

International Well Control Forum

Completion and Well Service Operations section of the Well Intervention Pressure Control Syllabus

January 2014

Version 6.1

WELL INTERVENTION COMPLETION OPERATIONS AND EQUIPMENT

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	

PRINCIPLES AND PROCEDURES

OVERVIEW

Well control event

WAO1.01	Understand the negative impact and effects of a well control event.	Identify the impact of a well control event on: <ul style="list-style-type: none"> - Personal wellbeing - Life and limb - Employment - Environment - Reputation - Society List some of the effects of a well control incident; <ul style="list-style-type: none"> - Capital loss - Over regulation - Moratorium on drilling - Limiting areas of operations e.g. Arctic 	10	10	10
WAO1.02	To understand well integrity requirements throughout well life cycle from construction to abandonment and the importance of well integrity in preventing well control events	Demonstrate understanding of limitations and exposure after the rig has left. Demonstrate understanding of how the compromised Integrity envelope might impede on-going production capability and compromise Well Intervention requirements.	N/A	10	10

Well control training and assessment

WAO2.01	Understand the need for well control training and assessment.	Be able to discuss "why are we here?" including; <ul style="list-style-type: none"> - Trust of stakeholders - Avoiding over regulation - Recruitment of new personnel - Responsibility to colleagues - Competence 	10	10	10
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Pre-operation planning

WAO3.01	Clearly define the accountabilities of programme signatories	Be able to identify the accountabilities of programme signatories.	N/A	N/A	10
WAO3.02	To understand the need for a plan outlining the well control responsibilities of those persons involved in the work to be performed.	Describe the lines of communication and the roles of responsible parties, including the importance of pre-job on site planning meetings and daily toolbox talks. Stop Work Authority	5	10	10

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
OVERVIEW continued						
Pre-operation planning continued						
WA03.03	To understand the importance of pre-job meetings.	List the benefits of holding meetings prior to any well control operation.	10	10	10	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
INTRODUCTION TO WELL CONTROL						
Hydrostatic pressure						
WB01.01	To understand what hydrostatic pressure is.	Be able to define hydrostatic pressure.	5	10	10	
WB01.02	To understand what parameters affect hydrostatic pressure and how it is calculated.	Be able to identify the parameters that affect hydrostatic pressure and perform calculations.	5	10	10	
WB01.03	To understand the difference between string and annuli pressures.	Given a set of data, calculate the differential at any point between the tubing and annulus above and below any barrier.	N/A	10	10	
Formation pressure						
WB02.01	To understand what formation pressure is.	Be able to define formation pressure.	5	5	5	
Fracture pressure						
WB03.01	To understand what fracture pressure is.	Be able to define fracture pressure.	N/A	5	5	
Primary well control						
WB04.01	To know what primary well control is.	Be able to explain primary well control.	5	5	5	
Secondary well control						
WB05.01	To know what secondary well control is.	Be able to explain secondary well control.	5	5	5	
Pressure control equipment						
WB06.01	To know what BOP and Pressure Control equipment is used for.	Be able to identify the uses of BOP and pressure control equipment.	5	5	5	
Calculations						
WB08.01	To understand basic oilfield calculations.	Perform basic oilfield calculations.	2	5	5	
WB08.02	To know how to calculate the internal and annular volumes from industry standard displacement and capacity tables.	Given a set of data, calculate various down hole volumes.	2	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
INTRODUCTION TO BARRIERS						
WC01.01	To understand well barrier philosophy in intervention operations.	Identify examples of primary and secondary barriers in given well situations.	5	5	10	
WC01.02	To understand the function of a well barrier envelope and the requirements for a minimum of two barriers at any time for any given flow path.	From a given list select the correct definition of a barrier envelope.	3	5	10	

New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
RISK MANAGEMENT					
WD01.01	To understand the main concept of systematic risk management.	Identify the principles of risk management. Identify, analyse (impact, probability), mitigate and control.	5	10	10
WD01.02	To understand the requirements of a Management of Change process.	List the essential requirements for a Management of Change process.	5	10	10
WD02.01	To understand the importance of well control and emergency drills and how to conduct them.	List the purpose, and the steps and generic procedures for well control and emergency drills and the time they should take: -	5	5	10
Risk Assessment					
WE07.05	To understand the need for precautionary checks and any contingency planning prior to running or pulling non-shearable tubulars through the BOP.	List the checks to be made and what contingencies are appropriate; - flow check	N/A	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
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CAUSES OF UNPLANNED WELL INFLOW**General**

WE01.01	To know the causes and effect of unplanned well inflow.	List situations which may cause unplanned well flow.	N/A	5	10
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WE02.01	Not in use				
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Loss of hydrostatic pressure

WE03.01	To know how to calculate the reduction in hydrostatic pressure due to failure to fill the hole.	From well data and fluid density, calculate hydrostatic head.	N/A	3	5
WE03.02	To know how to calculate the effect on hydrostatic pressure when fluids/gas of different densities are pumped into a hole of known geometry.	From well data and fluid density, calculate hydrostatic head.	N/A	2	5
WE03.03	To know the causes of reduced hydrostatic pressure	List causes of possible reduction of hydrostatic head.	N/A	5	5
WE07.03	To understand incorrect fill or return volumes and diagnose if an influx may have occurred.	Given well data, calculate the correct fill up, calculate impact of not filling hole and describe possible remedial steps.	N/A	5	5
WE07.04	To understand the difference between swabbed kicks in horizontal and vertical sections and the appropriate action to take.	Identify the impact in bottom hole pressure and flow given well geometry and swabbing conditions.	N/A	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CAUSES OF UNPLANNED WELL CONTROL continued						
Losses						
WE05.01	To understand the possible effects of a drop in the level of fluid in the annulus on the hydrostatic pressure and its potential consequences.	From details of the well condition and fluid density, calculate hydrostatic head at a specific depth and its impact.	N/A	4	4	4
WE05.03	To know the potential causes of losses, in terms of both geology and well intervention practices	From a given list be able to recognise potential causes of losses.	N/A	5	5	5
WE05.04	To understand the effect of hydrostatic head on the perforated interval.	Define the mechanism by which losses can occur in one section of the perforated interval with other areas still producing. Kill and suspend. Part of bullheading	N/A	2	5	5
WE05.05	To know the correct action required for maintaining control.	Understand what steps may be required to maintain control during a job (e.g. use of pills, LCM, plugs, etc.).	N/A	3	5	5

Swab and surge effects

WE06.01	To understand the causes of swabbing and surging in a well.	List the causes of surging and swabbing.	N/A	3	5	5
WE06.02	To understand what parameters affect the magnitude of swab and surge pressures and how to minimise them.	Recognise the parameters and describe the consequences of surging and swabbing on Bottom Hole Pressure (BHP) including; <ul style="list-style-type: none"> - Well and string/tool geometry - Well depth - Fluid characteristics - Hole conditions and formation properties - Tool pulling and running speeds - Length of horizontal reservoir sections - Perforations 	N/A	3	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
UNPLANNED WELL FLOW WARNING SIGNS AND INDICATORS						
WFO1.01	NOT IN USE					

New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
CIRCULATING SYSTEM					
Definition and Principles					
WG01.01	To understand what the circulating system is.	Be able to describe sections of a circulating system.	2	5	5
WG01.02	To understand pressure losses around a circulating system.	Identify the causes of pressure losses in a circulating system.	N/A	3	5
WG01.03	Understand the effects of pressure losses in a circulating system.	Describe the effects of pressure losses on; - surface gauge pressures - bottom hole pressures	N/A	3	5
WG01.04	Understand bottom hole circulating pressure and equivalent circulating density.	Given well data, calculate bottom hole circulating pressure and equivalent circulating density.	N/A	1	5
WG01.05	Understand the relationship between pump pressure and pump speed.	Describe and calculate how changes in pump speed affect pressures.	N/A	2	5
WG01.06	Understand the relationship between pump pressure and fluid density.	Describe and calculate how changes in fluid density affect pressures.	N/A	2	5
Slow Circulation Rates					
WG02.01	To understand the need for slow pump rates during well control operations.	List the reasons for using slow pump rates.	N/A	3	5
WG02.02	To understand how well bore and pump parameters influence the choice of slow circulation rates.	Select the equipment and well-bore conditions that can determine the choice of a specific slow circulation rate.	N/A	N/A	4

New syllabus category	Standard	Performance Criteria	Importance Theory			
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WELL INTEGRITY TESTING						
WH01.01	To understand why integrity testing is undertaken.	List the reasons why integrity testing is undertaken, what they measure and what is acceptable and unacceptable.	5	10	10	
WH01.02	To know the principles of how to perform integrity tests.	Describe the correct rig-up and procedures for performing: a) Plug tests. b) Sliding sleeve tests. c) Downhole safety valve tests. d) Xmas trees e) Gate valves f) Completion components g) Wellhead h) Cement i) Annulus	N/A	5	10	
WH01.03	To know how to verify the integrity of tests results.	From given test data demonstrate the capability to analyse test results.	N/A	5	10	
WH01.04	To know how to obtain annulus pressure limitation (MAASP) from test results.	From a set of well data, calculate annulus pressure (MAASP) limitation.	N/A	3	5	
WH01.05	To understand how often and why annulus pressure (MAASP) limitation must be recalculated.	From a list of parameter changes, indicate which ones will necessitate a new annulus pressure loss calculation, e.g. fluid density.	N/A	3	5	
WH01.06	To understand how annulus pressure limitation changes during well control operations and when initial annulus pressure limitation is no longer applicable.	From a given list indicate the factors that influence annular pressure limitation during well control operations.	N/A	3	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
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INFLUX CHARACTERISTICS AND BEHAVIOUR						
Principles						
WI01.01	To know the different types of influx and the hazards they present.	Identify the different types of influx fluids and the related hazards; - gas (hydrocarbon, H ₂ S, CO ₂) - oil - water	N/A	5	5	
WI01.02	Understand how an influx may change as it is circulated up a well.	Describe the changes which may take place as different types of influx are circulated.	N/A	5	5	
WI01.03	Understand basic gas law and why it is important.	Calculate pressure and volume at surface from given data using simple gas law $P1V1 = P2V2$	N/A	5	10	
WI01.04	Understand influx migration.	Describe what may happen when the well is shut in if an influx migrates; - in an open well - in a shut in well.	N/A	5	10	

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SHUT IN PROCEDURES

General Principles

WJ01.01	To understand what is meant by the term shut in procedure.	Be able to define what a shut in procedure is.	5	10	10
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Procedure

WJ02.01	To know how to shut the well in according to the selected procedure and situation.	Describe the procedures required to shut in the well at the X-mas Tree (e.g. number of turns to close, which master valve etc.), for a given situation including <ul style="list-style-type: none"> - no tools in the hole - tools in the hole - tubing in the hole 	5	10	10
WJ02.02	To understand how to interpret and respond to whether the shut in has worked.	List the steps taken to ensure the well is shut in and the appropriate action to take if not; <ul style="list-style-type: none"> - Monitor fluid volumes. - Verify line up. - Flow meter. - Pressures. 	2	5	10
WJ02.03	To understand the possible causes for an increase in pressure over time in a shut in well and the steps to take.	Describe the causes of pressure changes in a shut in well; <ul style="list-style-type: none"> - pressure build up - thermal expansion - gas migration 	N/A	5	10
WJ02.04	To be able to assess the wellbore conditions if MAASP is approached and define an action plan.	Given a well scenario and associated data, identify the hazards when annulus pressures are approaching MAASP, and analyse possible actions.	N/A	N/A	10
WJ02.05	To understand the possible consequences of opening and closing valves under pressure.	List the precautions to be taken when opening a valve under pressure.	10	10	10

New syllabus category	Standard	Performance Criteria	Importance Theory			
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SHUT IN PROCEDURES continued						
Interpretation						
WI04.01	To know why pressures must be recorded once the well is shut in.	Be able to describe why pressures are recorded after the well has been shut in.	2	5	5	
WI04.02	To understand the possible reasons for differences between shut in tubing (or string) pressure and shut in casing (or annulus) pressure.	Given well and/or kick data, provide interpretation of the difference between tubing pressure and shut in casing pressure. <ul style="list-style-type: none"> - Influx density - Density of influx greater than wellbore fluid - Position of bit and or pipe - Flow through the drill string - Blockage in the annulus - Inaccuracy of the gauges - Well deviation - Wellbore fluid properties 	N/A	5	5	
Observations						
WI05.01	To understand the limitations of a pressure gauge and know how they should be read.	To identify the limitation of pressure gauges in the given circumstances.	2	5	10	
WI05.02	To understand the possible difference in pressure readings which can result from taking shut in tubing pressure and shut in casing pressure at different gauges on location and the importance of accurate calibration.	From a schematic drawing of a standpipe and choke line systems with pressure gauges at different locations, explain the reason for different pressure readings (e.g. attach different values to certain gauges in the system).	2	4	5	
Influx Migration						
WI06.01	To know what is meant by the term gas migration.	Be able to define gas migration.	N/A	5	10	
WI06.02	Understand the importance of monitoring surface pressures immediately after shut in.	From well data determine when gas migration is taking place.	N/A	5	5	
WI06.03	To understand how gas migration causes surface pressures to increase with time in a shut-in well and the possible effects on well bore pressures.	Describe the causes of pressure changes in a shut in well.	N/A	5	5	
WI06.05	To understand how to control pressure when an influx is migrating.	Calculate the volume to be bled off, corresponding to pressure increase. Estimate the gas migration rate.	N/A	N/A	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
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WELL CONTROL METHODS						
Kill Method Principles						
WK02.01	To understand the principles of the different well control methods.	Be able to explain the principles of each method; - Bullheading - Lubricate and bleed - Forward and reverse circulation - Volumetric	N/A	3	5	
WK02.02	To understand the advantages and disadvantages of the different well control methods.	Explain the advantages and disadvantages of using; - Bullheading - Lubricate and bleed - Forward and reverse circulation - Volumetric	N/A	3	5	
WK02.03	To know how to select the most appropriate well control method.	Given a set of well bore conditions and well data select the most appropriate kill method and explain the choice.	N/A	3	5	
WK02.04	To know how to select kill pump rate and understand the problems that may occur.	Describe the effects of different kill pump rates with regard to formation strength, annular friction loss, well-bore conditions, fluid-handling capacity of the surface disposal system and pump pressure limitations.	N/A	3	5	
WK02.05	To understand the possible consequences for a well intervention operation of a blockage in the well.	Given specific well data, determine the most appropriate procedure to deal with a blockage.	N/A	3	4	

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WELL CONTROL METHODS CONTINUED

Kill Method Principles continued

WK02.07	To understand the possible actions which can be taken to reduce pressure at the weak component or zone.	List the possible actions that can be taken to reduce pressure at the weak component or zone, e.g. during start up of pumps. Pump operator to communicate and be aware of their influence when bringing pumps up to speed e.g. holding casing pressure constant with appropriate margin.	N/A	3	5
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Normal and Reverse Circulation

WK03.01	To understand and perform normal and reverse circulating well control operation.	a) Describe the methods b) Demonstrate understanding and prepare a kill sheet.	N/A	5	5
WK03.02	To know how to change pump speeds and shut down a kill operation while maintaining bottom hole pressure constant.	Given well and kick data, shut down the kill operation while maintaining bottom hole pressure constant.	N/A	5	5

Perform calculations

WK04.01	Tubing/string volume		5	5	5
WK04.02	Annulus volume		5	5	5
WK04.03	Pump strokes to displace tubing		5	5	5
WK04.04	Pump strokes to displace annulus		5	5	5
WK04.05	Total circulating strokes		5	5	5
WK04.06	MAASP.		3	5	5
WK04.07	Formation pressure.		N/A	5	5
WK04.08	Fracture and Leak-off pressure.		N/A	5	5
WK04.09	Kill fluid density.		5	5	5
WK04.10	Initial circulating pressure.		N/A	5	5
WK04.11	Final circulating pressure.		N/A	5	5
WK04.12	Pressure change per volume pumped.		N/A	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
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WELL CONTROL METHODS continued

Bullheading

WK05.01	To know how to assess the suitability of the bullheading procedure in a given kill situation and demonstrate its applicability.	<p>a) Given shut-in well conditions together with well and equipment data, explain if the bullheading method should be applied or not.</p> <p>b) Prepare a pumping schedule for bullheading a given well scenario.</p> <p>c) Calculate the necessary pumping rate for bullheading a gas well for a given well configuration with respect to formation damage.</p> <p>d) Calculate the maximum allowable surface pressure with given well data.</p>	N/A	5	5
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Lubricate & Bleed Method

WK06.04	To know what is meant by "lubricate and bleed".	Describe the "lubricate and bleed" procedure.	2	5	5
WK06.05	To know the step-by-step procedure required for controlling a well according to the lubricate and bleed principle.	Describe how the lubricate and bleed method can be applied.	N/A	5	5
WK06.06	To understand when the lubricate and bleed method is the appropriate well control technique.	List some situations when the lubricate and bleed method should be applied.	1	3	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
WELL CONTROL DURING CASING AND CEMENTING OPERATIONS						
WL01.01	Not in use					

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	

WELL CONTROL MANAGEMENT

WM01.01	Not in use					
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New syllabus category	Standard	Performance Criteria	Importance Theory			
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CONTINGENCY PLANNING**Recognition of Problems and First Actions**

WN01.01	To be able to analyse the downhole or surface problems that might arise during well control operations.	Given well data with pressure and instrument readings, analyse what may be happening during a well kill and identify the appropriate action;	N/A	3	5
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Pressure Gauge Failure

WN02.01	To know how to detect when gauges are malfunctioning and what actions to take.	Recognise gauge malfunctions and the appropriate actions to take.	2	3	3
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Surface Failures

WN04.01	To know how to identify and respond to surface failures (such as leakage's at/of a flange connection, weep-hole, ram packer, annular preventer element, hydraulic leakage).	Given equipment and well data, list the possible failures and demonstrate or indicate the ability to respond adequately and rapidly.	3	10	10
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Hydrate Formation

WN05.01	To understand what hydrates are.	Describe what hydrates are.	2	5	5
WN05.02	To understand the conditions likely to lead to hydrate formation, and the main methods of prevention and removal.	List the conditions likely to lead to their formation. List the main methods of prevention. List the main methods of removal.	N/A	10	10

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CONTINGENCY PLANNING continued						
Maximum Pressures						
WN07.01	To know how to assess the well bore conditions if MAASP is approached and understand the consequences and appropriate actions.	Identify the hazards when annulus pressures are approaching MAASP and describe possible actions.	N/A	3	10	
Bottom Hole Pressure Effects						
WN09.01	To understand the effects of failure to follow the correct procedure and equipment malfunction on well bore pressures.	Given well data and a sequence of events describe the effects on bottom hole pressure.	N/A	5	5	
Blockage in the Well						
WN10.01	To know how to detect a possible blockage anywhere in the well.	Given specific well data, identify a possible blockage in the well.	N/A	3	5	
WN10.02	To understand the possible consequences for a well intervention operation of a blockage in the well.	Given specific well data, identify possible well blockages whilst circulating.	N/A	5	5	
WN10.03	To understand the possible consequences for a well intervention operation of a blockage in the well.	Given specific well data, identify possible well blockages whilst intervening.	N/A	5	10	

International Well Control Forum

Completion Pressure Control Equipment section of the Well Intervention Pressure Control Syllabus

January 2014

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New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	

COMPLETION WELL CONTROL EQUIPMENT**BLOWOUT PREVENTERS (BOP)****BOP Stack Configuration**

WEQA01.01	To understand BOP configuration and the well control operations which can be carried out.	Given a stack and choke manifold configuration together with a list of possible operations, recognise which can, or cannot, be carried out.	2	4	5
WEQA01.02	To understand the overall pressure rating of a BOP stack.	Understand the BOP stack rating according to the different components and their rated working pressures.	2	2	5

Ram Type Preventers

WEQA02.01	To know the operating principles of BOP ram type equipment.	Given data, analyse or describe operating principles of BOP ram type equipment , including: - sealing, - different types, sizes, size of pipe, - space out, - testing.	1	2	3
WEQA02.02	To know when the ram equipment must be changed for specific operations.	From a given BOP configuration, a description of the on-going operations and a description of the next operation, identify which ram equipment has to be changed and why.	N/A	2	5

Blind/Shear Ram Preventers

EQA03.01	To understand the operating principles of BOP blind/shear equipment.	Describe the operating principles under the following areas; - forces, - effect of pipe types, - limitations (capabilities of shear rams, pipe, tool joint, wireline, low force shear rams, casing shear rams, shear test, pipe tension), - screens, guns, coiled lines, cables, wires - irregular shaped tubulars	1	2	3
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Annular Preventers

WEQA04.01	To understand the operating principles of annular preventers.	Describe the capabilities and limitations with regards to operating performance for different applications based on size of pipe, casing, no pipe, wireline, type of element etc.	1	2	3
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Connections

WEQA05.01	Understand the importance of correct flange gasket selection and make up procedures.	From diagrams and descriptions identify the correct and incorrect make up of gaskets for specific types of connections.	1	2	3
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			Level 2	Level 3	Level 4	
ASSOCIATED WELL CONTROL EQUIPMENT						
WEQB						

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CHOKE MANIFOLDS AND CHOKES						
WEQC	Not in use					

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
AUXILIARY EQUIPMENT						
WEQD	Not in use					

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
BARRIERS						
Barrier management						
WEQE01.01	To know what is meant by the term barrier.	State what a barrier is.	3	5	5	
WEQE01.02	To understand the well barrier elements in well operations.	Identify what elements will form a well barrier envelope during well control operations.	3	5	5	
WEQE01.03	To know when well barrier elements become active.	From a diagram of a well, select the elements that form a barrier envelope.	3	5	5	
WEQE01.04	To understand the need to test barriers.	Demonstrate an understanding of why barriers must be tested. List the reference sources for barrier test criteria; a. Well Programme. b. Operations Manuals. c. API Standards. d. Equipment manufacturer technical specifications..	2	5	5	
WEQE01.05N	To understand the need to test barriers.(NORSOK optional)	List the test methods for surface and downhole equipment, according to NORSOK barrier philosophy. List the reference sources for barrier test criteria:- a. Well Programme. b. Operations Manuals. c. API Standards. d. Equipment manufacturer technical specifications.	2	5	5	
WEQE01.06	To understand barrier test documentation.	Identify the critical elements of a test document.	2	5	5	
WEQE01.07	To understand what has to be done when a well barrier/element test fails.	Select the correct action(s) to take on the test failure of a well barrier/element.	2	5	10	
WEQE01.08	To understand the barrier principles of different barrier types.	Describe the difference between mechanical and fluid barriers.	2	5	5	
WEQE01.09N	To understand the barrier principles of different barrier types (NORSOK optional).	Describe the difference between mechanical and fluid barriers, according to NORSOK barrier philosophy.	2	5	5	
WEQE01.10	To understand the principles of mechanical barriers.	Identify and describe the different types of mechanical barriers.	2	5	5	
WEQE01.11N	To understand the principles of mechanical barriers. (NORSOK optional)	Identify and describe the different types of mechanical barriers, according to NORSOK barrier philosophy.	2	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	Level 5
BARRIERS continued						
Barrier Management continued						
WEQE01.12	To understand the principles of fluid barriers.	Understand fluid hydrostatic pressure and the relationship with formation pressure; i.e. overbalance. Perform calculations.	2	5	5	5
WEQE01.13N	To understand the principles of fluid barriers.(NORSOK)	<i>Understand fluid hydrostatic pressure and the relationship with formation pressure; i.e. overbalance, according to NORSOK barrier philosophy.</i>	2	5	5	5
WEQE01.14	To understand the principle of multiple barrier protection.	Given various well scenarios; identify the appropriate barriers required.	2	5	5	5
WEQE01.15N	To understand the principle of multiple barrier protection.(NORSOK)	<i>Given various well scenarios, identify the appropriate barriers required, according to NORSOK barrier philosophy.</i>	2	5	5	5
WEQE01.16	To understand the principle of grouping barriers into primary, secondary and tertiary systems.	Given a well system diagram, identify primary, secondary and tertiary systems.	2	5	5	5
WEQE01.17N	To understand the principle of grouping barriers into primary and secondary systems.(NORSOK)	<i>Given a well system diagram, identify primary and secondary systems, according to NORSOK barrier philosophy.</i>	2	5	5	5
WEQE01.18	To understand the principle of active and potential barriers.	Given a well system diagram, identify active and potential barriers.	2	5	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
TESTING					
Inflow Testing					
WEQF02.01	To understand what an inflow test is.	Be able to describe an inflow test.	2	5	5
WEQF02.02	To understand the importance of an inflow test	Select the important reasons why an inflow test is carried out.	2	5	5
WEQF02.03	To know how to interpret the volume and pressure changes that take place during the test.	Interpret the test charts.	N/A	5	10
WEQF02.04	To know the additional actions that are taken to mitigate the kick size if the test should fail.	Recognise the indications that a negative pressure test has failed and explain the immediate course of action to be taken.	N/A	5	10
WEQF02.05	Understand the procedures required to undertake an effective negative pressure test and the barriers tested.	Identify the appropriate steps for a negative pressure test and the line up required.	N/A	5	10
WEQF02.06	Understand how the different fluid densities in the well will affect interpretation of a negative pressure test.	Be able to map the different densities of fluids in the well and their impact.	N/A	4	5
WEQF02.07	Understand the specific roles and responsibilities required when conducting negative pressure tests.	Identify the roles and responsibilities required when conducting negative pressure tests.	2	3	5
WEQF02.08	Understand the potential leak path that could occur during a negative pressure test.	From given data identify potential leak paths and appropriate actions.	N/A	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
COMPLETION EQUIPMENT					
WEG01.01	To understand the purpose and function of Xmas trees and wellheads in relation to pressure control.	Describe the primary function of Xmas tree with particular emphasis on: a) Master, swab and flow line valves; b) Hanger nipple sealing mechanisms; c) Wireline cutting ability. d) Surface safety valve (SSV). e) Control line pressure versus tubing pressure.	3	5	4
WEG01.02	To understand the function of tubing hanger	Describe the primary functions of tubing hangers, i.e.: a) Seal off annulus; b) Support tubing weight and tubing loading; c) Provide locking or threaded profile for hanger plug profile.	3	5	5
WEG01.03	To understand the application of sub-surface safety valves.	Describe the primary function, applications and positioning of sub-surface safety valves. Describe the procedure for equalising and opening Non-Equalising (API method), Equalising and Self Equalising downhole safety valves.	3	5	5
WEG01.04	To understand the function, limitations and position of landing nipples.	Describe the primary function and positioning of landing nipples.	2	3	4
WEG01.05	Demonstrate understanding of tubing movement during production, testing and stimulation	List the reasons why tubing moves and the ways to mitigate.	2	4	5
WEG01.06	To understand the function and position of a Polished Bore Receptacle (PBR) and Extra Long Tubing Seal Receptacle (ELTSR).	Describe the primary function and positioning of PBR. Describe the appropriate situation for setting the PBR/ELSTR in the open or closed position.	2	5	4
WEG01.07	To understand the function, application and position of side pocket mandrels.	Describe the primary function of side pocket mandrels, either with a working valve (gas lift, circulation, and chemical injection) or with a dummy valve installed.	2	5	4
WEG01.08	To understand the choices of, and the operations required to establish circulation through all down-hole circulation and communication devices.	Describe the manipulation of all circulation and communication devices with respect to pressure control.	3	4	4
WEG01.09	To understand the choice between jar-up to open and jar-down to open circulation devices and their appropriate positioning in the completion string.	Describe the differences between jar-up to open and jar-down to open circulation devices and their appropriate positioning in the completion string.	2	5	3
WEG01.10	To understand the generic types of production packers commonly used.	Describe the types of production packers i.e. retrievable or permanent.	3	4	4
WEG01.11	To understand the selection of plug or process necessary for setting hydraulic set packers	Describe the selection of plug or process necessary for setting hydraulic set packers	2	5	4
WEG01.12	To understand the choice of Wireline Entry Guide (WEG)	Describe the implications of choosing a Mule Shoe Guide vs. Bell Guide and the potential effects of the incorrect choice for future Well Intervention	1	3	4

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
COMPLETION EQUIPMENT continued						
Rig Up/Rig Down						
WEOG03.01	To understand how equipment should be checked.	Describe how items of a specified rig-up need to be properly checked and prepared prior to installation, particularly critical sealing surfaces. List the adaptors and connectors needed to ensure compatibility between the equipment in use, i.e. pressure rating, dimensions, torque etc. Demonstrate an understanding of the potential impact of failure during intervention.	2	5	5	
WEOG03.02	To understand the correct make up procedures and checking of hydraulic hoses and fittings.	List the procedures for correct make up of different types of hydraulic hoses and fittings and how to check for deterioration.	2	5	3	
WEOG03.03	To understand the procedure when non shearable equipment is across the BOP.	Explain when non shearable equipment is across the BOP - sand screens - cables - control lines	N/A	3	5	
WEOG03.04	To understand the make up criteria for premium connection.	Recognise the elements of a successful torque chart.	2	4	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
COMPLETING THE WELL						
Handover						
WEQH01.01	To understand the reasons for confirming well integrity prior to picking up completion.	Interpret the well construction supporting documentation.	N/A	3	10	
WEQH02.01	To understand the importance of robust pre-completion clean up.	Describe the possible consequences of failing to clean up the well.	N/A	3	5	
Running Completions						
WEQH03.01	To understand the difference between running a completion in a non-perforated well and open to reservoir completion.	Describe the running procedure for: TCP completions Horizontal Completions Non-Perforated Completions Workover (Perforated) Wells	2	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CONTINGENCY PROCEDURES						
WEQ						

Not in use

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	Level 5
ANNULUS PRESSURE MONITORING						
WEQJ01.01	To understand the reasons for monitoring annulus pressure	Describe the reasons for monitoring the annulus pressure. Given well data, explain the procedure to mitigate and justify the reasoning.	3	3	5	
WEQJ01.02	To understand the procedure for dealing with anomalous annulus pressures.		1	4	5	

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Coiled Tubing Operations section of the Well Intervention Pressure Control Syllabus

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New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
COILED TUBING OPERATIONS					
COILED TUBING EQUIPMENT					
Pressure Control Equipment					
WCA01.01	To understand the function and installation of the pressurised 'deployment' system.	Describe the function and installation of the pressurised deployment system, including the deployment of guns and pump through tools.	2	5	5
WCA01.02	To understand the requirements for and the use of check valves in coiled tubing operations.	Analyse questions on the use, advantages, disadvantages, positioning and testing of check valves.	2	10	5
WCA01.03	To understand the requirements for and the use of alternative and additional internal well control devices in coiled tubing.	Analyse questions on the use of various coiled tubing alternative and additional internal well control devices (e.g. pump out devices), their advantages and disadvantages.	N/A	5	5
WCA01.04	To understand the operating principles of coiled tubing strippers.	Identify and describe the operating principles and limitations of coiled tubing strippers: a) Conventional. b) Side Door. c) Radial	2	5	5
WCA01.05	Understand the minimum barriers requirements and shear capability for any given run configuration.	Given well data, describe stack up to accommodate the two barrier philosophy	2	10	10
WCA01.06	To understand the importance of chain tension and maintenance	Explain the need for chain tension and maintenance.	2	3	3
WCA01.07	Know the cycles on a coil and the material specifications and whether or not they are suitable for the job.	Identify the maximum number of bending moments before coil gets damaged and corroded due to well effluents.	2	3	3

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
COILED TUBING EQUIPMENT continued						
Blow Out Preventers						
WCA02.01	To understand the operating principles of coiled tubing BOPs.	Identify and describe the operating principles and limitations of coiled tubing BOPs: a) Quad type. b) Combi type. c) Shear/Seal. d) Triple Combi BOP.	5	10	10	
WCA02.02	To understand the circumstances under which a shear/seal BOP should be installed.	Describe where and why a shear/seal BOP should be installed.	5	10	10	
Ram Type Preventers						
WCA04.01	To be able to recognise the BOP ram equipment, its pressure rating and correct installation procedure and use.	Describe operating principles (i.e. closing and operating sequences, well pressure assistance on the closure, operating pressures, lining up and hydraulic connections, etc.). Distinguish between the different ram types in use for the various operations, i.e. shear, blind, blind/shear, pipe, variable bore, eccentric pipe and slip rams.	5	10	10	
WCA04.02	To be able to recognise when the ram equipment must be changed for a specific operation.	Given the pressure control equipment configuration, a description of the on-going operations and a description of the next operation, analyse which ram equipment has to be changed and why.	2	5	5	
WCA04.03	To be able to recognise defects, during a BOP element change, that could affect the serviceability of the part(s).	Recognise critical seals and parts that may have failed through wear. Understand requirements for replacing it.	2	4	4	
WCA04.04	To be able to assess the extent of any damage to the equipment and be able to take the right corrective action	Understand the effects of damage to the equipment (e.g. lubricators, risers, ram blocks, etc.)	2	5	5	
WCA04.05	To be able to recognise the limitations of shear ram equipment.	Describe some of the limitations.	N/A	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
RIGGING UP						
WCD01.01	To know which items of a specified rig-up require to be properly checked and prepared prior to installation, particularly critical sealing surfaces.	Given a specification for a rig-up, list the proper preparation procedure for the equipment.	3	5	10	
WCD01.02	To know which adapters and connectors are needed to ensure compatibility between the equipment in use, i.e. pressure rating, dimensions etc.	Given information of the installation, specify which equipment will be required to complete a competent hook-up.	2	5	5	
WCD01.03	To be able to distinguish between sealing elements and know how to install and operate them correctly	a) Recognise different types of sealing elements on schematic drawings and describe proper installation and use. b) Describe operating principles (e.g. well pressure assistance on closing, operating pressures, hydraulic connections etc.)	5	3	3	
WCD01.04	To be able to recognise defects, during a packing element change, that could affect the serviceability of the part(s).	Recognise critical seals that may have failed through wear. Understand the requirement for replacing it.	2	5	5	
WCD01.05	To understand the function, positioning and use of valves in relation to pressure control (including check valves).	Analyse questions about correct operation and usage of primary pressure control valves, their location, operating mechanisms, number, etc.	2	5	5	
WCD01.06	To understand the principles of adjustable and fixed chokes, when they should be used and their function.	Analyse questions about the different choke types, when they should be used and their positioning.	2	3	3	
WCD01.07	To understand the need to maintain a double barrier when changing stripper rubber during intervention.	Describe the criteria for maintaining a double barrier when changing stripper rubber during intervention.	2	10	10	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
TESTING						
WCE01.01	To understand the requirements for pressure testing.	Given details of a specific operation, including surface or sub-surface equipment, describe pressure-testing procedures , including low and high pressure testing.	3	5	5	5
WCE01.02	To understand the correct test procedures for a given equipment rig-up. In particular, state the correct actions to pressure test a BOP consistent with the direction of the well bore flow.	Given a diagram of a specific equipment arrangement, identify test procedures.	N/A	10	10	10
WCE01.03	To know how pressure control equipment can be pressure tested with tubulars in place.	Describe the pressure testing procedure for pressure control equipment with tubing in place.	N/A	5	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory		
			Level 2	Level 3	Level 4
BARRIER PRINCIPLES					
WCF01.01	To understand the mechanical barriers used in coiled tubing operations.	Identify and describe the different types of mechanical barriers.	3	5	5
WCF01.02N	To understand the mechanical barriers used in coiled tubing operations (NORSOK).	Identify and describe the different types of mechanical barrier elements according to NORSOK standard.	3	5	5
WCF01.03	To know which barriers are primary, secondary or tertiary.	Given a surface rig-up and well system diagram, identify the primary, secondary and tertiary barriers.	3	5	5
WCF01.04N	To know which barriers are primary or secondary (NORSOK).	Given a surface rig-up and well system diagram, identify the primary and secondary barriers according to NORSOK standard.	3	5	5
WCF01.05	Know how to select kill pump rates	Describe the effects of different kill pump rates on well bore pressures and on well-bore conditions, consistent with the formation strength, annulus friction, well bore conditions and fluid handling capacity of the surface disposal system.	N/A	3	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CONTINGENCY PROCEDURES						
WCG01.01	To know the correct sequence of operations when there is a failure in the Power Unit, Injector Head, Tubing Reel or control system.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well. Demonstrate an understanding of preventative measures.	2	10	5	
WCG01.02	To know the correct sequence of operations when there is a failure in the pumping or circulation system.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	
WCG01.03	To know the correct sequence of operations when there is a leak in the tubing above the stripper.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	
WCG01.04	To know the correct sequence of operations when there is an external leak in the riser stack below the safety head while tubing is below the DHSV.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well with two barriers.	2	10	5	
WCG01.05	To know the correct sequence of operations when there is a leak in the coil tubing above the NRV.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	
WCG01.06	To know the correct sequence of operations when there is a leak in the tubing below the stripper.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	
WCG01.07	To know the correct sequence of operations if there is a general muster alarm while coiled tubing is in the well.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	
WCG01.08	To know the correct sequence of operations if the tubing parts.	Describe the correct sequence of operations if the tubing parts.	2	10	5	
WCG01.09	To know the correct sequence of operations if there is a leak at the rotating joint.	Describe the correct sequence of events if there is a leak at the rotating joint.	2	10	5	
SHUT IN PROCEDURES						
WCH01.01	To be able to shut the well in quickly and safely according to the selected procedure, with or without coiled tubing in the hole.	Describe the procedures required to shut in the well safely during a coiled tubing intervention operation.	N/A	10	5	
WCH01.02	To know how to determine Shut in Coiled Tubing Pressure.	Given well data demonstrate how to determine differential pressure across coil.	N/A	5	5	

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Hydraulic Workover (Snubbing) Operations section of the Well Intervention Pressure Control Syllabus

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New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	

HYDRAULIC WORKOVER (SNUBBING) OPERATIONS

PRESSURE CONTROL EQUIPMENT

Snubbing Blowout Preventers

WSA02.01	To understand the operating principles of snubbing BOPs.	Identify and describe the operating principles and limitations of:- a) Annular BOPs b) Stripping BOPs c) Ram type (safety) BOPs d) Blind/Shear BOPs	5	10	10
WSA02.02	To understand the reasons for changing worn elastomers and temporary suspension of work.	a. Describe the steps to be taken to make the well safe when hanging off:- i. Changing the stripper rubber. ii. Changing the stripper ram inserts. iii. Shutting down for the night. b. Recognise surface equipment limitations. Maintaining two barriers at all times.	3	10	5
WSA02.03	To understand the circumstances under which a blind shear/seal BOP should be installed.	Describe when and where a blind shear/seal BOP should be installed.	3	10	5
WSA02.04	To understand what well intervention operations can be carried out with a given stack configuration.	Given a specific equipment rig-up, state which operations can, or cannot, be carried out ref wellhead pressure.	2	4	4

Ram Type Preventers

WSA04.01	To be able to distinguish between sealing elements and know how to install and operate them correctly.	Recognise the different types of sealing elements on schematic drawings and answer questions about proper installation (e.g.: including any lubrication that may be required).	3	3	3
WSA04.02	To be able to recognise the BOP ram equipment, its pressure rating and correct installation procedure and use.	Describe operating principles (i.e. closing and operating sequences, well pressure assistance on the closure, operating pressures, lining up and hydraulic connections, etc.). Distinguish between the different ram types in use for the various operations, i.e. shear, blind, blind/shear, pipe, variable bore, eccentric pipe and slip rams.	3	5	5
WSA04.03	To be able to recognise when the ram equipment must be changed for a specific operation.	Given the pressure control configuration, a description of the on-going operations and a description of the next operation, analyse which ram equipment has to be changed and why.	N/A	4	4
WSA04.04	To be able to recognise defects, during a BOP element change, that could affect the serviceability of the part(s).	Recognise critical seals and parts that may have failed through wear. Understand requirements for replacing it.	3	5	5
WSA04.05	To be able to assess the extent of any damage to the equipment and be able to take the right corrective action.	Understand the effects of damage to the equipment (e.g. lubricators, risers, ram blocks, etc.)	2	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	

PRESSURE CONTROL EQUIPMENT continued

Ram Type Preventers continued

WSA04.06	To be able to recognise the limitations of shear ram equipment.	Describe some of the limitations.	N/A	5	5
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Seals and Sealing Elements

WSA05.01	To understand the operating principles of stripper bowl inserts, stripper rams and annular BOPs.	Identify and describe the operating principles and pressure limitations of stripper bowl inserts, stripper rams and annular BOPs; both single and dual.	3	5	5
WSA05.02	To be able to distinguish between sealing elements and know how to install and operate them correctly.	Recognise different types of sealing elements on schematic drawings and describe proper installation and use. Analyse questions about operating principles (i.e. well pressure assistance on closing, operating pressures, hydraulic connections etc.)	3	5	5
WSA05.03	To be able to recognise defects, during a packing element change, that could affect the serviceability of the part(s).	Recognise critical seals that may have failed through wear. Understand the requirement for replacing same.	3	5	5
WSA05.04	To understand the criteria for maintaining a double barrier when changing stripper rubber during intervention.	To understand the criteria for maintaining a double barrier when changing stripper rubber during intervention.	2	10	10

Valves

WSA06.01	To understand the function, positioning and use of valves in relation to pressure control.	Analyse questions about correct operation and usage of primary pressure control valves, their location, operating mechanisms, number, etc. Bleed off equalising, choke and kill lines.	2	5	5
WSA06.02	To understand the requirements for and the use of Back Pressure Valves in Snubbing operations.	Describe the advantages, and disadvantages, positioning and testing of Back Pressure Valves.	3	5	5
WSA06.03	To understand the requirements for and the use of alternative and additional internal well control devices in Snubbing operations.	Describe the use of various alternative and additional internal well control devices (e.g. stabbing valves, BOPs, pump down Plugs, pump out devices, etc.) and their advantages and disadvantages.	3	5	5
WSA06.04	To understand the principles of adjustable and fixed chokes, when they should be used and their function.	Analyse questions about the different choke types, when they should be used and their positioning.	3	3	3

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
RIGGING UP PROCEDURE						
WSD01.01	To know which items of a specified rig-up require to be properly checked and prepared prior to installation, particularly critical sealing surfaces.	Given a specification for a rig-up, list the proper preparation procedure for the equipment.	3	5	3	
WSD01.02	To know which adapters and connectors are needed to ensure compatibility between the equipment in use, i.e. pressure rating, dimensions etc.	Given information of the installation, specify which equipment will be required to complete a competent hook-up.	2	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
TESTING						
WSE01.01	To understand the requirements for pressure testing.	Given details of a specific operation, including surface or sub-surface equipment, describe pressure- testing procedures.	3	10	10	
WSE01.02	To understand the correct test procedures for a given equipment rig-up. In particular, state the correct actions to pressure test a valve or BOP function consistent with the direction of the well bore flow.	Given information on specific equipment rig-ups, identify possible wrong test procedures.	N/A	10	10	
WSE01.03	To know how pressure control equipment can be pressure tested with tubulars in place.	Describe the pressure testing procedure for pressure control equipment with tubing in place.	N/A	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	Level 5
BARRIER PRINCIPLES						
WSF01.01	To understand the mechanical barriers used in snubbing operations.	Identify and describe the different types of mechanical barriers.	3	5	5	
WSF01.02N	To understand the mechanical barriers used in snubbing operations (NORSOK optional).	Identify and describe the different types of mechanical barriers according to NORSOK standard.	3	5	5	
WSF01.03	To understand the principle of grouping barriers into primary, secondary and tertiary systems.	Given a surface rig-up and well system diagram, identify the primary, secondary and tertiary barriers.	3	5	5	
WSF01.04N	To understand the principle of grouping barriers into primary, secondary and tertiary systems (NORSOK optional).	Given a surface rig-up and well system diagram, identify the primary and secondary barriers according to NORSOK standard.	3	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	Level 4
CONTINGENCY PROCEDURES						
WSG01.01	To know the correct sequence of operations when there is a Power Unit or Hydraulic Circuit failure while downhole or tripping.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	10	5	5
WSG01.02	To know the correct sequence of operations when there is a slip bowl failure.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	N/A	10	5	5
WSG01.03	To know the correct sequence of operations when there is a stripper rubber failure.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	N/A	10	5	5
WSG01.04	To know the correct sequence of operations when there is an external leak not controllable with the BOP stack.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	N/A	10	5	5
WSG01.05	To know the correct sequence of operations when there is an internal blowout inside the workstring.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	N/A	10	5	5
WSG01.06	To know the correct sequence of operations when there is a leak in the stripper BOP ram.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	N/A	10	5	5
WSG01.07	Know how to detect a string washout and understand the consequences.	Explain how to detect a washout, the steps that must be taken to isolate it and how to get out of the hole again.	N/A	10	5	5

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
SHUT IN PROCEDURES						
WSH01.01	To be able to shut the well in quickly and safely according to the selected procedure, with or without tubing in the hole.	Describe the procedures required to shut in the well safely during any operation.	N/A	10	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
OPERATING PROCEDURES						
WSI01.01	To understand the following; - balance point - pipe light and pipe heavy - transition from light to heavy	Perform calculations for; - balance point - pipe light and pipe heavy - transition from light to heavy	2	5	5	5
WSI01.02	To know advantages and disadvantages of forward and reverse circulation.	Explain the advantages and disadvantages of forward and reverse circulation.	N/A	5	5	5

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New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
WIREFLINE OPERATIONS						
PRESSURE CONTROL EQUIPMENT						
Surface Equipment						
WWA01.01	To know the specialised equipment related to pressure control during Wireline operations.	Describe the function of surface pressure control equipment and tools specific for wireline operations; - Slickline - Braided line - Electric line	2	5	5	
WWA01.02	To understand the correct function and method of installation of surface pressure control components required for the operation.	Given a stack configuration, be able to identify surface pressure control elements in a hook-up and describe correctly the test procedures.	3	5	5	
WWA01.03	To understand the issues surrounding the positioning of wireline BOPs in the pressure control rig-up.	Describe and explain the positioning.	3	5	3	
WWA01.04	To understand the issues surrounding the position and number of BOPs to be used in a wireline operation.	List the factors to be considered and explain the positioning of equipment to mitigate.	3	5	4	
WWA01.05	To understand the circumstances when a wireline BOP would be brought into use.	Describe the major circumstances when a wireline BOP would be brought into use.	3	5	4	
WWA01.06	To understand the function of a grease control head.	Describe the function of a grease control head.	2	5	3	
WWA01.07	To understand the function of a stuffing box.	Describe the function of a stuffing box.	N/A	2	10	
WWA01.08	To know the function of a ball check valve.	Describe when and why a ball check valve would be installed in a lubricator system.	3	5	3	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
PRESSURE CONTROL EQUIPMENT continued						
Slick line/braided line shear seal BOP						
WWA02.01	To understand the principles and operation of a Slickline BOP.	Describe the major components and the operating principles. - normal operations - weep hole	2	5	5	
WWA02.02	To understand the principles of Pressure/Inflow testing the Slickline Wireline BOP.	'Double Barrier Protection': Describe the method of low pressure testing (in compliance with API 6a) prior to testing to a minimum of SITHP.	2	10	5	
WWA02.03	To understand the principles of operation of a Braided Line BOP.	Describe the major components and the operating principles. - normal operations - weep hole - reasons for inverting	2	5	3	
WWA02.04	To understand the principles of Pressure/Inflow testing the Braided Line Wireline BOP.	Describe the method of testing the Braided Line Wireline BOP to comply with the principle of 'Double Barrier Protection'. Describe the method of low pressure testing (in compliance with API 6a) prior to testing to a minimum of SITHP.	2	10	5	
WWA02.05	To understand what well intervention operations can be carried out with a given stack configuration.	Given a specific equipment rig-up (surface equipment diagram), state which operations can, or cannot, be carried out. - Slickline - Braided line - Electric line	2	5	3	
WWA02.06	Demonstrate how double barriers must be maintained throughout Wireline interventions operations	State minimum rig up requirements	3	10	10	
WWA02.07	To understand the principles of operation of an electric line BOP.	Describe the major components and the operating principles. - normal operations - weep hole - reasons for inverting	2	5	3	
WWA02.08	To understand the principles of operation of a shear/seal BOP.	To understand the function and consequences of closing a shear/seal BOP.	2	10	10	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
PRESSURE CONTROL EQUIPMENT continued						
Wireline BOP Pressure Retention						
WWA07.01	To be aware of sealing elements and know how to operate them correctly.	Be aware of the different types of sealing elements on schematic drawings and their application.	1	3	2	
WWA07.03	To be able to recognise when the ram equipment must be changed for a specific operation.	Given the pressure control equipment configuration, a description of the on-going operations and a description of the next operation, analyse which ram equipment has to be changed and why.	N/A	4	3	
WWA07.04	To be able to recognise, during a BOP element inspection, defects that could affect the integrity.	Recognise critical seals and parts that may have failed through wear. List the requirements for replacing it.	3	5	3	
WWA07.05	To be able to assess the extent of any damage to the equipment and be able to take the right corrective action.	Understand the effects of damage to the equipment (e.g. lubricators, risers, ram blocks, etc.).	2	5	3	
WWA07.06	To be able to understand the term "explosive decompression".	Describe what explosive decompression is.	1	3	3	
WWA07.07	To be able to recognise the limitations of shear ram equipment.	Describe some of the limitations.	N/A	4	4	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
RIGGING UP						
WWDD01.01	To know which items of a specified rig-up require to be properly checked and prepared prior to installation, particularly critical sealing surfaces.	Given a specification for a rig-up list the proper preparation procedure for the equipment. - equipment specific for service - compatibility - make-up - Quality Assurance/Quality Control	3	5	3	
WWDD01.02	To know which adapters and connectors are needed to ensure compatibility between the equipment in use, i.e. pressure rating, dimensions etc.	Given information of the installation, specify which equipment will be required to complete a competent hook-up.	2	5	5	
WWDD01.03	To understand critical isolation requirements	Describe the required isolation from plant and process.	3	4	10	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	Level 5
TESTING						
WW/E01.01	Safe practice requirements for bleeding down pressure control equipment on land wells. i.e. Bleeding into the atmosphere or using temporary flare stacks.	Safe practice requirements for bleeding down pressure control equipment i.e. bleeding into the atmosphere or using temporary flare stacks.	3	4	5	
WW/E01.02	To understand the need for certification and compatibility for intended service.	To understand the need for certification and compatibility for intended service.	3	5	10	
WW/E01.03	To understand the requirements for pressure testing.	Given details of a specific operation, including wire in place.	2	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
BARRIER PRINCIPLES						
WWF01.01	To understand the mechanical barriers used in wireline and braided line operations and how two barriers can be maintained at all times.	Identify and describe the different types of mechanical barriers.	3	5	5	
WWF01.02N	To understand the mechanical barriers used in wireline operations in NORSOK. (optional)	Identify and describe the different types of mechanical barrier elements according to NORSOK standard.	3	5	5	
WWF01.03	To identify the barrier envelopes and know which barriers are primary, secondary or tertiary.	Given a surface rig-up and well system diagram, identify the barrier envelopes and the primary, secondary and tertiary barriers.	3	5	5	
WWF01.04N	To identify the barrier envelopes and know which barriers are primary or secondary in NORSOK. (optional)	Given a surface rig-up and well system diagram, identify the barrier envelope and the primary and secondary barriers according to NORSOK standard.	3	5	5	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
MANAGING A LEAK OR MALFUNCTION ON SURFACE						
Contingency Procedures						
WWG01.01	To understand the correct sequence of operations when there is a leak in the stuffing box during a slickline operation.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	5	3	
WWG01.02	To understand the correct sequence of operations when there is a leak in pressure control equipment on a slickline operation.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	5	3	
WWG01.03	To understand the correct sequence of operations when there is a leak in the Grease Injection Head on a braided line operation.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	5	3	
WWG01.04	To understand the correct sequence of operations when there is a cable rupture on a braided line operation.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	5	5	
WWG01.05	To understand the correct sequence of operations when there is a hydraulic control line leak on the hydraulic master valve.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	4	5	
WWG01.06	To understand the correct sequence of operations where there is no hydraulic control line leak on the surface controlled sub surface valve.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	4	5	
WWG01.07	To understand the correct sequence of operations when a BOP hydraulic control unit malfunctions.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well.	2	5	10	
WWG01.08	To understand the correct sequence of operations when the Slickline/Cable breaks and falls downhole.	Describe the correct sequence of operations to bring the operation to a safe mode whilst maintaining control of the well. Describe the correct process to prepare for a fishing operation.	3	10	10	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
SHUT IN PROCEDURES						
WWW01						

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CONTINGENCY PROCEDURES						
WEQI01.01	To know the correct sequence of operations when testing with test rods and check valves in the well. To know that test rods are engineered and not 'home made'	Describe the correct sequence of operations when testing with test rods and check valves in the well.	3	3	3	

New syllabus category	Standard	Performance Criteria	Importance Theory			
			Level 2	Level 3	Level 4	
CRITICAL OPERATING PROCEDURES						
WWWK01.01	Understand the importance of drift runs prior to undertaking other downhole operations.	Describe the importance of, on first entering into the well, running a drift (gauge cutter) appropriate to the operations that will follow.	2	5	5	
WWWK01.02	Understand the importance of ensuring the integrity of the safety valve..	Explain the importance of ensuring that the downhole safety valve is held open and monitored throughout the operation.	2	5	5	4

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