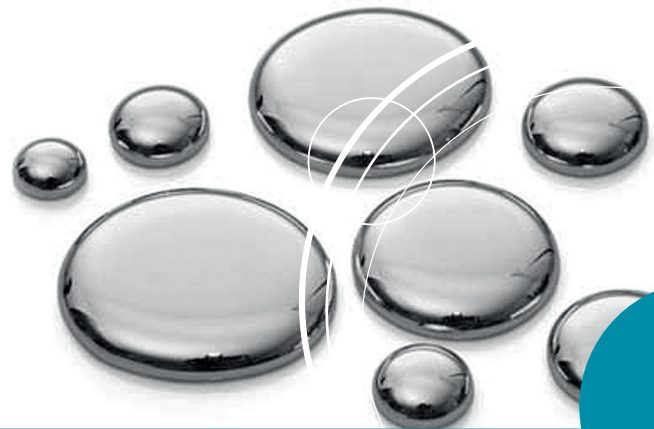


# / Expro Excellence

## Fluids

Fluid Sampling &amp; Analysis

UKAS audit makes Expro the first oil and gas service company to offer ISO/IEC 17025:2005 accredited mercury analysis, both onsite and in the laboratory



### Objectives/background

- Mercury is a well-documented challenge for the oil and gas industry, due to corrosion, catalyst poisoning, and HSE issues
- Remedial work to introduce removal units can be costly, resulting in non-productive time during plant shut downs
- Failure to accurately measure mercury concentrations can expose workers to harmful levels and/or release mercury to the environment
- Traditional sampling methods involving cylinders can result in significant underestimation of mercury concentrations if there are delays between sampling and analysis (due to mercury absorption to metal it is essential to analyse onsite); previously used sample cylinders that contained mercury may also lead to false measurement
- Onsite analysis has been seen as potentially less reliable than that carried out in a controlled laboratory environment, yet for some tests it is necessary as the samples can be compromised during the shipping process

### Expro Excellence

- Expro have a track record of providing onsite Mercury analysis, following robust analytical methods and employing strict QA/QC protocols – successfully obtaining third-party accreditation for onsite analysis of mercury demonstrates that the same level of accuracy, reliability and consistency can be achieved at the sampling location

- The Analytical Data Services (ADS) team were audited by UKAS (United Kingdom Accreditation Service) and successfully obtained ISO/IEC 17025:2005 accreditation for mercury determinations in gas and liquid samples carried out in the field
- Expro is also an approved supplier of mercury analysis services for a number of pipeline operators, including the North Sea's CATS and FPS operations, both of which list mercury concentrations as critical reporting criteria

### Value to client

- Quality data generated in the field, particularly where important decisions are to be made quickly
- Expro's customers can have confidence that the data being generated during onsite analysis, whether as part of upstream or downstream operations, is backed up by a robust quality system with numerous measures in place to ensure data is accurate and reliable
- Mercury analysis can be integrated within a comprehensive package involving multiple onsite chemistry techniques, sampling and onshore laboratory analysis, tailored to meet client requirements
- Knowledge of mercury concentrations allows operators to mitigate the associated risks, install removal facilities, and instigate inspection and testing regimes to ensure plant integrity, as well as prevent damage to personnel and the environment

Our complete fluids sampling and analysis services are delivered globally via our key technical centres, with satellite facilities covering all continents.

ADS provides detailed high-end chemical analysis, coupled with a flexible approach and customer focus, designed to meet tight deadlines and the specific requirements of our customers.



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### Moomba Gas Plant, Australia

An aluminium heat exchanger inlet nozzle failed due to liquid metal embrittlement (LME) by mercury. This failure resulted in a gas leak, fire, and explosion subsequently shutting down the plant while repair work was complete. Full production was not resumed for several months, with lost production costs estimated at \$35-40 million (Australian Dollars) in addition to the repair costs and fine.



Aluminium component (corroded by mercury), which failed, leading to a fire

### Contact

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