Providing leading-edge technology to the upstream oil & gas industry since 1992...
Managed Pressure Drilling, UBD, Field Execution, Training, Software and more
FULL-CYCLE PETROLEUM ENGINEERING
- Engineering Evaluation, Design and Execution
- Onshore & Offshore Applications
- International & Domestic Projects
- Vertical, Directional, Horizontal or Multilateral Wells

Signa provides leading-edge technology for all aspects of the upstream energy industry, including design, project management, feasibility studies, plans for field development, surface equipment design and software.

MANAGED PRESSURE DRILLING
- Control Annular Pressure while Drilling
- Decrease NPT & Reduce Drilling Days
- Improve Well Economics
- Reach TD in “Undrillable” Environments

Signa is a registered engineering firm in the State of Texas. We don’t offer tools, rigs, equipment or other materials, so our recommendations are unbiased. Since 1992, knowledge has been our deliverable.

UNDERBALANCED DRILLING
- Avoid Formation Damage & Skin Damage
- Increase O&G Production
- Keep Lost Circulation to a Minimum
- Increase Rate of Penetration

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OPERATIONS

WELLSITE PROJECT MANAGEMENT
- Contract Wellsite Consultants
- Consulting Engineers
- International & Domestic Projects
- Conventional / Unconventional Applications

Field personnel must understand “what the formation is doing” and make critical adjustments to overcome the endless obstacles Mother Nature produces. Signa provides hand-selected consultants to give our clients extra manpower and added technical expertise.

TAILOR-MADE CONSULTING SOLUTIONS
- Get Help for your Offshore and Onshore Projects
- Onsite Experience on a Contract Basis
- Avoid Added Expenses of Full-Time Employment
- Drilling, Completion or Production Assistance

Signa maintains a comprehensive database of 150 seasoned consultants, which includes details of each individual’s work history. Their broad exposure brings strong leadership and competency to your project.

FLUIDS ENGINEERING SERVICES
- Onsite Drilling Fluids Management
- Fluid Specialists Hand-Picked for your Job
- Drilling, Completion or Workover Fluids
- Ensure Optimal Circulation in your Well

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Engineering

Gulf of Mexico. Signa provided deepwater MPD engineering design, HAZID/HAZOP and logistics for Shell Exploration (SEPCO) on the Auger A-8, A-13 and A-18 tension-leg platforms.

Algeria. Signa prepared drilling plans/procedures for wells being drilled using gasified fluids and foam in Hassi Messaoud Field for SONATRACH.

Offshore Malaysia. Signa designed MudCap drilling project for Shell Malaysia in East Sarawak. Overcame total losses while drilling from a moored semi-submersible.

South Texas. Signa served as project manager for ConocoPhillips project in Lobo Field using a new Managed Pressure-Casing Drilling hybrid.

Caspian Sea. Signa engineered MudCap Drilling project for Azerbaijan in Khevsureti Field. Implemented the first multi-stage cement job in a high-pressure MPD operation.

Argentina. Signa engineered UBD project by utilizing produced hydrocarbon gas and water-based liquids as drilling fluids in Humampampa and Santa Rosa Fields for Pluspetrol.

Gulf of Mexico. Signa completed an MPD study for a deepwater (6,000') Thunderhorse development project for RP America.

Operations

Gulf of Mexico. Used Dynamic Annular Pressure Control equipment to drill through several problematic hole sections for Shell Exploration (SEPCO) on MARS A-14.

Venezuela. Signa provided field execution for Shell (SVSA) in highly fractured, sour reservoir in Lake Maracaibo. Record time through entire fractured carbonate using annulus pressure.

Kazakhstan. Signa provided MPD field execution for TCO (Chevron) in Tengiz Field. Drilled the highly fractured, sour, abnormal-pressure (15.5 EMW) oil reservoir using MudCap Drilling.

Austin Chalk. Signa executed over 20 wells using Flow Drilling in Texas for Chesapeake. Pore pressure ranged from 10 ppg to 16.5 ppg.

Colombia. Signa provided field execution for Harken de Colombia for high-pressure, horizontal project using concentric casing gas injection.

South Texas. Signa provided operations consulting to Apache for drilling the Buda and Georgetown formations using MPD.

North Sea. Provided field execution for Power Chokes on an MPD directional well, offshore Norway. The well was drilled from a platform in the Kvitebjorn Field, Bore Group.

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MANAGED PRESSURE DRILLING CLASS
- Educates Students on Entire MPD Process
- MPD Variations (CBHP, PMCD) & UnderBalanced
- Intended for Operations Personnel & Engineers
- 5-Day Class in Houston, TX or Custom Training

Shorten your company’s learning curve with Signa’s Managed Pressure Drilling class. Our instructors are industry experts with years of on-the-job experience, who utilize case histories and class problem-solving.

FUNDAMENTALS OF PETROLEUM CLASS
- Plain-Language Introduction to Oil & Gas Industry
- Educates Workers About Operations they Support
- Attendees Visit a Working Drilling Rig
- 3-Day Class in Houston, TX or Custom Training

For optimal performance, employees must have a comprehensive grasp of the industry in which they work. Signa’s Fundamentals class helps foster technical and non-technical communication.

WELLSITE FOREMAN INTERN TRAINING
- 6-Mo. Comprehensive Training in Houston/Onsite
- Prepares Workers for Wellsite Supervisory Jobs
- Provides Technical Drilling Competency
- Fills Needs of Understaffed Operating Companies
EXTENDED REACH DRILLING SIMULATOR (ERDS)
- Extended Reach / Managed Pressure Operations
- HTHP Fluid Density and Rheology
- Surge and Swab / Torque, Drag and Buckling
- Fluid Formation / Heat Transfer

Successful MPD or UBD requires proper design of well trajectory, capacity of drilling equipment and circulating fluid. ERDS incorporates all these into one user-friendly package, even predicting adequate hole cleaning.

HYDRAULIC UNDERBALANCED SIMULATOR (HUBS)
- Gas, Mist, Foam and Gasefied Fluid
- Optimum Injection Rate(s) Design
- UBD / OBD / MudCap Drilling
- Jet Sub and Parasite Tubing / Casing

HUBS accounts for a variety of dynamic situations: Formation influx, lost circulation, phase change and gas solubility, parasite strings and concentric casing injection, and reverse circulation during UBO.

CUSTOM HYDRAULIC & TECHNICAL MATERIAL
- Custom Drilling Software as per Client Needs
- High-Impact Computer Animations
- Engineering Drawings / Expert Witness
- Technical Graphics & Equipment Schematics.
Commercial Value

Professional Services

Qualified Personnel

CUSTOMER SATISFACTION

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