



Cross-Reference Tool

Well Control for Drilling Operations—INTRODUCTORY Course for Support Personnel

INSTRUCTIONS: This Cross-Reference Tool is to be used to describe in detail the course for which IADC WellSharp® accreditation is requested. To expedite course review during the application review process, each applicant should provide as much detail as feasible when completing the Cross-Reference Tool for each course for which accreditation is requested. Use the following as a guide to the information that should be provided.

- Manual – In this column, report the page number(s) of the course manual that includes text pertaining to the Learning Topic. Include as many citations as needed to show all content pertaining to this topic.
- Delivery Method – Record all deliver methods to be used to delivery content for this Learning Topic. List all that apply. Use the following abbreviations to document the most common options a training provider might utilize:
 - D – Demonstration
 - E – Any of the eLearning (electronic) methods of delivery
 - H – Homework
 - L – Lecture
 - O – Other methods (for example, video, etc.)
 - PE – Practical Exercise(s)
 - S – Simulator
- Instructor Resources – Record the name(s) of any video, eLearning or Self-Study product, or other resources available to the Instructor that will be used for delivering content for this Learning Topic.
- Materials available to Trainees – List handouts, reference books, and other materials that will be given to trainees during delivery of this Training Module.
- Total Time Range of Training – Record the total time (in hours and minutes) allocated to delivering this course. Include a minimum and maximum amount of time anticipated. It is not necessary to record time for each Learning Topic.

Attach course outline that gives time allocations for each Learning Topic. **(Record where and how each Learning Topic is to be addressed.)**

*Note: When using the time ranges provided, be aware that your actual course length shall not fall below the minimum time requirement for the course (at the time the course is presented).

Company Name:

Accreditation #:

Course Name:

Date Submitted:

2.1 Well Control Concepts		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Well Control Terminology & Formation Characteristics		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Formation Fluids and Pressure		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Hydrostatic Pressure		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Bottom Hole Pressure		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Balance – Overbalance – Underbalance		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Kick		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Blowout		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Formation Strength		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Shallow Gas		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Barriers		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S

U-Tube		☐ D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Instructor Resources:								
Materials available to Trainees:								

2.2 Calculations								
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)						
Force, Area, Pressure		☐ D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Hydrostatic Pressure		☐ D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Volume of Pits		☐ D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Pipe Displacement & Capacity		☐ D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Annular Capacity & Volume		D	☐ E	☐ H	☐ L	☐ O	☐ PE	☐ S
Instructor Resources:								

Materials available to Trainees:	
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2.3 Mud & Pit Management		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Mud Functions		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Types of Muds		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Cement		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Completion Fluid		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Weight & Viscosity		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Balance		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.4 Risk Management		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Risk Management		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.5 Causes of Kicks		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Reduction of Mud Weight or Mud Level		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Weight		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Losses		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Failure to Keep Hole Full		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Swabbing & Surging		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S

Abnormal Formation Pressure		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.6 Abnormal Pressure Warning Signs		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Cutting and Cavings – Shape, Size, and Volume		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Condition		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Consequence of Not Communicating		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.7 Kick Detection		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Pit Gain		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Flow		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Flow with Pump Off		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Incorrect Hole Fill		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Well Monitoring Alarms		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Why Early Detection is Critical		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Difficulty with Detection – Subsea		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
False Kick Indicators		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.8 Shut-In Procedures and Verification (Surface and Subsea)		
TRAINING MODULES & LEARNING TOPICS	MANUAL (Chapter & Page #)	DELIVERY METHODS Options: D, E, H, L, O, PE, S (See instructions above)
Shut-In Process – Surface		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Shut-In Process – Subsea		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Diverting		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.9 Post Shut-In Monitoring & Activities		
Record Keeping – Pit Level		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.10 Well Control Drills		
Pit		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Trip		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Diverter		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.11 Well Control Methods		
Main Methods: Driller's and Wait & Weight		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Role of Crew During a Well Kill		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.12 Kill Sheet		
Kill Sheets		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S

Instructor Resources:	
Materials available to Trainees:	

2.13 Equipment		
Pit Level		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Returns		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Suction and Return Pits		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Mixing Equipment		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Cleaning Equipment		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Trip Tank System & Trip Monitoring		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Design of BOP System within Kill Process		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Correct Manifold Alignment		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Surface and Subsea Variations		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Well Control Equipment Tests		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S

Annulars – Surface and Subsea		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Rams – Surface and Subsea		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Wellheads & Connectors		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Choke & Kill Lines, HCRs & Failsafe's, String Valves & Floats		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Standpipe Manifold		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Choke Manifold		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Chokes		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Pump & Stroke Counter		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Pressure Gauges		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Closing Unit & Control Panel: Basic Function – Surface and Subsea		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Mud Gas Separator & Degasser – General Purpose in Well Control		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

2.14 Practical Elements – Optional		
Line Up Manifolds		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Line Up BOP Panel		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Setting Pit and Flow Alarms		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Drill Ahead		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Recognize Kick		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Shut-In		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Record Pressures		☐ D ☐ E ☐ H ☐ L ☐ O ☐ PE ☐ S
Instructor Resources:		
Materials available to Trainees:		

Total Time Range for Course:*	hours	minutes	to	hours	minutes
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*The minimum delivery time shall not fall below the minimum time requirement for the course, as stated in accreditation requirements.