CORPORATE TECHNOLOGY CENTER

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QMAX CORPORATE TECHNOLOGY CENTER IS NOW OPEN!

On October 15th, QMax held the grand opening of its new Corporate Technology Center (CTC) located in Houston, Texas. The Corporate Technology Center is the center-piece of QMax's global lab network and is a fully equipped research lab, support lab, and training facility with research, analytical, field support, QA/QC, high temperature high pressure, and training labs. Together with QMax's Regional Technology Centers in Canada, Mexico, South America and the Eastern Hemisphere, QMax develops world-class fluids systems and regional technical support and problem solving.

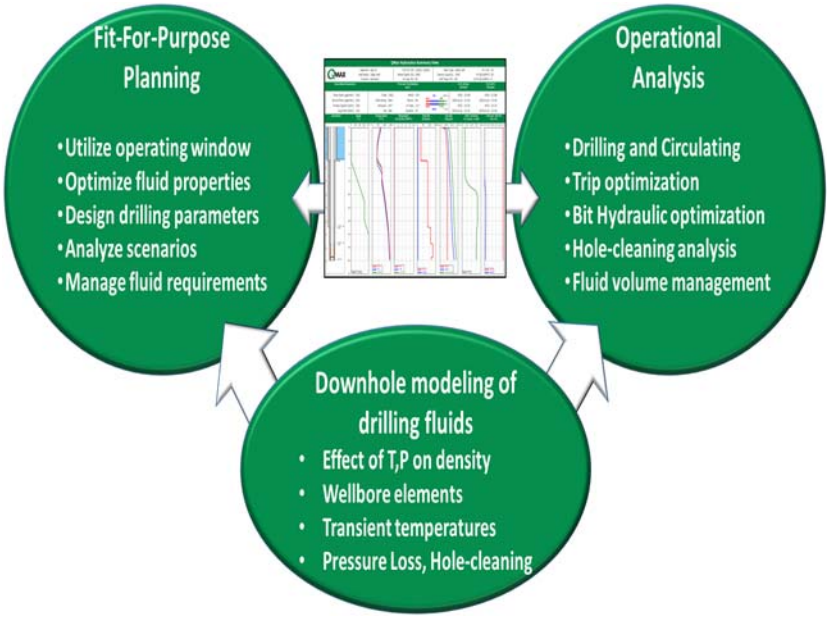
TECHNOLOGY & ENGINEERING SOLUTIONS

QMax connects your business to the technology resources you need.

- Cutting-edge Technology Development
- Drilling Fluids Formulation
- Drilling Simulations
- Deepwater Fluid Design and Engineering
- Fluids and Additives Testing
- Mud Schools
- Engineering Applications
- Field Support

QMax Corporate Technology Center, completed in June 2015, is located adjacent to the Energy Corridor in Houston, Texas. It is 12,000 sq. ft., with roughly 5,000 sq. ft. of laboratory space. It serves as the main R&D center for QMax and is built to be the best drilling fluid testing facility worldwide.

The Corporate Technology Center was also built as a training center to conduct mud schools and there is as well a fully-equipped analytical laboratory to support R&D and field operations - from routine mud testing to high temperature high pressure (HTHP) testing. Engineering applications are also developed in the Corporate Technology Center. These cover everything from drilling hydraulics to rigsite inventory management. QMax provides our customers with the best drilling solutions available.



HYDRAULICS ANALYSIS

QMax delivers agility, accuracy & results

The Corporate Technology Center is also home to software support and hydraulics analysis. We provide engineers with a comprehensive system to document daily wellsite services and summarize project results.

- Informative daily “mud” reports.
- Detailed volume accounting and product concentration reporting.
- Standardized calculations for volumes, solids analysis and hydraulics.
- Plan vs actual tracking of mud properties and other key performance indicators.
- Basic solids control and shaker screen usage tracking.
- Wellsite inventory management and integration with billing systems for accurate invoicing.

MUD LAB

QMax provides the Best Suitable Solutions

WBM & OBM API Tests

- Mud Weight
- pH and Alkalinity
- Rheological Properties
- BrookField Viscosity
- API Filtration
- HTHP filtration
- Dynamic Filtration
- Sand Content
- Retorts
- Chemical Analysis
- MBT
- Resistivity
- Water Activity
- Emulsion Stability Sieve Analysis

Shale & Formation Characterization

A complete analysis of shale is a key step for designing drilling and other wellbore fluids.

- Linear Swell Test
- Capillary Suction Timer
- Shale Integrity Test
- Dispersion
- Anti-Accretion Test
- Minerology

Completion & Specialty Chemicals

- TCT of Brines
- Wellbore Clean-up
- Filtercake Removal
- Return Permeability
- Bridging and Sizing
- Insulating Packer

Research & Development

- Next Generation Drilling Fluids
- New Additives
- New Technology

HTHP Laboratory

High Temperature High Pressure Testing

HTHP Drilling Simulator

The HTHP Drilling Simulator provides three test functions including HTHP dynamic lubricity testing, dynamic radial fluid loss, and drilling simulation. It works in temperature ranges from ambient to 500°F and pressures up to 2000 psi. The wellbore simulation chamber allows us to test the penetration rate of a real core sample or artificial sample. It enables us to test the performance of drilling fluids under ultra-realistic conditions. It is one of the first of three simulators built in the world.

HTHP Rheology

The iX77 HTHP Rheometer is a very robust and reliable instrument for testing rheological properties up to 600°F and 30,000 psi. It is fully-automated and equipped with user-friendly software. It enables us to investigate the fluid properties at downhole conditions. The data is used for formulation development and, more importantly, for hydraulic calculations. QMax laboratory personnel are trained at a high standard to run the HTHP Rheometer to ensure data accuracy and reproducibility. Within the QMax laboratory network, there are a total of four iX77 HTHP Rheometers. With solid testing capacity, QMax provides the best fluid systems and solutions for offshore and deepwater drilling.

Analytical Laboratory

We provide a total end-to-end solution

Material Characterization

The **GCMS-QP2010SE** is the most advanced gas chromatograph mass spectrometer, available at QMax to provide quick analyses on chemical composition.

The **IRAffinity-1S** is a compact Flourier transform infrared spectrophotometer, providing a max resolution of 0.5 cm^{-1}.

Physical Properties

The **AccuPyc II (Gas Pycnometer)** is a fast, fully-automatic gas displacement Pycnometer that provides high precision volume measurements and true density calculations.

The **Miniflash Touch, an automated flash point tester,** is a uniquely designed flash point tester. It utilizes the Grabner flash point detection method according to ASTM D6450 and the D7094 standard.

Surface Chemistry

The **drop shape analyzer – DSA25** is an easy-to-use, reliable instrument for measuring contact angle, surface free energy, surface and interfacial tensions.

Training Laboratory

QMax provides accurate field delivery of technology

- Basic and advanced mud schools
- Rigsite engineering training
- Customer and vendor training

The course for mud engineers typically lasts eight weeks and covers basic physical and chemical properties, functions of drilling fluids, and rigsite engineering. The lab session is critical, as it enables the engineers to test and diagnose fluids onsite in order to provide the best solutions.

Training Capacity

- There are 12 fully-equipped training stations, which enable 24 students to take lab sessions during training.

Training Curriculum

- Basic Chemistry
- Clay Chemistry
- Polymer Chemistry
- Drilling Fluid Testing
- Drilling Fluid Test Equipment
- Rig Calculations
- Field Testing Procedures
- Lost Circulation
- Water Base Mud Formulation
- WBM Contaminations
- Mud Rheology and Hydraulics
- Monitoring Drilling Fluids
- Bore Hole Stability and Stuck Pipe
- Barite Sag
- O/SBM Formulation - Invert Emulsion
- Solids Control and Solids Control Equipment
- Solids Testing and Analysis

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