

COURSE TIMETABLE

Session 1 WIMS Fundamentals

- Well Integrity Management Fundamentals
- Introduction and Definitions
- Examples of Well Integrity Failures and their Consequences

Session 2 WIMS Framework

- Well Integrity Management System Overview
- Management and Continual Improvement
- Regulations, Policies and Standards
- Safety Critical Elements, Barriers and Performance Standards
- Roles and Responsibilities
- Measurement, Review and Improvement

Session 3 Monitoring

- Well Integrity and Production Risk Management
- Maintenance and Inspection
- Valve standards, testing and leak rate determination
- Exercises (Valve sheet)
- Annulus Pressure Management
- Understanding MAASP
- MAASP Calculations and Settings
- Exercises (MAASP calculations in Excel)
- Monitoring and Testing
- Exercise - Run through the WSM module

Session 4 Well Operating Envelopes

- Well Operating Envelope
- Exercises (Brainstorm what values are important for integrity)
- Operating Procedures and Monitoring
- Well Integrity and Flow Assurance Risks
- Scale, Wax and Hydrate Management Overview
- Exercises on Hydrate and Wax Curve

Session 5 QRA & FMECA

- Risk Assessment and Control
- Quantitative and Qualitative Risk Assessment
- Frequency and Consequence Assessment
- Risk Matrix
- Exercises
- Failure Mode Effect and Criticality Analysis (FMECA)
- Fault Tree Analysis and Leak Path Diagrams
- Exercises Based on Actual Cases

Session 6 Well Integrity Issues

- Operational Well Integrity Issues & Risks
 - Interventions & Workovers
 - Maintaining Well Functionality
- Recovery, Suspension or Abandonment
 - Methods
 - Contingencies
- Overview of new ISO Standard for Well Integrity



Well Monitoring & WIMS Course

The screenshot shows a table with columns for Well ID, Well Name, Status, and various integrity metrics. The table is filtered to show wells with a status of 'At Risk'. The metrics include Annulus Pressure, Valve Status, and Leak Rate. The table is sorted by Annulus Pressure in descending order.

DESCRIPTION

This course has been designed to develop Drilling, Completion, Production Engineers and Supervisors knowledge to a level where they have the skills to independently construct, quality check, and apply WIMS in practical situations. The course will improve students understanding of

- the importance of well integrity
- the process of well integrity management
- well integrity within the framework of all key strategic efforts
- the key areas of well integrity assurance
- the Production supervisor's duties with regards to well integrity

Concepts will be explored & presented interactively. The course includes numerous real-life class examples that serve to reinforce and consolidate the theoretical framework covered.

WHAT IS UNIQUE?

- Practical Worked Examples
- Class Exercises
- Interactive Sessions
- Hands on Examples

WHO SHOULD ATTEND?

- Drilling Engineers
- Completion Engineers
- Production Engineers
- Petroleum Engineers

DURATION

- 6 sessions of 2 hours

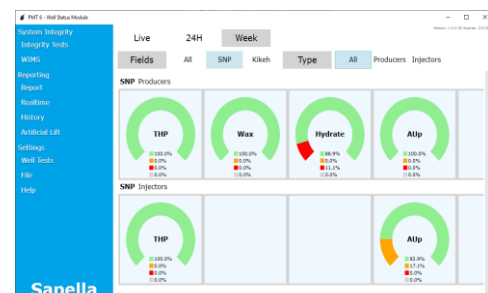
COMPANY BACKGROUND

Sapella is an independent petroleum consulting company who focus on providing engineering and technical services to the global upstream oil and gas industry. Our services and software are utilized by our clients for the planning, development, commissioning and operational phases of their oil and gas projects. Our clientele includes companies ranging from the super majors and national oil companies, to independents, as well as service and equipment supply companies, where we provide niche skills to assist in all field development stages.

Well Status Module

Sapella has developed the WSM module, a software module that supports offshore engineers in daily system monitoring tasks, creating morning reports and completing WIMS tasks. This tool incorporates database capabilities that allow the management of both individual well, and full field data. WIMS creates 24hr and weekly statistics for any well in the database. A dashboard allows to monitor the requirement for integrity tests.

Additional features as valve integrity test interfaces and dashboards are also provided.



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DALE CHENERY (Sapella Engineering Solutions) **Principal Production Technologist**

Dale Chenery is a Director and Principal Production Technologist with Sapella Engineering Solutions. Dale graduated from the University of Alberta in 1981 with a Bachelor of Science in Petroleum Engineering. He joined Sapella as a partner in 2013 and has had a lead role in the development of the company. Over his career he has given more than 15 course modules in topics including the modelling of geomechanics & hydraulic fracturing treatments, integrated asset modelling, WIMS and advanced artificial lift design and troubleshooting.

He has more than 34 years' experience in production technology and reservoir engineering having worked for major and independent oil companies, service companies, and consulting firms in Canada, the United States, Europe, the Middle East, and SE Asia.

HEIKO MORGENROTH **Principal Production Technologist**

Heiko Morgenroth is a Principal Production Technologist with Sapella Engineering Solutions. Heiko graduated from the Imperial University in 1992 with a Master of Petroleum Engineering and completed the Base Courses for Software Engineering in 2000 to 2002 in Milton Keynes. He has more than 23 years' experience in production and reservoir engineering with major oil companies and independent consulting firms in South East Asia, Continental Europe, the Middle East and the North Sea.

He has completed projects for Shell, BP, Lasmco, Unocal, Chevron Texaco, Talisman, Murphy and others. He has set up a consultancy as a young engineer with five colleagues that grew to renowned 120 man power consultancy. He has 15 years of petroleum software development and automation of oil industry workflows including programming of geomechanics packages, production and semi real time systems.