OIL PLUS

GLOBAL LEADERS IN OILFIELD SOLUTIONS

TRAINING

OIL PLUS PROVIDES INDEPENDENT CHEMISTRY, MICROBIOLOGY AND ENGINEERING CONSULTANCY SERVICES.

OIL-IN-WATER ANALYSIS BY IR ABSORBTION

OVERVIEW

The objective of this course is to train laboratory technicians to quantitatively determine the concentration of oil in a produced water sample using the Department of Energy and Climate Change (DECC) approved alternative Infra-Red (IR) methodology.




The classroom sessions provide each participant with information on the measurement of oil-in-water and highlight any areas where challenges might exist. Whist the training addresses all the main aspects of the analysis method, it is not designed to be equipment-specific.

The participants are required to carry out the standard oil-in-water laboratory test to gain certification.

Note: Participants should be familiar with general laboratory practice and safety. Oil Plus can provide some PPE for the laboratory part of the course such as gloves. However, all delegates MUST bring their own safety shoes, lab coat and glasses.

OBJECTIVES

The course follows the DECC standard and uses reviews of actual field case studies with a practical session enabling you to:

- Comply with current oil-in-water regulations.
- Determine appropriate sampling locations.
- Calibrate equipment and interpret the results.
- Implement a monitoring programme in accordance with the standard.

TRAINERS

Oil Plus's trainers have over 30 years' experience working on waterflooding operations worldwide. We have a similar number of years presenting training courses in North America, Europe, the Middle East, Africa, India, South East Asia and Australia.

WHO SHOULD ATTEND

Production and operations chemists, and laboratory personnel.

Anyone wishing to improve their understanding of oil-in-water analysis in the oil industry.

REQUIRED TOOLS

Laptop computer, calculator, lab coat, safety shoes and glasses.

CONTENT DELIVERY

English

CONTENT

CLASSROOM

- **Introduction** – Reviews offshore petroleum activities including the OPPC guidelines on dispersed oil in produced water discharges to sea and the need to measure the oil content of produced waters.
- **Produced water sampling and analysis requirements for offshore oil and gas facilities** – Provides an overview of current offshore sampling requirements and how to compile the monthly dispersed oil in produced water figures.
- **Produced water sample points and sampling** – Covers the design and location of a produced water sample point, explains how to take samples, the types of bottles to use and recommended labelling.
- **Measurement of dispersed oil in produced water using infrared analysis (DECC IR)** – Summarizes types of apparatus and reagents used, it explains how to make up a series of calibration standards, extract the samples, and generate the calculation curve using IR absorbtion for reporting the results.
- **Correlation with the OSPAR reference method** – Explores OSPAR methods, dealing with alternative method instrument analyser breakdown and general correlation issues.
- **References** – Reviews procedures and guidelines that have been quoted in the manual.

LABORATORY

- Sampling and the choice of sample containers.
- How to take samples and how to preserve them for later analysis.
- General health and safety issues associated with the sampling and analysis.
- DECC guidelines on the preparation and storage of standards.
- Hands-on training in instrument calibration using prepared standards.
- Hands-on training in the calibration and use of IR spectroscopy for oil-in-water determinations.
- Determination in the laboratory of an unknown quantity of oil in a water sample by determining the amount of IR absorbtion.
- Correlation with the OSPAR standard gas chromatography-flame ionisation detection method.

COURSE DURATION

1–Day (Morning Theory Session – Afternoon Practical Session)

COURSE COST & DATES

Available upon request – contact mail@oilplusltd.com

OIL-IN-WATER BY IR ABSORBTION TRAINING COURSE

DAY 1 – Morning

Time	Subject
08.30	Delegate registration and coffee
09:00	**CLASSROOM SESSION 1** **Introduction** • The offshore petroleum activities Oil Pollution Prevention and Control (OPPC) Regulations 2005 • Summary – Oil-in-water (OIW) analysis methods from January 2007 • OPPC – Dispersed oil in produced water discharges to sea • Objective **Produced Water Sampling and Analysis Requirements for Offshore Oil and Gas Facilities Located in the UKCS** • Offshore sampling requirements – general guidance • Offshore installations discharging >2 tonnes of dispersed oil to sea per annum • Offshore installations discharging <2 tonnes of dispersed oil to sea per annum • Offshore installations – produced water injection / reinjection • Offshore installations – displacement water discharge • Compilation of monthly dispersed oil in produced water figure **Produced Water Sample Points and Sampling** • Produced water sample point location • Design of a produced water sample point • Produced water sampling when using online OIW monitors • Produced water flow rate and sample point condition • Offshore produced water sample bottle requirements • Labelling requirements for sending samples for onshore analysis • Sample collection and treatment following sampling • Taking duplicate produced water samples • Sample analysis and storage times • Florisil
10:00	Coffee break
10:30	**CLASSROOM SESSION 2** **Measurement of Dispersed Oil in Produced Water using Infra-Red Analysis Method – DECC IR Method (DECC Infra-Red / Tetrachloroethylene Method)** • Scope • Summary of method • Apparatus • Reagents • Method of calibration • Sample extraction • Infra-Red spectroscopy • Calculation and results **Correlation with the OSPAR Reference Method** • Method A1 and A2 • Dealing with alternative method instrument analyser breakdown • General correlation issues **OIW Analysis by Infra-Red** **Record of Analysis Results** **OIW Questionnaire** **References**
12:30	Lunch break

DAY 1 – Afternoon

Time	Subject
13:20	End of lunchbreak
13:30	**LABORATORY SESSION 1** **Equipment Set-up** • Establish what laboratory equipment is required to perform the OIW test (as per OSPAR method) • Set up and calibrate test equipment • Learn how to interpret the calibration curve • Record the curve data in the log template **Testing** • Carry out OIW tests using synthetic brine and Oil Plus's stock oil • Understand what the test results mean • Determine if the test failed and what to do in the event this happens when offshore
15:00	Coffee break
15:30	**LABORATORY SESSION 2** **Course Wrap-up** • Review and discussion • Feedback forms • Certificates
16:30	Finish

The course will start promptly at 08:30 am, finishing around 16:30 pm. Beverages, lunches and snacks will be provided during the week.

Contact: +44 (0)1635 30226 • mail@oilplusltd.com • www.oilplusltd.com