



ABERDEEN DRILLING SCHOOL

IADC WellSharp Introductory Well Control

OVERVIEW

The aim of the IADC WellSharp Introductory 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 IADC WellSharp “**Well Control for Drilling Operations – Introductory**” course has been designed for the following positions from Operator, Contractor and Service Company personnel:

Company Type	Position or Job Role
Contractor	Barge Engineer
	Captain/Master
	Pit Hand, Pump Hand, Shaker Hand
	Subsea Engineer
	Derrickman
	Floorman
	Blowout Preventer (BOP)/Subsea Engineer, Lower Marine Riser Package (LMRP) Engineer, Dynamic Positioning Officer
Operator/Contractor/Service Company	Managed Pressure Drilling (MPD)/Underbalanced Drilling (UBD) wellsite service personnel (non-supervisory)
Operator	Operator Offshore Installation Manager (OIM)
	Onshore monitoring crew
	Wellsite Geologist and office-based Operations Geologist
	OIM (for installations not primarily involved with drilling)
Service Company	Casing Crew Supervisor
	Cementer
	Remotely Operated Vehicle (ROV) personnel (supervisory)
	Mud Engineer
	Mud Logger/Wellsite Drilling Data Engineer
	Directional Driller
	Fishing Tool Operators (non-pressure operations)

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 minimum duration of this course is 16-hours followed by a 1-hour online assessment administered by IADC.

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INDICATIVE COURSE CONTENT

The course covers the following modules:

Well control concepts – formation pressure, hydrostatic pressure, balance and underbalance, formation strength, kicks and blow-outs, shallow gas, barrier principles.

Calculations – Force, pressure and area, hydrostatic pressure, volume of pits, pipe displacement and capacity, annular capacity and volume, relationship to kill sheet.

Mud and pit management – Function of mud, types of mud, cement, completion fluids, mud weight and viscosity, mud balance.

Risk management – Risk management and well plan.

Causes of kicks – Reduction of mud weight or level, mud weight, losses, failure to keep hole full, swabbing and surging, abnormal formation pressure.

Abnormal pressure warning signs – Cuttings and cavings, mud condition, consequence of not communicating.

Kick detection – Pit gain, mud glow, flow with pump off, incorrect hole fill, well monitoring alarms, criticality of early detection, subsea kick detection, false kick indicators.

Shut-in procedures and verification – Shut-in process surface and/or subsea, diverting.

Post shut-in monitoring and activities – Record keeping and pit levels.

Well control drills – Pit, trip, diverter.

Well control methods – Drillers, wait and weight, role of crew during well kill.

Kill sheet and pre-recorded data – Kill sheets, pre-recorded data.

Equipment – Pit level, mud returns, suction and return pits, mud mixing equipment, mud cleaning equipment, trip tank system and monitoring, design of BOP system within kill process, correct manifold alignment, surface and subsea variations, well control equipment tests, annular preventers, ram preventers, wellhead and connectors, choke and kill lines, HCR and failsafe, IBP, standpipe manifold, choke manifold, chokes, pump stroke counter, pressure gauges, closing unit, mud gas separator, vacuum degasser.

CERTIFICATION

Successful completion of the course and a pass mark of 75% or above in the assessment will result in IADC WellSharp Introductory Level certification which is valid for five years.

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