

COURSE OVERVIEW DE1011 ERD Drilling and Stuck Pipe Prevention

Course Title

ERD Drilling and Stuck Pipe Prevention

Course Date/Venue

Session 1: June 29-July 03, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Session 2: November 09-13, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar



DE1011

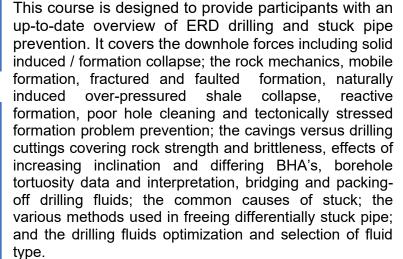
Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

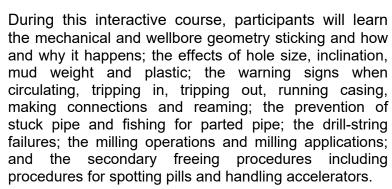
Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.









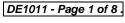
















Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on ERD drilling and stuck piping prevention
- Discuss downhole forces including solid induced / formation collapse
- Describe rock mechanics, mobile formation, fractured and faulted formation, naturally induced over-pressured shale collapse, reactive formation, poor hole cleaning and tectonically stressed formation problem prevention
- Explain cavings versus drilling cuttings covering rock strength and brittleness, effects of increasing inclination and differing BHA's, borehole tortuosity data and interpretation, bridging and packing-off drilling fluids
- Identify the common causes of stuck and apply various methods used in freeing differentially stuck pipe
- Carryout drilling fluids optimization and selection of fluid type
- Discuss mechanical and wellbore geometry sticking and how and why it happens
- Recognize the effects of hole size, inclination, mud weight and plastic
- Identify the warning signs when circulating, tripping in, tripping out, running casing, making connections and reaming
- Apply prevention of stuck pipe and fishing for parted pipe
- Prevent drill-string failures and perform milling operations and milling applications
- Employ secondary freeing procedures including procedures for spotting pills and handling accelerators

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive "Haward Smart Training Kit" (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes electronic version of the course materials conveniently saved in a Tablet PC.

Who Should Attend

This course provides an overview of all significant aspects and considerations of ERD drilling and stuck pipe prevention for drilling engineers, senior drilling engineers, drilling superintendents, drilling managers, assistant drillers, drillers, toolpushers, senior toolpushers and service personnel.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

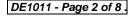
















Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the ANSI/IACET 2018-1 Standard which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET 2018-1 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award 3.0 CEUs (Continuing Education Units) or 30 PDHs (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.



Haward Technology is accredited by the British Accreditation Council for Independent Further and Higher Education as an International Centre. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Fee

US\$ 8,500 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day



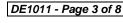














Course Instructor

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Ms. Diana Helmy, PgDip, MSc, BSc, is a Senior Petroleum & Geologist with extensive years of experience within the Oil & Gas, Refinery and Petrochemical industries. Her expertise widely covers in the areas of Tubular & Pipe Handling, Tubular Strength, Casing & Tubing Design, Production/Injection Loads for Casing Strings & Tubing, Drilling Loads, Drilling & Production Thermal Loads, Well Architecture, Wellhead Integrity, Well Integrity & Artificial Lift, Well Integrity Management, Well Completion & Workover, Applied

Drilling Practices, Horizontal Drilling, Petroleum Production, Resource & Reserve Evaluation, Reserves Estimation & Uncertainty, Methods for Aggregation of Reserves & Resources, Horizontal & Multilateral Wells, Well Completion & Stimulation, Artificial Lift System Selection & Design, Well Testing & Oil Well Performance, Well Test Design Analysis, Well Test Operations, Well Testing & Perforation, Directional Drilling, Formation Damage Evaluation & Preventive, Formation Damage Remediation, Drilling & Formation Damage, Simulation Program for The International Petroleum Business, Well Testing & Analysis, Horizontal & Multilateral Wells & Reservoir Concerns, Oil & Gas Analytics, Petrophysics & Reservoir Engineering, Subsurface Geology & Logging Interpretation, Petroleum Geology, Geophysics, Seismic Processing & Exploration, Seismic Interpretation, Sedimentology, Stratigraphy & Biostratigraphy, Petroleum Economy, Core Analysis, Well Logging Interpretation, Core Lab Analysis & SCAL, Sedimentary Rocks, Rock Types, Core & Ditch Cuttings Analysis, Clastic, Carbonate & Basement Rocks, Stratigraphic Sequences, Petrographically Analysis, Thin Section Analysis, Scanning Electron Microscope (SEM), X-ray Diffraction (XRD), Cross-Section Tomography (CT), Conventional & Unconventional Analysis, Porosity & Permeability, Geological & Geophysical Model, Sedimentary Facies, Formation Damage Studies & Analysis, Rig Awareness, 2D&3D Seismic Data Processing, Static & Dynamic Correction, Noise Attenuation & Multiple Elimination Techniques, Velocity Analysis & Modeling and various software such as Petrel, OMEGA, LINUX, Kingdom and Vista. She is currently a **Senior Consultant** wherein she is responsible in different facets of Petroleum & Process Engineering from managing asset integrity, well integrity process, commissioning/commissioning and start up onshore & offshore process facilities.

During her career life, Ms. Diana worked as a Reservoir Geologist, Seismic Engineer, Geology Instructor, Geoscience Instructor & Consultant and Petroleum Geology Researcher from various international companies like the Schlumberger, Corex Services for Petroleum Services, Petrolia Energy Supplies and Alexandria University.

Ms. Diana has a Postgraduate Diploma in Geophysics, Master's degree in Petroleum Geology and Geophysics and a Bachelor's degree in Geology. Further, she is a Certified Trainer/Assessor/Internal Verifier by the Institute of Leadership & Management (ILM) and has delivered numerous trainings, courses, workshops, seminars and conferences internationally.

















Training Methodology

All our Courses are including Hands-on Practical Sessions using equipment, Stateof-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:

30% Lectures

20% Practical Workshops & Work Presentations

30% Hands-on Practical Exercises & Case Studies

20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

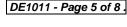
Day I	
0730 – 0800	Registration & Coffee
0800 - 0815	Welcome & Introduction
0815 - 0830	PRE-TEST
	Introduction to Downhole Forces
0830 - 0930	Surface / Mudline • Mobile Formation Movement • Fractured Formation
	Collapse • Reactive Clays & Shales • Tectonic Stress • Overburden Forces •
	Overpressure • Un-Consolidation • Contamination & Fracture • Differential
	Forces
0020 1020	Solids Induced / Formation Collapse
0930 - 1030	Pack-Off Indicators • Bridging Indicators
1030 - 1035	Break
	The Driller's First Actions on Becoming Stuck
	Rock Mechanics & Problem Prevention: • Mobile Formation Problem
	Prevention • Fractured & Faulted Formation Problem Prevention • Naturally
1035 - 1230	Over-pressured Shale Collapse Problem Prevention • Induced Over-pressured
	Shale Collapse Problem Prevention • Reactive Formation Problem Prevention •
	Poor Hole Cleaning Problem Prevention • Tectonically Stressed Formation
	Problem Prevention
1230 – 1235	Break
1235 - 1420	Cavings Versus Drilled Cuttings
	What Cavings tell us • Rock Strength & Brittleness • Effects of Increasing
	Inclination • Effects of Differing BHA's • Borehole Tortuosity Data &
	Interpretation • Bridging • Packing-off Drilling Fluids
1420 - 1430	Recap
1430	End of Day One















Day 2

Day 2	
	Stuck Pipe Mechanisms Objectives
	<i>Observations</i> • <i>The Common Causes of Stuck</i> • <i>Identify the Cause</i> • <i>Differential</i>
	Sticking • Differentially Stuck Pipe • Differentially Sticking Spreadsheet •
	Preventative Action • Methods Used in Freeing Differentially Stuck Pipe •
0730 - 0930	Differential Sticking Force • Using Lubricators • Jarring the Pipe Loose • "U"
	Tube Technique • Differential Sticking Operational Procedures •
	Unconsolidated Formations • Preventative Actions • Filtrate Reducers • Key
	Seat • Surface Jars • Preventive Action • Standard Single Clutch Key Seat
	Wiper • Standard Double Clutch Key Seat Wipe
0930 - 0935	Break
	Drilling Fluids Optimization & Selection of Fluid Type
	Rheology • Gels • Inhibition •Well Bore Stability/Inhibition • Inadequate Hole
0935 - 1130	Cleaning • Mud Lubricity - Torque & Drag Reduction • Filtration
	Control/Differential Sticking • Solids Control Management • Torque & Drag •
	String Torque • Mechanical Torque Factors • Bit Torque
	Mechanical & Wellbore Geometry Sticking How & Why It Happens
	The Driller's First Actions on Becoming Stuck Key Mechanisms & Prevention •
1130 - 1300	Key-seating – & how to Prevent It • Shoe Joint Backs Off – & how to Prevent •
1130 - 1300	<i>Under-gauge Hole - & how to Prevent • Ledges - & how to Prevent • Dog-legs</i>
	- & how to Prevent • Micro Dog-legs - & how to Prevent • Collapsed Casing -
	& how to Prevent
1300 - 1315	Break
	Mechanical & Wellbore Geometry Sticking How & Why It Happens
	(cont'd)
	Green Cement - & how to Prevent • Cement Blocks - & how to Prevent • Junk
1315 - 1420	- & how to Prevent • Optimized Hole Cleaning Key Considerations • The
	Problems Associated with Poor Hole Cleaning • Those Parameters which Assist
	with Hole Cleaning that are Within the Rig Crew's Control • Why Problems
	Increase with Increasing Inclination
1420 - 1430	Recap
1430	End of Day Two

Day 3

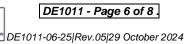
Day 0	
	Mechanical & Wellbore Geometry Sticking How & Why It Happens
	(cont'd)
0730 - 0930	Barite Sag General Factors Affecting Hole Cleaning • Rig-Site Monitoring •
	Vertical & Near Vertical Wells • High Angle & Extended Reach Wells High
	Angle & Extended Reach Wells & MRC • Characteristics of Cuttings Beds •
	Flow Regime: Plug Flow, Laminar Flow & Turbulent Flow • Hydraulics • Pills
	• Drill-string Movement • Back-Reaming • Use of Larger OD Drill Pipe •
	Circulation Prior to Connections or Tripping • Wiper Trips • Trend
	Interpolation • Using Hole Cleaning Charts
0930 - 0935	Break















0935 - 1130	Mechanical & Wellbore Geometry Sticking How & Why It Happens
	(cont'd)
	The Effects of Hole Size, Inclination, Mud Weight, Plastic •Viscosity, Yield
	Point, ROP Pressure Profiling & Virtual Hydraulics • ECD • Swab & Surge •
	Hole Cleaning Simulator Exercise for Jarring & Stuck Release • Best Practices
	Review of Stuck Pipe Mechanism Flow Charts• Warning Signs when
	Circulating • Warning Signs when Tripping In • Warning Signs when
	Tripping Out • Warning Signs when Running Casing • Warning Signs when
	Making Connections • Warning Signs when Reaming
	Prevention of Stuck Pipe During
	Reaming & Back-reaming • Tripping in Deviated Holes • Connections • MWD
	Surveys • Drilling Parameter Trends • Running Casing & Liners • Coring •
	Well Control • Lost Circulation • Air & Foam Drilling • Drilling with Coiled
1130 - 1300	Tubing • Fishing for Junk Best Fishing Procedures • Ways to Fish for Junk •
1130 - 1300	Fishing Magnet • Running Magnets • Weatherford Type P Boot Basket •
	Finger Catchers • Operation: Core Basket • Core Type Basket • Reverse
	Circulation/Jet Junk Basket • Venturi Jet Junk Basket • Venturi Jet System •
	Junk Shot • Poor Boy Basket • Finger Type Shoe • Dimple Type Shoe • Spring
	Tine Type Shoe • Spring Tine Basket
1300 - 1315	Break
	Fishing for Parted Pipe & How the Pipe Parted
	Causes of Parted Pipe • Planning the Fishing Job • Lead Blocks Parted Pipe •
1315 - 1420	Dress & Catch Fish in Trip • Tapered Mill Guide • Skirted Mill • Bottom Hole
	Assembly Options • Desirable Characteristics for an Attachment Tool • Screw
	In • Screw in Accessory • Overshots • Packoffs • Spears & Accessories •
1420 1420	Reversing Tool • Taps
1420 - 1430	Recap Find of Day Three
1430	End of Day Three

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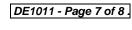
Day 4	
	Preventing Drill-string Failures
0730 - 0930	Care of Tubulars • Identify Corrosion • Identifying Galled Threads • Shock,
	Vibration & Twist-off.
0930 - 0935	Break
0935 - 1130	Milling Operations & Milling Applications
	Milling Rotary Speeds • Weight on Mills • Optimizing Cutting Returns •
	Junk Milling Operations • Mud Conditioning for Milling • How to Read
	Cuttings
	Milling Operations & Milling Applications (cont'd)
1130 - 1300	Some Factors that Affect Milling Rates • What to do About Rubber in the
	Hole? • Stabilizing the Mill•What to do About Rough Operation? • Mills •
	Cone Buster/Flat Bottom Mills
1300 - 1315	Break
1315 - 1420	Milling Operations & Milling Applications (cont'd)
	Bladed Mill • Insert Dressed Bladed Junk Mill • Pilot Mill/Lower Connection
	Type • Milling Rates: Surface Feet/Minute • Bowen Ditch Magnets • Mills
	Revie
1420 - 1430	Recap
1430	End of Day Three

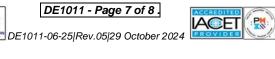


















Day5

Dayo	
0730 - 0930	Secondary Freeing Procedures
	Pipe Release Agents • Procedures for Spotting Pills • Acid • Fresh Water Pills
	• Backing-off • Jars & Accelerators Mechanical & Hydraulic Jars • Types of
	Drilling Jars • Mechanical Jars - Design & how they Work • Hydraulic Jars -
	Design & how they Work
0930 - 0945	Break
	Secondary Freeing Procedures (cont'd)
	Successful Usage • Forces Required to Fire • Jar Firing Force Envelope •
0945 - 1100	Pump-Open Force – What it is; Advantages & Disadvantages • Jar Descriptions
	• Handling Accelerators • What They are, What They do & how They Work Jar
	& Accelerator Positioning
	Secondary Freeing Procedures (cont'd)
1100 - 1200	Key Considerations • Tension Versus Compression • Computer Programs •
	Varying Neutral Point • Considerations Jarring Calculations • Minimum
	Overpull • Maximum Overpull
1200 - 1215	Break
1215 – 1345	Secondary Freeing Procedures (cont'd)
	Slack-off • Neutral Point • DC's Above Jars • Down Jarring • Up Jarring •
	Limits Communications & Teamwork • The Typical Outcomes of Poor
	Teamwork • Cost to the Industry
1345 - 1400	Course Conclusion
1400 - 1415	POST-TEST
1415 - 1430	Presentation of Course Certificates
1430	End of Course

Practical Sessions
This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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