COURSE OVERVIEW DE0766
Advanced Drilling Optimization for HPHT Wells

Course Title
Advanced Drilling Optimization for HPHT Wells

Course Date/Venue
Please see page 3

Course Reference
DE0766

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.

This course is designed to provide participants with a detailed and up-to-date overview of HPHT drilling design and operational practices. It covers the HPHT drilling including its differences, essentials, project aims, objectives, challenges and associated standards and practices; the HPHT geological hazards, risk assessment on HPHT reservoirs geology in the HPHT environment and risk assessment; the aspect of HPHT reservoirs and well architecture specificities of HPHT wells; the casing design specific to HPHT; the OCTG choice, OCTG connector choice and surface equipment for HPHT wells; and the well equipment covering liner, wellheads and casing hangers.

Further, the course will also discuss the annulus management systems, subsea HPHT specificities and downhole equipment challenges; the casing wear, wellhead growth and fluids and cement aspects of HT environments; the kick tolerance modeling, hydraulic modeling in HPHT operations, logging, in-field drilling and rig inspection program; the equipment specific to HPHT, hydrates and HPHT checklists; and the HPHT procedures, HPHT coring, wireline logging, wellbore breathing, well control and ballooning.

During this highly interactive course, participants will learn the gas expansion, mud weight management, well control procedures and pressure drilling management; the fingerprinting connections, swab and surge, compressibility test, drain back/flow volume and contingency planning; and the well control emergencies and HPHT completions.

Course Objectives

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

- Apply and gain a comprehensive knowledge on HPHT drilling design and operational practices
- Carryout well planning and operational design for HTHP wells
- Discuss HPHT drilling including its differences, essentials, project aims, objectives, challenges and associated standards and practices
- Recognize HPHT geological hazards and carryout risk assessment on HPHT reservoirs geology in the HPHT environment including HPHT geological hazards and risk assessment
- Explain the aspect of HPHT reservoirs and well architecture specificities of HPHT wells
- Illustrate the casing design specific to HPHT as well as discuss OCTG choice, OCTG connector choice and surface equipment for HPHT wells
- Identify well equipment covering liner, wellheads and casing hangers
- Recognize annulus management systems, subsea HPHT specificities and downhole equipment challenges
- Discuss casing wear, wellhead growth and fluids and cement aspects of HT environments
- Illustrate kick tolerance modeling, hydraulic modeling in HPHT operations, logging, in-field drilling and rig inspection program
- Recognize equipment specific to HPHT, hydrates and HPHT checklists
- Employ HPHT procedures, HPHT coring, wireline logging, wellbore breathing, well control and ballooning
- Identify gas expansion and apply mud weight management, well control procedures and pressure drilling management
- Carryout fingerprinting connections, swab and surge, compressibility test, drain back/flow volume and contingency planning
- Apply well control emergencies and HPHT completions

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 covers systematic techniques on HPHT drilling design and operational practices for drilling engineers, drilling supervisors and drilling superintendents.

Course Date/Venue

Session(s)	Date	Venue
1	April 05-09, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
2	June 21-25, 2026	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
3	August 24-28, 2026	Ruben Boardroom, The Rubens at The Palace, Buckingham Palace Road, London, United Kingdom
4	September 20-24, 2026	Meeting Room 4, Four Seasons Hotel Cairo at Nile Plaza, Corniche El Nil, Garden City, Cairo, Egypt
5	October 25-29, 2026	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain
6	December 13-17, 2026	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
7	January 10-14, 2027	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
8	March 15-19, 2027	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain

Course Fee

Istanbul	**US$ 8,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	**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.
Seville	**US$ 8,800** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
London	**US$ 8,800** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Cairo	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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

Haward's certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.

- 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.

Course Instructor(s)

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:

Mr. Konstantin Zorbalas, MSc, BSc, is a **Senior Petroleum Engineer & Well Completions Specialist** with over **25 years** of **offshore** and **onshore** experience in the **Drilling Techniques**, **Hole Cleaning**, **Sloughing**, **Nozzle Selection**, **BOP Equipment**, **Seepage Losses Control**, **Well Completion Design**, **Well testing**, **Well Testing Analysis**, **Well Cementing**, **Oil** & **Gas**, **Refinery** & **Petrochemical** industries. His wide expertise includes **Workovers & Completions**, **Petroleum Risk & Decision Analysis**, **Acidizing Application** in **Sandstone** & **Carbonate**, **Stimulation Operations**, **Reserves Evaluation**, **Reservoir Fluid Properties**, **Reservoir Engineering & Simulation Studies**, **Reservoir Monitoring**, **Artificial Lift Design**, **Gas Operations**, **Workover/Remedial Operations** & **Heavy Oil Technology**, **Applied Water Technology**, **Oil & Gas Production**, **X-mas Tree** & **Wellhead Operations** & **Testing**, **Artificial Lift Systems** (**Gas Lift**, **ESP**, and **Rod Pumping**), **Production Optimization**, **Sand Control**, **PLT Correlation**, **Slickline Operations**, **Acid Stimulation**, **Production Logging**, **Project Evaluation** & **Economic Analysis**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **National Oil Company** wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer**, **Well Completion Specialist**, **Production Manager**, **Project Manager**, **Technical Manager**, **Technical Supervisor** & **Contracts Manager**, **Production Engineer**, **Production Supervisor**, **Production Technologist**, **Technical Specialist**, **Business Development Analyst**, **Field Production Engineer** and **Field Engineer**. He worked for many **world-class oil/gas companies** such as **ZADCO**, **ADMA-OPCO**, **Oilfield International Ltd**, **Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P**, **Saudi Aramco**, **Pluspetrol E&P SA**, **Wintershall**, **Taylor Energy**, **Schlumberger**, **Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP** and **Gas Lift systems**.

Mr. Zorbalas has **Master** and **Bachelor** degrees in **Petroleum Engineering** from the **Mississippi State University**, **USA**. Further, he is an **SPE Certified Petroleum Engineer**, **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-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

0730 – 0800	*Registration & Coffee*
0800 - 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***Introduction to HPHT Drilling***
0900 – 0930	***Defining the HPHT Environment***
0930 – 0945	*Break*
0945 – 1030	***HPHT Differences & Essentials***
1030 – 1115	***HPHT Projects Aims & Objectives***
1115 – 1200	***HPHT Challenges & Associated Standards & Practices***
1200 – 1230	***Geology in the HPHT Environment***
1230 – 1245	*Break*
1245 – 1330	***HPHT Geological Hazards & Risk Assessment***
1330 – 1420	***HPHT Reservoirs***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0800	***Aspects of HPHT Reservoirs (Effect of Depletion, Geomechanics)***
1000 – 1100	***Well Architecture Specificities of HPHT Wells***
0930 – 0945	*Break*
0945 – 1030	***Casing Design Specific to HPHT (Thermal Simulations/Introduction to Limit-state & Reliability Based Design/Survival Loads)***
1030 – 1115	***OCTG Choice (Material Grade, SSC, Qualification)***
1115 – 1200	***OCTG Connector Choice (Test & Qualification)***
1200 – 1230	***Surface Equipment for HPHT Wells***
1230 – 1245	*Break*
1245 – 1330	***Well Equipment (Liner, Wellheads, Casing Hangers)***
1330 – 1420	***Annulus Management Systems (N_2 Cushion, Burst Discs, Crushable Foams)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Subsea HPHT Specificities (Wellhead Fatigue, X-Mas Tree Choice, APB)***
0830 – 0930	***Downhole Equipment Challenges***
0930 – 0945	*Break*
0945 – 1030	***Casing Wear (Modeling, Measurement, Remedial)***
1030 – 1115	***Wellhead Growth (Modeling & Impacts, Heat Island Effect)***
1115 – 1200	***Fluids & Cement Aspects of HT Environments***
1200 – 1230	***Kick Tolerance Modeling (Dispersed Modeling w/ Drill Bench or Equivalent, Limitations of Single Bubble in HPHT)***
1230 – 1245	*Break*
1245 – 1330	***Hydraulic Modeling in HPHT Operations***
1330 – 1420	***Logging (Current HT Limitations on MWD Tooling)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***In-field Drilling (Depletion & Stress Caging)***
0830 – 0930	***Rig Inspection Program for HPHT Operations***
0930 – 0945	*Break*
0945 – 1030	***Equipment Specific to HPHT (Mud Coolers, Kick Assembly, Early-Kick-Detection)***
1030 – 1115	***Hydrates (Formation Mechanisms, Prevention)***
1115 – 1200	***HPHT Checklists***
1200 – 1230	***HPHT Procedures (Pit Management & Discipline, Breaking Circulation, Connections, Flow Checks, Tripping Procedures, Pump Out of Hole)***
1230 – 1245	*Break*
1245 – 1330	***HPHT Coring & Wireline Logging***
1330 – 1420	***Wellbore Breathing (Breathing vs. Kick, Loss-gain Scenarios, Supercharging Mechanisms, Fracture)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0800	***Well Control & Ballooning***
0800 – 0830	***Gas Expansion***
0830 – 0930	***Mud Weight Management***
0930 – 0945	*Break*
0945 – 1030	***Well Control Procedures***
1030 – 1115	***Managed Pressure Drilling***
1115 – 1200	***Fingerprinting Connections, Swab & Surge, Compressibility Test, Drain Back/Flow Volume***
1200 – 1230	***Contingency Planning***
1230 – 1245	*Break*
1245 – 1315	***Well Control Emergencies***
1315 – 1345	***HPHT Completions***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

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

Course Coordinator

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