



IWCF Level 2 Drilling Well Control

OVERVIEW

The aim of the **IWCF Level 2 Drilling Well Control** course is to provide candidates with an understanding of the features of drilling a well and the fundamental principles involved in maintaining well control.

DESIGNED FOR

The Level 2 (Introductory) course is designed for candidates currently working in roles which may directly contribute to the creation, detection or control of a well influx. Level 2 Drilling Well Control training and certification is recommended for those working in roles such as **Roughneck, Derrickman, Barge Engineer, BOP/Subsea Engineer, Mud Logger or Wellsite Drilling Data Engineer**, and many others. To view the full list of recommended job titles, please refer to the IWCF website: www.iwcf.org/programmes

Please note: IWCF training levels 2 to 4 are designed to be sequential and first-time candidates are expected to complete Level 2 before progressing to Level 3 or 4. However, the training levels are also designed to be role-specific and dependent on the candidate's work experience. For guidance and advice on which level of training you are eligible for, please get in touch.

COURSE DELIVERY

The course is delivered through presentation of a series of interactive lectures supported by videos and animations, supplemented by a classroom workbook and further self-study exercises. Where available, candidates are also introduced to drilling simulation with the use of a range of simulators including the DS5 drilling software which allows candidates put the well control theory into practice. The course is delivered over 4 days and includes IWCF written assessments on the final day.

CERTIFICATION

Candidates may select either "Combined" (Surface & Subsea) or "Surface Only" BOP Stack certification. Successful completion of the course and a pass mark of 70% or above in all IWCF written assessments will result in IWCF Level 2 certification which is valid for five years.

ENTRY REQUIREMENTS

The candidate must be pre-registered with IWCF and able to provide his/her 6-digit IWCF Candidate Registration (CR) Number. *What is an IWCF CR Number?* [Symbol] [HYPERLINK](http://www.aberdeendrilling.com/news/2015/iwcf-forum-a-helpful-guide) "http://www.aberdeendrilling.com/news/2015/iwcf-forum-a-helpful-guide"

LEARNING OBJECTIVES

At the end of the course candidates should be able to:

- Understand the geological implications & summarise the process involved in constructing a well
- Identify the causes, warning signs, indicators and hazards associated with an influx
- Describe the procedure for securing the well and then removing an influx
- Complete all relevant oilfield calculations
- List the main features, functions and purposes of well control equipment
- Explain the concepts of the barrier envelope and the management of risk



INDICATIVE COURSE CONTENT

The course covers the following modules:

Well Control Concepts – formation pressure, hydrostatic pressure, under / overbalance, kicks and blow-outs, gas behaviour, formation strength

Casing and Cementing – Casing design, cementing process and its impact on well control

Calculations – Hydrostatic pressure, pressure changes, volumes, capacities, displacement and the relevance to a pre-kick sheet

Kill Sheet and Pre-Recorded Data – accurate completion of a kill sheet

Equipment – Mud returns and cleaning, trip tank system, BOP system, annular preventers, ram preventers, choke and kill lines, HCR valves, FOSV and IBOP, wellheads, standpipe and choke manifolds, crossovers, subsea additional equipment, mud gas separator, vacuum degasser

Mud and the Mud Weight Window – types of mud, functions of mud, operating within the mud weight window

Causes of Kicks – Mud weight, losses, failure to keep the hole full, swabbing and surging, abnormal formation pressure

Abnormal Pressure Warning Signs – ROP changes, gas levels, cuttings and cavings, torque and drag changes

Kick Indicators – Pit gain, flow rate, incorrect hole fill, well monitoring alarms, criticality of early detection, false kick indicators

Shut-in Procedures and Verification – Shut-in process, diverting

Well Control Methods – Driller's and Wait & Weight methods

Well Control Equipment Tests – Positive pressure tests, negative (inflow) test

Well Control Drills – Pit, trip and diverter drills

Risk Management – Risk management and the consequences of poor communication, barrier principles