



TECHNOLOGY & SERVICE CENTER

Leveraging technology, innovation and services since 1958



combined with



TECHNOLOGY & INNOVATION

SOLUTIONS & CONSULTANCY

- Drilling Fluids & Cement
- Materials & Corrosion
- Production Chemistry
- Flow Assurance
- Well Stimulation Concepts

- Digital Rocks
- Core Analysis & Flooding
- Micropaleontology
- Mineralogy & Petrography
- Core Storage



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Drilling Fluids & Cement

- QA/QC of drilling fluids and cement slurries as well as their single components
- Optimization of mud and cement slurry formulations to meet operation-specific targets
- Assessment of fluid properties and compatibility with formations under HPHT conditions
- Measuring chemical and mechanical properties of cement slurries

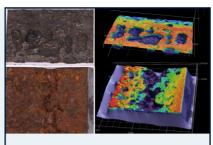




Production Chemistry

- QA and optimization of gas, oil & water treatment
- QA and optimization of oil field chemicals
- Flow assurance (scale, wax, emulsions, hydrates and bacteria)
- Formation damage and remediation
- Hydrocarbon analytics (PVT, fluid properties)
- Process engineering





Materials & Corrosion

- Material selection
- Root-cause analysis
- Qualification of corrosion inhibitors
- Autoclave corrosion testing (CO2, H2S)
- Hardness
- Surface roughness characterization and metallographic analysis
- Mobile testing: chemical material analyses





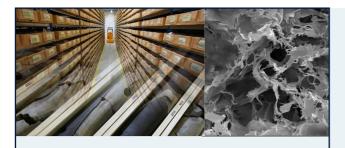
Technology & Service Center **PRODUCTION SERVICES**

Our **DRILLING FLUIDS & CEMENT LAB** provides the basis for cost-effective selection of appropriate 3rd party products, root cause analysis of drilling problems as well as quality control of formulations and procedures.

A multitude of chemistry-related aspects specific to the production of gas and oil are being addressed by our **PRODUCTION CHEMISTRY LAB**.

Our **MATERIALS & CORROSION LAB** is equipped with a variety of characterization and testing methods. References from material and corrosion science as well as synergies with chemistry ensure cost-effective and customized solutions.

Contact Head of Production Services: marcus.habighorst@wintershalldea.com



Reservoir **Specialists**

Mineralogy & Petrography

- Mineralogy (SEM, QEMSCAN, Age dating CL, XRD)
- Geochemistry (XRF. TOC, organic geochemistry)
- Petrography (thin-section analysis)

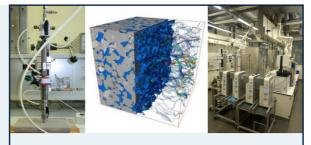
Micropaleontology

- Paleoenvironment
- Maturity assessment (vitrinite reflectance)

Core Archive & Geotechnical Support

- Core handling
- Operational geology





Advanced Core Analysis & Digital Rocks Lab

Advanced Core Analysis:

- Routine Core Analysis (RCA)
- Special Core Analysis (SCAL)
- Core flooding (oil, gas or CO2 at HPHT)
- Consulting (coring and analytical program support, QA/QC)

Digital Rocks:

- 3D-digital rock imaging and processing
- Pore-scale analysis
- RCA property simulation
- SCAL property simulation





Technology & Service Center RESERVOIR SERVICES

We offer a broad range of consulting and analytical services from nano- to basin-scale.

Our **RESERVOIR SPECIALISTS** are subject-matter experts in micropaleontology, mineralogy and reservoir quality prediction.

The ADVANCED CORE ANALYSIS & DIGITAL ROCKS LAB provides petrophysical measurements, characterizes reservoir rock-fluid interactions, conducts core flooding experiments, and offers pore-scale analyses and simulations. Our aim is to provide tailor-made solutions for reservoir characterization challenges. We work together with selected partners to achieve this.

> **Contact Head of Reservoir Services:** edna-michelle.bisso@wintershalldea.com





We look forward to working with you. Please do not hesitate to contact us.

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