COURSE OVERVIEW DE0751

Wireline Operations & Techniques

(Slickline & E-Wireline)

Course Title

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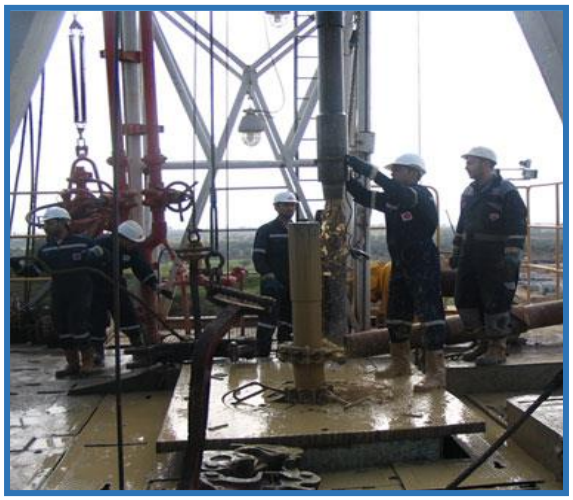
(Slickline & E-Wireline)



Course Date/Venue

March 03-07, 2024/TBA Meeting Room, Sofitel Legend The Grand Amsterdam, Amsterdam, The Netherlands

Course Reference

DE0751

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.

Many of today's most vital oilfield operations depend directly on the use of wireline. Wireline is particularly important during completion and production. Field operators can run anything from a basic downhole directional survey to the most delicate gamma ray formation log on wireline. They can fire perforating charges at precisely determined downhole locations, back off a string of stuck pipe, retrieve a wrench, or manipulate complex subsurface well pressure and flow controls.

Wireline operations can be done inside the tubing without killing the well, by means of a lubricator connected to the wellhead. Operations can be carried out under pressure and even without stopping production. Further, wireline operations are performed quickly due to the use of lightweight, highly mobile equipment and run by two or three specialized operators. As a result, wireline operations can be readily implemented at relatively low cost.

Wireline technology has been modernized steadily, along with significant improvements in wireline capability. During the past decades, Wireline Formation Testing has emerged as one of the critical formation evaluation means in the upstream hydrocarbon exploration activities. The wireline formation test is a quick, inexpensive means of measuring pressures at precise depths in the wellbore. Wireline tests are performed mostly in open hole using a cable-operated formation tester and sampling tool anchored at depth while reservoir communication is established through one or more pressure and sampling probes.

This comprehensive and up-to-date course covers the development of wireline operations and techniques. It describes wireline equipment in details and discusses the various operations performed using such equipment including diagnostic, troubleshooting, completion and production maintenance. Further, the course covers the openhole wireline testing, the wireline sampling techniques and the drawdown & buildup mobilities from wireline testers. The course ends up with a useful demonstration of the various wireline test interpretation software.

Course Objectives

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

- Apply an up-to-date knowledge on wireline equipment, techniques and operations during well completion, servicing, workover and production
- Identify different types of packers and methods of conveyance, ISO & API standards, packer rating envelopes and flow control accessories, cased hole applications and multilateral completions (TAML levels)
- Discuss the impact of length and force changes to the tubing strings, perforating methods & perforating design,
- Describe perforating equipment & operations and the method of setting a plug or packer
- Employ fishing operations and logging with CT (stiff wireline)
- Explain the planning, logistical constraints, selection of equipment, monitoring and recording equipment, considerations and safety issues of mechanically removing scale, cutting tubulars, operating sliding sleeves and running a completion with CT

Who Should Attend

This course is essential for field operational and technical staff such as engineers, supervisors, foremen, technicians and operators who are in charge of wireline operations and for other personnel who have frequent interfaces with wireline operations. This is also beneficial for production engineer, wireline supervisor, district engineer, drilling engineer and operation engineer.

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.

- British Accreditation Council (BAC)

  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 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. Sigve Hamilton, MSc, BSc, is a **Senior Drilling & Petroleum Engineer** with over **20 years** of **onshore & offshore** experience within the **Oil & Gas**, **Refinery** and **Petroleum** industries. His specialization widely covers in the areas of **Well Completion Design & Operations**, **Well Stimulation and Workover Planning**, **Well Composite**, **Construction Integrity & Completion**, **Wireline** Operations & Techniques, **Advanced Drilling** Operation Management, **Drilling Fluid** Technology, **Directional & Horizontal Drilling**, **Drilling** Optimization & Well Planning, **Drilling** Operation Management, **Drilling** Control & Operation, **Drilling & Completion** Design, **Drilling & Stuck Pipe** Prevention, **Gas Lift** Operations, **Gas Lift** Design & Technology, **Production** Technology, **Production Logging**, **Well Logging**, **Well Test** Analysis, **Well Testing** Procedures & Evaluation, **Well** Performance & **Control**, **Wellhead** Operations, **Wellhead** Design, **Tubing Design & Casing**, **Well Production** Optimization, **Well Control & Blowout** Prevention, **Coiled Tubing** Technology, **Coring & Core** Analysis, **Core & Log Integration**, **Core Logging**, **Carbonate & Seismic Sequence** Stratigraphy, **Completion & Casing** Design, **CO_2 & Injection** System, **Fracture** Characterization & Modelling, **PVT** Analysis, **Fluid** Mechanics, **Fluid** Dynamics, Water Shutoff, **Water Injection** Technology, **Water Flooding**, **Petroleum** Engineering, **Petroleum Geology**, **Petroleum** Physics, **Petroleum** Data Management, **Petroleum** Exploration, **Reservoir** Engineering & Management, **Reservoir** Simulation, **Reservoir** Geophysics, **Naturally Fractured Reservoir**, **Streamline** Simulation, **Carbonate Rocks & Siliciclastic Rocks**, Applied **Rock Mechanics**, **Rock Physics**, Sedimentology & Sequence Stratigraphy, Special Core Analysis, **Artificial Lift** Design, **Enhanced Oil Recovery**, **Subsurface Production** Operation, **Rig** Inspection, **Logging**, **Hydraulic & Pneumatic**, Heterogeneity Modelling for Reservoir Characterization, Prosper, 3D Geological Modelling, Property & Heterogeneity Modelling, IRAP RMS Streamlines, Grid Design & Upscaling for Reservoir Simulation and MBAL, Prosper and GAP Software,

During his career life, Mr. Hamilton held significant positions and dedication as the **Petroleum Engineer**, **Drilling Engineer**, **Petroleum/QHSE Engineer**, **Reservoir Engineer**, **Field Manager**, **Laboratory Engineer**, **Mudlogging Geologist**, **Geoscientist, Petroleum/Production Engineer & Consultant**, **Project Engineer/Risk Advisor**, **Petroleum Consultant/Advisor**, **Inspector/Study Leader** and **Senior Instructor/Lecturer** from various companies and universities such as the University of Akureyri (UNAK), Stavanger Offshore Technical School, Akademiet, Peteka, FMC Technologies, Gerson Lehrman Group, Ocean Rig, Oilfield Technology Group, Talisman, IOR Chemco, Geoservices, ResLab and Roxar.

Mr. Hamilton has a **Master's** degree in **Petroleum Engineering** and a **Bachelor's** degree in **Reservoir Engineering** from **The University of Stavanger**, **Norway**. Further, he is a **Certified Instructor/Trainer** and delivered numerous trainings, workshops, courses, seminars and conferences internationally.

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 Fee

US$ 12,500 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), 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 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: ***Sunday, 03rd of March 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Packers & Methods of Conveyance*** *Retrievable Tension/Compression Set-Versatile Landing • Retrievable Hydraulic-Set single-String Packer • Dual-String Packers • Permanent and Retrievable Sealbore Packers • Landing Conditions • Through-Tubing Operations • Casing Clean-up Operations • Other Casing Consideration*
0930 - 0945	*Break*
0945 – 1100	***ISO and API Standards*** *Grade V6 Supplier/Manufacturer Defined • Grade V5 Liquid Test • Grade V4 Liquid Test + Axial Loads • Grade V3 Liquid Test = Axial Loads + Temperature Cycling • Grade V2 Gas Test + Axial Loads • Garde V1 Gas Test + Axial Loads + Temperature Cycling • Special Grade V0 Gas Test + Axial Loads + Temperature Cycling + Bubble Tight Gas Seal*
1100 – 1230	***Packer Rating Envelopes & Flow Control Accessories*** *Wireline Re-entry Guides • Profile Seating Nipples • Top No-Go Profile Seating Nipple • Bottom No-Go Profile Seating Nipple • Selective Profile Seating Nipple • Sliding Sleeves • Blast Joints • Flow Couplings • Blanking Plugs • Bottomhole Choke • Subsurface Safety Systems*

1230 – 1245	Break
1245 – 1420	***Cased-Hole Applications*** *Single-String LP/LT Wells • Single-String-Medium-Pressure/Medium-Temperature Wells • Single-String HP/HT Wells • Multiple-Zone Single-String Selective Completion • Dual-Zone Completion Using Parallel Tubing Strings • Big-Bore/Monobore completions*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Monday, 04th of March 2024***

0730 – 0930	***Multilateral Completions*** *TAML Level 1 • TAML Level 2 • TAML Level 3 • TAML Level 4 • TAML Level 5 • TAML Level 6*
0930 - 0945	Break
0945 – 1100	***Impact of Length and Force Changes to the Tubing String*** *Piston Effect • Buckling Effects • Ballooning and Reverse Ballooning • Temperature Effect • Net Results of Piston, Buckling, Ballooning and Temperature Effects • Combination Tubing/Packer Systems*
1100 – 1230	***Perforating Methods & Basic Perforating Design*** *Bullet Gun perforating • Abrasive Perforating Methods • Variables of Flow Through a Perforation • Temperature Effect • What is Necessary for the Optimum Flow Path • Improving Flow Capacity*
1230 – 1245	Break
1245 – 1420	***Perforating Methods & Basic Perforating Design (cont'd)*** *Cement and Casing Damage • Perforating Multiple Strings and Thick Cement • Perforating for Different Stimulations • Perforating in Highly Deviated Wells*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Tuesday, 05th of March 2024***

0730 – 0930	***Perforating Equipment & Operations*** *Detonator Systems • Conveyance Systems • Getting On Depth • Perforating Fluid • Limited Penetration charges • Planning a Perforating Job • Job Plan Inputs • Depth Control • Firing Mechanism • Gun and Carrier Selection • High Temperature and Pressure • H2S and Acids • Computer Simulator Modeling • Job Plan Outputs*
0930 - 0945	Break
0945 – 1100	***Perforating Equipment & Operations (cont'd)*** *Selecting Equipment for Perforating • Generic Procedure for Perforating • Preparing the Wellbore • Preparing the Equipment • Assembling and Deploying the Gun • Correlating Depth and Perforating • Gun Recovery • Monitoring a Perforating Job • Safety Issues for Perforating • Before the Operation • During the Operation • After Firing*
1100 – 1230	***Setting a Plug or Packer*** *Planning to Set a Plug or Packer • Job Plant Inputs • Operating Temperature • Operating Pressure • Fluid Compatibility • Setting Mechanism • Recoverability • Computer Simulator Modeling • Job Plan Outputs • Selecting Equipment for Setting a Plug or Packer • CT Equipment • Pressure Control Equipment • Downhole Tools*

1230 – 1245	*Break*
1245 – 1420	***Setting a Plug or Packer (cont'd)*** *Pumping Equipment • Monitoring and Recording Equipment • Generic Procedure for Setting a Plug or Packer • Preparing the Wellbore • Preparing the Equipment • Setting the Plug or Packer • Unsetting the Packer and Recovering the Tool String • Monitoring a Plug or Packer Job • Safety Issues for Setting a Plug or Packer*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4: ***Wednesday, 06th of March 2024***

0730 – 0930	***Fishing Operations*** *Planning a Fishing Job • Job Plan Inputs • Fish Properties • Condition of the Fish • Wellbore Geometry • Surface Equipment • Logistical Constraints • Computer Simulator Modeling • Job Plan Outputs • Selecting Equipment for Fishing • CT Equipment*
0930 - 0945	*Break*
0945 – 1100	***Fishing Operations (cont'd)*** *Pressure Control Equipment • Downhole Tools • Pumping Equipment • Monitoring and Recording Equipment • Generic Procedure for Fishing • Preparing the Welibore • Preparing the Equipment • Safety Issues for Fishing*
1100 – 1230	***Logging with CT (Stiff Wireline)*** *Planning a CT Logging Job • Job Plan Inputs • Logistical Constraints • Installing Electric Cable Inside CT • Computer Simulator Modeling • Selecting Equipment for CT Logging • CT Equipment • Pressure Control Equipment • Downhole Tools • Pumping Equipment • Cable Injector*
1230 – 1245	*Break*
1245 – 1420	***Logging with CT (Stiff Wireline) (cont'd)*** *Monitoring and Recording Equipment • Generic Procedure for CT Logging • Preparing the Wellbore • Preparing the Equipment • Correlating Depth • Performing the Logging Operation • Monitoring a CT Logging Job • Safety issues for CT Logging*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5: ***Thursday, 07th of March 2024***

0730 – 0930	***Stuck Pipe & Removing Scale Mechanically*** *Planning to Remove Scale Mechanically • Job Plan Inputs • General Considerations • Scale/Deposit Characteristics • Hole Cleaning • Logistical Constraints • Drilling/Milling/Underreaming with a Downhole Motor • Impact Drilling • Bit Selection • Circulating Fluid • Scale Inhibition • Computer Simulator Modeling • Job Plan Outputs • Selecting Equipment for Removing Scale Mechanically • CT Equipment • Pressure Control Equipment • Downhole Tools • Pumping Equipment • Auxiliary Equipment • Monitoring and Recording Equipment • Generic Procedure for Removing Scale Mechanically • Preparing the Wellbore • Preparing the Equipment • Preparing Fluids • Removing the Scale • Monitoring a Mechanical Scale Removal Job • Safety Issues for Removing Scale Mechanically*
0930 - 0945	*Break*

0945 – 1100	***Cutting Tubulars Mechanically*** *Planning to Cut Tubulars Mechanically • Job Plan Inputs • Depth Control • Milling with a Downhole Motor • Explosive Cutters • Computer Simulator Modeling • Job Plan Outputs • Milling with a Downhole Motor • Selecting Equipment for Mechanically Cutting Tubulars • CT Equipment • Pressure Control Equipment • Pumping Equipment • Downhole Tools • Monitoring and Recording Equipment • Generic Procedure for Mechanically Cutting Tubulars • Preparing the Wellbore • Preparing the Equipment • Making the Cut • Monitoring for Mechanically Cutting Tubulars • Safety Issues for Mechanically Cutting Tubulars*
1100 – 1230	***Operating a Sliding Sleeve*** *Planning to Operate a Sliding Sleeve • Job Plan Inputs • Planning Considerations • Computer Simulator Modeling • Selecting Equipment for Operating a Sliding Sleeve • CT Equipment • Pressure Control Equipment • Downhole Tools • Pumping Equipment • Monitoring and Recording Equipment • Generic Procedure for Operating a Sliding Sleeve • Preparing the Wellbore • Preparing the Equipment • Operating the Sleeve • Monitoring for a sliding Sleeve Operation • Safety Issues for Operating a Sliding Sleeve*
1230 – 1245	*Break*
1245 – 1345	***Running a Completion with CT*** *Planning to Run a Completion • Job Plan Inputs • Planning Considerations • Computer simulator Modeling • Job Plant Outputs • Selecting Equipment for Running a Completion • CT Equipment • Pressure Control Equipement • Downhole Tools • Pumping Equipment • Monitoring and Recording Equipment • Generic Procedure for Running a Completion • Preparing the Wellbore • Preparing the Equipment • Running the Completion • Monitoring Running a Completion • Safety Issues for Running a Completion*
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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