



**EXTENDED REACH DRILLING  
GEOMECHANICS/GEOPRESSURE**

**HXR DRILLING SERVICES** is a U.S.-based drilling engineering company that specializes in Extended Reach Drilling (ERD) and Geomechanics/Geopressure. With offices in Houston, Texas, and Anchorage, Alaska, HXR is a leader in the design and supervision of complex ERD and deepwater wells. We provide complete well design, on-site drilling engineering supervision and training, advanced pore pressure modeling and analysis, and real-time wellbore stability/geomechanics.

HXR has a highly capable and experienced Project Management division, which provides highly trained Drill Site Managers (DSMs) and Drilling and Completions Engineers who specialize in ERD and deepwater drilling. Along with well design and supervision, HXR can provide a variety of other services, including permitting, cost analysis, road/pad design, and rig/equipment specification.

## **HXR IS A FULL-SERVICE DRILLING ENGINEERING CONSULTANCY FOCUSED ON HELPING CLIENTS DESIGN AND CONSTRUCT EXTENDED REACH, HORIZONTAL AND COMPLEX WELLS, BOTH ON AND OFFSHORE.**

HXR has developed two of the most advanced engineering software suites available today — ERDPro®, our advanced well design software, and DEEPWATERPro®, our pore pressure prediction software. ERDPro® offers full T&D, hydraulics and S/S design capability, as well as field engineering and data collection features, including MPD calculations. DEEPWATERPro® has the capability to model and predict formation pore pressure near real time at multiple points along a 3D wellpath, rather than using a single seismic/sonic velocity stack, and it is specifically designed for long stepout wells in offshore environments. In addition, HXR's Wellbore Stability and Geomechanics Specialists use GMI's PressCheck™, WellCheck™ and SFIB™ software suites that offer not only front-end wellbore stability design, but also real-time geomechanical modeling capabilities while drilling.

Through our Extended Reach Drilling (ERD) division, HXR provides rigsite Drilling Specialists as well as detailed Well Design and Feasibility Studies, which are conducted in-house from our Houston and Anchorage offices by our ERD Engineering team. Our ERD division also provides wellbore stability and geomechanics services, both in the design phase as well as in real time, on the rig or in our clients' RTOC, while drilling. In addition, HXR ERD also provides geomechanics/wellbore stability design and rigsite services.

HXR's Geopressure team provides predrill pore pressure analysis for expected mud weight and casing point selection during the planning phase by our Pore Pressure Evaluation team, as well as rigsite/RTOC pore pressure prediction during the operational phase of the drilling project. Our team of highly experienced Geomechanics professionals works closely with our ERD drilling engineers and specialists to provide complete well design services. In-depth 1D and 3D geomechanics modeling is required for accurate wellbore instability prediction, mw window delineation, and optimized wellbore trajectories.



HXR has global experience, from the North Slope to the Gulf of Mexico, the North Sea, West Africa deepwater and the Middle East/Caspian region. HXR's core partners and upper-level management have come together from different backgrounds that cover the complete scope of drilling operations. These backgrounds include senior and staff engineering positions (drilling and completions) with major operators on both offshore/deepwater and ERD wells; directional drilling supervisors with a focus on 10,000 ft-plus laterals and 5:1-plus stepout ERD wells; and senior scientists in drilling fluids.



## SERVICES

### EXTENDED REACH DRILLING

Using ERDPro®, one of the most advanced drilling engineering software suites on the market today, and developed specifically to address the needs of our clients who demand expert rigsite analysis of real-time drilling parameters as well as highly accurate engineering models, HXR can help you plan even your most difficult drilling and completions projects. Our Drilling Engineers and Drilling Specialists have global experience in horizontal, ERD and deepwater drilling, from the North Slope of Alaska to the GOM, the North Sea, West Africa and the Middle East. They are available for in-house assignments working as part of your office-based design and engineering team or as rigsite drilling engineers who assist the rig team on more difficult and higher-visibility projects. Our highly trained Pore Pressure and Geomechanics Specialists, using GMI's PressCheck™, WellCheck™ and SFIB™ software, work hand in hand with our ERD engineers to provide the industry's only true "full-service" ERD capability. HXR also offers project management and drilling supervision with trained, experienced DSMs dedicated to your project's success. Whatever your project size, and wherever it is located, HXR's Extended Reach Drilling team can help solve the problems you are experiencing on your wells, worldwide. HXR Extended Reach Drilling specializes in:

- Horizontal and Extended Reach Drilling
- Offshore ERD
- Arctic Drilling Operations
- Wellbore Stability/Geomechanics

### DEEPWATER DRILLING

HXR is a full service drilling consultancy focused on helping clients design and construct extended reach, horizontal and complex wells. From exploration activities in Brazil, to large-scale developments in West Africa and HPHT shelf projects in the Gulf of Mexico and the North Sea, the world is continually turning to offshore drilling to keep production rates up. With the rise of developing nations into industrial powerhouses, the need to explore offshore will continue to grow. HXR's Deepwater Drilling team has vast experience in offshore drilling, in both deepwater as well as shallow shelf environments, and is well versed in the technical issues inherent in those environments. Transition zones, salt diapirs, water depth changes and geopressed formations are just some of the issues involved. With over \$2 billion a year estimated to be lost due to pressure-related events, having trained personnel, on the rig, who are dedicated to both pore pressure evaluation as well as monitoring drilling parameters to minimize downtime and optimize drilling efficiency, is cheap insurance. HXR uses DEEPWATERPro®, our software that is specially designed to calculate pore pressure along an ERD borehole. HXR Deepwater Drilling specializes in:

- Deepwater ERD and Exploration Drilling
- Pore Pressure Evaluation

## ENGINEERING SOFTWARE

ERDPro® was jointly developed, with PVI, to provide advanced well design and field engineering services. DEEPWATERPro® is specially designed for use by our field Drilling Specialists on shelf/deepwater development projects. GMI's PressCheck™, WellCheck™ and SFIB™ software is used for complete geomechanics and wellbore stability services.



## EXTENDED REACH DRILLING GEOMECHANICS/GEOPRESSURE

### ENGINEERING OPERATIONS

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